USER REQUIREMENTS

ANNEX 1

LIST OF CONTRIBUTORS TO THE USER REQUIREMENTS

T2S Project Team

Reference:	T2S-07-0374
Date:	12 December 2007
Version:	2
Status:	Final

Advisory Group

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Bonnier, Vincent	Banque de France (3CB+)
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Chau, Fernando	Banco de Portugal
Cittadini, Paolo	Monte Titoli SPA
Däppen, Hans	SIS SegaInterSettle AG
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Dreger, Uwe	Deutsche Bank - TG1
Farkas, Istvan	CESR
Frey, Werner	European Securities Forum
García, Adolfo	Banco Santander
Gatt, Jesmond	Central Bank of Malta
Georgakis, Stelios	Central Bank of Cyprus
Giammo, Lorenzo	Banca d´Italia - TG6
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Hollanders, Eric	ING Bank
Humphery, Marye	Morgan Stanley
Janssens, Luc	National Bank of Belgium
Jauri, Liisa	Nordea
Kirby, Mark	Euroclear
Kjeldsen, Kristian	Danmarks Nationalbank
Korhonen, Kari	Bank of Finland
Kouris, Ioannis	Bank of Greece
Lamanna, Riccardo	Intesa San Paolo
Lazaridis, Socrates	Hellenic Exchanges
Lemmen, Jürgen	Deutsche WertpapierService Bank AG
Lucas, Yvon	Banque de France
Luef, Johannes	VP Securities Services
Maher, Dermot	CBFSAI
Marlor, Felice	Sveriges Riksbank
Matagne, Carlo	Banque et Caisse d´Epargne de l´Etat
Matos, Rui	Interbolsa
Mattson, Henrik	NCSD Group
Mérère, Joël	Euroclear France
Metzger, Jochen	Deutsche Bundesbank
Nava, Mario	European Commission
Núñez, Susana	Banco de España
Palmisani, Fabrizio	Banca d´Italia
Pavič, Davor	KDD Central Securities Clearing Corp
Pochet, Alain	BNP Paribas Securities Services - TG3
Raschen, Henry	HSBC Security Services
Rosenkranz, Katja	Clearstream
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Russo, Daniela	ECB
Schanz, Jochen	Bank of England

Schuermans, Guy	Euroclear Netherlands
Sleenhoff, Ruud	EBF
Symons, Paul	Euroclear S.A/N.V
Vaes, Alfons	National Bank of Belgium
van der Wielen, Henny	De Nederlandsche Bank
Vella-Baldacchino, Robert	Borza Malta
von Eiberg, Joachim	Commerzbank AG
Vonderau, Siegfried	Deutsche Bundesbank - TG5
Wolf, Andreas	Clearstream
Ylipekkala, Heikki	NCSD Finland
Zinner, Georg	OeKB

Technical Group 1 "Scope and Schedule"

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Rowland, Christopher	CO-CHAIR - JP Morgan
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Bonilla, Jesus Perez	Banco de Espana
Bonnier, Vincent	Banque de France (3CB+)
Capretta, Adrian	Banca di Roma
Colombo, Rodolfo	Monte Titoli
Cunningham, Mark	Clearstream
Grimaldi, Anne	CACEIS
Hermans, Didier	Euroclear
Levi, Jane	Merrill Lynch
Olsson, Lars E.	NCSD/VPC
Porfiris, Nicos	HELEX
Rebollo Palomero, Jose Luis	CECA
Renard, Pierre-Dominique	LCH Clearnet
Roegiers, Damián	Euronext
Ronkar, Marc	Banque Centrale du Luxembourg
Sánchez, Jesús	Iberclear
Schnaitt, Günter	Bank Austria Creditanstalt
Thurlow, Lian	Goldman Sachs International
Tibi, Marc	BNP Paribas
Tirassa, Alessia	MTS Spa
Topa, Marcello	Citigroup
van Wageningen, Ariena	De Nederlandsche Bank NV
Viola, Federico	Intesa San Paolo
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Technical Group 2 "Lifecycle and Matching"

Carabelli, Paolo	CHAIR - Monte Titoli
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Bernardi, Danila	Deutsche Bank
Bury, Jonathan	Goldman Sachs Int.
Carter, David Herold	Clearstream
Colombas Calafat, Maria Angeles	Banco de Espana
Debruyckere, Tom	Euroclear
Dessambre, Cécile	SWIFT Standards
Eicher, Luc	NBB
Ey, Michiel	ING
Kech, Alexandre	SWIFT Standards
Leblanc, Philippe	Banque de France
Manzano Macia, Ernesto	Caja Madrid

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2	Moran, Roger	Credit Suisse Securities
3	Murray, Claire	Euroclear
4	O´Flynn, Paul	Citigroup
5	Ozinga, Richard	ING
6	Palmer, Hugh	Societe Generale
7	Rantala, Mervi	APK
8	Santos, Marcos	Banco Santander
9	Stähli, Urs	UBS
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11 Technical Group 3 “Settlement”

12	Pochet, Alain	CHAIR - BNP Paribas Securities Services
13	Ros, Thomas	SECRETARY - ECB
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15	Alvarez, Ignacio	Iberclear
16	Bayo, Angel	La Caixa
17	Butler, Nigel	Merrill Lynch
18	Castoldi, Sergio	Banche Popolari
19	Chimenti Saverio, Francesco	CC&G
20	Derksen, Richard J. N.	De Nederlandsche Bank
21	Fasquelle, Valerie	Banque de France
22	Garoufalis, Chrystos	National Bank of Greece
23	Georg, Patrick	Clearstream
24	Gilardi, Fernando	Monte Titoli
25	Lázaro, Amadeo	BBVA
26	McCartney, Lynda	JP Morgan
27	Mitropoulou, Vivian	HELEX
28	Muggeridge, Stuart	Goldman Sachs Int.
29	Numminen, Anu Marketta	Nordea
30	Schmidt, Holger	Citigroup
31	Steimann, Thomas	Deutsche Bank
32	Timmermans, Yvan	National Bank of Belgium
33	Tobiasch, Katharina	Deutsche Bundesbank
34	Trüb, Martin	SIS
35	van Vliet, Arjo	Rabobank-Orbay
36	Wende, Waltraud	Deutsche Bundesbank
37	Woodley, Colin Robert	LCH Clearnet
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39 Technical Group 4: “Static Data”

40	Amend, Karla	CHAIR - Clearstream
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43	Alifierakis, Sophocles	Helex
44	Arevalo, Cristina	BNP ES
45	Dal Corso, Valeria	Société Générale
46	Garcia, Rafael	Santander
47	García Rojo, Fernando	BBVA
48	Guittet, Olivier	CACEIS
49	Hougaard, Niels W.	VP
50	Janssens, Dirk	NBB
51	Kieffer, Marc	Clearstream
52	Oliva, Carolina	Iberclear
53	Palvalin, Janne Ensio	Nordea
54	Panvert, Jean-Jacques	Citigroup
55	Peña de Urquía, José	Banco de Espana
56	Rubio Garcia, Daniel	CECA
57	Sagar, Katrin	Estonian Central Securities Depository
58	Spuri, Emilio	Banca d´Italia
59	van der Velpen, Ben	ING
60	Wiley, Chuck	SWIFT

Technical Group 5: "Interfaces"

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Kroon, Thomas	OMX
Lejoly, Marc	NBB
Locatelli, Dario	BNP Paribas
Martinez-Pinillos, Jose Maria	Iberclear
McDowall, William Leslie	Citigroup
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Nikolaidis, Christos	HELEX
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Zelioli, Anna	2SBanca

Technical Group 6: "Non-functional Requirements"

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Deantoni, Paola	2SBanca
Kellens, Yves	Euroclear
Martos, Rodrigo	Banco Santander
Myller, Marko	Suomen Pankki
Orsini, Silvio	Banca d´Italia (3CB+)
Polo-Rubio, Miguel	Citigroup
Scherer, Gerhard	Deutsche Bank AG
Stensbeck, Holger	BNP Paribas
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National User Group Belgium

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Roegiers, Damien	Euronext
Rousseau, Jean-Paul	ING Bank
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Vaes, Alfons	National Bank of Belgium
Van Vliet, Henk	Fortis Bank

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National User Group Denmark

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Bladt, Erik	Realkredit Danmark
Blume-Jensen, Lars	Realkreditrådet
Damkjær, Jytte	Sydbank
Dan Pedersen, Michael	BRF Kredit
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Kirkelund, Dorte	SEB
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Luef, Johannes	VP
Neergaard, Niels	VP
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Ravn Knudsen, Lars	Finansrådet
Restelli-Nielsen, Peter	Danmarks Nationalbank
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National User Group Germany

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McDonagh, Brendan	National Treasury Management Agency
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Castilla Romero, Teresa	Iberclear
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2	García Rojo, Fernando	BBVA
3	Gil Fatás, Gonzalo	Ibercaja
4	González-Aller, Rafael	Citigroup
5	Lázaro, Amadeo	BBVA
6	Manzano Macía, Ernesto	Caja Madrid
7	Marqués, M. Ángeles	Iberclear
8	Martínez-Pinillos, José M.	Iberclear
9	Martos, Rodrigo	Banco Santander
10	Molina, Antonio	Banco Sabadell
11	Nuñez, Susana	Iberclear
12	Paz Cañabate, Manuel de la	La Caixa
13	Peña de Urquía, José	Banco de España
14	Pérez Bonilla, Antonio Jesús	Banco de España
15	Pineda, Manuel	Citigroup
16	Rebollo, José Luis	CECA
17	Rubio García, Daniel	CECA
18	Sánchez, Jesús	Iberclear
19	Santos, Marcos	Banco Santander
20	Santos, Pablo	Bankinter
21	Reviriego, Luis	Bankinter
22	Steimann, Thomas	Deutsche Bank ES
23	Vicario, Roberto	BBVA
24	Vivas Sotillos, Carlos	Banco Popular
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26	**National User Group France**	
27	Tricou, Jean	Fédération Bancaire Francaise (FBF)
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29	Bensaid, Didier	Société Générale Corporate-Investment Banking
30	Bonnier, Vincent	Banque de France
31	Derobert, Eric	CACEIS
32	Dias, Catherine	AMF
33	Eyssautier, Jean-Marc	IXIS Investor services
34	Fontan, Florence	BNP Paribas
35	De Fournoux, Emmanuel	AFEI
36	Grima, Jean-Philippe	CIC-Crédit Mutuel
37	Hemon, Christophe	LCH. Clearnet
38	Hoenn, Dominique	BNP Paribas
39	Lucas, Yvon	Banque de France
40	Mérère, Joël	EUROCLEAR France
41	De Nexon, Eric	Société Générale
42	Panvert, Jean-Jacques	Citigroup
43	Pochet, Alain	BNP Paribas
44	Slechten, Pierre	EUROCLEAR France
45	Tibi, Marc	BNP Paribas
46	Vanhautere, Jacques	Centrale des Réglements Interbancaires
47		
48	**National User Group Italy**	
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50	Belloli, Luca	Intesa San Paolo
51	Bernardi, Danila	Deutsche Bank
52	Capretta, Adriano	Banca di Roma
53	Carabelli, Paolo	Monte Titoli
54	Castaldi, Sergio	Istituto Centrale delle Banche Popolari Italiane
55	Cheli, Moreno	Banca Monte dei Paschi di Siena
56	Cimenti, Francesco	Cassa di Compensazione e Garanzia SpA (CC&G)
57	Colombo, Rodolfo	Monte Titoli
58	Dal Corso, Valeria	2SBanca
59	Dentoni, Paola	2SBanca
60	Di Gennaro, Stefano	Banca Monte dei Paschi di Siena

1	Di Giovanni, Emilia	Deutsche Bank
2	D'Ippolito, Simone	Borsa Italiana
3	Gargantini, Alessandro	Deutsche Bank
4	Gilardi, Francesco	Monte Titoli
5	Locatelli, Dario	BNP Paribas
6	Lupi, Barbara	Banca d'Italia
7	Maresca, Giuseppe	Banca d'Italia
8	Palmisani, Fabrizio	Banca d'Italia
9	Plateroti, Fabrizio	Borsa Italiana
10	Poli, Claudio	Mercato Alternativo Capitale
11	Renati, Emanuele	Intesa San Paolo
12	Romaniello, Mauro	Unicredit Group
13	Sabatini, David	Associazione Bancaria Italiana
14	Sala, Carlo	Istituto Centrale delle Banche Popolari Italiane
15	Scordino, Massimo	Citigroup
16	Spezzano, Franca	Banca Monte dei Paschi di Siena
17	Tirassa, Alessia	MTS Spa
18	Topa, Marcello	Citigroup
19	Trovatore, Gianfranco	Consob
20	Vantellini, Elena	Borsa Italiana
21	Viola, Federico	Intesa San Paolo
22	Zelioli, Anna Rita	2Sbanca
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24 National User Group Luxembourg

25	Thissen, Pierre	Bank Centrale du Luxembourg
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28 National User Group Netherlands

29	Bezemer, Peter	Euronext Amsterdam
30	Braam, Leo	Van Lanschot Bankiers
31	Brink, Henk	Kas Bank N.V.
32	Derksen, Richard	De Nederlandsche Bank N.V.
33	Ey, Michiel	ING Bank N.V.
34	Hendrikse, Adriaan	LCH.Clearnet S.A. Amsterdam Branch
35	Hollanders, Eric	ING Bank N.V.
36	in ’t Veld, Hans	Rabobank Nederland
37	Kuyper, Carolien	De Nederlandsche Bank N.V.
38	Mauritz, Jaap	De Nederlandsche Bank N.V.
39	Mensen, Frans	Rabobank Nederland
40	Rooke, Cees	ING Bank N.V.
41	Saaf , Michelle	ABN AMRO Bank N.V.
42	Sleenhoff, Ruud	ABN AMRO Bank N.V.
43	Spanjer, Hugo	Euroclear Netherlands
44	Stoepman, Marco	NVB
45	Stol, Henk	Citibank Intenational Plc.
46	Stommel, Ron	ING Wholesale Banking Securities Services
47	van Andel, Ton	Fortis Bank Nederland N.V.
48	van der Veerdonk, Bas	Rabobank Nederland
49	van der Velpen, Ben	ING Wholesale Banking Securities Services
50	van Vliet, Henk	Fortis Bank Nederland N.V.
51	van Vliet, Arjo	Rabobank Nederland
52	van Wageningen, Ariena	De Nederlandsche Bank N.V.
53	Wit, André A.	ABN AMRO Bank N.V.
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55 National User Group Norway

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57	Husevåg, Vigdis	Norges Bank
58	Sletner, Inger-Johanne	Norges Bank
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National User Group Austria

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Dostal, Andreas	Oesterreichische Nationalbank
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Hermanky, Hannes	Oesterreichische Nationalbank
Hofer, Martin	Raiffeisen Zentralbank
Hoffenberg, Walter	CHAIR - Oesterreichische Nationalbank
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Mörk, Erika	Österreichische Volksbanken
Müllner, Matthias	Erste Bank
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Schleifer, Alexander	Erste Bank
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Welz, Walter	Bank Austria Creditanstalt
Zinner, Georg	Oesterreichische Kontrollbank

National User Group Portugal

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Chau, Fernando	Banco de Portugal
Corsino Matos, Pedro	Banco de Portugal - Siteme (CSD)
Coutinho, António	Banco Espírito Santo
Daniel, Carlos	Banco Santander Totta
Ferreira Machado, Carlos	Banco Português de Investimento
Libório, João Paulo	Caixa Geral de Depósitos
Matos, Rui	Interbolsa
Mendes, Anabela	Banco de Portugal
Ribeiro da Costa, Manuel José	Commissão dos Mercados de Valores Mobiliários

National User Group Slovenia

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Černuta, Peter	Banka Slovenije
Ploj, Beno	Banka Slovenije

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Bister, Tero	OP Bank Group
Dahlqvist, Anders	Glitnir
Halttunen, Hannu	Nordea
Hannuksela, Matti	OP Bank Group
Harju, Ilkka	Ministry of Finance
Hohti, Marjaana	Bank of Finland
Husman, Henrik	OMX Group
Ignatius, Björn	Carnegie
Jafs, Marita	OMX Group
Jauri, Liisa	Nordea

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2	Jokela, Marjut	Ministry of Justice
3	Jokelainen, Reijo	Sampo Bank
4	Jokisalo, Jorma	Bank of Finland
5	Kanerva, Sanna	Glitnir
6	Katainen, Jukka	Ilmarinen
7	Kiviharju, Jyrki	Confederation of Finnish Industries
8	Knuutinen, Jyrki	Ministry of Finance
9	Kontkanen, Erkki	Federation of Finnish Financial Services
10	Koponen, Risto	Bank of Finland
11	Korhonen, Kari	Bank of Finland
12	Korhonen, Juuso	OMX Group
13	Kuitunen, Päivi	Financial Supervision Authority
14	Leisti, Jaana	Kaupthing
15	Leskinen, Tiina	Kaupthing
16	Linnainmaa, Leena	Chamber of Commerce
17	Matilainen, Mari	Glitnir
18	Murto, Risto	Varma
19	Myller, Marko	Bank of Finland
20	Nieminen, Maritta	Bank of Finland
21	Nieminen, Riitta	Carnegie
22	Nikkanen, Sirkka	Nordea
23	Numminem, Anu	Nordea
24	Nyberg, Peter	Ministry of Finance
25	Nyrhilä, Päivi	Sampo Bank
26	Pakkala, Tuomas	Sampo Bank
27	Palvalin, Janne	Nordea
28	Pellikka, Suoma	SEB
29	Pettinen, Pia	OMX Group
30	Pirhonen, Marjut	SEB
31	Pulkkinen, Pekka	Ministry of Justice
32	Rantala, Mervi	NCSD Finland
33	Rantalainen, Kristina	Bank of Finland
34	Rantanen, Seppo	NCSD Finland
35	Rask, Sari	Nordea
36	Raumolin, Juha	eQ
37	Rintanen, Timo	OMX Group
38	Sakki, Kirsi	OP Bank Group
39	Saloheimo, Meeri	Bank of Finland
40	Santasalo, Päivi	Sampo Bank
41	Saonegin, Minna	Sampo Bank
42	Savikko, Markku	Finnish Association of Securities Dealers
43	Savolainen, Terhi	eQ
44	Seitsamo, Kaija	Aktia
45	Tennström, Björn	Ålandsbanken
46	Terho, Anu	Handelsbanken
47	Tikkanen, Anna-Maija	Bank of Finland
48	Tissari, Päivi	Ministry of Justice
49	Vainio, Hanna	NCSD Finland
50	Viitanen, Leena	OMX Group
51	Virtanen, Pekka	eQ
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53	Vuojus, Terhi	Bank of Finland
54	Wirtavuori, Anne	OP Bank Group
55	Ylipekkala, Heikki	NCSD Finland
56	Ylitalo, Timo	Federation of Finnish Financial Services
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58 National User Group Sweden

59	Fors, Göran	SEB
60	Afrell, Lars	Ministry of Finance

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3	Jauri, Liisa	Nordea Bank AB
4	Lindkvist, Per	Danske Consensus
5	Lundquist, Ulla	Swedish Bankers´ Association
6	Marlor, Felice	Swedish Riksbank
7	Mattson, Henrik	NCSD (Värdepapperscentralen VPC AB)
8	Öhman, Erik	Swedbank
9	Persson, Mattias	Swedish Riksbank
10	Tetzell, Tomas	Bankforeningen.se
11	Toll, Christoffer	Carnegie
12	Troedsson, Vigg	Swedish Securities Dealers´ Association
13	Trogen, Leif	Swedish Bankers´ Association
14		
15	**National User Group UK**	
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17	Pritchard, David	Independent
18	Serocold, John	London Investment Banking Association
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20	**European Organisations**	
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22	Fisher, Stephen	European Banking Federation
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29	Saville, Iain	Adviser
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33	Borghini, Lorenzo	
34	Bröse, Roland	
35	Castillo, Javier	
36	Datta, Debi	
37	Del Campo Roiz de la Parra, Alejandro	
38	El Otmani, Charifa	
39	Glück, Markus	
40	Heid, Christoph	
41	Hess, Patrick	
42	Hiddinga-Marelle, Stéphanie	
43	Hossdorf, Mark	
44	Jiménez, Montserrat	
45	Jozet, Christine	
46	Kalogeropoulous, George	
47	Karpf, Alexander	
48	Lejdström, Bengt	
49	Löber, Klaus	
50	Mager Marius	
51	Manaa, Mehdi	
52	Martinet, Laure-Anne	
53	Mastroeni, Orazio	
54	Medico, Annalisa	
55	Mikkonen, Katri	
56	Neitzel, Robert	
57	Nymand-Andersen, Per	
58	Pernigo, Mauro	
59	Petetin, Dominique	
60	Renzetti, Massimiliano	

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2 Sauer, Stephan
3 Smith, Steven
4 Terol, Ignacio
5 Ulrich, Petra
6 Wacket, Helmut
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USER REQUIREMENTS

ANNEX 2

GLOSSARY AND STANDARDS

T2S Project Team

Reference:	T2S-07-0353
Date:	12 December 2007
Version:	2
Status	Final

1 Glossary

Title	Definition	Remark
Actual Settlement Date	the date on which the settlement is final, securities are debited from the account of the seller and credited to the securities account of the buyer and the funds are debited from the cash account of the buyer and credited to the cash account of the seller. The actual settlement date also is referred to as the effective settlement date.	
Administering Party	is the legal entity responsible for verifying that the external settlement conditions are fulfilled so that T2S can trigger the delivery of the reserved securities in the processing of a conditional securities delivery.	
Allegement	a message to advise an account owner that another party has instructed against its account for which the account owner has no corresponding instruction in the securities settlement system.	
Application-to-Application (A2A)	defines a mode of technical communication that permits the exchange of information between software applications of T2S and a directly connected T2S actor.	
Asset segregation	a method of protecting client assets by holding them separately.	
Asset servicing	services, provided by a CSD or a custodian, in connection with the custody and/or safekeeping of financial instruments such as corporate event processing.	
Authentication	a security mechanism for verifying the identity of an individual or process.	
Authorisation	a security mechanism for verifying that an individual or process has the privilege to access certain function or data within a system.	
Authorised T2S System User	an individual or process, granted a privilege by its role in T2S to execute a certain function, to run a specific application or to access specific data.	

Title	Definition	Remark
Attribute	defines a characteristic of a conceptual data store/entity. For example, the type of security is an attribute of the entity for security reference data.	
Auto-collateralisation	an intraday credit operation in central bank money that is triggered when the buyer has insufficient funds (or funds below a threshold defined by the buyer) to settle securities transactions. Intraday credit provision is collateralised with securities already held by the creditor (collateral-on-stock), or through collateral-on-flow (through the eligible securities that are being purchased).	
Availability	the ability of a configuration item or IT service to perform its agreed function when required. Reliability, maintainability, serviceability, performance, and security determine availability. The calculation of availability is usually on a percentage basis and based on agreed service time and downtime. It is best practice to calculate availability using measurements of the business output of the IT Service.	ITIL Definition
Batch Processing	the electronic transmission or processing of a set of related transactions, such as payment orders or securities transfer instructions, as a group at discrete intervals of time.	Revised Blue Book definition since the definition uses the term batch to describe batch processing.
Beneficiary / Beneficial Owner	the party that is entitled to either receive the benefits of the ownership of a security or other financial instrument (e.g. income, voting rights and power of transfer). The beneficial owner is usually distinguished from "legal owner" of a security or financial instrument.	Derived from blue book definition of beneficial ownership.
Bilateral Cancellation of Settlement Instruction	defines the process, requiring both the deliverer and the receiver of securities of a matched settlement instruction to cancel their respective instruction to affect cancellation.	
Blocking of Holdings	a process of preventing the transfer of a position in a specific security in one securities account to any other securities account.	

Title	Definition	Remark
Book Entry	a method whereby transfer of ownership of securities is effected involving debits and credits to accounts without the need for the movement of physical certificates or documents or through a pledge.	
Central Bank Money (CeBM) Settlement	settlement is described as being in central bank money if the payment moves directly and irrevocably between accounts on the books of the central bank.	
Central Counterparty (CCP)	an entity which interposes itself as the buyer to every seller and as the seller to every buyer for a specified set of contracts.	Blue Book Definition
Central Securities Depository (CSD)	an entity, which holds and administers securities and enables securities transactions to be processed by book entry. Securities can be held in a physical but immobilised or dematerialised form (i.e. such that they exist only as electronic records). In addition to safekeeping and administration of securities, a CSD may incorporate clearing and settlement functions.	Blue Book Definition
Change	the addition, modification or removal of anything that could have an effect on IT services. The scope should include all IT services, configuration items, processes, documentation etc."	ITIL Definition
Closing Day	defines a day, when T2S interfaces and process are not available toT2S actors with the exception of the T2S operator.	
Collateral	assets provided either in the form of the transfer of ownership of assets (in the case of title transfer or repurchase agreements) or in the form of a pledge or a charge granted over relevant assets (in the case of collateralised loans).	Change of Blue Book Definition to reflect the broader context of securities settlement.
Collateral Central Bank Management (CCBM2)	the IT platform that NCBs use for managing eligible collateral for Eurosystem credit operations.	

Title	Definition	Remark
Commercial Bank Money (CoBM) Settlement	settlement is described as being in commercial bank money if the payment moves between the accounts of non-central banks.	
Conditional Securities Delivery / Conditional Securities Settlement	a procedure in which the final securities and/or cash booking is dependent on the successful completion of an additional action or event (e.g. registration of shares, cash settlement outside T2S).	
Cross-CSD Settlement	a term, describing securities settlement that takes place between participants of different CSDs, where both the CSD of the seller and the CSD of the buyer operate in T2S.	
CSD in T2S	A CSD that 1) fulfils the Article 10 of the Settlement Finality Directive; 2) settles in central bank money in a T2S eligible currency; and 3) is a legal entity that has entered into a contractual relationship for the use of T2S with the T2S operator.	
CSD Link	a relationship where one central securities depository (CSD) holds a securities account for another CSD. [this is not always the case, there may be other contractual arrangements forming a link]	
Custody	the safekeeping and administration of securities and other financial instruments on behalf of others.	
Data Extract	refers to process of selecting and downloading data from T2S and transmitting the data to the requestor, e.g. all changes in balances, instruction status or static data since the last data were retrieved from the T2S databases.	
Delivery-versus-Delivery (DVD)	a type of instruction and settlement mechanism, specifying a link between two securities transfers, to ensure that a delivery occurs if, and only if, another delivery occurs and vice versa.	

Title	Definition	Remark
Delivery-versus-Payment (DVP)	a mechanism in an exchange-for-value settlement system which ensures that the transfer of one asset occurs if, and only if, the transfer of cash.	
Delivery-with-Payment (DWP)	a type of instruction and settlement mechanism, specifying the delivery of securities together with a cash payment.	
Dematerialisation	the elimination of physical certificates or documents of title that represent ownership of securities so that securities exist only as accounting records.	Blue Book Definition
Direct (Technical) Connectivity	a technical facility allowing T2S Parties to access T2S and use its securities settlement services without the need for a CSD to act as a technical interface. Direct connectivity affects neither the business or legal relationships between CSDs and the T2S party, nor the processing of the CSD's T2S party.	
Direct CSD Participant	a customer of a CSD that has a legal or contractual relationship with that CSD and is holding a settlement account with that CSD.	
Direct Holding System	an arrangement for registering ownership of securities whereby each final investor in the security is registered by a single body, which can be the issuer itself, a CSD or a registry.	
Double-Entry Accounting	an accounting principle whereby, for each credit (debit) made on the account of the beneficiary, there exists a corresponding debit (credit) on the account of the counterpart.	
Eligible for Settlement	the state in which a settlement instruction that can be submitted to the settlement process.	
Entity	in conceptual modelling terms, an entity is a collection of attributes used to define a person, place, event, object or thing that an information system needs to operate or about which an organisation collects data. Although an entity is conceptual, its physical implementation is one or more database tables.	

Title	Definition	Remark
Eurosystem Single Interface	the harmonised technical channel to access different services provided by the Eurosystem (e.g. TARGET2, T2S).	
Event	an action that changes the state of a transaction in T2S. For example, a status change from “unmatched” to “matched” occurs when T2S matches a settlement instruction.	
External CSD	is a CSD that does not use the settlement services of T2S.	
Finality of Settlement Instruction	settlement instructions, entered into a securities settlement system in a way that they are binding, irrevocable and enforceable against third parties, and are thus protected from insolvency or unwinding risks.	
Free-of-payment delivery (FOP)	the delivery of securities with no corresponding payment of funds.	Blue Book Definition
Fungibility / Fungible Asset	a concept that characterises the method of holding securities by a CSD or other financial intermediary in which each of a number of issues of physical or dematerialised securities is held in a separate fungible pool. No owner has the right to any particular physical or dematerialised security in a particular pool; an owner does, however have a right to such an amount of physical or dematerialised securities as is shown in its account with a CSD or other financial intermediary.	Blue Book Definition
Gross Settlement	a transfer system in which the settlement of funds or securities transfer instructions occurs individually (on an instruction-by-instruction basis).	Blue Book Definition
Haircut	the difference between the market value of a security and its collateral value. Haircuts are taken by a lender of funds in order to protect the lender, should the need arise to liquidate the collateral, from losses owing to declines in the market value of the security.	Blue Book Definition

Title	Definition	Remark
Hold and Release Mechanism	a process by which a CSD or instructing party may block a pending settlement instruction from settlement or remove a block on a pending settlement instruction.	
Immediate Liquidity Transfer Order	an instruction to transfer a specified amount of money from one cash account to another cash account in real-time on receipt of the instruction.	
Indirect CSD Participant	a financial institution established in the European Economic Area (EEA), which has entered into an agreement with a direct CSD participant to submit settlement instructions and receive transfers via such direct CSD participant's CSD account, and which has been recognised by the CSD as an indirect participant	Cf. SFD
In- / Out-T2S Settlement	a transaction, where one party to the settlement holds an account in TARGET2-Securities, but the other party does not.	
Instructing Party	defines the entity that is the originator of the settlement instruction either on its own behalf or on behalf of its clients. An instructing party has the possibility to transmit settlement instructions to T2S through direct connectivity or via a connection through a CSD.	
Instruction Allocation	the process, undertaken by a broker or account operator in markets with direct holdings, of splitting the quantity of settlement instruction and apportioning it to end investor accounts by creating new settlement instructions.	
Instruction Amendment	is a manual or automated update of a value in an attribute of a settlement instruction in a securities settlement system.	
Instruction Enrichment	is the adding values to attributes of a settlement instruction from reference data or through calculation algorithms through a manual or automated process.	

Title	Definition	Remark
Intended Settlement Date	the date on which the parties to a securities transaction agree that settlement is to take place. This intended settlement date also is referred to as the contractual settlement date or value date.	
Intermediary CSD	a third party CSD facilitating the transfer of securities between two CSDs, which do not have a direct relationship with each over.	
International Securities Identification Number (ISIN)	a code, uniquely identifying a specific security, based on the ISO standard 6166.. The number consists of 12 digits, with the first 2 digits containing the ISO 3166 country code, followed by 9 NSIN digits (national security identification number) and a final check digit.	
Intra-CSD Transaction	A transaction can be called intra-CSD in case both parties involved have their securities accounts with the same CSD. See settlement transaction.	
Investor CSD	a central securities depository that holds securities for at least one party of a transaction.	
Issuer CSD	the central securities depository in which the securities have been issued and distributed on behalf of the issuer. The issuer CSD is responsible for processing corporate events in the name of the issuer. The issuer CSD maintains omnibus accounts in its books in the name of investor CSDs for the transfer of securities to the investor CSDs.	
Key Performance Indicator (KPI)[1]	A metric that is used to help manage a process, IT service or activity. Many metrics may be measured, but only the most important of these are defined as KPIs and used to actively manage and report on the process, IT service or activity. KPIs should be selected to ensure that efficiency, effectiveness, and cost effectiveness are all managed.	ITIL Definition
Liquidity Transfer Order	an instruction to transfer a specified amount of money from one cash account to another cash account. See also immediate liquidity transfer order, standing liquidity transfer order and current liquidity transfer order.	

Title	Definition	Remark
Locked- In Instructions	settlement instructions, blocked for all processing except settlement. It is not possible to modify, cancel or hold locked-in instructions. This term is used exclusively in the context of settlement processing.	
Matching	the process used for comparing the trade or settlement details provided by parties in order to ensure that they agree on the terms of the transaction.	Blue Book Definition
Message Subscription	a service that allows a CSD or other authorised interested party with direct connectivity to T2S to subscribe to copies of messages sent between a directly connected T2S party and T2S in real-time using push mode messaging. Subscriptions are based on one or more of the following parameters: - Message type; - Instruction type; - Instruction status; - Participant; - Account; - ISIN.	
Net Settlement System	a funds transfer or securities settlement system whose settlement operations are completed on a bilateral or multilateral net basis.	Blue Book Definition
Netting	an agreed offsetting of positions or obligations by trading partners or participants. The netting reduces a large number of individual positions or obligations to a smaller number of obligations or positions. Netting may take several forms, which have varying degrees	Blue Book Definition

Title	Definition	Remark
Non-Fungible Security	Non-fungible securities are financial instruments, held and transferred as separately identifiable instruments. Holdings of non-fungible securities are not interchangeable even though the instrument has identical characteristics.	
Non-Trade Related Instructions	instructions, related to any event other than trading activities, such as corporate events or securities lending operations.	
Occurrence	an instance of information of an entity. It is a record in a database table or file in terms of physical implementation.	
Opening Day	defines a day, when matching and settlement takes place in T2S(also referred to as settlement day).	
Operating Day	defines a day, when any subsets of T2S processes are available to T2S actors.	
Operating Hours	defines the hours when a specific T2S process, such as query or settlement, is scheduled to run.	
Optimisation Cycle	routine processes in a payment or securities settlement system to determine the order in which payments are accepted for settlement. Optimisation routines are used to improve system liquidity and increase settlement efficiency. Such processes detect and resolve settlement gridlocks with a view to settle new transactions as well as transactions that could not settle in an earlier attempt.	Blue Book definition amended for securities settlement.
Party	the generic term for the reference data pertaining to a T2S actor.	
Partial Settlement	a process that settles only to a fraction of settlement instructions original volume and amount when full settlement is not possible due to lack of cash or securities. The residual unsettled volume and amount may settle at a later stage during the intended settlement date. Any residual amount at the end of the intended settlement date results in the reporting of a failed settlement.	

Title	Definition	Remark
Payment Bank	A payment bank is either a central bank or a private bank used to affect money settlements. In the context of securities settlement, a payment bank provides cash on behalf of a CSD participant to support the settlement of securities.	
Payment Capacity	the ability of a settlement bank to fund its purchases based on a settlement bank's relevant aggregate position on CeBM accounts as well as of the its potential intraday credit from its National Central Banks against available eligible collateral.	
Pending Transaction / Pending Instruction	a settlement instruction which is waiting for settlement and is still active.	
Posting	designates the action of updating a securities holding or cash balance by debiting and / or crediting an account. Also called "booking" in some markets.	
Predefined Liquidity Transfer Order	an instruction to transfer a specified amount of money from one cash account to another cash account to be executed only once at a defined time or event.	
Prioritisation	refers to the possibility for CSD and instructing parties to indicate the priority in which settlement is to process eligible settlement instructions.	
Privilege	a right, either granted or denied, to execute certain functions within an application or to access and/or update certain data.	
Privilege Class	a set of related privileges.	
Process Indicator	defines those attributes of a settlement instruction that determine whether the instruction is relevant for a specific action or activity in T2S (e.g. partial settlement, auto-collateralisation).	

Title	Definition	Remark
Provisioning	the process that verifies if sufficient funds are available to the buyer or sufficient securities are held by the seller to settle a transaction.	
Pull Mode	a communication model using the request/response (also query/response) message exchange pattern. A service consumer requests or asks for specific information from a service provider and then waits to receive the response from the service provider.	
Purging	the process, which excludes failed, rejected, outdated or invalid instructions and transactions from matching and settlement in T2S after reaching the end of the recycling period.	
Push Mode	a communication model where the service provider actively passes event-driven and time-triggered messages to a service consumer based on a subscription by the consumer to the information.	
Query	refers to real-time function to fulfil ad hoc information demands. Queries can be sent to T2S continuously throughout the day, and will be answered in real-time. Queries are generally performed in a pull mode and are limited to the defined data and availability of related system resources.	
Ready-for-settlement instructions	settlement instructions that have the appropriate format, status and date to be eligible for settlement processing in T2S.	
Real-Time Gross Settlement system	a settlement system in which processing and settlement take place on an transaction-by-transaction basis (without netting) in real time (continuously). See Gross settlement.	Blue Book Definition
Recycling	the resubmission of failed, matched settlement instruction for a new settlement attempt, when still eligible for settlement, or reintroduction of an unmatched settlement instruction into the matching process after the previous matching attempt has failed.	

Title	Definition	Remark
Recycling Period	the number or T2S opening days after the intended settlement date that a failed matched settlement instruction is reintroduced for a new settlement attempt or an unmatched settlement instruction is available for matching	
Release	a collection of hardware, software, documentation, processes or other components required to implement one or more approved changes to IT services. The contents of each release are managed, tested, and deployed as a single entity.	ITIL Definition
Report	refers to an event-driven and time-triggered publishing of information in a defined, standard format.	
Repurchase agreement	an arrangement whereby an asset is sold while the seller simultaneously obtains the right and obligation to repurchase it at a specific price on a future date or on demand. Such an arrangement is similar to collateralised borrowing, with the exception that ownership of the securities is not retained by the seller.	Blue Book Definition
Reservation of Holdings	is a process, which prevents the transfer of a position in a specific security in one securities account to any other securities account except for the purpose for which the position was reserved. The settlement of the underlying settlement instruction results in the actual transfer of the reserved holdings to another securities account and in the subsequent removal of the reservation.	
Role	a set of related privileges or privilege classes. The functions that a user performs to fulfil her/his responsibilities within an organisation define a role.	
Scalability	the ability of an IT service, process, configuration item, etc. to perform its agreed function when the workload or scope changes.	ITIL Definition
Securities Collateral Substitution	the process by which an institution replaces securities, which have been previously provided as collateral, with other securities of at least equivalent market value.	

Title	Definition	Remark
Security-Maintaining CSD	the central securities depository, assigned with the responsibility for maintaining the reference data for a security in T2S.	
Securities-Only Settlement Institution	is a legal entity that holds a securities account for the purpose of settling securities transactions for itself and on behalf of others. It does not hold its own cash account to settle the cash leg of a securities transaction, but requires the services of a settlement bank or a payment bank.	
Segregation of Holdings	a process which allows the separation of a position in a specific security between the intermediary and either each client or between a pool of clients.	
Sequencing	refers to the order automatically set by T2S in which eligible settlement instructions are processed by the T2S settlement module.	
Service	in T2S defines any report, query or message in T2S to which the CSD and/or CSD participant can subscribe. A service must always have a function or application in T2S associated with it. T2S defines the privilege to access the service on the party level.	
Service Configuration	in T2S defines a set of services that the T2S operator provides to the CSD or the CSD provides to its CSD participant. For example, a CSD shall be able to define a service configuration for directly connecting participants that would allow the participant to interact directly with T2S for certain services offered by T2S.	
Service Level	the measured and reported achievement against one or more service level targets. The term service level also is used informally to mean service level target.	ITIL Definition
Service Level Agreement	an agreement between an IT service provider and a customer. The SLA describes the IT service, documents service level targets, and specifies the responsibilities of the IT service provider and the customer. A single SLA may cover multiple IT services or multiple customers.	ITIL Definition

Title	Definition	Remark
Settlement Agent	an institution which manages the settlement process (e.g. the determination of settlement positions, monitoring the exchange of payments and securities, etc.) for transfer systems or other arrangements which require settlement and provides related services.	
Settlement Bank	is a financial institution that has both cash and securities accounts for the purpose of settling securities transactions for itself and on behalf of others.	Blue Book definition modified to include securities
Settlement Day	defines a day, when settlement takes place in T2S (also referred to as opening day).	
Settlement Component (Module)	A subset of applications in the T2S system containing settlement processes.	
Settlement Confirmation	a status advice sent to the instructing party as either a message or in a report to inform it that an instruction settled.	
Settlement Fail	a securities settlement instruction that does not settle on the intended settlement date due to either a lack of securities on the seller side or an insufficient payment capacity on the buyer side.	
Settlement Instruction	A settlement instruction is an order, originating from both trading and non-trading operations, to deliver or receive securities (or rights in securities) with or without paying an amount of money to an ultimate beneficiary on behalf of an originator. In case of a sale, the buyer of the securities will need to provide the receive instruction while the seller will need to provide the delivery instruction for the same trade.	
Settlement Instruction Validation	the process of verifying the correctness of the business content of a settlement instruction.	
Settlement Transaction	a common term for the two settlement instructions necessary for any settlement activity - one instruction to debit a securities and/or cash account and one instruction to credit a securities and/or cash account	

Title	Definition	Remark
Shaping	the process of apportioning the quantity in a settlement instruction into lower amounts using several instructions, when the amount of that instruction exceeds a certain threshold.	
Standard Settlement Instructions (SSI)	A set of data (such as cash account, CSD information, and agent information) needed to settle transactions with a counterpart. The back offices of the counterparts usually exchange SSIs before commencing trading in order to have the settlement instructions stored in the trading and back office systems.	
Standing Liquidity Transfer Order	an instruction to transfer a specified amount of money from one central bank account to another to be executed repetitively at a defined time or event in the T2S processing cycle until the order is changed or cancelled.	
Status Message	information sent to the instructing party on the status of an instruction or other relevant lifecycle information - also referred to as “status advice” or "status report".	
System Entity	a system entity in T2S is the T2S operator, a central securities depository or NCB for which a segregation of processing capabilities and data is required.	
T2S Actor	defines any legal entity or organisation interacting either directly or indirectly through a CSD in T2S with the T2S platform for the purpose of securities settlement. T2S actors are - CSDs in T2S - T2S Parties - T2S Operator - Central Banks - Payment Bank	

Title	Definition	Remark
T2S Dedicated Cash Account	an account exclusively used for securities settlement in T2S, linked to an RTGS account in TARGET2.	
T2S Operator	defines the legal and/or organisational entity/entities that operates the T2S platform.	
T2S Party	is a legal entity or in some markets an individual, that has a contractual relationship with a CSD in T2S for the processing of its settlement-related activities in T2S It does not necessarily hold a securities account with the CSD. Some non-exhaustive examples are - Indirect and direct CSD participants, - stock exchanges and multilateral trading platforms, which route pre-match trades or settlement instruction on behalf of trading participants to CSDs; - central counterparts (CCPs); - central banks as CSD participants; - CSDs as participants of other CSDs; - and a securities processing outsourcer that process securities transactions on behalf of other financial institutions. See also settlement bank, securities-only settlement institution and settlement agent for the different roles a T2S party can take.	
T2S Stakeholder	Any organization; legal person or governmental entity; public and private interest groups; or individual that has a valid interest in the outcome of the Target2-Securties Project and the governance and operation of the Target2-Securities Platform.	
T2S System Owner	the legal or organisational entity that owns the T2S platform.	

Title	Definition	Remark
T2S System Status Message	Information sent to a CSD or directly connected T2S party as to the state of a T2S application, process or event.	
T2S System User	A T2S system user is an individual or a technical process/application that can log into T2S with a login name and password. For example, a user may be an individual, who has interactive access to T2S online functions or an application programme that requests services from T2S.	
T2S User	in the context of governance and policy, T2S user defines is a legal entity that has a contractual/legal relationship with a CSD, which has entered into a contractual relationship for the use of T2S. It also defines a payment bank, providing liquidity through an RTGS account in Target2 to a financial institution, settling in T2S.	
Technical Acceptance of Settlement Instruction	the step in which T2S accepts a settlement instruction for further processing after validating that it fulfils of the required technical standards.	
Technical Issuer CSD	for an Investor CSD is the CSD where its omnibus accounts reflecting the holding of its participants are deposited. The technical issuer CSD could be different for each ISIN for a given Investor CSD. In most cases, the technical issuer CSD is the issuer CSD	
Tolerance Amount	is the acceptable difference in the counter-value in currency, allowed for the matching of settlement instructions, between the against payment settlement instruction of deliverer and the receiver of securities.	
Trade-Related Instructions	are settlement instructions, resulting exclusively from trading activities.	
Transfer System	a generic term covering inter-bank funds transfer systems and exchange-for-value systems.	

Title	Definition	Remark
Use Case	an interaction between a user and a system or a component within a system by defining the discrete goal that the user wants to achieve with the system, without the requirement to reveal or to specify the system's internal structure.	
User Requirement	is a condition or capability needed by a stakeholder to solve a problem or achieve an objective.	
User-to-Application	defines a mode of technical communication that permits the exchange of information between software applications of T2S and a T2S system user through a graphical user interface (GUI).	
Unique Transaction Reference	a unique sequential number that T2S assigns to a settlement instruction to uniquely identify the settlement instruction.	

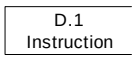
1

2 Standards used for context diagrams

In several chapters[1], context diagrams present the technical boundaries of the T2S system and its interactions with other systems or system components. These diagrams also show the different logical system components and their interactions.

The following conventions based on the Gane Sarson methodology are used:

This symbol depicts a component[2], with a component number and a component name.



This symbol depicts a data store, with a data store number beginning with "D" and the data store name

This symbol depicts an actor to the system.

This symbol depicts an information flow between T2S and the actor or within the different functions of T2S.

This symbol depicts a data store being read or updated by a function

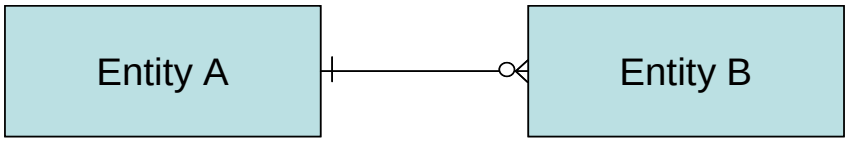
[1] Context diagrams are in chapters on scope, lifecycle management, settlement, static data and interfaces.

[2] Here the term "component" is used in a generic way in order to capture conceptually a set of functions as part of a certain T2S activity (i.e. LCMM). The use of the term in the URD makes no reference to the functional or technical architecture of the T2S system.

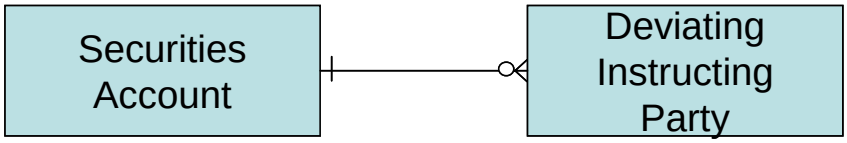
3 Standards used for conceptual static data models

A conceptual data model provides the logical organisation of data. It provides the formal representation of data required to perform a business process or activities. Some chapters provide entity relationship maps to define the data structures required to support the business processes in T2S. The diagrams use the entity relationship notation ("Crow's Foot" notation). For simplification, this annex only explains entity relationship modelling conventions in use in this requirements document.

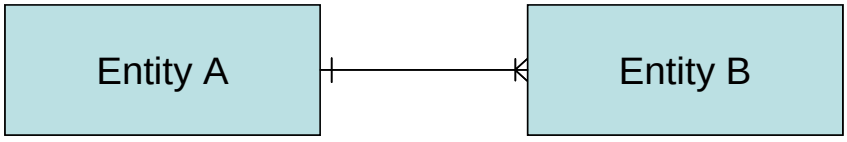
One-to-Many Relationships



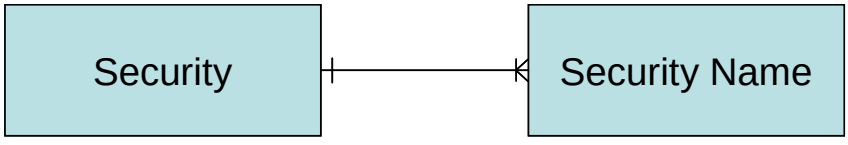
The diagram above represents a one-to-many relationship. For each occurrence of information (data record) in entity A, zero to any number of occurrences of information (data records) can exist in entity B. An occurrence in entity A can exist without a related occurrence in entity B. As in the example diagram below, a securities account may have zero, one or many deviating instructing parties linked to it (e.g. a stock exchange and a CCP).



The next diagram also represents a one-to-many relationship. For each occurrence of information (data record) in entity A, one or many of occurrences of information (data records) can exist in entity B. However, it is mandatory that each occurrence of information in A has at least one related occurrence in entity B. In others, an occurrence in entity A cannot exist if there is no related occurrence in entity B.



As in the example diagram below, a security must have at least a name to exist. However, a security also can have multiple names when, for example, the name of the issuer changes. The security will have an old and a new name.



USER REQUIREMENTS

ANNEX 3

T2S PROPOSALS

T2S Project Team

Reference:	T2S-07-0182
Date:	12 December 2007
Version:	2
Status:	Final

1 Introduction

A public consultation on 67 proposals was held between 26 April and 27 June 2007. A total number of 57 responses were received. The Advisory Group has discussed the revision of the proposals in its July, September and October meetings.

The agreed proposals took the form of guidance from the Advisory Group to the Technical Groups and the Project Team in proposing the User Requirements. The User Requirements should thus be consistent with the agreed proposals.

This document reflects the final text of all 67 proposals.

2 Proposals

- **Proposal 1:**

T2S will have a single and uniform securities account structure.

- **Proposal 2:**

The cash leg of T2S settlements will take place on T2S dedicated cash accounts. A consolidated view on euro liquidity available in T2 RTGS accounts and T2S cash accounts will be provided. Real-time liquidity transfers between T2 RTGS accounts and T2S cash accounts (and vice versa) will be possible automatically and on demand.

- **Proposal 3:**

Settlement banks should be able to hold one or several T2S dedicated cash accounts. However, they should be able to centralise the settlement of instructions with all T2S CSDs on one T2S dedicated account.

- **Proposal 4:**

If they do not hold directly a T2S dedicated cash account, T2S users can indirectly use the T2S dedicated account of a settlement bank, as per the TARGET2 rules.

- **Proposal 5:**

Settlement banks can use different T2S dedicated cash accounts for proprietary and clients holdings. When settling clients' instructions on their T2S dedicated accounts, settlement banks will be able to set buying limits to their clients and identify the amount of liquidity used for the operations of the latter.

- **Proposal 6:**

Each T2S securities account shall be assigned to one (and only one) CSD.

- **Proposal 7:**

It was agreed to delete Proposal 7

- **Proposal 8:**

The T2S securities accounts structure shall differentiate between different intermediary roles, including direct participants, indirect participants, investors, end-investors, issuers, paying agents, other custody-related roles, and technical CSD accounts.

- **Proposal 9:**

The T2S securities accounts structure shall allow proprietary and potentially multiple non-proprietary holdings to be segregated.

- **Proposal 10:**

The T2S securities accounts structure shall allow for segregation and/or identification of holdings eligible for self-collateralisation (i.e. pledge accounts).

- **Proposal 11:**

Securities reference data in T2S will be restricted to, but will include all, the data required for settlement and auto-collateralisation.

- **Proposal 12:**

Changes in the securities reference data can only be initiated by one (and only one) CSD.

- **Proposal 13:**

CSD participant's reference data in T2S will be restricted to data required for settlement and auto-collateralisation.

- **Proposal 14:**

Changes to CSD participants' reference data can only be initiated by CSDs.

- **Proposal 15 :**

For their securities accounts, only the CSDs can change the set-up, access rights, and other rules relating to the settlement process.

- **Proposal 16:**

For their cash accounts, only the NCBs can change the set-up, access rights, and other rules relating to the settlement process.

- **Proposal 17:**

Reference data on harmonised deadlines and schedules will be maintained in T2S.

- **Proposal 18:**

Reference data on non-harmonised deadlines and schedules will not be maintained in T2S.

- **Proposal 19:**

T2S static data shall comply with the relevant ISO standards.

- **Proposal 20:**

T2S schedule of the settlement day shall be compatible with TARGET2 timetable

- **Proposal 21:**

The T2S schedule of the settlement day shall comprise a night-time settlement period, and a daytime settlement period

- **Proposal 22:**

The night-time period shall start after the change of business day in the evening of the previous opening day. The daytime period shall start after the end of the night time period and end in line with TARGET2.

- **Proposal 23:**

All T2S connected CSDs shall maintain the T2S Schedule (i.e. including both day and night time settlement). Harmonised market practices would be fostered at European level to promote early settlement. It will be ultimately up to each T2S party and its counterparties how to engage in night time settlement depending on the liquidity and collateral they make available.

- **Proposal 24:**

Internal T2S core settlement deadlines will be harmonised for all CSDs**.**

- **Proposal 25:**

CSDs can introduce in their local systems additional deadlines or cut-off times within the operational hours of T2S. These deadlines or cut-off times shall not interfere with the harmonised core deadlines and shall not be part of the T2S Static Data and settlement processes. For example these deadlines could refer to corporate events management, securities lending etc.

- **Proposal 26:**

CSDs can schedule interaction with T2S for their non-settlement business freely within the settlement periods of T2S.

- **Proposal 27:**

T2S will provide a lifecycle management functionality (including matching and instruction maintenance).

- **Proposal 28:**

Lifecycle management and in particular instruction maintenance are real-time processes which are to be continuously available (except for maintenance windows).

- **Proposal 29:**

T2S will have one harmonised set of settlement eligibility rules.

- **Proposal 30:**

T2S shall offer a matching functionality. Instructions can either be matched in T2S or they can enter T2S already matched. For instructions generated by stock exchanges, other trading platforms and CCPs, they can enter the settlement process in T2S either directly or through a CSD. When instructions enter T2S already matched, there should be no disruption to the settlement process as a result of the matching location.
Explanatory text:

- The user will have the choice of matching in T2S or in a CSD
- Cross-CSD instructions and instructions from directly connected users will be matched in T2S
- Matching services offered by CSDs will not disrupt provisions for direct connectivity.

- **Proposal 31:**

T2S will have one harmonised set of matching rules.

- **Proposal 32:**

Instructions which enter T2S already matched must comply with the T2S matching rules

- **Proposal 33:**

Matching is binding in T2S, which means that instructions matched in T2S can only be cancelled bilaterally. A hold and release mechanism will be unilaterally available to both counterparties up and until actual settlement occurs. At the end of the intended settlement date, any matched held instructions will be considered “failed”.

- **Proposal 34:**

Instructions which enter the T2S matching process will be matched by T2S as soon as possible.

- **Proposal 35:**

Instructions can be amended by participants according to harmonised rules. Amendment of matching fields will be possible before matching; amendment of non-matching fields will be possible up and until actual settlement occurs

- **Proposal 36:**

T2S will provide settlement allegement functionality.

- **Proposal 37:**

T2S will provide a functionality for sequencing instructions, for provisioning them, for executing debits and credits on the securities and the cash accounts, for fails management and recycling, and for optimisation.

- **Proposal 38:**

T2S will provide a common set of rules for sequencing and prioritisation which will apply to all participating CSDs.

- **Proposal 39:**

T2S shall have common settlement processes for all participating CSDs.

- **Proposal 40:**

T2S will provide a common set of rules for recycling which will apply to all participating CSDs.

- **Proposal 41:**

The settlement model will support auto-collateralisation. This functionality is available for all participating markets.

- **Proposal 42:**

The optimisation functionality will comprise multilateral technical netting algorithms that cover at least back-to-backs, circles, chains, nettings across all instructions with one ISIN, as well as nettings over all eligible instructions.

- **Proposal 43:**

T2S will aim to settle instructions as early as possible.

- **Proposal 44:**

The multilateral technical netting algorithm pursuing netting over all eligible instructions will be run through at least two night time cycles. An optimisation routine will then be run continuously during the day in parallel of the real-time settlement procedure.

- **Proposal 45:**

The settlement model will be deployed in two modes, a real-time mode during the day, and a night time cycle mode. The night time cycle mode will be used for full netting runs during the night.

- **Proposal 46:**

Failed instructions will be continuously recycled throughout the settlement day.

- **Proposal 47:**

T2S will provide partial settlement functionalities.

- **Proposal 48:**

Instructions that did not settle at the end of the settlement day may be carried over into the next settlement day and reattempted according to parameters set in T2S static data. While harmonisation should be sought, these parameters will be set according to CSDs rules, as well as OTC practices.

- **Proposal 49:**

T2S will attempt optimisation throughout the day.

- **Proposal 50:**

T2S will provide the functionality to perform cross-border settlement between all participating CSDs.

- **Proposal 51:**

T2S will support settlement through links between participating CSDs and with non-participating CSDs, including when specific settlement functionalities are necessary, i.e. for the settlement of securities for which the issuer CSD is outside T2S.

- **Proposal 52**

T2S will provide interfaces to users and CSDs. CSDs and users will be able to input and maintain instructions and query data, according to their access rights in T2S as defined in proposals 15 and 16.

- **Proposal 53:**

Only CSDs will be allowed to update and change static data through the Authorisation Interface. Non-CSD users can perform read only-Queries.

- **Proposal 54:**

Only NCBs are allowed to update and change cash account static data through Authorisation Interface.

- **Proposal 55:**

T2S interfaces will allow users to connect to T2S directly. Access is granted by the CSDs for settlement processing pertaining only to their accounts in T2S.

- **Proposal 56:**

T2S interfaces shall be continuously open to accept new instructions, queries or requests throughout the T2S day (except during maintenance windows).

- **Proposal 57**

In addition to the generic instructions and queries (proposal 52) specific instructions and queries to support the services of CSDs shall be made available through the instructions and balances interfaces if need be. This functionality is available to CSDs and users respecting the access rights defined in T2S (see proposals 15 and 16).

- **Proposal 58:**

All T2S interfaces shall allow for user-to-application (U2A) as well as for application-to-application (A2A) interaction

- **Proposal 59:**

T2S interfaces will be based on ISO 20022, or any subsequent relevant standards, as well as on the proprietary XML messages implemented in the TARGET2 ICM/ASI.

- **Proposal 60:**

T2S shall be able to handle the respective daily average and peak settlement volume to be assessed in due course. The volume will be recurrently evaluated with production data collected at the CSDs at least once a year all along the project life and trends will be derived and volume projections be calculated. The first data collection will be carried out in the User Requirements collection phase in August 2007.

- **Proposal 61:**

T2S shall be able to handle settlement peak day capacities without degradation of service levels

- **Proposal 62:**

T2S capacity shall be sufficient to cover the settlement volumes of peak hours.

- **Proposal 63:**

Concurrent TARGET2 peak hours shall not affect service levels in T2S.

- **Proposal 64:**

The operator of T2S will provide IT operations support on IT technical troubles via a helpdesk.

- **Proposal 65:**

T2S shall provide archiving functionalities

- **Proposal 66:**

Migration to T2S will be performed on a CSD or group of CSD basis.

- **Proposal 67:**

Harmonisation and standardisation decisions shall be guided by the principles of (1) maximising efficiency and (2) minimising the overall market impact (in this order of priority).

USER REQUIREMENTS

ANNEX 4

ISSUE NOTE - THE T2S ON T2 CONCEPT

3CB+

Reference:	T2S-07-0237
Date:	12 December 2007
Version:	2
Status:	Final

EUROPEAN CENTRAL BANK

EUROSYSTEM

1. INTRODUCTION

Based on the outcome of the public consultation, the Advisory Group (AG) was invited in its last meeting to review the Principles and Proposals and give guidance to the Technical Groups. When discussing the Principle 2[1], some members mentioned that a clarification of the implementation of the principle "T2S on T2" might be necessary at some stage and it was agreed that the 3CBplus would provide a note for the September meeting to the AG to explain further the concept of "T2S on T2".

An important decision was made on 8 March 2007, when the Governing Council decided that "the T2S service will be developed internally within the Eurosystem and operated on the TARGET2 platform in order to exploit synergies with TARGET2 to the fullest extent". This statement explicitly acknowledged the close relationship between T2 and T2S, and formed the basis for the now commonly used "T2S on T2" concept.

This note intends to recall and clarify the main elements that have been presented by the 3CBplus in the T2S Information Session organised on 26 June 2007 and the article in the second T2S newsletter. This note aims at presenting concrete elements which could help to identify what T2S on T2 is and, perhaps more importantly, what T2S on T2 is not.

2. TWO DISTINCT SERVICES

"T2S on T2" is essentially two distinct services: T2 for large-value euro payments processing and T2S for securities settlement in CeBM running on the T2 infrastructure.

Since the exploitation of the synergies between the two systems – the Eurosystem's objective – must not lead to tight and risky dependencies between these two critical services, T2S and T2 will not constitute a unique service,. Moreover, the high complexity resulting from building one single application would make crucial project phases (notably tests) too laborious and would significantly increase maintenance costs by multiplying the impact of local modifications. Finally, in the operational phase, the merger of the two services would have the potential to result in a single point of failure and consequently increase the overall vulnerability of both services.

[1] Principle 2: T2S shall be based on the TARGET2 platform, and will hence provide the same levels of availability, resilience, recovery time and security as TARGET2.

Distinguishing between two different services, T2 for payment services and T2S for securities settlement, appeared to be the most suitable solution. Naturally, there are obvious similarities: both services deal with the closely interrelated business areas of large-value payments processing and securities settlement; both aim to increase the market efficiency by providing technically centralised tools, while preserving the existing legally decentralised framework. Therefore, building T2S without taking into account the solutions devised for T2 would deprive the European financial industry of the beneficial experiences gained from T2 project.
Hence the challenge of the development of T2S is to take the best from T2 while avoiding harmful constraints. The “T2S on T2” concept provides an efficient balance in this respect.

3. A SINGLE PLATFORM REUSING THE T2 ARCHITECTURE DESIGN

The TARGET2 project was based on a “building-block” concept, which consisted of reusing, as much as possible, existing pieces (the building blocks) taken from national components of TARGET1. However, while the software was widely reused, the technical infrastructure had to be designed from scratch. The much higher standards of system resilience required as a result of the 9/11 terrorist attacks have made it necessary to define a new business continuity model which will manage the huge volume of data and procedures generated by the consolidation of all payment activities at Eurosystem level.
At the start of the T2S project, the situation will be different; the application software for settlement purposes will be a new development, whereas the existing T2 architectural design (the already available Single Shared Platform or SSP) is a very valid answer to the technical challenges of a European-wide settlement system. Indeed, T2S can draw on the existing technical architecture designed for T2, including a fully scalable central processing system, a storage sub-system with synchronous and asynchronous mirroring and a dedicated network to connect the different processing sites (3CBNet). Other components, like certain interfaces or the connection to the SWIFT network, could also be reused if relevant. Naturally, the existing components will have to be resized in order to cope with the expected T2S volumes, but reusing the SSP architecture for T2S ensures that T2S services will benefit from this architecture in terms of performance and overall resilience.
Notably, the full integration of T2S in the SSP architecture will allow T2S to inherit from T2 a state-of-the-art business continuity model, including intra- and inter-regional failover management, as well as an adaptable contingency framework. This will enable T2S to cope with the consequences of a variety of unpredictable events, ranging from local equipment failure to region-wide disasters. T2S will also be integrated de facto into the crisis management organisation set up by the Eurosystem for T2.
A leading-edge platform is of course of little use without skilled teams supporting it on a day-to-day basis. The 3CBplus organisation, largely derived from the 3CB model for T2, constitutes a solid basis for the very high levels of service expected from a platform as critical to business as T2S. Similarly, the project framework set up by the Eurosystem to develop Target2 has demonstrated its efficiency in the management of a large-scale project involving many stakeholders and, sometimes, an equally large number of viewpoints.

4. SYNERGIES AND OPPORTUNITIES

"T2S on T2" will bring direct synergies, as it will reuse or share resources currently available for T2. As for the technical architecture, the mutualisation of some components or the time-sharing of equipment and teams will allow an optimisation of the SSP resources by exploiting possible load-balancing between the services, and by improving the occupation rate of test & training environments, for example. The shared usage of the infrastructure will lead to lower the costs for the users.

Sharing the same platform also allows common tools to be used for the two services (e.g. Change Management system, Trouble Management system or Technical Monitoring).

Apart from these immediate and concrete synergies, T2S on T2 also provides new opportunities to create added value for its users, thanks to the proximity of the two services. Notably, this proximity creates unique conditions for easing liquidity management and therefore make it more efficient for the underlying businesses of both T2 and T2S. For T2, for example, it will facilitate the provision of additional liquidity through the proximity of securities settlement features, while for T2S, it will allow an optimisation of the liquidity used in the securities settlement process. The already existing and sophisticated liquidity management functions of T2 will be further enhanced to facilitate the usage of cash by the two services. Since all liquidity available for payments and for securities settlement will be accessible on a single platform globally, liquidity management will be more flexible and efficient than it is today.

Finally, the homogeneous presentation layer for T2 and T2S (based on ICM) will make it possible to integrate (at user workstation level) the full set of services provided by T2 and T2S through a "single window" access. Similarly, the development of the T2S accounting functions will benefit from the liquidity management introduced in T2.

A presentation to the Technical Group 6 of the synergies and opportunities stemming from the concept "T2S on T2" met already a positive reception from the Group.

5. CONCLUSION

The current phase of the T2S project consists of compiling the users' requirements through an extensive process of consultation of the market involving more than 180 high-level experts from nearly 80 financial institutions. The "White page" approach foreseen for the design of the future system will create the conditions for taking into account all the users' requirements.

"T2S on T2" is an open concept that should not impose constraints on the users' requirements, while allowing significant cost savings because of the synergies with T2 and the reuse of the SSP architecture. Only this approach will ensure the timely delivery of a cost-efficient solution in the interest of CSDs, market participants and the Eurosystem.

USER REQUIREMENTS

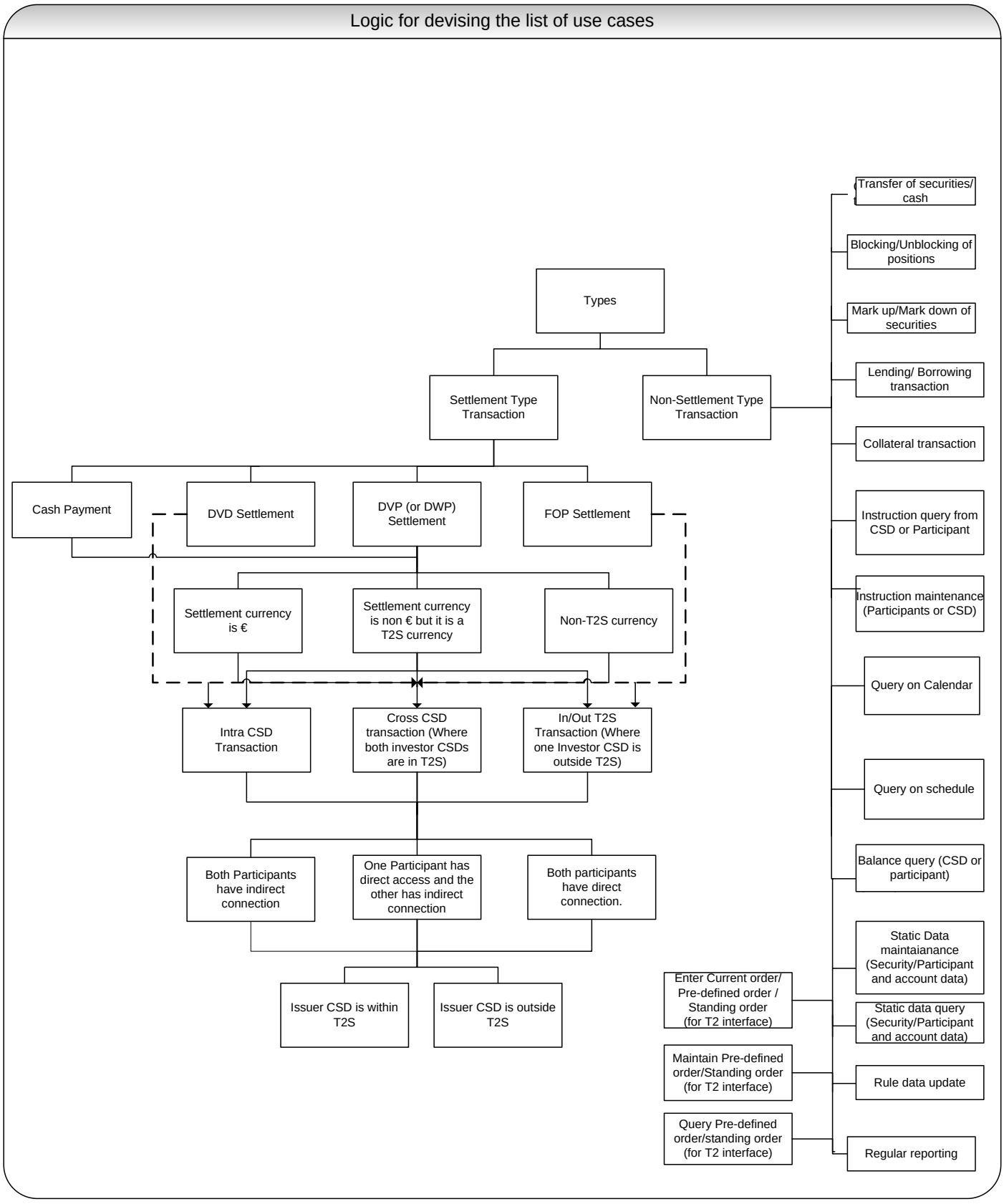
ANNEX 5

USE CASES

T2S Project Team

Reference:	T2S-07-0372
Date:	12 December 2007
Version:	2
Status:	Final

1 The following is a tentative list of use cases, obtained by detailing the requirements as follows:



2

3

1 **List of Settlement (Trade Settlement) use cases to be covered by T2S**

2

No.	Interface	Title	Explanation	Source	Remark
001	Instructions	Intra-CSD transaction in € where both participants belong to the same CSD and have an indirect connection	-	CSD	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
002	Instructions	Intra-CSD transaction in € where both participants belong to the same CSD; one participant has a direct connection, the other an indirect connection	-	CSD/Participant	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
003	Instructions	Intra-CSD transaction in € where both participants belong to the same CSD and have a direct connection	-	Participant	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
004	Instructions	Cross-CSD transaction in € where one participant has an indirect connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has also an indirect connection	-	CSD	All involved CSDs are T2S CSDs
005	Instructions	Cross-CSD transaction in € where one participant has a direct connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has an indirect connection	-	CSD/Participant	All involved CSDs are T2S CSDs
006	Instructions	Cross-CSD transaction in € where one participant has an indirect connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has a direct connection	-	CSD/Participant	All involved CSDs are T2S CSDs
007	Instructions	Cross-CSD transaction in € where one participant has a direct connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has also a direct connection	-	Participant	All involved CSDs are T2S CSDs
008	Instructions	Cross-CSD transaction in € where both participants belong to different CSDs and have an indirect connection; the issuer CDS is different from the two investor CSDs	-	CSD	All involved CSDs are T2S CSDs

No.	Interface	Title	Explanation	Source	Remark
009	Instructions	Cross-CSD transaction in € where both participants belong to different CSDs and have different connection direct/indirect; the issuer CDS is different from the two investor CSDs	-	CSD/Participant	All involved CSDs are T2S CSDs
010	Instructions	Cross-CSD transaction in € where both participants belong to different CSDs and have a direct connection; the issuer CDS is different from the two investor CSDs	-	Participant	All involved CSDs are T2S CSDs
011	Instructions	Cross-CSD transaction in € where both participants belong to different CSDs and have an indirect connection; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	CSD	The issuer CSD is not a T2S CSD
012	Instructions	Cross-CSD transaction in € where both participants belong to different CSDs and have different connection direct/indirect; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	CSD/Participant	The issuer CSD is not a T2S CSD
013	Instructions	Cross-CSD transaction in € where both participants belong to different CSDs and have a direct connection; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	Participant	The issuer CSD is not a T2S CSD
014	Instructions	In/Out-T2S transaction in € where the counterparty belongs to a non-T2S CSD; the participant has an indirect connection and belongs to the same CSD as the issuer CSD	-	CSD	The counterparty CSD is not a T2S CSD
015	Instructions	In/Out-T2S transaction in € where the counterparty belongs to a non-T2S CSD; the participant has a direct connection and belongs to the same CSD as the issuer CSD	-	Participant	The counterparty CSD is not a T2S CSD
016	Instructions	In/Out-T2S transaction in € where the counterparty belongs to a non-T2S CSD; the participant has an indirect connection and belongs to a different CSD from the issuer CSD	-	CSD	The counterparty CSD is not a T2S CSD
017	Instructions	In/Out-T2S transaction in € where the counterparty belongs to a non-T2S CSD; the participant has a direct connection and belongs to a different CSD from the issuer CSD	-	Participant	The counterparty CSD is not a T2S CSD

No.	Interface	Title	Explanation	Source	Remark
018	Instructions	In/Out-T2S transaction in € where the counterparty CSD and the issuer CSD are non-T2S CSD; the participant has an indirect connection	-	CSD	The counterparty CSD and the issuer CSD are not T2S CSDs
019	Instructions	In/Out-T2S transaction in € where the counterparty CSD and the issuer CSD are non-T2S CSD; the participant has a direct connection	-	Participant	The counterparty CSD and the issuer CSD are not T2S CSDs
020	Instructions	Intra-CSD transaction in non-€ currency but a T2S currency where both participants belong to the same CSD and have an indirect connection	-	CSD	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
021	Instructions	Intra-CSD transaction in non-€ currency but a T2S currency where both participants belong to the same CSD; one participant has a direct connection, the other an indirect connection	-	CSD/Participant	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
022	Instructions	Intra-CSD transaction in non-€ currency but a T2S currency where both participants belong to the same CSD and have a direct connection	-	Participant	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
023	Instructions	Cross-CSD transaction in non-€ currency but a T2S currency where one participant has an indirect connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has also an indirect connection	-	CSD	All involved CSDs are T2S CSDs
024	Instructions	Cross-CSD transaction in non-€ currency but a T2S currency where one participant has a direct connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has an indirect connection	-	CSD/Participant	All involved CSDs are T2S CSDs
025	Instructions	Cross-CSD transaction in non-€ currency but a T2S currency where one participant has an indirect connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has a direct connection	-	CSD/Participant	All involved CSDs are T2S CSDs
026	Instructions	Cross-CSD transaction in non-€ currency but a T2S currency where one participant has a direct connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has also a direct connection	-	Participant	All involved CSDs are T2S CSDs

No.	Interface	Title	Explanation	Source	Remark
027	Instructions	Cross-CSD transaction in non-€ currency but a T2S currency where both participants belong to different CSDs and have an indirect connection; the issuer CDS is different from the two investor CSDs	-	CSD	All involved CSDs are T2S CSDs
028	Instructions	Cross-CSD transaction in non-€ currency but a T2S currency where both participants belong to different CSDs and have different connection direct/indirect; the issuer CDS is different from the two investor CSDs	-	CSD/Participant	All involved CSDs are T2S CSDs
029	Instructions	Cross-CSD transaction in non-€ currency but a T2S currency where both participants belong to different CSDs and have a direct connection; the issuer CDS is different from the two investor CSDs	-	Participant	All involved CSDs are T2S CSDs
030	Instructions	Cross-CSD transaction in non-€ currency but a T2S currency where both participants belong to different CSDs and have an indirect connection; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	CSD	The issuer CSD is not a T2S CSD
031	Instructions	Cross-CSD transaction in non-€ currency but a T2S currency where both participants belong to different CSDs and have different connection direct/indirect; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	CSD/Participant	The issuer CSD is not a T2S CSD
032	Instructions	Cross-CSD transaction in non-€ currency but a T2S currency where both participants belong to different CSDs and have a direct connection; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	Participant	The issuer CSD is not a T2S CSD
033	Instructions	In/Out-T2S transaction in non-€ currency but a T2S currency where the counterparty belongs to a non-T2S CSD; the participant has an indirect connection and belongs to the same CSD as the issuer CSD	-	CSD	The counterparty CSD is not a T2S CSD
034	Instructions	In/Out-T2S transaction in non-€ currency but a T2S currency where the counterparty belongs to a non-T2S CSD; the participant has a direct connection and belongs to the same CSD as the	-	Participant	The counterparty CSD is not a T2S CSD

No.	Interface	Title	Explanation	Source	Remark
		issuer CSD			
035	Instructions	In/Out-T2S transaction in non-€ currency but a T2S currency where the counterparty belongs to a non-T2S CSD; the participant has an indirect connection and belongs to a different CSD from the issuer CSD	-	CSD	The counterparty CSD is not a T2S CSD
036	Instructions	In/Out-T2S transaction in non-€ currency but a T2S currency where the counterparty belongs to a non-T2S CSD; the participant has a direct connection and belongs to a different CSD from the issuer CSD	-	Participant	The counterparty CSD is not a T2S CSD
037	Instructions	In/Out-T2S transaction in non-€ currency but a T2S currency where the counterparty CSD and the issuer CSD are non-T2S CSD; the participant has an indirect connection	-	CSD	The counterparty CSD and the issuer CSD are not T2S CSDs
038	Instructions	In/Out-T2S transaction in non-€ currency but a T2S currency where the counterparty CSD and the issuer CSD are non-T2S CSD; the participant has a direct connection	-	Participant	The counterparty CSD and the issuer CSD are not T2S CSDs
039	Instructions	Intra-CSD transaction in non-T2S currency where both participants belong to the same CSD and have an indirect connection	-	CSD	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
040	Instructions	Intra-CSD transaction in non-T2S currency where both participants belong to the same CSD; one participant has a direct connection, the other an indirect connection	-	CSD/Participant	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
041	Instructions	Intra-CSD transaction in non-T2S currency where both participants belong to the same CSD and have a direct connection	-	Participant	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
042	Instructions	Cross-CSD transaction in non-T2S currency where one participant has an indirect connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has also an indirect connection	-	CSD	All involved CSDs are T2S CSDs

No.	Interface	Title	Explanation	Source	Remark
043	Instructions	Cross-CSD transaction in non-T2S currency where one participant has a direct connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has an indirect connection	-	CSD/Participant	All involved CSDs are T2S CSDs
044	Instructions	Cross-CSD transaction in non-T2S currency where one participant has an indirect connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has a direct connection	-	CSD/Participant	All involved CSDs are T2S CSDs
045	Instructions	Cross-CSD transaction in non-T2S currency where one participant has a direct connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has also a direct connection	-	Participant	All involved CSDs are T2S CSDs
046	Instructions	Cross-CSD transaction in non-T2S currency where both participants belong to different CSDs and have an indirect connection; the issuer CDS is different from the two investor CSDs	-	CSD	All involved CSDs are T2S CSDs
047	Instructions	Cross-CSD transaction in non-T2S currency where both participants belong to different CSDs and have different connection direct/indirect; the issuer CDS is different from the two investor CSDs	-	CSD/Participant	All involved CSDs are T2S CSDs
048	Instructions	Cross-CSD transaction in non-T2S currency where both participants belong to different CSDs and have a direct connection; the issuer CDS is different from the two investor CSDs	-	Participant	All involved CSDs are T2S CSDs
049	Instructions	Cross-CSD transaction in non-T2S currency where both participants belong to different CSDs and have an indirect connection; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	CSD	The issuer CSD is not a T2S CSD
050	Instructions	Cross-CSD transaction in non-T2S currency where both participants belong to different CSDs and have different connection direct/indirect; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	CSD/Participant	The issuer CSD is not a T2S CSD

No.	Interface	Title	Explanation	Source	Remark
051	Instructions	Cross-CSD transaction in non-T2S currency where both participants belong to different CSDs and have a direct connection; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	Participant	The issuer CSD is not a T2S CSD
052	Instructions	In/Out-T2S transaction in non-T2S currency where the counterparty belongs to a non-T2S CSD; the participant has an indirect connection and belongs to the same CSD as the issuer CSD	-	CSD	The counterparty CSD is not a T2S CSD
053	Instructions	In/Out-T2S transaction in non-T2S currency where the counterparty belongs to a non-T2S CSD; the participant has a direct connection and belongs to the same CSD as the issuer CSD	-	Participant	The counterparty CSD is not a T2S CSD
054	Instructions	In/Out-T2S transaction in non-T2S currency where the counterparty belongs to a non-T2S CSD; the participant has an indirect connection and belongs to a different CSD from the issuer CSD	-	CSD	The counterparty CSD is not a T2S CSD
055	Instructions	In/Out-T2S transaction in non-T2S currency where the counterparty belongs to a non-T2S CSD; the participant has a direct connection and belongs to a different CSD from the issuer CSD	-	Participant	The counterparty CSD is not a T2S CSD
056	Instructions	In/Out-T2S transaction in non-T2S currency where the counterparty CSD and the issuer CSD are non-T2S CSD; the participant has an indirect connection	-	CSD	The counterparty CSD and the issuer CSD are not T2S CSDs
057	Instructions	In/Out-T2S transaction in non-T2S currency where the counterparty CSD and the issuer CSD are non-T2S CSD; the participant has a direct connection	-	Participant	The counterparty CSD and the issuer CSD are not T2S CSDs
058	Instructions	Intra-CSD FoP transaction where both participants belong to the same CSD and have an indirect connection	-	CSD	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
059	Instructions	Intra-CSD FoP transaction where both participants belong to the same CSD; one participant has a direct connection, the other an indirect connection	-	CSD/Participant	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
060	Instructions	Intra-CSD FoP transaction where both participants belong to the same CSD and have a direct connection	-	Participant	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)

No.	Interface	Title	Explanation	Source	Remark
061	Instructions	Cross-CSD FoP transaction where one participant has an indirect connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has also an indirect connection	-	CSD	All involved CSDs are T2S CSDs
062	Instructions	Cross-CSD FoP transaction where one participant has a direct connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has an indirect connection	-	CSD/Participant	All involved CSDs are T2S CSDs
063	Instructions	Cross-CSD FoP transaction where one participant has an indirect connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has a direct connection	-	CSD/Participant	All involved CSDs are T2S CSDs
064	Instructions	Cross-CSD FoP transaction where one participant has a direct connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has also a direct connection	-	Participant	All involved CSDs are T2S CSDs
065	Instructions	Cross-CSD FoP transaction where both participants belong to different CSDs and have an indirect connection; the issuer CDS is different from the two investor CSDs	-	CSD	All involved CSDs are T2S CSDs
066	Instructions	Cross-CSD FoP transaction where both participants belong to different CSDs and have different connection direct/indirect; the issuer CDS is different from the two investor CSDs	-	CSD/Participant	All involved CSDs are T2S CSDs
067	Instructions	Cross-CSD FoP transaction where both participants belong to different CSDs and have a direct connection; the issuer CDS is different from the two investor CSDs	-	Participant	All involved CSDs are T2S CSDs
068	Instructions	Cross-CSD FoP transaction where both participants belong to different CSDs and have an indirect connection; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	CSD	The issuer CSD is not a T2S CSD

No.	Interface	Title	Explanation	Source	Remark
069	Instructions	Cross-CSD FoP transaction where both participants belong to different CSDs and have different connection direct/indirect; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	CSD/Participant	The issuer CSD is not a T2S CSD
070	Instructions	Cross-CSD FoP transaction where both participants belong to different CSDs and have a direct connection; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	Participant	The issuer CSD is not a T2S CSD
071	Instructions	In/Out-T2S FoP transaction where the counterparty belongs to a non-T2S CSD; the participant has an indirect connection and belongs to the same CSD as the issuer CSD	-	CSD	The counterparty CSD is not a T2S CSD
072	Instructions	In/Out-T2S FoP transaction where the counterparty belongs to a non-T2S CSD; the participant has a direct connection and belongs to the same CSD as the issuer CSD	-	Participant	The counterparty CSD is not a T2S CSD
073	Instructions	In/Out-T2S FoP transaction where the counterparty belongs to a non-T2S CSD; the participant has an indirect connection and belongs to a different CSD from the issuer CSD	-	CSD	The counterparty CSD is not a T2S CSD
074	Instructions	In/Out-T2S FoP transaction where the counterparty belongs to a non-T2S CSD; the participant has a direct connection and belongs to a different CSD from the issuer CSD	-	Participant	The counterparty CSD is not a T2S CSD
075	Instructions	In/Out-T2S FoP transaction where the counterparty CSD and the issuer CSD are non-T2S CSD; the participant has an indirect connection	-	CSD	The counterparty CSD and the issuer CSD are not T2S CSDs
076	Instructions	In/Out-T2S FoP transaction where the counterparty CSD and the issuer CSD are non-T2S CSD; the participant has a direct connection	-	Participant	The counterparty CSD and the issuer CSD are not T2S CSDs
077	Instructions	Intra-CSD DVD transaction where both participants belong to the same CSD and have an indirect connection	-	CSD	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
078	Instructions	Intra-CSD DVD transaction where both participants belong to the same CSD; one participant has a direct connection, the other an indirect connection	-	CSD/Participant	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)

No.	Interface	Title	Explanation	Source	Remark
079	Instructions	Intra-CSD DVD transaction where both participants belong to the same CSD and have a direct connection	-	Participant	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
080	Instructions	Cross-CSD DVD transaction where one participant has an indirect connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has also an indirect connection	-	CSD	All involved CSDs are T2S CSDs
081	Instructions	Cross-CSD DVD transaction where one participant has a direct connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has an indirect connection	-	CSD/Participant	All involved CSDs are T2S CSDs
082	Instructions	Cross-CSD DVD transaction where one participant has an indirect connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has a direct connection	-	CSD/Participant	All involved CSDs are T2S CSDs
083	Instructions	Cross-CSD DVD transaction where one participant has a direct connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has also a direct connection	-	Participant	All involved CSDs are T2S CSDs
084	Instructions	Cross-CSD DVD transaction where both participants belong to different CSDs and have an indirect connection; the issuer CDS is different from the two investor CSDs	-	CSD	All involved CSDs are T2S CSDs
085	Instructions	Cross-CSD DVD transaction where both participants belong to different CSDs and have different connection direct/indirect; the issuer CDS is different from the two investor CSDs	-	CSD/Participant	All involved CSDs are T2S CSDs
086	Instructions	Cross-CSD DVD transaction where both participants belong to different CSDs and have a direct connection; the issuer CDS is different from the two investor CSDs	-	Participant	All involved CSDs are T2S CSDs
087	Instructions	Cross-CSD DVD transaction where both participants belong to different CSDs and have an indirect connection; the issuer CDS is different	-	CSD	The issuer CSD is not a T2S CSD

No.	Interface	Title	Explanation	Source	Remark
		from the two investor CSDs and is not a T2S CSD			
088	Instructions	Cross-CSD DVD transaction where both participants belong to different CSDs and have different connection direct/indirect; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	CSD/Participant	The issuer CSD is not a T2S CSD
089	Instructions	Cross-CSD DVD transaction where both participants belong to different CSDs and have a direct connection; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	Participant	The issuer CSD is not a T2S CSD
090	Instructions	In/Out-T2S DVD transaction where the counterparty belongs to a non-T2S CSD; the participant has an indirect connection and belongs to the same CSD as the issuer CSD	-	CSD	The counterparty CSD is not a T2S CSD
091	Instructions	In/Out-T2S DVD transaction where the counterparty belongs to a non-T2S CSD; the participant has a direct connection and belongs to the same CSD as the issuer CSD	-	Participant	The counterparty CSD is not a T2S CSD
092	Instructions	In/Out-T2S DVD transaction where the counterparty belongs to a non-T2S CSD; the participant has an indirect connection and belongs to a different CSD from the issuer CSD	-	CSD	The counterparty CSD is not a T2S CSD
093	Instructions	In/Out-T2S DVD transaction where the counterparty belongs to a non-T2S CSD; the participant has a direct connection and belongs to a different CSD from the issuer CSD	-	Participant	The counterparty CSD is not a T2S CSD
094	Instructions	In/Out-T2S DVD transaction where the counterparty CSD and the issuer CSD are non-T2S CSD; the participant has an indirect connection	In case of In/Out-T2S DVD transaction, if the issuer CSDs for both securities are different and both are outside T2S. Then T2S will not be able to handle such transactions.	CSD	The counterparty CSD and the issuer CSD are not T2S CSDs

No.	Interface	Title	Explanation	Source	Remark
095	Instructions	In/Out-T2S DVD transaction where the counterparty CSD and the issuer CSD are non-T2S CSD; the participant has a direct connection	In case of In/Out-T2S DVD transaction, if the issuer CSDs for both securities are different and both are outside T2S. Then T2S will not be able to handle such transactions.	Participant	The counterparty CSD and the issuer CSD are not T2S CSDs
096	Instructions	Intra CSD, cash payment transaction in €, where the CSD is a T2S CSD and both participant have indirect connection.	-	CSD	All involved CSDs are T2S CSDs
097	Instructions	Intra CSD, cash payment transaction in €, where the CSD is a T2S CSD and one participant have direct connection and the other has indirect connection.	-	CSD/Participant	All involved CSDs are T2S CSDs
098	Instructions	Intra CSD, cash payment transaction in €, where the CSD is a T2S CSD and both participant have direct connection.	-	Participant	All involved CSDs are T2S CSDs
099	Instructions	Cross CSD, cash payment transaction in €, where both CSDs are T2S CSD and both participant have indirect connection.	-	CSD	All involved CSDs are T2S CSDs
100	Instructions	Cross CSD, cash payment transaction in €, where both CSDs are T2S CSD and one participant have direct connection and the other has indirect connection.	-	CSD/Participant	All involved CSDs are T2S CSDs
101	Instructions	Cross CSD, cash payment transaction in €, where both CSDs are T2S CSD and both participant have direct connection.	-	Participant	All involved CSDs are T2S CSDs
102	Instructions	Cross Border, cash payment transaction in €, where one CSD is T2S CSD, counterparty CSD is outside T2S the participant has indirect connection.	-	CSD	The counterparty CSD is not a T2S CSD
103	Instructions	Cross Border, cash payment transaction in €, where one CSD is T2S CSD, counterparty CSD is outside T2S the participant has direct connection.	-	Participant	The counterparty CSD is not a T2S CSD
104	Instructions	Intra CSD, cash payment transaction in non-€ T2S currency, where the CSD is a T2S CSD and both participant have indirect connection.	-	CSD	All involved CSDs are T2S CSDs

No.	Interface	Title	Explanation	Source	Remark
105	Instructions	Intra CSD, cash payment transaction in non-€ T2S currency, where the CSD is a T2S CSD and one participant have direct connection and the other has indirect connection.	-	CSD/Participant	All involved CSDs are T2S CSDs
106	Instructions	Intra CSD, cash payment transaction in non-€ T2S currency, where the CSD is a T2S CSD and both participant have direct connection.	-	Participant	All involved CSDs are T2S CSDs
107	Instructions	Cross CSD, cash payment transaction in non-€, T2S currency where both CSDs are T2S CSD and both participant have indirect connection.	-	CSD	All involved CSDs are T2S CSDs
108	Instructions	Cross CSD, cash payment transaction in non-€ T2S currency where both CSDs are T2S CSD and one participant have direct connection and the other has indirect connection.	-	CSD/Participant	All involved CSDs are T2S CSDs
109	Instructions	Cross CSD, cash payment transaction in non-€ T2S currency where both CSDs are T2S CSD and both participant have direct connection.	-	Participant	All involved CSDs are T2S CSDs
110	Instructions	In/Out-T2S, cash payment transaction in non- € T2S currency where one CSD is T2S CSD , counterparty CSD is outside T2S the participant has indirect connection.	-	CSD	The counterparty CSD is not a T2S CSD
111	Instructions	In/Out-T2S, cash payment transaction in non-€ T2S currency where one CSD is T2S CSD , counterparty CSD is outside T2S the participant has direct connection.	-	Participant	The counterparty CSD is not a T2S CSD

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List of Non-Settlement (Non-Trade Settlement) use cases to be covered by T2S

No.	Interface	Title	Explanation	Source	Remark
112	Instructions	Transfer of Securities/Cash/both (e.g. from Corporate action perspective) e.g. -cash payment (both € and T2S non-€) - securities payment - DVD and DVP cases (exchange, redemption, etc.) - combinations (Securities + Cash)	A generic functionality to be used for Corporate actions benefit bookings.	CSD	The scope will cover intra CSD and cross CSD custody activity. More clarity on issuer CSD being inside or out of T2S, would be achieved with the note on external CSD.
113	Instructions	Blocking/Unblocking of Positions	A generic functionality to be used for certain Corporate actions processing (like Proxy, voluntary corporate actions etc.)	CSD	-
114	Instructions	Mark up and Mark down of securities	A generic functionality to be used for certain Corporate actions processing (like merger, takeover etc.).	CSD	-
115	Instructions	Lending/borrowing Transaction - Open - Close -substitution	Generic functionality for Lending and borrowing.	CSD	-
116	Instructions	Collateral Transaction	To be used for any collateral transaction, like pledge.	CSD	-
117	Instructions	Instruction query	Query to check the status of the instruction, e.g. whether in "accepted", "matched", "settled" status.	CSD	-
118	Instructions	Instruction query	Query to check the status of the instruction, e.g. whether in "accepted", "matched", "settled" status.	Participant	-

No.	Interface	Title	Explanation	Source	Remark
119	Instructions	Instruction maintenance	Functionality e.g. to cancel a previously sent instruction.	CSD	-
120	Instructions	Instruction maintenance	Functionality e.g. to cancel a previously sent instruction.	Participant	-
121	Balance interface	Balance query	To inquire about security balance or cash balance.	CSD/settlement banks	-
122	Balance interface	Balance query	To inquire about security balance or cash balance.	CSD	A CSD participant if it is not a settlement bank, would only be able to query security balance. A CSD participant, that is also a settlement bank would be able to query both security and cash balances
123	Target 2 interface	Creation of current order	An order in the cash account which has to be executed immediately	CSD/settlement banks	-
124	Target 2 interface	Creation of pre-defined orders	An order in the cash account which has to be executed in future, but only once.	CSD/settlement banks	-
125	Target 2 interface	Creation of standing order	An order in the cash account which has to be executed in future, at certain intervals for a specified period of time.	CSD/settlement banks	-
126	Target 2 interface	Maintenance of pre-defined order	It can be modification or deletion of a pre-defined order	CSD/settlement banks	-
127	Target 2 interface	Maintenance of standing order	It can be modification or deletion of a standing order	CSD/settlement banks	-
128	Target 2 interface	Query of pre-defined order	To inquire the details of pre-defined order	CSD/settlement banks	-
129	Target 2 interface	Query of standing order	To inquire the details of standing order.	CSD/settlement banks	-

No.	Interface	Title	Explanation	Source	Remark
130	Authorisation interface	Security update	Security update would include creation & deletion of security. It would also include modification of security details. Also freezing and re-activation of security will come under this functionality.	CSD	-
131	Authorisation interface	Participant update	participant update would include creation & deletion of participant. It would also include modification of details. Also freezing and re-activation of participant will come under this functionality.	CSD	-
132	Authorisation interface	Account update	Account update would include creation & deletion of accounts. It would also include modification of details. Also freezing and re-activation of account will come under this functionality.	CSD/ Settlement Banks	-
133	Authorisation interface	Query on security data	To inquire about security details	CSD or participant	-
134	Authorisation interface	Query on participant data	To inquire about participant details	CSD or participant	-
135	Authorisation interface	Query on account data	To inquire about account details	CSD or participant	-
136	Authorisation interface	Query on calendar	To inquire the opening days and holidays in T2S	CSD or participant	-
137	Authorisation interface	Query on Schedule	To inquire on the different time lines of a business day.	CSD or participant	-
138	Authorisation interface	Rule update	provision for updating any specific rules	CSD	-

No.	Interface	Title	Explanation	Source	Remark
139	Reporting interface	Regular reporting	Provision for sending reports and data dumps.	T2S	-

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USER REQUIREMENTS

ANNEX 6

MAPPING EXAMPLES FOR ACCOUNT STRUCTURES

T2S Project Team

Reference:	T2S-07-0113
Date:	12 December 2007
Version:	2
Status:	Final

TABLE OF CONTENTS

1 Introduction

This document provides some examples of securities account structures currently used in some specific market places and their mapping to the T2S securities account structure. At this stage of the project, the mapping remains at a conceptual level. Moreover, it is not meant to be exhaustive and its purpose is merely to help the reader in routing T2S concepts to existing ones in their market place and vice versa.

For more information concerning the T2S securities account structure, please read chapters 16.8.3 (Securities Account Reference Data) and 11.9.4 (CSD-Specific Restriction / Segregation Types).

Please note that the background information included in boxes within each of the following sections of this annex was provided by the market participants.

2 Clearstream

This section shows a mapping example based on Clearstream's securities account structure. In the following box, some background information is shown.

To settle transactions in Collective Safe-Custody securities, CBF customers need a securities account, which is kept via the CASCADE system. The account number is made up of a 4-digit main account number and a 3-digit sub-account number. The main account as a sub-account normally uses 000 (e.g. 7999 000).

Due to the sub-account structure, it is possible to individually separate holdings. CASCADE reporting covers all actions in the main account and the corresponding sub-accounts. CBF allocates some sub-account numbers for specific purposes. Cash settlement in connection with securities transactions, income administration, fees and charges, etc. always relates to the main account.

Additional features to be considered:

- Access rights and allowed securities transactions differ between account types and sub-accounts. For example, a CBF customer can transfer directly securities to a 'collateral' sub-account but only the collateral taker can agree to transfer such securities back to the collateral provider using the CSD services
- Securities transfers on internal accounts or sub-accounts can only be instructed by the CSD
- Special account types are used to flag accounts and sub-accounts as customer accounts, internal accounts, other CSD's accounts, etc.

In the following example, two T2S Parties having a contractual relationship with Clearstream are considered: Deutsche Bank and Citibank. Deutsche Bank is linked to three different securities accounts. The first is its main account (whose number is 7998 000). The others are sub-accounts and they are used for a customer account[1] (account no. 7998 250) and Eurex margin / collateral[2] (account no. 7998 501) respectively. On the other hand, Citibank owns one main account (whose number is 7999 000) and three sub-accounts to be used for blocking account (account no. 7999 080[3] and account no. 7999 160[4]) and Eurex margin / collateral[5] (account no. 7999 500) respectively.

The following table shows, from a conceptual point of view only, the securities accounts kept in CASCADE for Deutsche Bank and Citibank.

Table 2.1 – Securities accounts in CBF

Customer	Account No.	Account Type
Deutsche Bank	7998 000	Main account
Deutsche Bank	7998 250	Customer account
Deutsche Bank	7998 501	Eurex margin / collateral
Citibank	7999 000	Main account
Citibank	7999 080	Blocking account
Citibank	7999 160	Blocking account
Citibank	7999 500	Eurex margin / collateral

[1] The 3-digit code 250 indicates a sub-account type used for initial exemption from Italian withholding tax.

[2] The 3-digit code 501 indicates a sub-account type used for collateral, fund collateral provided in favour of Eurex Clearing AG.

[3] The 3-digit code 080 indicates a sub-account type used for the separation of blocked positions on the settlement of corporate action events, such as a takeover or a capital increase against issue of subscription rights.

[4] The 3-digit code 160 indicates a sub-account type used for blocking due to a general meeting if the voting right is exercised by the CBF customer.

[5] The 3-digit code 500 indicates a sub-account type used for the administration of collateral, margin collateral and EEX collateral for the forward market, provided in favour of Eurex Clearing AG.

The same information can be represented in T2S as follows. A securities account will be defined for each of the accounts defined in the CSD:

Table 2.2 – Securities accounts in T2S

System Entity	T2S Party	A/C No.	A/C Type	CSD-Spec. Restriction	Auto-collat.	Hold/Release Default
CBF	Deutsche Bank	01001	CSD-Participant	-	Y	Hold
CBF	Deutsche Bank	01002	CSD-Participant	250	N	n/a
CBF	Deutsche Bank	01003	CSD-Participant	501	N	n/a
CBF	Citibank	01004	CSD-Participant	-	Y	Release
CBF	Citibank	01005	CSD-Participant	080	N	n/a
CBF	Citibank	01006	CSD-Participant	160	N	n/a
CBF	Citibank	01007	CSD-Participant	500	N	n/a

Where:

- *System Entity* links each securities account to the relevant CSD;
- T2S Party identifies the account owner;
- *A/C No.* is an internal unique identifier for each securities account;
- *A/C Type* identifies the type of securities account;
- *CSD-Spec. Restriction* determines the relevant processing rules for each securities account;
- *Auto-collat.* is a Boolean value flagging if holdings of this securities account are available as collateral for the auto-collateralisation process; and
- *Hold/Release Default* specifies the default setting of specific securities settlement instructions received for each securities account.

Each value set for the attribute *CSD-Spec. Restriction* links the relevant securities account to a specific restriction / segregation defined by the CSD, according to the following table:

Table 2.3 – CSD-Specific Restrictions / Segregations

System Entity	Res./Seg. Type	Res./Seg. Classification	Blocking Level	CSD Instr. Type	Pledgee Instr. Type	A/C Operator Instr. Type	FoP Settl. Only	Concurrent Res./Seg/
CBF	080	Account	Blocked	R&D	n/a	None	Y	N
CBF	160	Account	Blocked	R&D	n/a	None	N	N
CBF	250	Account	n/a	R&D	n/a	R&D	N	N
CBF	500	Account	Blocked	R&D	n/a	R	Y	N
CBF	501	Account	Blocked	R&D	R&D	R	Y	N

Where:

- *System Entity* links each restriction / segregation to the relevant CSD;
- *Res./Seg. Type* specifies a code defining the reason for blocking or segregating a holding in a financial instrument.
- *Res./Seg. Classification* specifies whether the restriction or segregation applies to the security, the account or a position in a security in a securities account.
- *Blocking Level* specifies whether the restriction or segregation type earmarks or blocks the account, security or holding.
- *CSD Instr. Type* specifies if the CSD can instruct a movement of securities in an account with the restriction type. Possible values are: Receive only (R), Deliver only (D), Receive and Deliver (R&D), none.
- *Pledgee Instr. Type* specifies if the pledgee can instruct a movement of securities in an account with the restriction type. Possible values are the same already listed for CSD Instr.Type.
- *A/C Operator Instr. Type* specifies if the account operator can instruct a movement of securities in an account with the restriction type. Possible values are the same already listed for CSD Instr.Type.
- *FoP Settl. Only* is a Boolean flag specifying whether the settlement process shall allow FoP settlement only for the relevant securities account or not.
- *Concurrent Reg./Seg.* specifies whether the user can place a concurrent restriction of another type on an account or position of this type.

Finally, a mapping table (created and managed within the CSD system) will define the link between each securities account in the CSD system and the corresponding account defined within T2S:

Table 2.4 – Securities accounts mapping table

A/C Identifier (in the CSD)	A/C Identifier (in T2S)
7998 000	01001
7998 250	01002
7998 501	01003
7999 000	01004
7999 080	01005
7999 160	01006
7999 500	01007

3 ESES and ESPS

This section shows a mapping example based on the ESES and ESPS securities account structures. In the following box, some background information about ESES securities account structure is shown.

In ESES a **Client** is a legal "person" that has established a contractual relationship with one or more CSDs. A Client may then be one or more Parties or Indirect Parties. A **Party** is a Client (as defined by the Terms and Conditions entered into between the Client and a CSD) that holds one or more securities accounts with that CSD. A Party can be a Direct Account Holder or Securities Only Account Holder depending on the nature of its business relationship with the relevant CSD. An **Indirect Party** is a Client that does not hold any securities accounts with a CSD and is only active in the first steps of the settlement life cycle (i.e. instruction input and matching) in its own name, whilst the rest of the activity (i.e. transfer of securities, the management of the cash leg and the custody of the securities) is performed on its behalf by an Account Operator. An **Account Operator** is a Direct Account Holder that is responsible for the settlement of another Direct Account Holder or an Indirect Party's free of payment and/or DVP instructions (i.e. the transfer of securities, the management of the cash leg and the custody of the securities). These instructions are settled on the securities accounts of the Direct Account Holder, using either its own cash facilities or the cash facilities of a third party.

In ESES a Party may hold one or more securities accounts with one or more CSDs. It can organise its account structure in a flexible and transparent way for its counterparties by using different sub-accounts. In addition, a Party can use different "account natures" which will allow each Party to identify the use or the type of each of the securities held in each of its securities sub-accounts.

Also, if a Party has a cash position with Banque de France, it can use the collateral indicator to identify balances that can be used for auto-collateralisation with the central bank.

A Party decides on and manages its own securities account structure and may open one or more sub-accounts. A Party can operate omnibus sub-accounts or segregated sub-accounts. The nature of the sub-account used may be the choice of the Party (e.g. sub-accounts per categories of holders for purely administrative and accounting purposes or a specific sub-account for a dedicated underlying client, etc.) or may be chosen purely to comply with the regulatory requirements that exist in some market places. Such regulatory requirements may specify that Parties have to segregate proprietary assets from underlying clients' assets.

The same sub-account can be used across all CSDs (provided the Party has the appropriate contract with the relevant CSD). This allows clients to consolidate their entire securities activity in ESES into one operating facility, if they wish to do so.

A sub-account is identified by a number type, a number and a label, which are all chosen by the Party. The number type defines the number format. The combination of number type and number must be unique for each given Party. A Party may have more than one sub-account with the same number type.

Each sub-account must be labelled with the type of asset it will hold by means of the holding type. The holding type

refers to the nature of the underlying clients of the Party. Certain operations, such as specific operations with Banque de France, are restricted to sub-accounts with specific holding types.

A Party may define more than one sub-account with the same holding type. However, only one sub-account can have the holding type 00 (Undifferentiated assets). Apart from this restriction, there is no limit to the number of sub-accounts with the same holding type. The holding type 00 is mandatory when a Party defines only one sub-account. The first and possibly only sub-account created by a Party must have number type 'L1' and number '0'. Only this first sub-account can be used for SBI transactions. If a Party creates multiple sub-accounts, one of them must be defined as the default sub-account. This sub-account will be used for the settlement of transactions for which no sub-account has been specified. A Party that acts as Account Operator executes transactions: (a) for its own underlying clients; and (b) on behalf of one or more Indirect Parties.

This is why a Party is able to specify for each sub-account whether it is used for its own underlying clients or for its Indirect Parties.

- If a Party identifies a sub-account as dedicated exclusively to its own underlying clients, only the transactions that it issues can be posted (i.e. registered in book-entry form) to that sub-account. Instructions using the sub-account on behalf of an Indirect Party will be rejected.
- If a Party (acting in this case as Account Operator) assigns a sub-account to the processing of the transactions of an Indirect Party, only instructions using the sub-account on behalf of the Indirect Party can be posted (i.e. registered in book-entry form) to that sub-account. One sub-account can be dedicated to one specific Indirect Party or used with all Indirect Parties.

The Account Operator must notify the CSDs whenever it plans to limit sub-accounts for one of the above usages. If no particular usage of a sub-account is communicated, no check will be carried out on the ESES platform on how it is used.

There is no limit on the number of sub-accounts that can be created for this purpose by the Account Operator.

For securities management in book-entry form, the account nature is a part of the accounting structure. The account nature is an attribute of the balance. The use of account natures allows Parties to identify the use or the type of each balance of the securities held in each of their securities sub-accounts. Different account natures can be used for the same instrument under the same sub-account. The account nature is represented in instructions by a three-digit code in the identification of holdings. Account natures are managed by the CSDs at security level. This means that account natures available for one instrument may be different from account natures available for another instrument.

In order to constitute a 'stock' of securities that are eligible as collateral, Parties can transfer securities to a sub-account with either:

- account nature 065; or
- collateral indicator 3 ('eligible as collateral').

1

In the following example, three different clients have a contractual relationship with ESES: Citibank, ING and BNP Paribas. In turn, these clients hold one or more securities accounts with one or more CSDs. More in detail:

- Citibank uses two Parties (A and C) and an Indirect Party (B), with A as the Account Operator for B;
- ING uses one Indirect Party (D) which uses Party C (of Citibank) as its Account Operator;
- BNP Paribas uses one Party only (E);
- a book entry is created for each instrument held by the Parties. For this reason, a separate corresponding account is created for each instrument according to the account nature and the collateral indicator.

The following table shows, from a conceptual point of view only, the securities accounts kept in ESES for Citibank, ING and BNP Paribas.

Table 3.1 – Securities accounts in ESES

Client	Party	Activity Type[6]	Account Type[7]	Holding Type[8]	Account Nature[9]	Collateral Indicator[10]
Citibank	A	01	L1 0	00	000	0
Citibank	A	01	L1 0	00	001	0
Citibank	A	01	L1 0	00	010	0
Citibank	C	00	L1 0	00	000	0
Citibank	C	00	LM A1	02	000	0
Citibank	C	00	L1 9	01	000	0
Citibank	C	00	L1 9	01	000	3
Citibank	C	00	L1 9	01	065	0
BNP Paribas	E	14	L1 0	00	000	0

Please note that Indirect Parties B of Citibank and D of ING are not shown in the table as they are indirectly linked to the accounts of Direct Parties A and C respectively.

The same information can be represented in T2S as follows. A securities account will be defined for each of the accounts defined in the CSD[11]:

[6] The following codes are used in this example for Activity Type: 00 (Financial intermediary), 01 (Clearing member) and 14 (Intermediary clearing member).

[7] The following codes are used in this example for Account Type: L1 (one alphanumeric character) and LM (up to 23 alphanumeric characters).

[8] The following codes are used in this example for Holding Type: 00 (Undifferentiated assets), 01 (Own assets) and 02 (Mutual funds).

[9] The following codes are used in this example for Account Nature: 000 (Ordinary securities), 001 (Administered registered securities), 010 (Broker trading accounts) and 065 (Undeliverable collateralisable securities for repos with the Banque de France).

[10] The following codes are used in this example for Collateral Indicator: 0 (not eligible as collateral), 3 (eligible as collateral).

[11] Please check section 2 of this annex for more detailed information concerning attributes of the two following tables.

Table 3.2 – Securities accounts in T2S

System Entity	T2S Party	A/C No.	A/C Type	CSD-Spec. Restriction	Auto-collat.	Hold/Release Default
Euroclear	Citibank A	02001	CSD-Participant	n/a	N	n/a
Euroclear	Citibank A	02002	CSD-Participant	n/a	N	n/a
Euroclear	Citibank A	02003	CSD-Participant	n/a	N	n/a
Euroclear	Citibank C	02004	CSD-Participant	n/a	N	n/a
Euroclear	Citibank C	02005	CSD-Participant	n/a	N	n/a
Euroclear	Citibank C	02006	CSD-Participant	n/a	N	n/a
Euroclear	Citibank C	02007	CSD-Participant	n/a	Y	n/a
Euroclear	Citibank C	02008	CSD-Participant	n/a	Y	n/a
Euroclear	BNP Paribas E	02009	CSD-Participant	n/a	N	n/a

In this example, none of the securities accounts is linked to any CSD specific restrictions or segregations.

Finally, a mapping table (created and managed within the CSD system) will define the link between each securities account in the CSD system and the corresponding account defined within T2S:

Table 3.3 – Securities accounts mapping table

A/C Identifier (in the CSD)					A/C Identifier (in T2S)
Citibank	A	L1 0	000	0	02001
Citibank	A	L1 0	001	0	02002
Citibank	A	L1 0	010	0	02003
Citibank	C	L1 0	000	0	02004
Citibank	C	LM A1	000	0	02005
Citibank	C	L1 9	000	0	02006
Citibank	C	L1 9	000	3	02007
Citibank	C	L1 9	065	0	02008
BNP Paribas	E	L1 0	000	0	02009

The rest of this section describes for ESPS the same scenario just shown for ESES. In the following box, some background information about ESPS securities account structure is shown.

1

In ESPS a **Client** is any person which has entered into a "contractual relationship" with one or more Euroclear (I)CSDs for the purpose of business services. It includes clients who holds accounts (e.g. bank, broker, issuer,…) or those who do not hold accounts in the Single Platform (e.g. Voting Service Provider). A **Party** is a system representation of the client. A Client may have several Parties. Securities transaction matching is done and business roles are defined at Party level. Parties are visible to counterparty.

Operational securities account (OSA) is a securities account in the name of the client. Each Party can determine and manage its own OSA structure. Separate OSAs must be set up for domestic and full activity. Securities movements are done at OSA level. OSA are not visible to counterparty.

Balances are linked to the following characteristics:

- Security identifier (ISIN)
- Balance type
  - Available (safekeeping)
  - Sequestered (safekeeping)
  - Reserved by Clients (safekeeping)
  - Reserved to exclude from income payment (safekeeping)
  - Blocked for external delivery (safekeeping)
  - Repo balance (memorandum)
  - Deposit linked (safekeeping)
- Securities holding form
- Sub balance pool identifier

A mapping exists between ESES (section 3 of this annex) and ESPS account structures. More in detail:

ESES	ESPS
Client	Client
Party *Activity type*	Party *Business role(s)*
Sub Account *Holding type*	OSA
Account Nature	Balance type Holding form Sub-bal-pool-id

2 Making use of the mapping between ESES and ESPS just described, it is possible to show how, from a

conceptual point of view only, the securities accounts are kept in ESPS for parties involved:

Table 3.4– Securities accounts in ESPS

Client	Party	Business Role	OSA	Balance Type	Security Form
Citibank	A	Investor	L1 0	Available	Bearer
Citibank	A	Investor intermediary	L1 0	Available	Registered
Citibank	A	Investor intermediary	L1 0	Available	Undifferentiated
Citibank	C	Investor	L1 0	Available	Bearer
Citibank	C	Investor intermediary	LM A1	Available	Bearer
Citibank	C	Investor intermediary	L1 9	Available	Bearer
Citibank	C	Investor intermediary	L1 9	Available	Bearer
Citibank	C	Investor intermediary	L1 9	Repo balance	Bearer
BNP Paribas	E	Investor	L1 0	Available	Bearer

The same information can be represented in T2S as follows. A securities account will be defined for each of the accounts defined in the CSD[12]:

Table 3.5 – Securities accounts in T2S

System Entity	T2S Party	A/C No.	A/C Type	CSD-Spec. Restriction	Auto-collat.	Hold/Release Default
Euroclear	Citibank A	08001	CSD-Participant	n/a	N	n/a
Euroclear	Citibank A	08002	CSD-Participant	n/a	N	n/a
Euroclear	Citibank A	08003	CSD-Participant	n/a	N	n/a
Euroclear	Citibank C	08004	CSD-Participant	n/a	N	n/a
Euroclear	Citibank C	08005	CSD-Participant	n/a	N	n/a
Euroclear	Citibank C	08006	CSD-Participant	n/a	N	n/a
Euroclear	Citibank C	08007	CSD-Participant	n/a	Y	n/a
Euroclear	Citibank C	08008	CSD-Participant	n/a	Y	n/a
Euroclear	BNP Paribas E	08009	CSD-Participant	n/a	N	n/a

In this example, none of the securities accounts is linked to any CSD specific restrictions or segregations.

Finally, a mapping table (created and managed within the CSD system) will define the link between each

[12] Please check section 2 of this annex for more detailed information concerning attributes of the two following tables.

1 securities account in the CSD system and the corresponding account defined within T2S:

2 **Table 3.6 – Securities accounts mapping table**

A/C Identifier (in the CSD)					A/C Identifier (in T2S)
Citibank	A	L1 0	Available	Bearer	08001
Citibank	A	L1 0	Available	Registered	08002
Citibank	A	L1 0	Available	Undifferentiated	08003
Citibank	C	L1 0	Available	Bearer	08004
Citibank	C	LM A1	Available	Bearer	08005
Citibank	C	L1 9	Available	Bearer	08006
Citibank	C	L1 9	Available	Bearer	08007
Citibank	C	L1 9	Repo balance	Bearer	08008
BNP Paribas	E	L1 0	Available	Bearer	08009

4 HELEX

This section shows a mapping example based on the HELEX securities account structure. In the following box, some background information is shown.

Shares and accounts are kept in DSS (Dematerialised Securities System).

In the **Investor Share** the following accounts are kept:

- **Securities Account**. The Securities Account accessed by Operators (Brokers and Custodian Banks). This Account is the total of the Operator Accounts belonging to a Share.
- **Operator Account**. The Operator Account is created in the Securities Account and corresponds to one Operator which may access and manage this account.
- **Special Account**. The Special Account accessed only by HELEX (CSD).

In case of joint holders of securities that each of them holds an individual Investor Share, a **Joint Investor Share** is created. Joint Investor Share is identified with the joint holders and the percentage of their holding of securities. The Joint Investor Share is linked to the Investor Share of each of the joint holders. In this share are also kept the Securities Account, the Operator Account and the Special Account.

A **Common Investor Share** is created upon request of two or more natural persons; each of them holds an individual Investor Share. Common Investor Share is identified with the joint holders; each of them is in common ownership of all securities that are registered in the Share. The Common Investor Share is linked to the Investor Share of each of the joint holders. In this share are also kept the Securities Account, the Operator Account and the Special Account.

HELEX creates an **Issuer Share** for every company whose securities have been listed on the ATHEX. The following accounts are kept in this share and they are used only for corporate actions: Securities Account, Special Account and Transit Account (where HELEX performs temporary registrations, in case of corporate actions).

For each Member kept in the DSS, and in addition to the share held by it as an investor, another share shall be created by HELEX called a **Member Share**. In this share are also kept the Securities Account, the Operator Account and the Special Account. The Member also holds a **Market Maker Share** (in the capacity of Market Maker) and a **Derivatives Market Maker Share** (if the member acts as a Derivatives Market Maker).

Each Operator keeps with the Settlement Bank (Bank of Greece) accounts distinguished into **Cash Settlement Accounts on Shares** and **Cash Settlement Accounts on Bonds**.

In the following example, three customers are considered: an investor (C_1), an account operator (C_2) and an issuer (C_3). Moreover, the account operator is supposed to be linked to two different sets of account[13]. Normally, the special accounts and the transitory account are operated by the CSD only.

The following table shows, from a conceptual point of view only, the securities accounts kept in DSS for customers C_1, C_2, and C_3,.

Table 4.1 – Securities accounts in DSS

Account Number	Customer	Customer Type	Account Type
0000000001-1	C_1	Investor	Securities
0000000002-1	C_1	Investor	Investor Share
0000000003-1	C_1	Investor	Special
0000000004-1	C_2	Account Operator	Securities
0000000005-1	C_2	Account Operator	Investor Share
0000000006-1	C_2	Account Operator	Special
0000000007-1	C_2	Account Operator	Securities
0000000008-1	C_2	Account Operator	Investor Share
0000000009-1	C_2	Account Operator	Special
0000000010-1	C_3	Issuer	Securities
0000000011-1	C_3	Issuer	Investor Share
0000000012-1	C_3	Issuer	Special
0000000013-1	C_3	Issuer	Transitory

Furthermore, the securities accounts of C_1, C_2, and C_3, are supposed to be operated by the following different set of account operators:

- C_1: O_1 and O_2;
- C_2: O_1, O_2 and O_3 (for account no.0000000004-1), O_1 and O_4 (for account no.0000000007-1);
- C_3: O_1, O_3 and O_4.

The same information can be represented in T2S as follows. A securities account will be defined for each of couple <*securities account, account operator*> defined in the CSD; furthermore, a securities account will be

[13] Each set is made of an investor share account, a securities account and a special account.

1 defined for each special account and transitory account defined in the CSD[14]:

2 **Table 4.2 – Securities accounts in T2S**

System Entity	T2S Party	A/C No.	A/C Type	CSD-Spec. Restriction	Auto-collat.	Hold/Release Default
HELEX	O_1	03001	CSD-Participant	n/a	N	n/a
HELEX	O_2	03002	CSD-Participant	n/a	N	n/a
HELEX	HELEX	03003	CSD	n/a	N	n/a
HELEX	O_1	03004	CSD-Participant	n/a	Y	n/a
HELEX	O_2	03005	CSD-Participant	n/a	N	n/a
HELEX	O_3	03006	CSD-Participant	n/a	N	Hold
HELEX	HELEX	03007	CSD	n/a	N	n/a
HELEX	O_1	03008	CSD-Participant	n/a	N	n/a
HELEX	O_4	03009	CSD-Participant	n/a	N	n/a
HELEX	HELEX	03010	CSD	n/a	N	n/a
HELEX	O_1	03011	CSD-Participant	n/a	N	n/a
HELEX	O_3	03012	CSD-Participant	n/a	N	Hold
HELEX	O_4	03013	CSD-Participant	n/a	Y	Release
HELEX	HELEX	03014	CSD	n/a	N	n/a
HELEX	HELEX	03015	CSD	n/a	N	n/a

3 In this example, none of the securities accounts is linked to any CSD specific restrictions or segregations.

[14] Please check section 2 of this annex for more detailed information concerning attributes of the two following tables.

Finally, a mapping table (created and managed within the CSD system) will define the link between each securities account in the CSD system and the corresponding account defined within T2S:

Table 4.3 – Securities accounts mapping table

A/C Identifier (in the CSD)		A/C Identifier (in T2S)
0000000001-1	O_1	03001
0000000001-1	O_2	03002
0000000003-1	HELEX	03003
0000000004-1	O_1	03004
0000000004-1	O_2	03005
0000000004-1	O_3	03006
0000000006-1	HELEX	03007
0000000007-1	O_1	03008
0000000007-1	O_4	03009
0000000009-1	HELEX	03010
0000000010-1	O_1	03011
0000000010-1	O_3	03012
0000000010-1	O_4	03013
0000000012-1	HELEX	03014
0000000013-1	HELEX	03015

5 Iberclear

This section shows a mapping example based on the Iberclear's securities account structure. In the following box, some background information is shown.

In Spain, the Securities Register System is structured in two levels: the Central Registry managed by Iberclear which keeps the securities balances of the participants (an account for securities registered in their own name and an omnibus "clients account", where securities are registered globally) and a detailed registry managed by the participants where securities are listed by holder's name.

Each Iberclear participant has one securities account made up of 4 digits and the BIC Code. The sub-account structure consists in one or two sub-accounts depending if the participant has the possibility of having client holdings or not. If the participant manages client holdings then it is necessary to have two sub-accounts to segregate its own holdings of its client holdings

In the following example, three different legal entities have a contractual relationship with Iberclear: BBVA, BSCH and Banco de Andalucía. In turn, these legal entities hold one or two securities accounts. Some of these accounts will maintain each legal entity's own holdings. Some others will be linked to client holdings.

The following table shows, from a conceptual point of view only, the securities accounts kept in Iberclear for BBVA, BSCH and Banco de Andalucía.

Table 5.1 – Securities accounts in Iberclear

Customer	Account Number	Account Type
BBVA	0182P	Proprietary Holding
BBVA	0182T	Client Holding
BSCH	0049P	Proprietary Holding
BSCH	0049T	Client Holding
Banco de Andalucía	0004P	Proprietary Holding

The same information can be represented in T2S as follows. A securities account will be defined for each of the accounts defined in the CSD[15]:

Table 5.2 – Securities accounts in T2S

System Entity	T2S Party	A/C No.	A/C Type	CSD-Spec. Restriction	Auto-collat.	Hold/Release Default
Iberclear	BBVA	07001	CSD-Participant	n/a	Y	Only for bilateral transactions
Iberclear	BBVA	07002	CSD-Participant	n/a	N	Only for bilateral transactions
Iberclear	BSCH	07003	CSD-Participant	n/a	Y	Only for bilateral transactions
Iberclear	BSCH	07004	CSD-Participant	n/a	N	Only for bilateral transactions
Iberclear	Banco de Andalucía	07005	CSD-Participant	n/a	Y	Only for bilateral transactions

In this example, none of the securities account is linked to any CSD specific restrictions or segregations.

Finally, a mapping table (created and managed within the CSD system) will define the link between each securities account in the CSD system and the corresponding account defined within T2S:

Table 5.3 – Securities accounts mapping table

A/C Identifier (in the CSD)	A/C Identifier (in T2S)
0182P	07001
0182T	07002
0049P	07003
0049T	07004
0004P	07005

[15] Please check section 2 of this annex for more detailed information concerning attributes of the two following tables.

6 VP

This section shows a mapping example based on the VP securities account structure. In the following box, some background information is shown.

The following is a non-exhaustive list of the differences between the Danish CSD-system compared to other systems:

- Single investor account structure which offers multiple advances in our daily business including (a) handling of corporate actions directly from issuer to end investor and (b) due to a very high settlement rate despite single investor account structure the market is deemed so efficient that there is no need for a CCP.
- Different account types for customers of the system and 'private investors'. Where none of a private investor's trades are settled even if he only lacks a small portion of his total sale, the system settles as much as possible on customers accounts. This is regulated legally in the participant agreement
- Automated collateral which offers brokers access via the Danish Central Bank to liquidity needed for settlement, payments of corporate actions and ordinary inter bank clearing (like a domestic CLS). Automated collateral pledges only the needed securities and leaves the broker with the certainty that liquidity for bought securities is always present.
- Pledge and retention in connection with settlement:
    1. A cash-provider is entitled to pledge a trade through to S if the private investor does not pay for/delivers the securities.
    2. The account controller has retention right of the securities of a trade until S+1.
- According to Danish legislation, legal effect on notification is when it is received by the CSD from the account controller. Notifications must be accepted by the account controller - conditioned that the notifier has sufficient authority regarding the claim - during the entire ordinary business day. Notifications pledging holdings supersede trades with a later legal effect time.

In the following example, three different *account controllers*[16] AC_1, AC_2 and AC_3 have a contractual relationship with VP. In turn, these account controllers hold one or more securities accounts. Some of these accounts will hold each account controller's own holdings. Other accounts will be linked to customers (e.g. institutional investors) and some accounts will be opened for end investors. The same customer, or end investor, may be linked to more than one account controller.

The example also illustrates collateralisation by book-entry pledge with the Danish Central Bank where the account is operated by the Central Bank (Danmarks Nationalbank).

[16] An account controller is defined as an entity (bank) responsible for opening/maintaining accounts at VP and with access rights to the accounts including holdings for which it acts as account controller.

1 The following table shows, from a conceptual point of view only, the securities accounts kept in VP for AC_1,
2 AC_2 and AC_3 and Danmarks Nationalbank.

3 **Table 6.1 – Securities accounts in VP**

Account Number	Account Controller	Account Owner	Restriction	Rights holder
01	AC_1	AC_1		
02	AC_1	Customer A		
03	AC_2	AC_2	Automated collateral	Danmarks Nationalbank
04	AC_2	Customer A	Automated collateral	Danske Bank
05	AC_2	Customer B		
06	AC_2	End Investor A	Pledge in connection with settlement	Cash provider
07	AC_2	End Investor B	Pledge in connection with settlement	Account controller
08	AC_3	AC_3		
09	AC_3	Customer C		
10	AC_3	End Investor B		
11	Danmarks Nationalbank	AC_3	Blocked collateral	Danmarks Nationalbank

4

The same information can be represented in T2S as follows. A securities account will be defined for each of the accounts defined in the CSD[17]:

Table 6.2 – Securities accounts in T2S

System Entity	T2S Party	A/C No.	A/C Type	CSD-Spec. Restriction	Auto-collat.	Hold/Release Default
VP	AC_1	06001	CSD-Participant	-	Y	Hold
VP	AC_1	06002	CSD-Participant	-	Y	Hold
VP	AC_2	06003	CSD-Participant	001	N	Hold
VP	AC_2	06004	CSD-Participant	001	N	Hold
VP	AC_2	06005	CSD-Participant	-	Y	Hold
VP	AC_2	06006	CSD-Participant	002	N	Hold
VP	AC_2	06007	CSD-Participant	003	N	Hold
VP	AC_3	06008	CSD-Participant	-	Y	Hold
VP	AC_3	06009	CSD-Participant	-	Y	Hold
VP	AC_3	06010	CSD-Participant	-	Y	Hold
VP	Danmarks Nationalbank	06011	CSD-Participant	004	n/a	n/a

Each value set for the attribute *CSD-Spec. Restriction* links the relevant securities account to a specific restriction / segregation defined by the CSD, according to the following table:

Table 6.3 – CSD-Specific Restrictions / Segregations

System Entity	Res./Seg. Type	Res./Seg. Classification	Blocking Level	CSD Instr. Type	Pledgee Instr. Type	A/C Operator Instr. Type	FoP Settl. Only	Concurrent Res./Seg.
VP	001	Account	Blocked	R&D	None	D	No	Yes
VP	002	Holding (should be transaction)	Blocked	R&D	None	D	No	Yes
VP	003	Holding (should be transaction)	Blocked	R&D	R&D	R&D	No	Yes
VP	004	Account	Blocked	R&D	R&D	R&D	Yes	No

[17] Please check section 2 of this annex for more detailed information concerning attributes of the two following tables.

Finally, a mapping table (created and managed within the CSD system) will define the link between each securities account in the CSD system and the corresponding account defined within T2S:

Table 6.4 – Securities account mapping table

A/C Identifier (in the CSD)	A/C Identifier (in T2S)
01	06001
02	06002
03	06003
04	06004
05	06005
06	06006
07	06007
08	06008
09	06009
10	06010
11	06011

7 APK

This section shows a mapping example based on the APK securities account structure. In the following box, some background information is shown.

In the Finnish market five different account types are currently available:

- *Individual beneficiary accounts*:
  - the securities deposited under Individual Beneficiary Account are held in the beneficial owner's name within the APK's system;
  - individual refers to both natural persons and legal entities;
  - the account owner must have title to the securities registered to the account;
  - the account holder shall be entered in the public shareholder register;
  - there is no need to register into temporary shareholder register for participation of shareholder meetings or using voting powers;
  - it is the only allowed account type for Finnish investors (Finnish citizens or legal persons registered in Finland).
- *Owner nominee accounts*:
  - it is like an individual beneficiary account, but the name of account holder shall not be entered in the public shareholder register.
- *Custodial nominee accounts*:
  - there is no special legislation on indirect holdings (fungible pools);
  - securities owned by foreign investors only may be deposited in a custodial nominee account, in which it is permitted to register securities of one or several beneficial owners;
  - the account type indicates that the account holder (custodian) has no title to the securities, but administers the assets on behalf of the beneficial owners;
  - the account opened in the account holder's (i.e. the client of Nordea, for example) name as nominee within the APK's system, but not disclosed to public registers;
  - in order to participate and vote in shareholders' meetings the beneficial owner has to register his ownership into temporary shareholder register;
  - it is not allowed for securities owned by for Finnish citizens or legal persons.
- *Issuing accounts*:

- they are opened in the name of the company when it's shares are incorporated in the book-entry register;
- the account includes all mandatory information of the security;
- it has the same content as required from physical share certificates;
- it provides protection against objections;
- there is a daily reconciliation vis-a-vis all book-entry accounts;
- if the investor does not convert physical securities into book-entries, the book-entries are safekept in a collection account opened in the name of the company in favour of the investors.

- *Commission accounts*:
  - it may be opened in the name of clearing participant;
  - it requires an acceptance from CSD and FSA;
  - it is a special type of account used for clearing & settlement purposes;
  - securities belonging to several owners may be registered to one account;
  - only until the settlement has been finalised and the clearing party has received a payment from the investor;
  - account holder has right of pledge to securities registered to the account;
  - FSA has not allowed to use commission accounts for trades made on behalf of Finnish investors, therefore commission accounts are not widely used.

The Book-entry Register must (by law) include information on (a) account holder (name, personal/company id, address, linked bank account number, tax status), (b) rights and restrictions (related to securities, e.g. pledge, right to receive yield, transfer restriction, etc.), (c) positions (debit/credit, time stamp, registration ground (trade, gift, subscription, etc.)).

Shareholder lists are produced based on information registered to book-entry accounts (accounts opened in nominee name are not passed to shareholder register).

FSA's trade supervision is based on registrations of transactions to the book-entry accounts.

Basic (i.e. mandatory) reporting to account holders are produced on information registered to centralised register ("value-added" services are produced from account operators own systems).

<u>Registrations to book-entry accounts</u>:

- Entries are made by licensed account operators. Registrations include trades and rights and restrictions related to securities or account holder (ex. pledge or bankruptcy)
- All rights and restrictions pertaining to a security in book-entry form must be registered to the book-entry

account in order to be given priority and protection against third parties (competing claims).

- Positive and negative reliability:
  - information registered to the account may be relied upon by third parties;
  - rights and restrictions not registered are not given priority nor protection.
- Account operators are liable irrespective of negligence for errors in book-entry system.

In the following example, two T2S Parties having a contractual relationship with APK are considered: Nordea and Sampo Bank. Nordea is linked to five different securities accounts: three of them belong to Citibank as a global custodian; private John Smith holds the other two accounts, as an end investor client. On the other hand, Sampo Bank is linked to one account only, belonging to John Smith as well.

The following table shows, from a conceptual point of view only, the securities accounts kept in APK for Nordea and Sampo Bank.

Table 7.1 – Securities accounts in APK

Account Number	Account Holder	Account Operator	Account Type	Restriction	Right Holder
02 111	Citibank	Nordea	Owner's nominee	-	-
02 793	Citibank	Nordea	Custodial nominee	-	-
02 532	Citibank	Nordea	Owner's nominee	Pledged	Stockholmsbörsen
02 933	John Smith	Nordea	Beneficial owner	Restriction on disposal	Nordea Markets
02 653	John Smith	Nordea	Beneficial owner	Asset management right	UB Private Bank
08 777	John Smith	Sampo Bank	Beneficial owner	-	-

The same information can be represented in T2S as follows. A securities account will be defined for each of the accounts defined in the CSD[18]:

Table 7.2 – Securities accounts in T2S

System Entity	T2S Party	A/C No.	A/C Type	CSD-Spec. Restriction	Auto-collat.	Hold/Release Default
APK	Nordea	04001	CSD-Participant	-	Y	-
APK	Nordea	04002	CSD-Participant	-	Y	-
APK	Nordea	04003	CSD-Participant	Pledge	N	-
APK	Nordea	04004	CSD-Participant	Special pledge	N	-
APK	Nordea	04005	CSD-Participant	Asset management right	Y	-
APK	Sampo Bank	04006	CSD-Participant	-	Y	-

Each value set for the attribute *CSD-Spec. Restriction* links the relevant securities account to a specific restriction / segregation defined by the CSD, according to the following table:

Table 7.3 – CSD-Specific Restrictions / Segregations

System Entity	Res./Seg. Type	Res./Seg. Classification	Blocking Level	CSD Instr. Type	Pledgee Instr. Type	Account Holder Instr. Type[19]	A/C Operator Instr. Type	FoP Settl. Only	Concurrent Res./Seg.
APK	Pledge	Account	Blocked	R&D	D	none	R&D	N	No
APK	Special pledge	Account	Earmarked	R&D	D	R&D	R&D	N	No
APK	Asset Management Right	Account	Earmarked	R&D	R&D	R&D	R&D	N	Yes

[18] Please check section 2 of this annex for more detailed information concerning attributes of the two following tables.

[19] This additional information is needed in this example in order to define the right of the account holder (i.e. end-investor) to instruct the account.

Finally, a mapping table (created and managed within the CSD system) will define the link between each securities account in the CSD system and the corresponding account defined within T2S:

Table 7.4 – Securities Account Mapping Table

A/C Identifier (in the CSD)	A/C Identifier (in T2S)
02 111	04001
02 793	04002
02 532	04003
02 933	04004
02 653	04005
08 777	04006

8 Estonian CSD

This section shows a mapping example based on the Estonian CSD securities account structure. In the following box, some background information is shown.

Currently, there are neither sub-accounts nor special numbering used for defining different kind of accounts..
The following account types are available:

- *ordinary account* (i.e. in the name of the beneficial owner);
- *joint ownership account*;
- *co-ownership account*;
- *nominee account*;
- *pledgee* (if an application for opening a securities account is used for registration of the details of a pledgee as the latter does not hold a securities account);
- *financial collateral arrangement account*.

It is mandatory to define for the **nominee account**, whether securities held on the account belong to legal or natural persons and whether they are Estonian residents or not (requirement from Estonian laws to segregate securities minimum on four accounts).

Joint ownership and co-ownership are registered at CSD level to have legal power - it is up to the account operator to check that right person(s) have given the order.

On **financial collateral arrangement account** data on the pledgee and the existence of an irrevocable right of disposal granted to the pledgee concerning the securities to be transferred to the financial collateral arrangement account are also registered. Where there is more than one pledgee, all the pledgees should be registered. The account operator could also register the date of entry into force of the pledgee's right of disposal.
The same financial collateral arrangement account may be used for registering securities pledged to the same pledgee under different financial collateral arrangements, but only if such financial collateral arrangements do not differ from each other with respect to the existence of an irrevocable right of disposal granted to the pledgee.
The securities governed by the financial collateral arrangement are transferred to the pledge account by a FoP securities transfer.
Only the pledgee may issue orders to the account operator regarding the securities transferred to the financial collateral arrangement account as of the date of entry into force of the irrevocable right to dispose of the pledged securities granted to the pledgee by the pledgor. The pledgor may issue orders to the account operator regarding securities transferred to the financial collateral arrangement account until the date specified in previous sentence only with the consent of the pledgee.

The securities account holder may authorise a member of the exchange under an assets administration agreement or any other similar agreement to confirm debit orders for the performance of the obligations arising from exchange transactions effected for the account of the securities account holder. The name of the member of the exchange authorised by the person requesting the opening of a securities account is to be entered in the data input field.

Ordinary pledges (not related to financial collateral arrangement) are registered on account level and for certain amount of securities (i.e. not full account, but ISIN and number of securities are fixed). The CSD shall transfer securities which are the object of a pledge either by a securities transfer without payment or by a securities transfer against payment provided that prior to the submission of the respective transfer order, the CSD has received an order from the account operator of the pledgee or from the account operator who has registered the details of the pledgee authorising the transfer of the securities which are the object of the pledge. A pledge in respect of the securities, which are the object of the pledge, shall be transferred based on an order received from the account operator of the person who has acquired the pledged securities.

In case of participation in General Meetings and in case that is required by the Issuer CSD (e.g. Latvia), the securities could be **"frozen"** on securities account (also based on ISIN and number of securities - could be part of the position, if nominee account is involved).

A securities account (full account) or securities on account (based on ISIN) could be **frozen** also based on a court judgment, a court ruling or an order of an investigative body, an order of a bailiff or other grounds prescribed by legislation. Securities or a securities account remain frozen until a corresponding register entry is made, the order based on which the securities were frozen is cancelled or a new order is issued, or until another time prescribed by legislation**.**

1

2 In the following example, a set of accounts similar to the one used in section 7 for APK is considered.

The following table shows, from a conceptual point of view only, the securities accounts kept in Estonian CSD in this case.

Table 8.1 – Securities accounts in Estonian CSD

Account Number	Account Holder	Account Operator	Account Type	Restriction	Right Holder
01	Citibank	Nordea	Ordinary	n/a	n/a
02	Citibank	Nordea	Nominee	n/a	n/a
03	Jaan Tamm	Nordea	Pledgee	For defining an entity	n/a
04	John Smith	Nordea	Ordinary	n/a	n/a
05	John Smith	Nordea	Co-ownership	n/a	Na
06	John Smith	Sampo Bank	Ordinary	Asset management right	Hansapank
07	Company Ltd	Nordea	Financial collateral arrangement	Restriction on disposal	Nordea

Please note that the securities account opened in the name of Jaan Tamm could not be used as ordinary securities account and no securities could be registered on that account.

The same information can be represented in T2S as follows. A securities account will be defined for each of the accounts defined in the CSD[20]:

Table 8.2 – Securities accounts in T2S

System Entity	T2S Party	A/C No.	A/C Type	CSD-Spec. Restriction	Auto-collat.	Hold/Release Default
ECSD	Nordea	05001	CSD-Participant	n/a	Y	Hold
ECSD	Nordea	05002	CSD-Participant	Pledge, Freeze, if applicable	N	Hold
ECSD	Nordea	05003	CSD-Participant	Pledgee account	N	n/a
ECSD	Nordea	05004	CSD-Participant	Pledge, Freeze, if applicable	N	Hold
ECSD	Nordea	05005	CSD-Participant	Pledge, Freeze if applicable	N	Hold
ECSD	Sampo Bank	05006	CSD-Participant	AM account; Freeze, if applicable	N	Hold
ECSD	Nordea	05007	CSD-Participant	Financial collateral arrangement	N	Hold

[20] Please check section 2 of this annex for more detailed information concerning attributes of the two following tables.

Each value set for the attribute *CSD-Spec. Restriction* links the relevant securities account to a specific restriction / segregation defined by the CSD, according to the following table:

Table 8.3 – CSD-Specific Restrictions / Segregations

System Entity	Res./Seg. Type	Res./Seg. Classification	Blocking Level	CSD Instr. Type	Pledgee Instr. Type	A/C Operator Instr. Type	FoP Settl. Only	Concurrent Res./Seg.
ECSD	Pledgee account	Account	n/a	None	None	None	No	No
ECSD	AM account	Account	No	R&D	n/a	R&D	No	No
ECSD	Financial collateral arrangement	Account	Account	R&D	R&D	None	Yes	Yes
ECSD	Pledge	Position in security	Holding	R&D	None	R&D	n/a	Yes
ECSD	Freeze	Position in security	Holding	n/a	n/a	n/a	n/a	Yes

Finally, a mapping table (created and managed within the CSD system) will define the link between each securities account in the CSD system and the corresponding account defined within T2S:

Table 8.4 – Securities Account Mapping Table

A/C Identifier (in the CSD)	A/C Identifier (in T2S)
01	05001
02	05002
03	05003
04	05004
05	05005
06	05006
07	05007

USER REQUIREMENTS

ANNEX 7

ISSUE NOTE - CASH ACCOUNTS

T2S Project Team

Reference:	T2S-07-0276
Date:	12 December 2007
Version:	2
Status:	Final

TABLE OF CONTENT

1 Introduction

The purpose of this note is to explain in more detail the organisation of cash accounts envisaged for T2S.

The cash leg of T2S settlements will take place on T2S dedicated cash accounts. A consolidated view on euro liquidity available in TARGET2 RTGS accounts and T2S cash accounts will be provided. Real-time liquidity transfers between TARGET2 RTGS accounts and T2S cash accounts (and vice versa) will be possible automatically and on demand.

Users requests can be summarised as:

- Settlement finality will take place on T2S dedicated cash accounts.
- The account set-up must be flexible enough to cover the various needs of the payment banks.
    - Users should be able to centralise all their T2S settlement on one single T2S dedicated cash account even if they take part in T2S via several CSDs or to use several T2S dedicated cash accounts, e.g. to segregate proprietary and clients operations.
    - For liquidity transfers between T2S and TARGET2, users should be able to link several T2S dedicated cash accounts to one TARGET2 RTGS account.
    - Holders of T2S dedicated cash accounts (= payment bank) should not be compelled to hold an RTGS account in TARGET2.
- Efficient liquidity management tools must be available.
    - Efficient real-time transfers between TARGET2 RTGS accounts and T2S dedicated cash accounts must be possible, including time-driven automated transfers defined according to users needs.
    - Adequate liquidity monitoring tools must be available, i.e. tools providing a view on cash transfers between TARGET2 RTGS accounts and T2S dedicated cash accounts as well as on the liquidity available on TARGET2 accounts and T2S dedicated cash accounts.
- Liquidity transfers between TARGET2 RTGS accounts and T2S dedicated cash accounts will require the involvement of so called “transit accounts” in TARGET2 as well as in T2S in order to keep the accounting in both systems consistent.

2 Accounts involved

The accounts listed in the table below will be used:

Table 2-1: Overview of accounts

Account	Location	Visibility of		Comment
		… Account	… single booking	
RTGS account	TARGET2	Payment bank (account holder)	Payment bank (account holder)	Main source of liquidity
T2S dedicated transit account	TARGET2	National Central Bank (account holder)	National Central Bank (account holder)	This account will be of a technical nature to keep the accounting in TARGET2 consistent. There is one T2S dedicated transit account per NCB. Only RTGS accounts belonging to the NCB being the account holder of the T2S dedicated transit account can be linked to it.

Account	Location	Visibility of		Comment
		… Account	… single booking	
TARGET2 dedicated transit account	T2S	National Central Bank (account holder)	National Central Bank (account holder)	This account will be of a technical nature to keep the accounting in T2S consistent. There is one TARGET2 dedicated transit account per NCB. Only T2S dedicated cash accounts opened by the NCB being the account holder of the TARGET2 dedicated transit account can be linked to it.
T2S dedicated cash account[1]	T2S	Payment bank (account holder) *When the account holder is a third party also the settlement bank will have visibility of the account balance.*	Payment bank (account holder)	Account for booking the cash leg of instructions in T2S. This account reflects the amount of liquidity available for settlement in T2S.

3 Bookings and message flows

At the start of the settlement day the account balances on the *T2S dedicated transit accounts*, the *TARGET2 dedicated transit accounts* and the *T2S dedicated cash accounts* are zero. All liquidity will derive from the *RTGS accounts* of the payment banks.

During the settlement day the bookings on the accounts mentioned above and the message flows resulting from it will be the following one:

In case of **provision of liquidity in favour of T2S** the *RTGS account* of the payment bank will be debited and the *T2S dedicated transit account* of the respective NCB will be credited[2]. On an optional basis the

[1] A NCB may also use a T2S dedicated cash account in T2S in order to reflect the provision of intraday credit out of auto-collateralisation separated from its other business.

payment bank will be informed about the booking on the *RTGS account* by a confirmation of debit. A notification will be sent from TARGET2 to T2S via an internal link. Based on it T2S will debit the *TARGET2 dedicated transit account* of the respective NCB and credit the *T2S dedicated cash account* of the payment bank[3]. On an optional basis a confirmation of credit can be sent to the account holder of the *T2S dedicated cash account*.

When (some) liquidity should not be used for T2S purposes any more there is the possibility to **transfer liquidity back to the RTGS account**. The *T2S dedicated cash account* is debited and the *TARGET2 dedicated transit account* is credited. The account holder of the *T2S dedicated cash account* can receive a confirmation of debit. TARGET2 is notified via an internal link about the successful booking in T2S and then debits the *T2S dedicated transit account* and credits the *RTGS account*. Again the booking on the *RTGS account* can be notified to the payment bank by sending a confirmation of credit.

If T2S makes use of **auto-collateralisation** during the settlement process it will be reflected in T2S only. If the intraday credit out of auto-collateralisation is not reimbursed during the settlement day it might become an overnight credit in TARGET2 during the end-of-day process depending on the account balance of the *RTGS account*.

At the **end of the settlement day** liquidity available on the *T2S dedicated transit account* will be automatically transferred back to the *RTGS account* of the payment bank based on the information on the balances on the *T2S dedicated cash accounts* (before balancing them out against the *T2S dedicated transit account*).

The bookings and message flows are the same as described for the 'transfer back to the *RTGS account*'.

In addition to the confirmations the account owners of all accounts involved in the bookings will receive account statements of their accounts.

The change of the assets or liabilities of a NCB vis-à-vis the Eurosystem (= **inter NCB accounting**) is reflected by the net balance of the liquidity transfers sent to and received from T2S. It will be calculated in TARGET2 and included in the inter NCB accounting already in place in TARGET2.

For more details please have a look at the examples of bookings and message flows provided below (section 4 of annex 7).

[2] This way of accounting is already used by the Eurosystem e.g. in order to perform the booking in case of liquidity transferred from an RTGS account in TARGET2 to an account in the Home Accounting Module or to an account kept at a proprietary home accounting system of a NCB.

[3] The payment bank being the account holder of the T2S dedicated cash account can be the same as the account holder of the RTGS account in TARGET2, but it can also be a different one.

4 Bookings and flows in the course of the settlement day (examples)

4.1 Provision of liquidity at the start of the settlement day

At the start of the settlement day liquidity will be provided from the RTGS accounts (in TARGET2) for the settlement in T2S.

The starting balances on the following accounts are zero at the start of the settlement day:

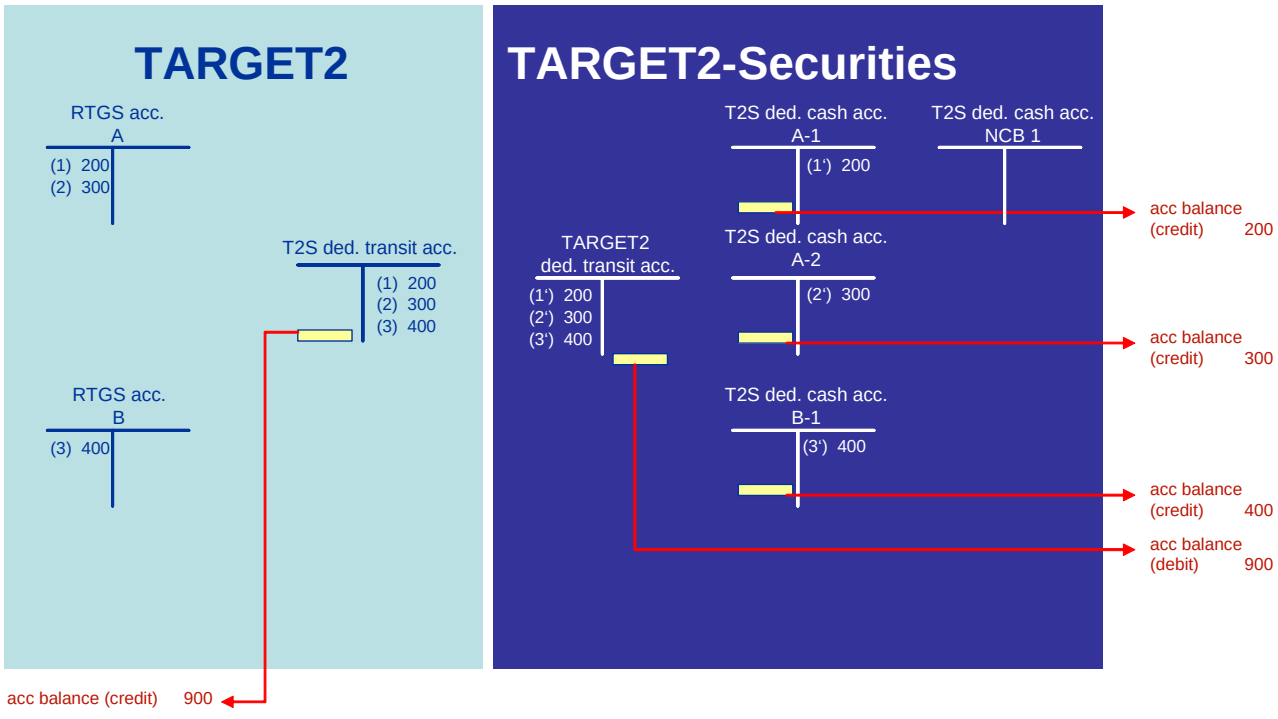
- T2S dedicated transit account (T2S ded. transit acc.)
- TARGET2 dedicated transit account (TARGET2 ded. transit acc.)
- T2S dedicated cash account (T2S ded. cash acc.)

[Note: There is the high probability that the account balance on the RTGS account (RTGS acc.) is not zero. Nevertheless, in order not to "overload" the example no starting balance for the RTGS account is mentioned.]

The provision of liquidity at the start of the settlement day can be triggered by:

- standing liquidity transfer order or a predefined liquidity transfer order
- immediate liquidity transfer order
- credit transfer (= payment)

The diagram below shows an example of the **bookings** done in TARGET2 and T2S[4]:



[4] The securities accounts in T2S are not shown because they are not of relevance for the explanation of the organisation of the cash accounts.

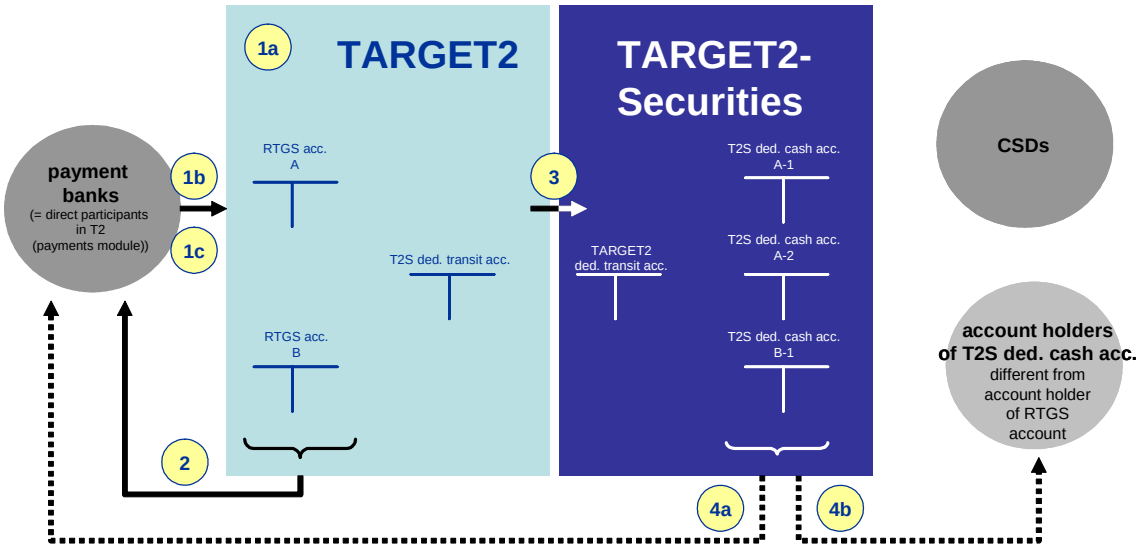
An explanation of the bookings that are shown in the diagram above:

No.	Account debited/credited	Amount	Comment
(1)	Debit RTGS acc. A	200	-
	Credit T2S ded. transit acc.	200	
(1')	Debit TARGET2 ded. transit acc.	200	The booking in TARGET2 will be reflected in T2S based on a notification sent by TARGET2.
	Credit T2S ded. cash acc. A-1	200	
(2)	Debit RTGS acc. A	300	-
	Credit T2S ded. transit acc.	300	
(2')	Debit TARGET2 ded. transit acc.	300	The booking in TARGET2 will be reflected in T2S based on a notification sent by TARGET2.
	Credit T2S ded. cash acc. A-2	300	
(3)	Debit RTGS acc. B	400	-
	Credit T2S ded. transit acc.	400	
(3')	Debit TARGET2 ded. transit acc.	400	The booking in TARGET2 will be reflected in T2S based on a notification sent by TARGET2.
	Credit T2S ded. cash acc B-1	400	

The balances (credit and debit) on the T2S dedicated transit account (in TARGET2) and the TARGET2 dedicated transit account (in T2S) are of the same amount. Their amount is 900.

The diagram[5] below the **messages** related to the bookings mentioned above:

[5] The T2S dedicated cash account of the national central bank (NCB) is not shown in the diagram above in order to simplify it.



The table below provides information on the message flows[6] shown in the diagram above.

No	Message	Related account	Sent		Comment
			From	To	
1a	-	-	-	-	Execution of a standing liquidity transfer order or predefined liquidity transfer order
1b	ICM order	-	Payment bank	TARGET2	Immediate liquidity transfer order
1c	Credit transfer	-	Payment bank	TARGET2	-
2	Confirmation of debit	RTGS acc.	TARGET2	Payment bank	-
3	Notification	-	TARGET2	T2S	-
4a	Confirmation of credit	T2S ded. cash acc.	T2S	Payment bank	When the account holder of the T2S ded. cash acc. is the account holder of the RTGS account in TARGET2
4b	Confirmation of credit	T2S ded. cash acc.	T2S	Payment bank	When the account holder of the T2S ded. cash acc. differs from the account

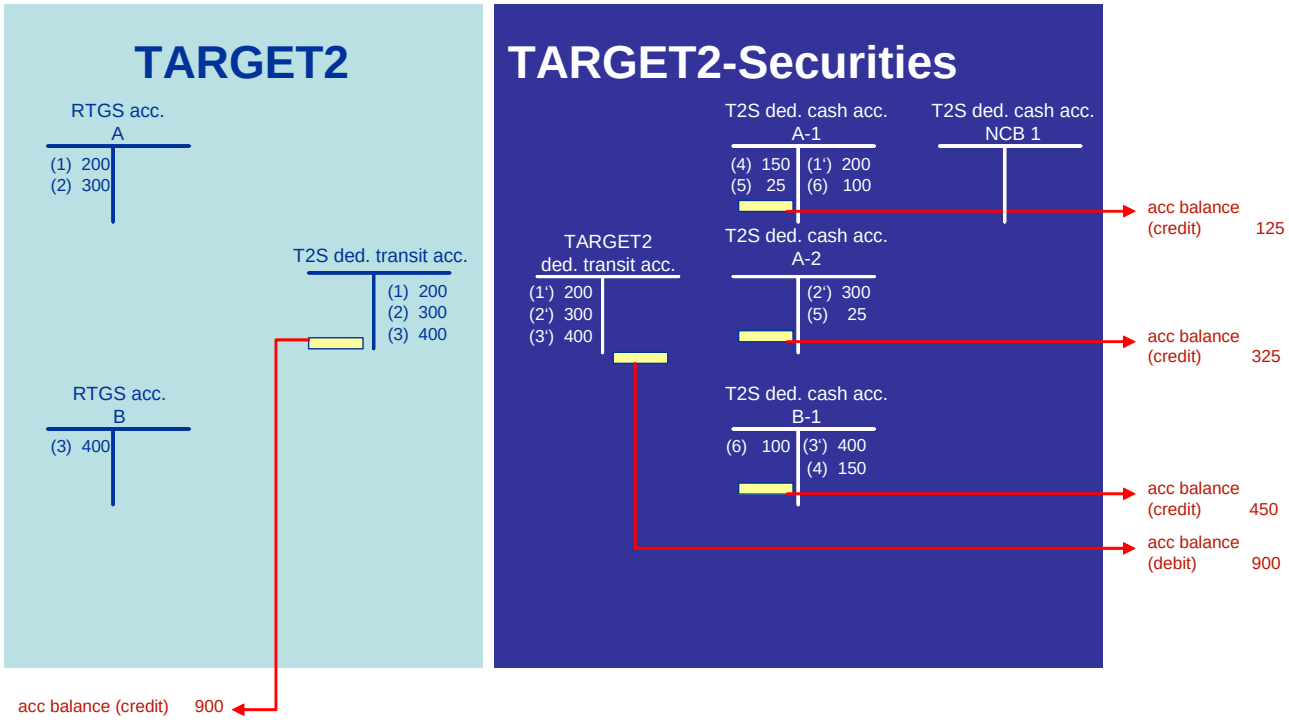
[6] In this table, and all following tables showing the message flows, the message subscription scheme has not been taken into account. Depending on the subscription scheme, participants may not receive all indicated messages.

No	Message	Related account	Sent		Comment
			From	To	
					holder of the RTGS account in TARGET2

4.2 Settlement in T2S during the settlement day

During the settlement day settlement will take place in T2S.

The diagram below shows an example of **bookings** on the cash accounts in T2S[7]. It also includes the bookings that took place before (see section 4.1 of annex 7).



An explanation of the bookings that are shown in the diagram above:

[7] The bookings on the securities accounts are not included in the example because they are not of relevance for the explanation of the organisation of the cash accounts.

No.	Account debited/credited	Amount	Comment
(4)	Debit T2S ded. cash acc. A-1	150	-
	Credit T2S ded. cash acc. B-1	150	
(5)	Debit T2S ded. cash acc. A-1	25	-
	Credit T2S ded. cash acc. A-2	25	
(6)	Debit T2S ded. cash acc. B-1	100	-
	Credit T2S ded. cash acc. A-1	100	

The balances (credit and debit) on the T2S dedicated transit account (in TARGET2) and the TARGET2 dedicated transit account (in T2S) remain unchanged.

The **messages** exchanged are purely related to the securities settlement in T2S. They are exchanged between the CSD(s)/directly connected T2S party/T2S parties and T2S and not described in detail in this document.

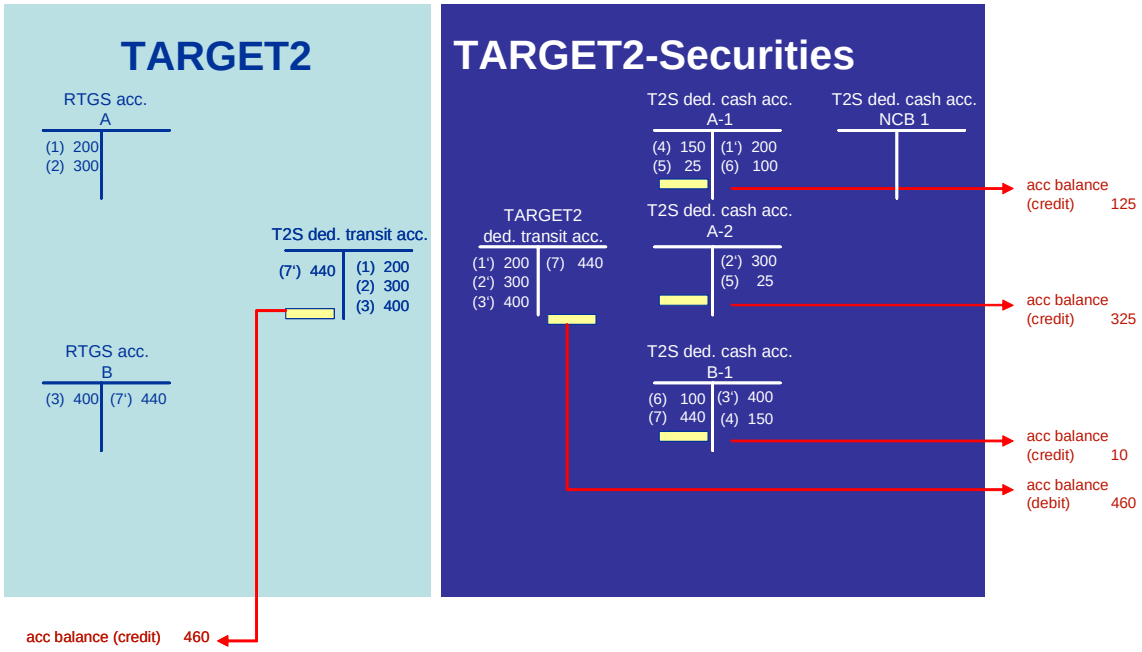
4.3 Liquidity transfer during the settlement day

During the settlement day liquidity is transferred back from T2S to TARGET2. The origin for this transfer can be a

- "ceiling" defined by the account holder of the T2S dedicated cash account (= standing order)
- predefined liquidity transfer order or a standing liquidity transfer order
- immediate liquidity transfer order initiated by the account holder of the T2S dedicated cash account

The diagram below shows an example of the **bookings** done in TARGET2 and T2S[8]. It also includes the bookings that took place before (see sections 4.1 and 4.2 of annex 7)

[8] The securities accounts in T2S are not shown because they are not of relevance for the explanation of the organisation of the cash accounts.



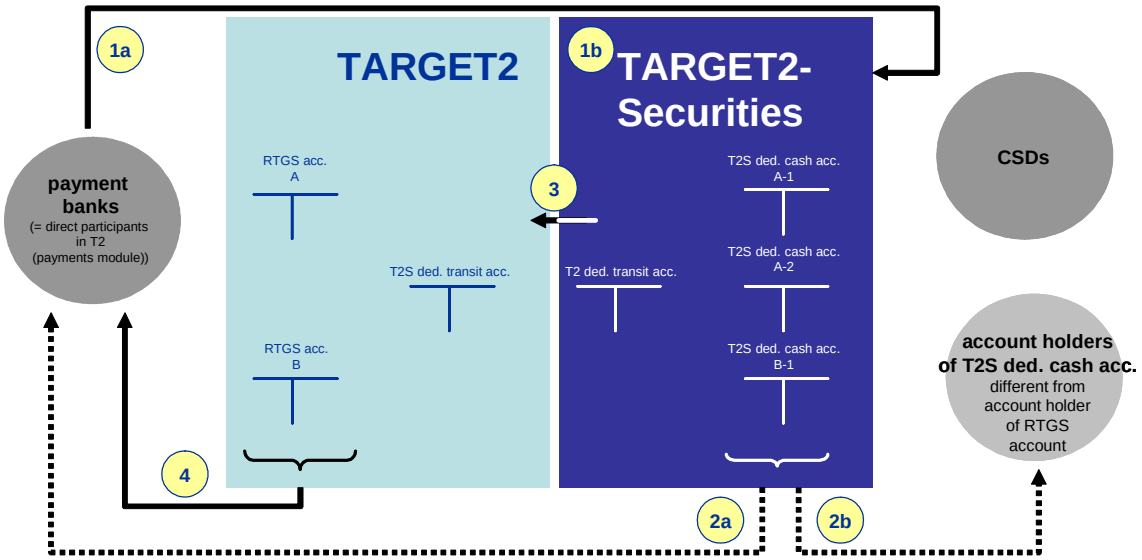
An explanation of the bookings that are shown in the diagram above:

No.	Account debited/credited	Amount	Comment
(7)	Debit T2S ded. cash acc. B-1	440	-
	Credit TARGET2 ded. transit acc.	440	
(7')	Debit T2S ded. transit acc.	440	-
	Credit RTGS acc. B	440	

The balances (credit and debit) on the T2S dedicated transit account (in TARGET2) and the TARGET2 dedicated transit account (in T2S) changed. Both amounts are 460 now.

The diagram[9] below the **messages** related to the bookings mentioned above:

[9] The T2S dedicated cash account of the NCB is not shown in the diagram above in order to simplify it.



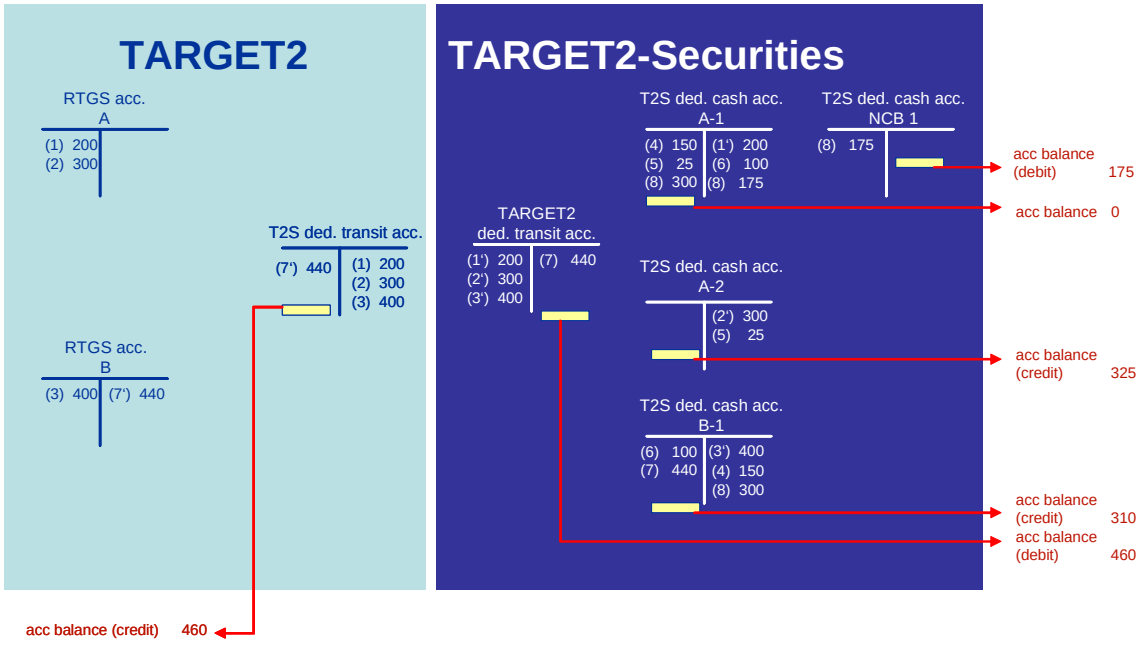
The table below provides information on the message flows shown in the diagram above.

No	Message	Related account	Sent		Comment
			From	To	
1a	ICM order	-	Payment bank	T2S	Immediate liquidity transfer order
1b	-	-	-	-	Execution of a ceiling (= standing order) or predefined liquidity transfer order or standing liquidity transfer order
2a	Confirmation of debit	T2S ded. cash acc.	T2S	Payment bank	When the account holder of the T2S ded. cash acc. is the account holder of the RTGS account in TARGET2
2b	Confirmation of debit	T2S ded. cash acc.	T2S	Payment bank	When the account holder of the T2S ded. cash acc. differs from the account holder of the RTGS account in TARGET2
3	Notification	-	T2S	TARGET2	-
4	Confirmation of credit	RTGS acc.	TARGET2	Payment bank	-

4.4 Making use of auto-collateralisation

During the settlement day T2S makes use of auto-collateralisation for one of the payment banks in order to be able to settle one instruction. Auto-collateralisation is an automatic process triggered by the settlement in T2S.

The diagram below shows an example of the **bookings** done in T2S[10]. It also includes the bookings that took place before (see sections 4.1 up to 4.3 of annex 7)



An explanation of the booking that is shown in the diagram above:

No.	Account debited/credited	Amount	Comment
(8)	Debit T2S ded. cash acc. NCB1	175	The first booking reflects the provision of intraday credit out of auto-collateralisation.
	Credit T2S ded. cash acc. A-1	175	
	Debit T2S ded. cash acc. A-1	300	
	Credit T2S ded. cash acc. B-1	300	

[10] The securities accounts in T2S are not shown because they are not of relevance for the explanation of the organisation of the cash accounts.

The balances (credit and debit) on the T2S dedicated transit account (in TARGET2) and the TARGET2 dedicated transit account (in T2S) remain unchanged.

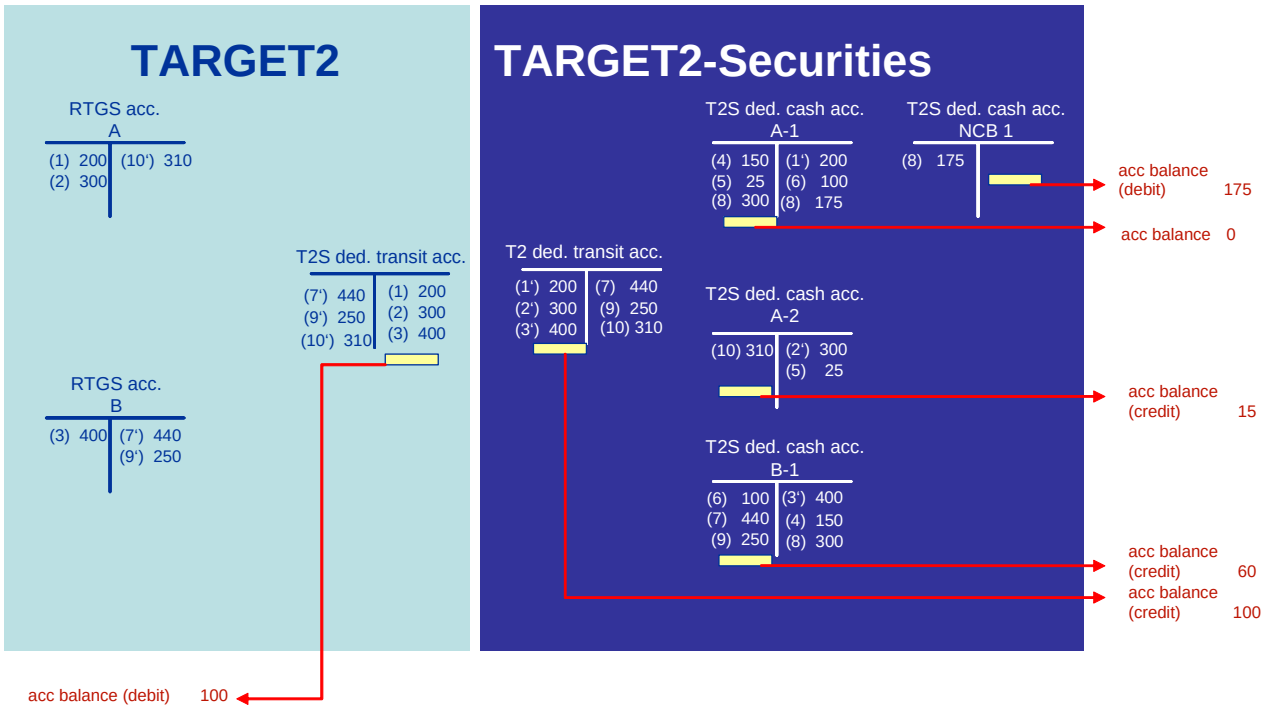
The **messages** exchanged are purely related to the securities settlement in T2S. They are exchanged between the CSD(s)/directly connected T2S party/T2S parties and T2S and not described in detail in this document.

4.5 (Additional) liquidity transfers during the settlement day

During the settlement day additional liquidity transfers take place in order to transfer liquidity back from T2S to TARGET2. The origin for this transfer can be a

- "ceiling" defined by the account holder of the T2S dedicated cash account (= standing order)
- predefined liquidity transfer order or a standing liquidity transfer order
- immediate liquidity transfer order initiated by the account holder of the T2S dedicated cash account

The diagram below shows an example of the **bookings** done in TARGET2 and T2S[11]. It also includes the bookings that took place before (see sections 4.1 up to 4.4 of annex 7)



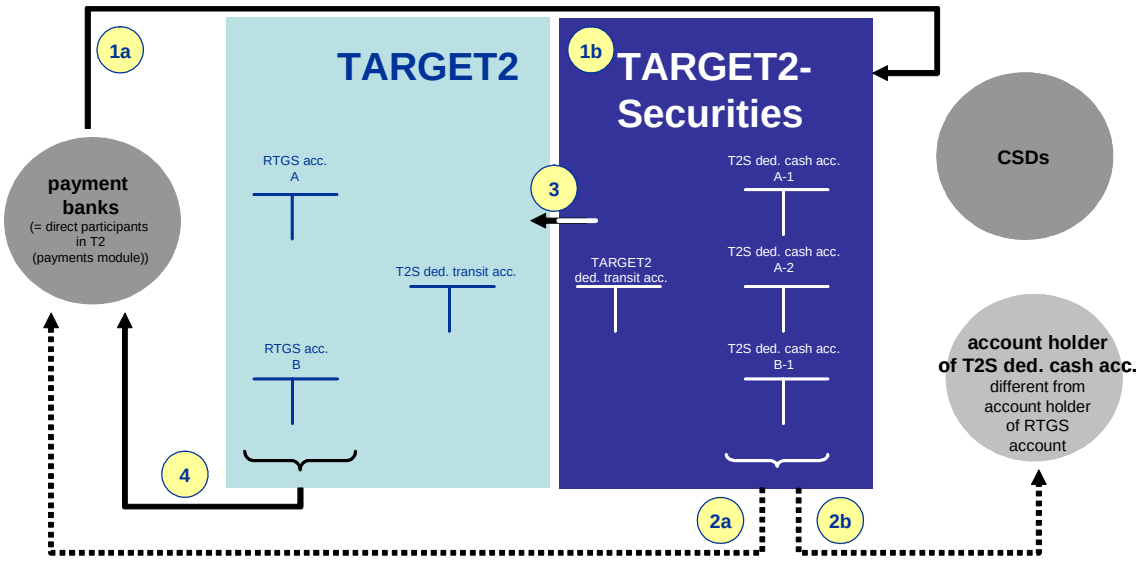
An explanation of the bookings that are shown in the diagram above:

[11] The securities accounts in T2S are not shown because they are not of relevance for the explanation of the organisation of the cash accounts.

No.	Account debited/credited	Amount	Comment
(9)	Debit T2S ded. cash acc. B-1	250	-
	Credit TARGET2 ded. transit acc.	250	
(9')	Debit T2S ded. transit acc.	250	-
	Credit RTGS acc. B	250	
(10)	Debit T2S ded. cash acc. A-2	310	-
	Credit TARGET2 ded. transit acc.	310	
(10')	Debit T2S ded. transit acc.	310	-
	Credit RTGS acc. A	310	

The balances (credit and debit) on the T2S dedicated transit account (in TARGET2) and the TARGET2 dedicated transit account (in T2S) changed. Both amounts are 100 now.

The diagram[12] below the **messages** related to the bookings mentioned above:



[12] The T2S dedicated cash account of the NCB is not shown in the diagram above in order to simplify it.

The table below provides information on the message flows shown in the diagram above.

No	Message	Related account	Sent		Comment
			From	To	
1a	ICM order	-	Payment bank	T2S	Immediate liquidity transfer order
1b	-	-	-	-	Execution of a ceiling (= standing order) or predefined liquidity transfer order or standing liquidity transfer order
2a	Confirmation of debit	T2S ded. cash acc.	T2S	Payment bank	When the account holder of the T2S ded. cash acc. is the account holder of the RTGS account in TARGET2
2b	Confirmation of debit	T2S ded. cash acc.	T2S	Payment bank	When the account holder of the T2S ded. cash acc. differs from the account holder of the RTGS account in TARGET2
3	Notification	-	T2S	TARGET2	-
4	Confirmation of credit	RTGS acc.	TARGET2	Payment bank	-

4.6 End-of-day process

During the end-of-day process liquidity will be automatically shifted back to the RTGS accounts in TARGET2. Consequently the balances on the following accounts will then be zero:

- T2S dedicated transit account (T2S ded. transit acc.)
- TARGET2 dedicated transit account (TARGET2 ded. transit acc.)
- T2S dedicated cash accounts (T2S ded. cash acc.)

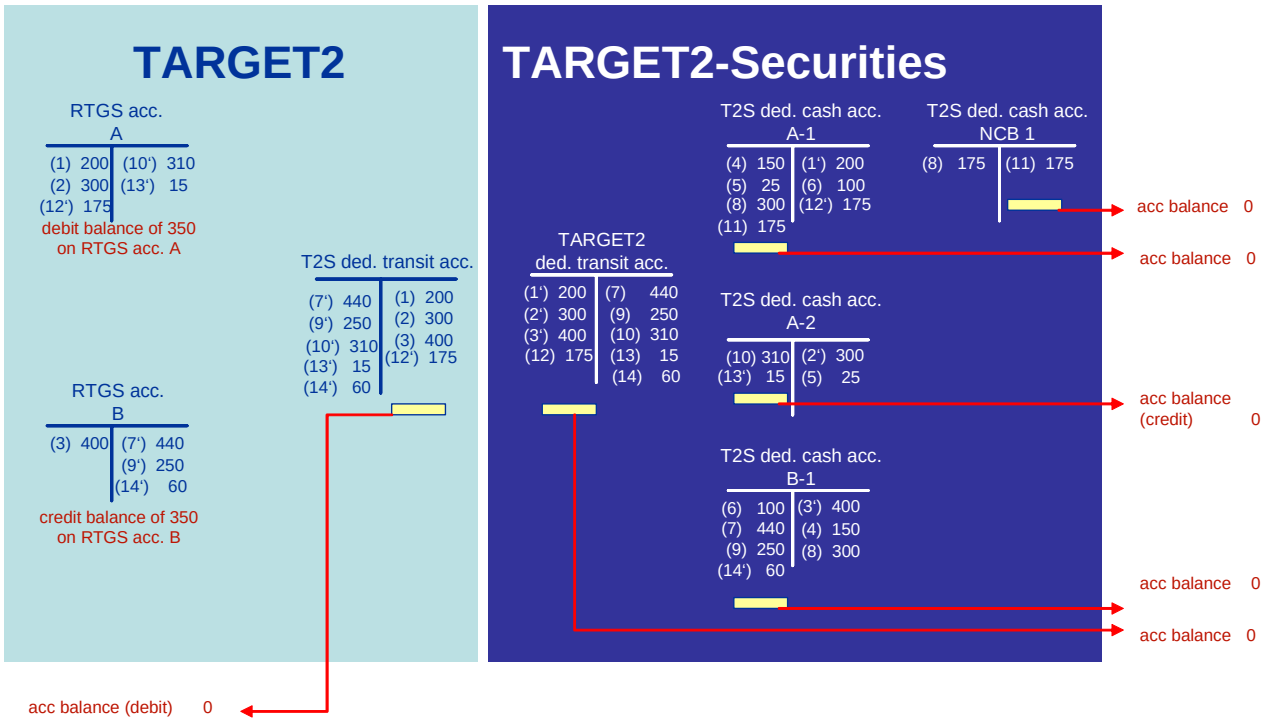
Based on the account balance of the RTGS account the fulfilment of minimum reserve requirements and the use of automatic marginal lending will be calculated in TARGET2.

Account statements will be sent out for the following accounts:

- RTGS accounts
- T2S dedicated transit account

- TARGET2 dedicated transit account
- T2S dedicated cash accounts

The diagram below shows an example of the **bookings** done in TARGET2 in order to align[13]. It also includes the bookings that took place before (see sections 4.1 up to 4.5 of annex 7).



An explanation of the bookings that are shown in the diagram above:

No.	Account debited/credited	Amount	Comment
(11)	Debit T2S ded. cash acc. A-1	175	
	Credit T2S ded. cash acc. NCB1	175	
(12)	Debit TARGET2 ded. transit acc.	175	-
	Credit T2S ded. cash acc. A-1	175	
(12')	Debit RTGS acc. A	175	-

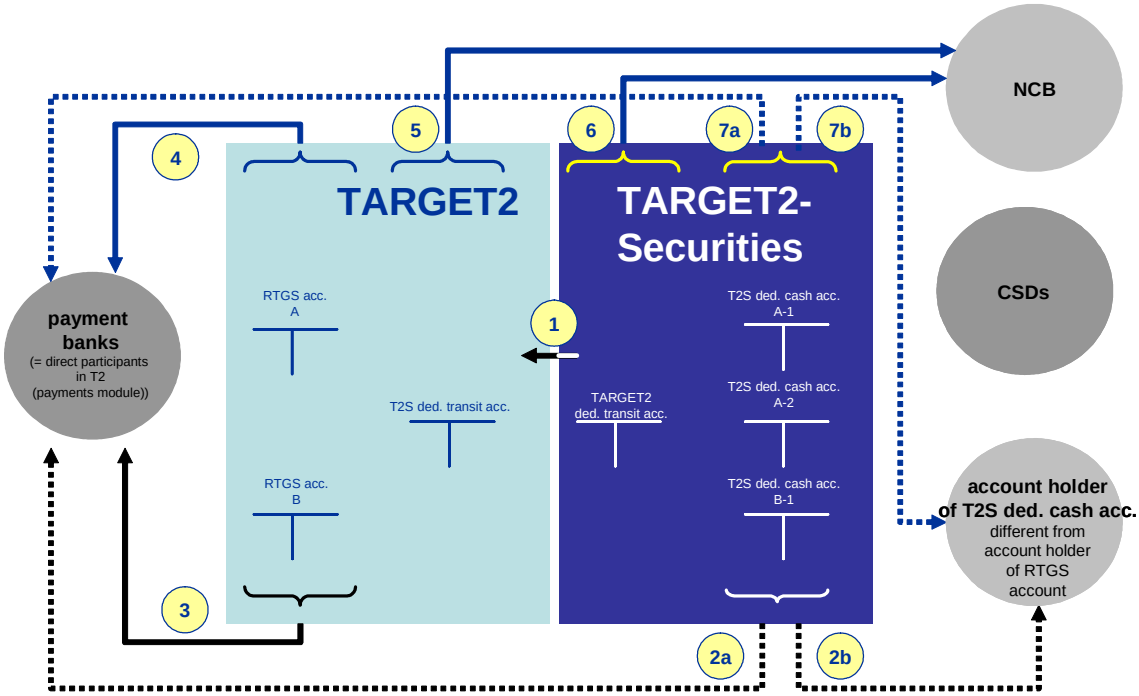
[13] The securities account in T2S are not shown because they are not of relevance for the explanation of the organisation of the cash accounts.

No.	Account debited/credited	Amount	Comment
	Credit T2S ded. transit acc.	175	
(13)	Debit T2S ded. cash acc. A-2	15	-
	Credit TARGET2 ded. transit acc.	15	
(13')	Debit T2S ded. transit acc.	15	-
	Credit RTGS acc. A	15	
(14)	Debit T2S ded. cash acc. B-1	60	-
	Credit TARGET2 ded. transit acc.	60	
(14')	Debit T2S ded. transit acc.	60	-
	Credit RTGS acc. B	60	

The balances (credit and debit) on the T2S dedicated transit account (in TARGET2) and the TARGET2 dedicated transit account (in T2S) changed. Both amounts are 0 now. It is because the example is limited to a scenario where all settlement banks belong to the same NCB. If the settlement banks belong to different NCBs there can be balances different from zero on the T2S dedicated transit account and TARGET2 dedicated transit account of the single NCB. Those balances will show the change of the position of the single NCB vis-à-vis the Eurosystem. The sum of all balance again is zero.

The diagram[14] below the **messages** related to the end-of-day-process:

[14] The T2S dedicated cash account of the national central bank (NCB) is not shown in the diagram above in order to simplify it.



1

2 The table below provides information on the message flows shown in the diagram above.

3

No	Message	Related account	Sent		Comment
			From	To	
1	Notification	-	T2S	TARGET2	With the notification TARGET2 is informed about the balances on the T2S dedicated cash accounts before balancing them with the TARGET2 dedicated transit account.
2a	Confirmation of debit or credit	T2S ded. cash acc.	T2S	Payment bank	When the account holder of the T2S ded. cash acc. is the account holder of the RTGS account in TARGET2
2b	Confirmation of debit or credit	T2S ded. cash acc.	T2S	Payment bank	When the account holder of the T2S ded. cash acc. differs from the account holder of the RTGS account in TARGET2
3	Confirmation of debit or credit	RTGS acc.	TARGET2	Payment bank	-

No	Message	Related account	Sent		Comment
			From	To	
4	Account statement	RTGS acc.	TARGET2	Payment bank	-
5	Account statement	T2S ded. transit acc.	TARGET2	NCB	-
6	Account statement	TARGET2 ded. transit acc.	T2S	NCB	-
7a	Account statement	T2S ded. cash acc.	T2S	Payment bank	When the account holder of the T2S ded. cash acc. is the account holder of the RTGS account in TARGET2
7b	Account statement	T2S ded. cash acc.	T2S	Third party	When the account holder of the T2S ded. cash acc. differs from the account holder of the RTGS account in TARGET2

4.7 Calculation of the changes in the inter NCB positions

Due to the fact that settlement in T2S will also take place on a cross-border basis this settlement impacts the assets/liabilities of the single NCBs vis-à-vis the Eurosystem.

The following example is based on the example used when describing the organisation of the cash accounts and the bookings during the settlement day (see section 4.1 to 4.6 of annex 7). In order to explain the calculation of the changes of the assets/liabilities of the NCBs vis-à-vis the Eurosystem the example above was enlarged as follows:

- The liquidity transfers and other bookings of the example above are reused.
- A new (third) payment bank (C) is included in the example.
- The payment banks are now under the responsibility of different NCBs
    - Payment bank A - NCB1
    - Payment bank B - NCB2
    - Payment bank C - NCB 3
- Payment bank C performs the following actions
    - Liquidity transfer from its RTGS account to its T2S dedicated cash account (700)
    - Cash transfer to payment bank A (50)

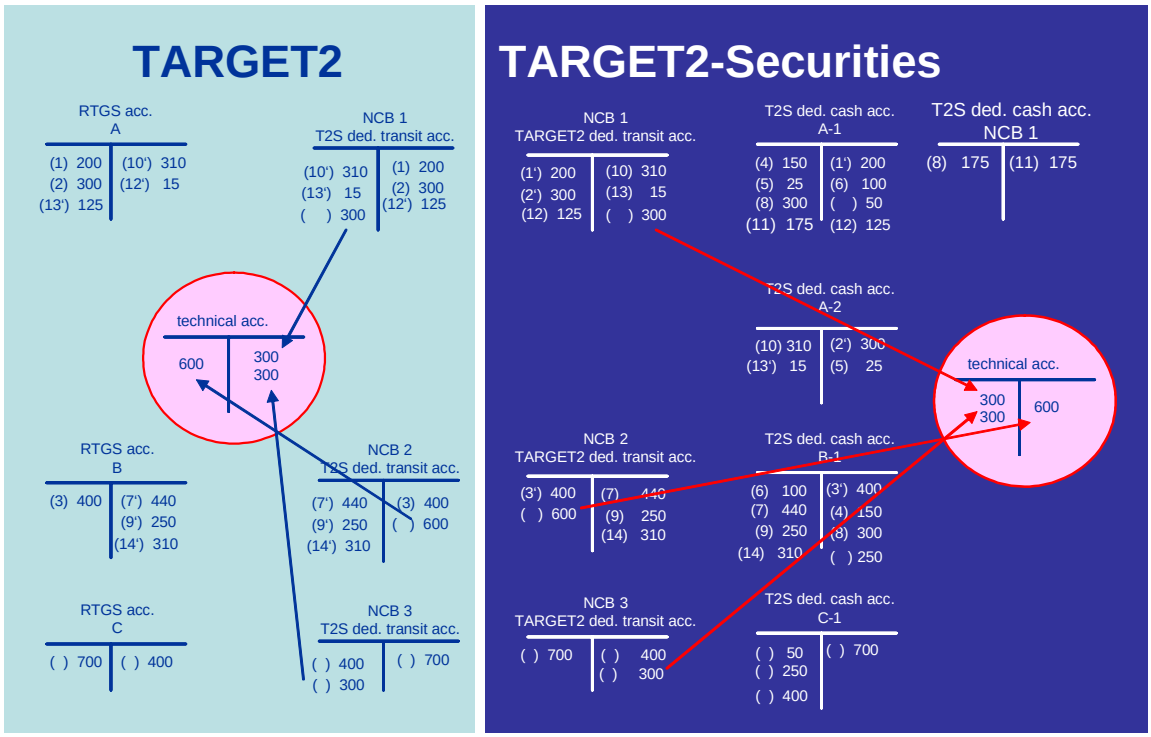
- Cash transfer to payment bank B (250)

- Liquidity transfer during the end-of-day process from T2S dedicated cash account of payment bank C to its RTGS account (400)

After the retransfer of liquidity to the RTGS accounts of the payment banks A, B, and C the following will take place in T2S and TARGET2:

The TARGET2 dedicated transit account in T2S as well as the T2S dedicated transit account in TARGET2 will be balanced out against a centralized technical account[15]. The balances of both accounts will be zero.

The reason for doing so is that on the next settlement day T2S and TARGET2 will start with “clean” dedicated transit accounts.



During the end-of-day process also the booking on the so called NCB’s ECB accounts[16] and on the ECB mirror accounts[17] will take place in order to record the change of the asset/liability position in respect of cross-border transactions.

[15] It has to be clarified who will be the account holder of these two centralized technical accounts. It might be the ECB.

[16] An NCB’s ECB account is an account of the national central bank in TARGET2 for recording its asset/liability position in respect of cross-border transactions.

[17] The bookings taking place on the NCB’s ECB accounts are mirrored on the ECB mirror accounts of the different national central banks.

The NCBs also agreed among each other to make use of “netting by novation”. It means that at a specified moment/at specified moments their position against each other will be novated (i.e. substituted) so that they have a position against a central point instead. This central point is the ECB.

In order to reflect the impact of the cross-border bookings that took place in T2S during the day the net amount of the liquidity transfers to and from T2S will be taken into account and booked on the NCB’s ECB accounts and ECB mirror accounts.

Out of the example described above the following bookings will take place:

- Bookings on NCB’s ECB accounts
  - Debit ECB’s ECB account 300
    Credit NCB1’s ECB account 300

  - Debit NCB2’s ECB account 600
    Credit ECB’s ECB account 600

  - Debit ECB’s ECB account 300
    Credit NCB’s ECB account 300
- Bookings on ECB mirror accounts
  - Debit ECB mirror account NCB1 300
    Credit ECB mirror account ECB 300

  - Debit ECB mirror account ECB 600
    Credit ECB mirror account NCB2 600

  - Debit ECB mirror account NCB3 300
    Credit ECB mirror account ECB 300

USER REQUIREMENTS

ANNEX 8

ISSUE NOTE - CONDITIONAL SECURITIES DELIVERIES (COSD)

T2S Project Team

Reference:	T2S-07-0175
Date:	12 December 2007
Version:	2
Status:	Final

TABLE OF CONTENTS

1 Introduction

The aim of this document is to describe the settlement of instructions making use of the Conditional Securities Delivery (CoSD) functionality offered by T2S. CoSD should serve as a special functionality in order to settle instructions that require the fulfilment of a special condition before allowing settlement to take place. The conditions, can relate to cash settlement in a currency not eligible in T2S, but could also be any other condition that would need to be fulfilled prior to settlement. Hence the functionality can be widely used for the treatment of exceptions where the finality of securities settlement is dependent on actions outside T2S. The automatic activation of the CoSD functionality will be based on rules defined, created and maintained by the CSDs in T2S. These rules will also identify the administering part; i.e. the CSD in charge of the organising the settlement of instructions using CoSD.

2 Detailed process description

2.1 Activation of the CoSD functionality

T2S shall activate the CoSD functionality, based on business data that will be present into the settlement instruction and that will meet the CSD' rules previously mentioned. The business data can be for instance the market, the ISIN, the security type, the currency, and will be communicated by the CSD or the directly connected T2S Party in its settlement instruction. The rules can be for instance the registration obligation for a specific market or the need for cash settlement in commercial bank money, and will be stored within T2S. An instruction that meets these criteria (combination of business data and rules) will then automatically go through the CoSD process in T2S.

2.2 CoSD Settlement Process

T2S shall be able to process conditional securities deliveries. This type of settlement process aims for instance at allowing a CSD to coordinate a Free of Payment delivery in T2S with a cash settlement outside T2S in a non T2S eligible currency on behalf of its participants, or settlement in some securities that require a certain condition to be fulfilled, before settlement is possible.

To that purpose, when receiving a settlement instruction to be processed using the conditional securities delivery functionality, T2S should be able to reserve client securities to avoid that these securities are used for any other settlement than the settlement of the original instruction.

After reserving the concerned securities, T2S should inform the administering party (i.e. the CSD defined by the rules previously mentioned) that the securities have been reserved. Other parties (i.e. instructing parties, account owners) might also be informed, as per user requirements defined by TG5 Interfaces.

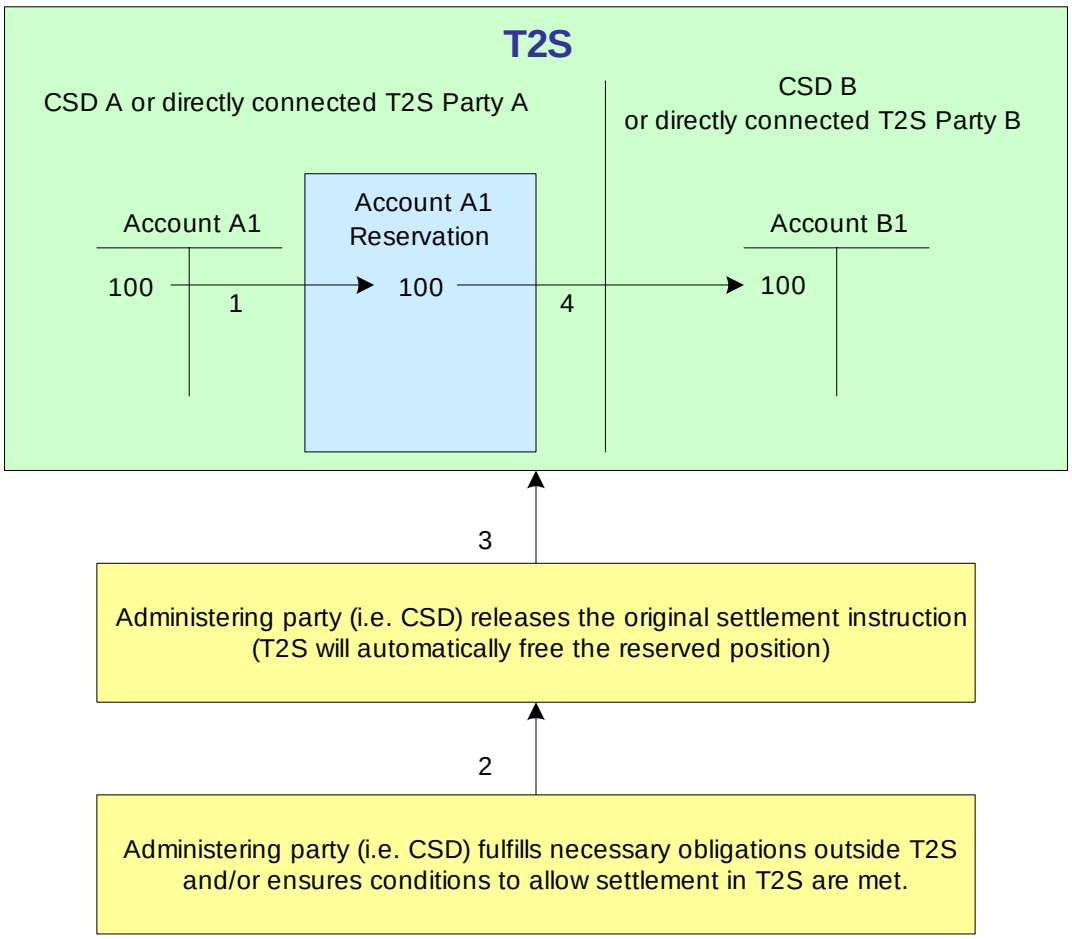
Securities should remain reserved and the effective delivery instruction should remain on hold until T2S receives from the administering party:

- a release instruction, requesting to free the securities and deliver them effectively to the receiving party (based on the information contained in the initial instruction)
- or a cancellation instruction requesting to free the securities and cancel their delivery to the receiving party.

In both cases, both the administering party and the instructing parties should be informed of the settlement status (i.e. FoP delivery of the securities or cancellation of the initial instruction), as described in TG5 user requirements. In case the receiving party being outside T2S, the status information could be relayed by the CSD responsible for the account within T2S.

If at the end of the day, T2S does not receive any release or cancellation instruction, the original settlement instruction should be recycled for the following settlement day (i.e. securities should remain reserved and the delivery instruction should remain on hold).

2.3 Conditional Securities Delivery (example of instructing parties in T2S)



- CSD or directly connected T2S Party A and CSD or directly connected T2S Party B will send their settlement instructions to T2S. Instructions will go through the validation and matching processes in T2S, which will identify the need to activate the CoSD process.
- Once the contractual settlement date of the instructions has been reached the securities are reserved on the delivery party's securities account (here A) in T2S (see above, flow 1).
- The information on the reserved securities position is transmitted to the administering party. The administering party checks if the condition(s) for the transaction has(ve) been fulfilled (see above, flow 2).

- Once the condition(s) for this transaction has(ve) been confirmed, the administering party sends a release instruction to T2S to allow settlement of the transaction (see above, flow 3). T2S will then automatically free the securities position and the settlement of the original instructions takes place within T2S (see above, flow 4).

2.4 Cancellation in the context of a CoSD process

As T2S requires bilateral cancellation this concept should also be respected for the CoSD process. In case the reservation has not taken place yet in T2S, the instructing parties can cancel their instructions, in accordance with TG2 cancellation requirements (unilateral cancellation till matching, bilateral cancellation after matching). Once the reservation has taken place, only the administering party is allowed to cancel, if the transaction is not outstanding anymore (e.g. when the condition(s) cannot be fulfilled or instructing parties want to cancel their original instructions after reservation). Before cancelling, the administering party might need first to verify whether the condition has been fulfilled or not. If the condition has not been fulfilled yet, the administering party sends a cancellation instruction to T2S. Then both original instructions will be cancelled. In case the condition has already been fulfilled outside T2S, then it has to be reversed before cancellation in T2S can take place.

2.5 Release

As the trade can be administered by one or more administering parties (e.g. security subject to registration within the local CSD with cash payment managed by another CSD), each administering party can send its release instruction once the condition he is responsible for has been fulfilled. Only when all administering parties have sent their release instruction to T2S the settlement can take place.

USER REQUIREMENTS

ANNEX 9

ISSUE NOTE - NIGHT TIME SETTLEMENT OPTIONS IN T2S

T2S Project Team

Reference:	T2S-07-0283
Date:	12 December 2007
Version:	2
Status:	Final

EUROPEAN CENTRAL BANK

EUROSYSTEM

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1. Introduction and brief description of the state of play

Technical and regulatory developments in global financial markets in the last decade, and the associated growth in trading volumes and values, have increased pressure on treasurers needs to manage their daily liquidity requirements. Market participants increasingly expect market infrastructures to provide them with the tools to manage and resolve these daily requirements as early as possible during the business day. They expect that a large part of their instructions will settle without any need for additional liquidity or securities during the start of the business day. Instead, they would concentrate their resources during the day on solving issues related to the few open positions that have not yet settled. This enables them to assess in time (and monitor) their positions in the intraday money market. The aim is to maximise the efficient usage of their funds and minimise the costs of acquiring extra funds.

As a result of this clearly identified market need, nighttime settlement has been introduced in most euro area CSDs. The model of nighttime settlement may not be identically implemented in all markets. What remains common among them is the change of settlement date (S) in the end of the afternoon of the previous calendar day and the irrevocable (final) settlement at some time soon thereafter. Finality is achieved well in advance of the opening of the daytime settlement process. This can be achieved in one or many settlement cycles during the night, with differing models of cash settlement depending on the local market and NCB practices. The value date of this settlement activity is S (settlement date) which might or might not coincide with the exact calendar date. Usually, reporting of these processing done in advance is taking place at the end of the period, in the early morning of the settlement date. This process implies zero extra cost on using central bank liquidity – should there be such need – during the nighttime period as it is qualified legally and technically as intraday liquidity.

This development has also influenced CSDs and markets currently not using nighttime settlement. In all cases an early morning settlement cycle is used for delivering liquidity to market participants prior to intraday settlement activity. Strictly speaking, this activity is not part of nighttime settlement but acts towards the same end. Albeit achieving finality some hours later than pure nighttime settlement, it can be viewed as a tool working into the same direction.

Taking into account the above market developments, the initial T2S proposal 23 intended to keep a neutral position regarding the use of nighttime settlement (optionality). It became the most contested proposal in the Principles and Proposals consultation. The overwhelming market majority asked for mandatory use of nighttime settlement for all connected CSDs in order for T2S to deliver the much needed market harmonisation and integration goal. Only 29% of the respondents agreed with nighttime settlement optionality. The majority view expressed during the discussion of proposal 23 in TG1 and AG was aligned with the consultation results.

2. Night time settlement in T2S

Following the market feedback and the TGs discussions so far, the T2S Team and all TGs have analysed their user requirements under the working assumption that nighttime settlement will be universally applied for all connected T2S markets. As an example, the Schedule of the T2S settlement day and the cross-CSD settlement model are not considering the scenario of some CSDs left outside the core T2S settlement process.

Some CSDs and/or markets are still questioning the business case of adopting nighttime settlement. In particular, they consider the adaptation, running and capital costs as too high for introducing a new service in what is perceived as a very efficient local settlement environment which is also linked to foreign markets.

The various arguments of the debate should also be put in the right time perspective. The issue at stake is not whether universal nighttime settlement should be expected from CSDs today. It is rather to consider whether it would be possible to adopt it by 2013, when T2S is planned to go live.

The following sections attempt to identify the pros and cons of this debate as reflected in the T2S groups so far.

2.1 Pros of mandatory night time settlement

When considering the arguments for mandatory use, one should consider that they are increasingly relevant for competitive markets and participants aiming at maximizing liquidity efficiency in a multi-asset and multi-location trading and settlement environment.

1. *Cross-CSD settlement:* a universal (mandatory for all T2S connected CSDs) nighttime settlement functionality encourages cross-CSD activity and facilitates the liquidity management associated with it. This is the outcome of early finality already available during the night and the potential re-use of the associated liquidity for liabilities stemming from other assets and markets. If some CSDs are opting out, the negative impact on cross CSD settlement efficiency could be considerable during the nighttime. This is particularly so if the opting out CSD is the Issuer CSD. In this case, the securities issued in the “opt out” CSD are totally exempted from the night settlement procedure. Cross-CSD settlement in all other T2S securities would still be possible using the nighttime facility.

2. *Level playing field for T2S Parties:* mandatory nighttime settlement would avoid issues of conflict of interests and level playing field between the CSDs and their users wishing to exploit the benefits of early settlement offered by nighttime settlement. It is also competition neutral among T2S parties themselves. As above, the participants of “opted-out” CSDs would face the disadvantage of achieving finality up to 12 hours later than their European competitors (see Fig.1). Similarly, participants of nighttime CSDs would have their holdings in assets issued in opted-out CSDs frozen from a settlement perspective for half of the settlement day.

3. *All or nothing argument:* A lot of market participants went as far as saying that night time settlement should be either mandatory for all or non existent. Why should we build sophisticated settlement

functionality when there is sub-optimal use of it? This is particularly relevant for multi CSD users (T2S parties) which would be severely affected.

4. *Regulatory concerns:* universal nighttime settlement mitigates regulators' concerns for gridlocks early in the morning, especially in the envisaged environment of increased volumes in cross border settlement. The earlier settlement finality is achieved the better risks (operational, systemic, etc) are managed. One the other hand, earlier settlement may not be achievable for trades coming from US investors as the relevant information will arrive only during the night preceding S.
5. *Market Harmonisation:* many respondents see T2S as a unique opportunity for accelerating harmonisation in European post trading practices. This is also connected to the removal of Giovannini barriers on harmonized deadlines and operating hours and processes. Some of the key benefits of T2S may be lost if there is no harmonization in this respect. A harmonised daily settlement timetable including nighttime period, would be of benefit to all CSD users.
6. *Market integration*: The objective of an integrated market requires an alignment of opening hours in order to avoid an intraday distortion of liquidity flows and to increase efficiency. Without a mandatory night time settlement of all T2S connected CSDs, a netting of funding requirements between markets is impossible and high liquidity consumption is the result.
7. *Minimum Development Cost*: Since nighttime settlement is a core T2S functionality, the development costs for state of the art functionality shall be shared by all connected CSDs. One would expect that local markets would like to exploit the benefits of this investment.
8. *CeBM availability: TARGET2* is already designed to accommodate night time settlement via liquidity transfers late in the afternoon. TARGET2 could accommodate additional functionalities for night time settlement if required by the users.
9. *Competition considerations:* The view has been expressed that in a pan-European nighttime settlement environment, businesses will move out of opting out CSDs in search for earlier finality and settlement resulting liquidity. On the other hand some have commented that CSDs should be able to diversify in order to gain a competitive edge.

2.2 Cons of mandatory night time settlement

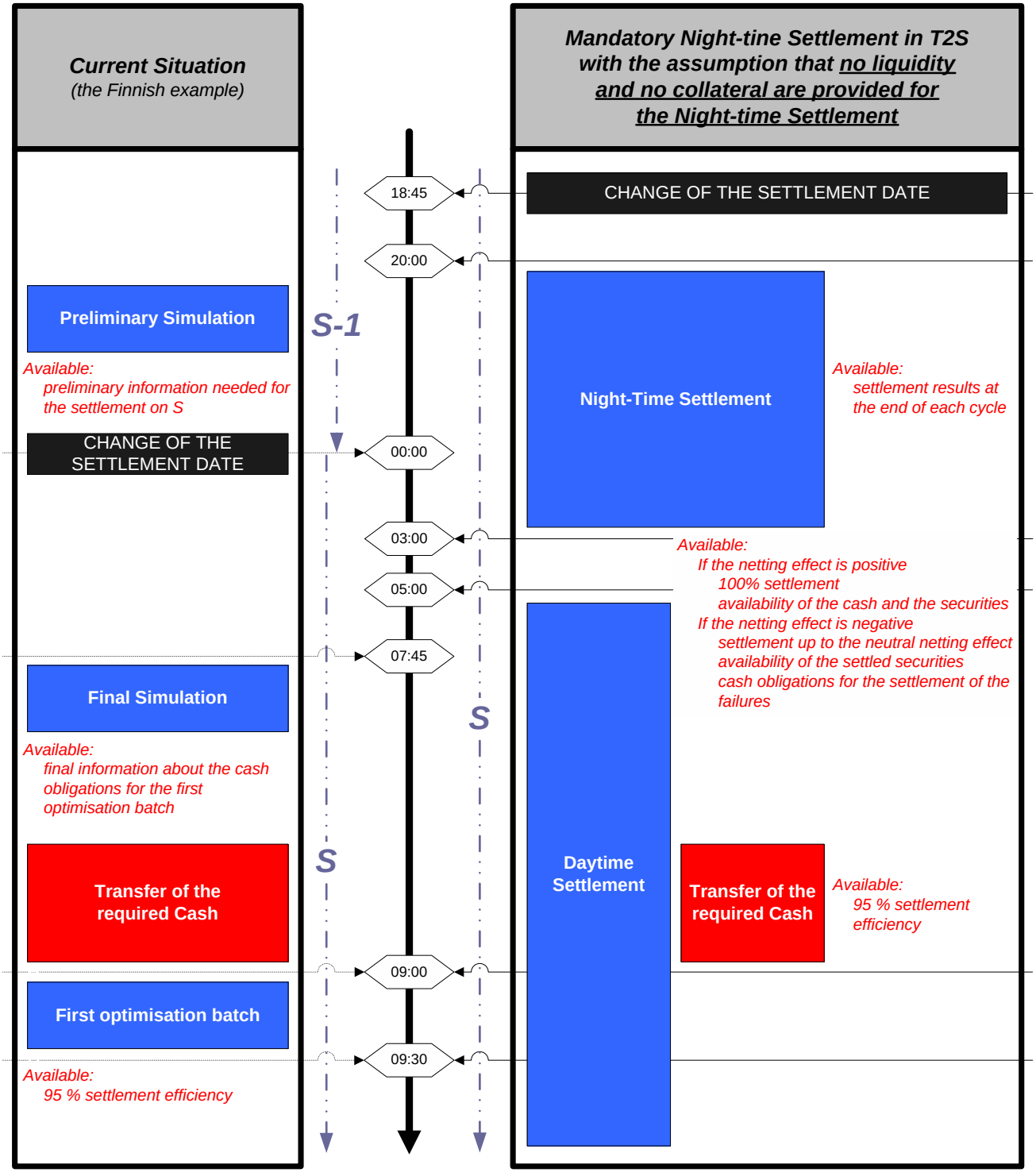
When considering the arguments against, one should bear in mind the market background in which they are expressed. These are most often made in a framework of efficient local practices focusing less on international activity and global liquidity management concerns.

1. *Cost of CeBM overnight liquidity and collateral usage:* Concerns have been expressed on the additional cost of maintaining earmarked cash liquidity in the banking system and collateral in T2S due to the obligations stemming from nighttime settlement in central bank money. This may partly be due to misunderstanding on the processing of nighttime settlement model in T2S. The latter will operate with the principle of "technical netting" allowing for the vast majority of transactions to be settled

immediately due to the netting effect. As a result, the settlement engine will effectively settle the majority of transactions without even the need for CSDs participants of maintaining cash balances or using collateral during the night.1 The status of the remaining non-settled transactions will be, at the worst case, the same as those emerging from the early morning cycles currently used by some CSDs (See Diagram 9.1). From the CSD participants perspective, because they are mostly banks with access to Eurosystem credit facilities, there is no change to their current situation, apart from the fact that the bulk of their transactions will have been already finally settled some hours earlier. In the best case scenario, all or a vast majority, of the eligible transactions will have been already settled. For those participants interested in providing cash liquidity during the night, it should be clarified that intra-night liquidity is in terms of interest equal to intraday liquidity. Eurosystem NCBs are already using the concept in their respective markets with no additional cost of capital for those involved participants who have direct access to central bank credit facilities. If collateral is used, one may argue that there is always an opportunity cost for this use. However, one would expect that this cost is lower during the nighttime than it is during the daytime when trading opportunities increase, and where liquidity becomes scarcer due to other systems needing it (like TARGET2). Some market participants have indicated that the Eurosystem should reconsider its recently augmented policy vis-à-vis acceptance of equities as eligible collateral for its credit operations (in this case for auto-collateralisation of flows during the night time settlement). In particular they argue that such development would diminish the need for participants mostly or entirely engaged in equities markets, to maintain central bank money cash balances and additional bonds as collateral for the needs of night time settlement.

[1] Should some participants choose to provide cash balances in their T2S cash accounts, the settlement ratio would naturally increase.

Diagram 9. 1 Night time settlement vs. early morning settlement cycle



2. *Cost of CoBM liquidity for banks clients:* One would expect that banks using CeBM liquidity on value date S would apply the same value date S when debiting (CoBM) their customers (brokers/end investors) accounts. The idea is that since banks are not charged by NCBs they should not charge their customers either. However, this does not seem to be the case due to risk management and regulatory obligations. It has been argued that these obligations arise from Basle II, pillar II, capital adequacy requirements which impose a capital charge on (overnight or intraday) credit risk. In order to avoid credit cost, clients are required to have funds in place before the settlement cycle begins. The situation is the same for all bank clients in Europe, including those of the nighttime settlement markets. As proposed in the final part of this note, it shall be a business decision of those bank clients whether or not to make use of this liquidity during the night depending on their needs and strategies of participation to the service.

3. *Market adaptation/migration Costs:* Need for adaptation of some local markets (Finland, Slovenia) which currently do not see the business scope and benefits of nighttime settlement. Why should they invest in something that do not need and their users do not require? Concerns are also raised regarding IT systems adaptation (for both CSDs and their participants). Development costs for nighttime settlement functionality in the central T2S system shall be de facto shared by all participating T2S CSDs. Local IT adaptation costs (interfaces for receiving reports during the night) have to be evaluated by the CSDs, depending on the services required by their users. Current practice indicates that this is connected more to cost of time schedule re-programming of available functionalities rather than investing in new sophisticated IT solutions.

4. *Staff costs:* Concerns are also raised regarding staff cost for night shifts (both for CSDs and their participants). Extra staff night shifts may be required only for technical support. Experience with existing nighttime settlement markets shows that only minimum technical support (staff) is required. In any case, the tendency nowadays is to optimise the use of IT resources and therefore to have the system running on a 24h availability with a minimum technical support during the night (often used for archiving, new release etc). For settlement expert staffing no particular changes is expected for night cycle functions. Back office staffing can be expected to be streamlined to the new situation. Market participants will make use of the liquidity early in the morning as done today and will eventually need this settlement expertise at that time not during the night. In this case, there is no extra cost for nighttime settlement monitoring. However, those CSD participants with international presence are most probably already using back office night shifts. Those more locally orientated may decide not to do so.

5. *Legal concerns:* Some markets have expressed concerns with the legal consequences of changing the settlement date prior to 00:00 (local time). This is a particular concern for CSDs acting as registrar. In these systems, the finality of the booking corresponds to the registration of the transfer of ownership and a time stamp is needed to acknowledge precisely (strict time priority) this event which has a legal meaning. Further analysis of the respective national legislation will be undertaken by the T2S legal team to evaluate whether an adaptation of domestic or even EU legislation (the current SFD review might

provide a possibility here) would be warranted or whether a modification of the rules of the system would be sufficient to deal with this legal issue (for instance by defining the appropriate value date).

6. *Issuers' concerns*: The need for issuers to provide liquidity one day in advance for dividend, interest and redemption payments has been raised. One-day credit cost (or lost opportunity to invest those funds overnight) would be a consideration. The issue is already managed in the markets using nighttime settlement today. Certain payments, which are known well in advance, can be exempted from the early nighttime processing or simply executed during the daytime processing. T2S shall provide CSDs with the flexibility to "hold and release" such payments when appropriate during the settlement date. Consequently, this may require blocking the ISIN concerned from the preceding night cycle.

3. Conclusion

The AG agreed on the following formulation of Proposal 23, taking into account some clarifications on the different options of engagement for CSDs' participants:

All T2S connected CSDs shall maintain the T2S Schedule (i.e. including both day and nighttime settlement). Harmonised market practices would be fostered at European level to promote early settlement. It will be ultimately up to each T2S party and its counterparties how to engage in nighttime settlement depending on the liquidity and collateral they make available.

This solution implies minimum development cost for the central system and maximum efficiency of liquidity and settlement across connected markets.

The mandatory use of the functionality for the market/CSD does not imply the mandatory use for all of their participants. Some of them may decide to provide no nighttime cash balances. Settlement will still take place for some of their transactions due to technical netting; the rest will be moved to daytime processing. In this case, the decision for participation shall be taken by the T2S party and not by the CSD for the whole market. Other T2S parties may find it favourable to provide liquidity during the nighttime and achieve earlier finality and liquidity.

Another element of flexibility in adopting nighttime settlement shall be provided by the "Hold and Release" functionality envisaged in T2S. CSDs and their participants will be able to hold the instructions prior to settlement eligibility and release them (either later in the night or during daytime) according to their business needs and strategies.

In addition, it has been proposed to develop in T2S a functionality, which will provide a timed status change mechanism for a bulk of transactions (available to CSDs and T2S parties alike). This is not foreseen currently in the lean T2S design. Its development cost implications should be assessed as an additional module to the system. Markets requesting it should assess further the real business case, not covered by the standard "Hold and Release" and be prepared to bear its additional cost.

The present proposal aims at maintaining the high level principle of Schedule harmonisation for all T2S connected markets, whereas at the same time providing individual CSDs' participants with the choice of designing their degree of involvement of what may be for some of them a new business practice.

It also be noted that the use of nighttime settlement facilities would be more efficient if the Eurosystem were to accept equities in 2013 to support self-collateralisation mechanisms. The Eurosystem does not currently support equities as collateral to provide central bank credit.

USER REQUIREMENTS

ANNEX 10

ISSUE NOTE - CROSS-CSDS SETTLEMENT AND EXTERNAL CSDS

T2S Project Team

Reference:	T2S-07-0255
Date:	12 December 2007
Version:	2
Status:	Final

EUROPEAN CENTRAL BANK

EUROSYSTEM

TABLE OF CONTENTS

Introduction

One of the major benefits of T2S is that the settlement of cross-CSD transactions can be as efficient as domestic settlement. This will be achieved by bringing together the securities accounts of multiple CSDs (as well as dedicated cash accounts of NCBs) on a single platform. The bookings for the transfer of securities between participants of different CSDs can all be made simultaneously, together with the cash movements. This eliminates the current highly complex and costly processes of interactions between various platforms, which are often not synchronised, entail delays and could pose a risk in terms of failing to achieve settlement finality. T2S will also automate the realignment process between CSDs on a real-time basis without needing to use additional procedures.

Cross-border transactions, which involve external CSDs, will benefit to some extent from the T2S architecture. The aim in this context is to achieve real-time settlement wherever feasible, but the need to interact with external CSDs/Platforms makes the settlement procedure more complex in some cases.

1. Role and relationships between CSDs in T2S

1.1 Definition of the roles of the CSDs

In the context of a given transaction, irrespective of whether it is an external CSD or a CSD in T2S, a CSD could be:

- the Issuer CSD, when it is the CSD in which the security has been issued and distributed on behalf of the Issuer;
- the Investor CSD, when it is the CSD of at least one party of the transaction;
- or both, when it is the CSD in which the security has been issued and the CSD of at least one party of the transaction.

For a given security:

- the Technical Issuer CSD for an Investor CSD is the CSD where its omnibus accounts reflecting the holding of its participants are deposited (for a given Investor CSD, the Technical Issuer CSD could be different for each security, it is in most cases the Issuer CSD of the security);
- the Security Maintaining CSD is the CSD in charge of maintaining in T2S the Static Data related to the security.

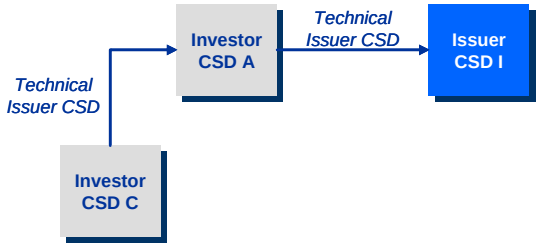
1.2 Definition of the relationships between CSDs

To be compliant with the existing relationships and to allow level playing field between CSDs, T2S will not impose any model of links. The proposal of T2S is an open and generic structure that should allow the implementation of the current links without restriction. With the proposed solution, the complexity of T2S is limited to the minimum and the choice of the CSDs will not affect the way a transaction is processed in T2S. However, the CSDs should be aware that their choice could significantly increase or decrease the complexity on their side. Therefore, the CSDs should profit from the flexibility of T2S to set up the appropriate links in order to reduce the complexity of the overall process.

When accepting a security not issued in its books, a CSD will have the choice between:

- opening omnibus accounts in the Issuer CSD (using the Issuer CSD as a Technical Issuer CSD);

- or in any other CSD (using another CSD as a Technical Issuer CSD);



- in order to have a recursive representation, the Issuer CSD is considered as being its own Technical Issuer CSD for the securities issued in its books; the account reflecting the holding of the participants of the Issuer CSD is the Issuance account (no omnibus account in this case).

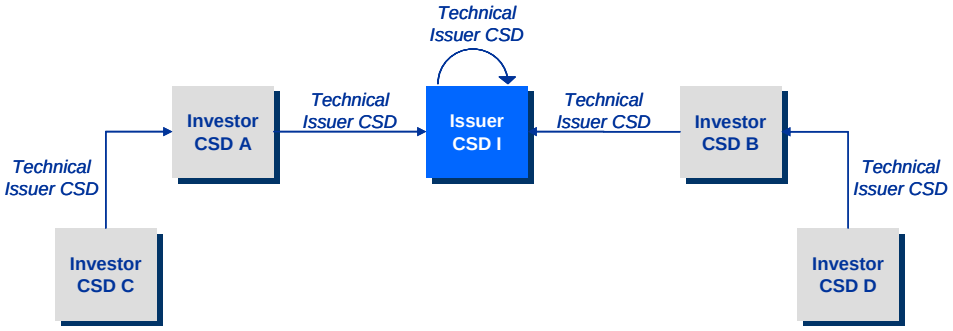
1.3 Representation in the T2S Static Data

The relationships between CSDs will be stored in the T2S Static Data. This will allow an automated process that will derives all the necessary settlement movements from simple instructions sent by the parties. In other words, T2S will not require from the T2S parties and their counterparty to know about the technicality of the links existing between CSDs; T2S will only require from the T2S parties the information they know about (i.e. who I sold to/bought from, who is its receiving/delivering agent, where this participant will receive in/deliver from).

To that purpose, T2S should be in the position to associate one single Technical Issuer CSD to each Investor CSD depending on the context of the settlement instruction. The context of a settlement instruction could be defined by its ISIN only (only the ISIN will be then needed as criteria for managing the links in the Static Data), or by a combination of its ISIN and any other of its elements such as the place of settlement (the ISIN and the place of settlement will be then needed to manage the links in the Static Data). Only the ISIN will be used by T2S as criteria to manage the links between CSDs. This appears sufficient to cover the requirements stemming from current business conditions.

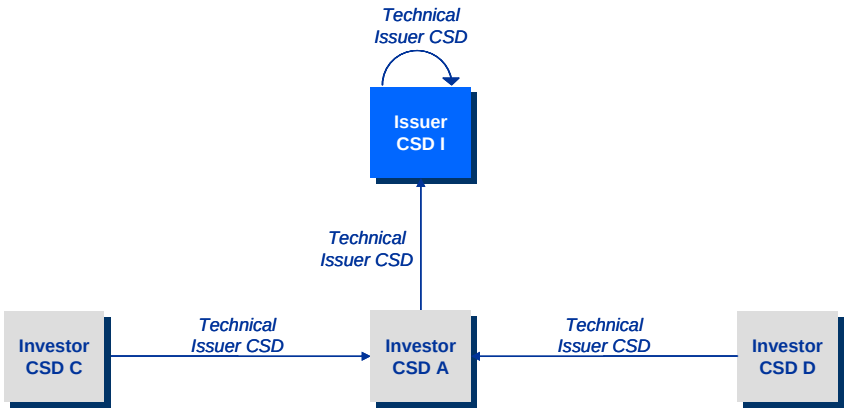
Examples below show how the relationships between CSDs are represented in the Static Data:

Example 1



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD C	YES	CSD A	01/01/2008	-
ISIN 1	CSD A	YES	CSD I	01/01/2008	-
ISIN 1	CSD D	YES	CSD B	01/01/2008	-
ISIN 1	CSD B	YES	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

Example 2



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD C	YES	CSD A	01/01/2008	-
ISIN 1	CSD D	YES	CSD A	01/01/2008	-
ISIN 1	CSD A	YES	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

1.4 Maintenance of the links

It will be the responsibility of each T2S Investor CSD to set up and to maintain its links with its Technical Issuer CSDs in the T2S Static Data, and the responsibility of each T2S Issuer CSD to set up and to maintain its links with its External Investor CSDs in the T2S Static Data.

2. Accounts definition and organisation

This section aims at presenting the different types of account that are used in the context of links between CSDs. This organisation of account is not specific to T2S, but mainly reflecting the standards and the market practices.

2.1 Organisation of the accounts

Omnibus[1] Account:

In the Technical Issuer CSD, an Investor CSD uses an Omnibus Account to hold the securities owned by its participants. This Omnibus Account is strictly equivalent to any participant's account of the technical Issuer CSD.

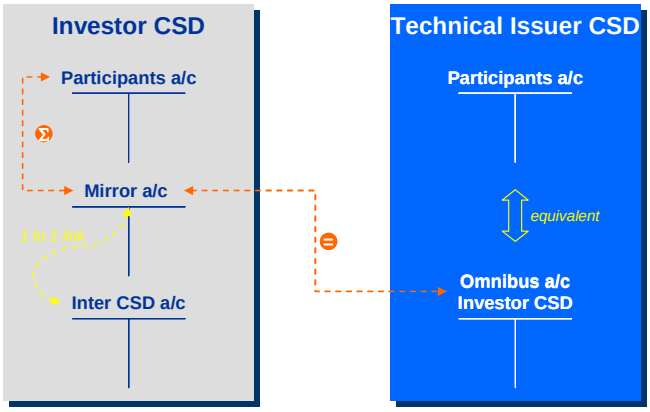
Mirror Account:

An Omnibus Account held within a Technical Issuer CSD is reflected in a Mirror Account within the Investor CSD. At any moment, the balance in credit of the Omnibus Account is in theory equal to the balance in debit of the Mirror Account. Exception to that could occurs when the Issuer CSD is External to T2S and the securities are underway of transfer from/to T2S to/from an External CSD. In this case the difference between the Mirror Account and the Omnibus Account is reflected in the Inter CSD Account.

Inter CSD Account:

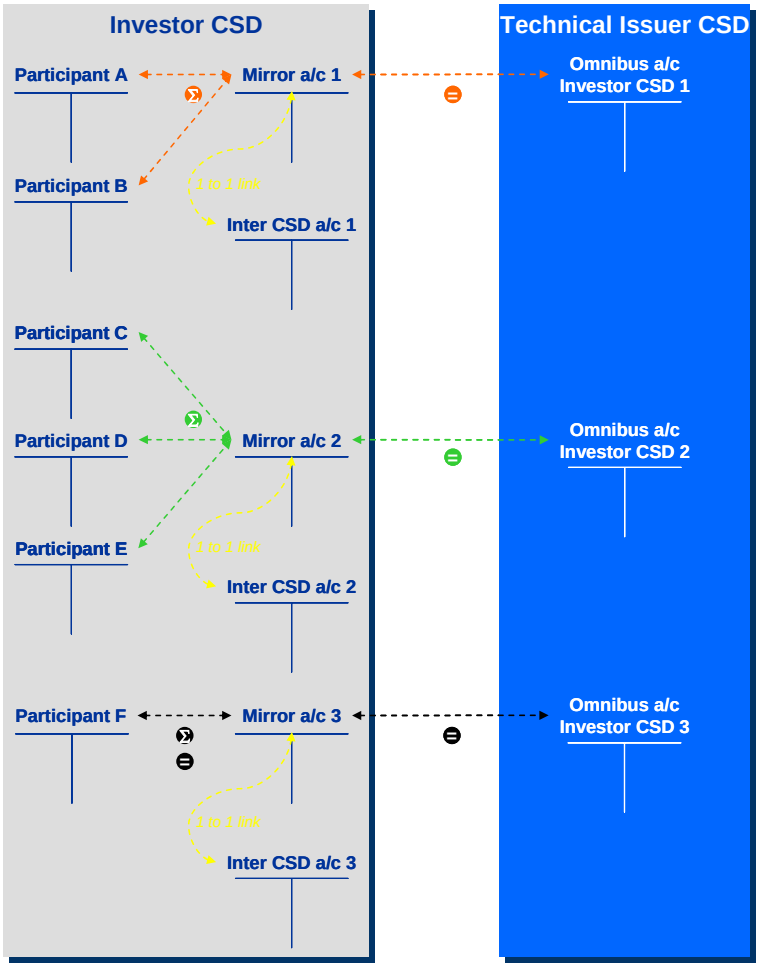
An Inter CSD Account is linked to each Mirror Account. The Balance of the Inter CSD Account is usually equal to zero except when the Issuer CSD is External to T2S and securities are transferring from/to T2S to/from an External CSD. If the balance of the Inter CSD Account is in credit, a quantity of securities equal to this balance should be transferred from T2S to the External CSD; and if the balance of the Inter CSD Account is in debit, quantity of securities equal to this balance should be transferred from the External CSD to T2S. When these transfers are executed, the balance of the Inter CSD Account goes back to zero and the balance of the Mirror Account is again in line with the balance of the Omnibus Account. Please refer to section 4.3.3 and 4.3.4 where examples of use of Inter CSD accounts are given.

[1] The organisation of the Investor CSD or a restriction from the Technical Issuer CSD (potentially for legal reasons) could lead up to the use of multiple Omnibus Accounts. This organisation or this restriction could be extended up to the use of a single and dedicated Omnibus Account in the Technical Issuer CSD for each of the participants of the Investor CSD.



2.2 Use of multiple Omnibus Accounts

An Investor CSD might use for different reason several Omnibus Accounts within the Technical Issuer CSD in order to segregate the holdings of its participants within the Technical Issuer CSD. This would be allowed by T2S but its use by the CSDs should be very limited in order not to add unnecessary complexity.



2.3 Representation in the T2S Static Data

The organisation of the accounts will be represented in the Static Data of T2S using the following structure:

Investor	Technical Issuer	Participant a/c	Mirror a/c	Omnibus a/c	Inter CSD a/c	Date From	Date To
CSD A	CSD I	A	1	1	1	01/01/2008	-
CSD A	CSD I	B	1	1	1	01/01/2008	-
CSD A	CSD I	C	2	2	2	01/01/2008	-
CSD A	CSD I	D	2	2	2	01/01/2008	-
CSD A	CSD I	E	2	2	2	01/01/2008	-
CSD A	CSD I	F	3	3	3	01/01/2008	-

If a Participant Account is not specified the triptych (Mirror Account, Omnibus Account, Inter CSD Account) is the default one:

Investor	Technical Issuer	Participant a/c	Mirror a/c	Omnibus a/c	Inter CSD a/c	Date From	Date To
CSD A	CSD I	-	1	1	1	01/01/2008	-

2.4 Maintenance of the organisation of the accounts

It will be the responsibility of each T2S Investor CSD to set up and to maintain its account organisation in the T2S Static Data, and the responsibility of each T2S Issuer CSD to set up and to maintain the account organisation of its External Investor CSDs in the T2S Static Data.

3. Settlement procedures

As stated before, T2S will go through the same generic process irrespective of the nature of the transaction (Intra-CSD, Cross-CSDs or with External CSDs). However, this process will result in the generation of a different number of movements depending on the nature of the transaction and on the links between the CSDs.

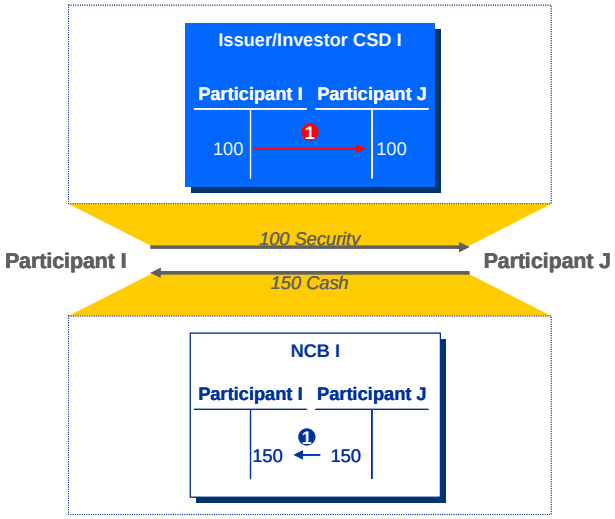
3.1 Intra-CSD Settlement (Domestic Settlement)

The proposed structure for the implementation of the links between CSDs will of course not affect the domestic settlement even if the same generic process that handle Cross-CSDs and External CSDs settlement is also used in this case.

Example 1: pure Domestic Settlement within one single CSD and one single NCB, where Participant I of CSD I (Issuer) sells security to participant J of the same CSD

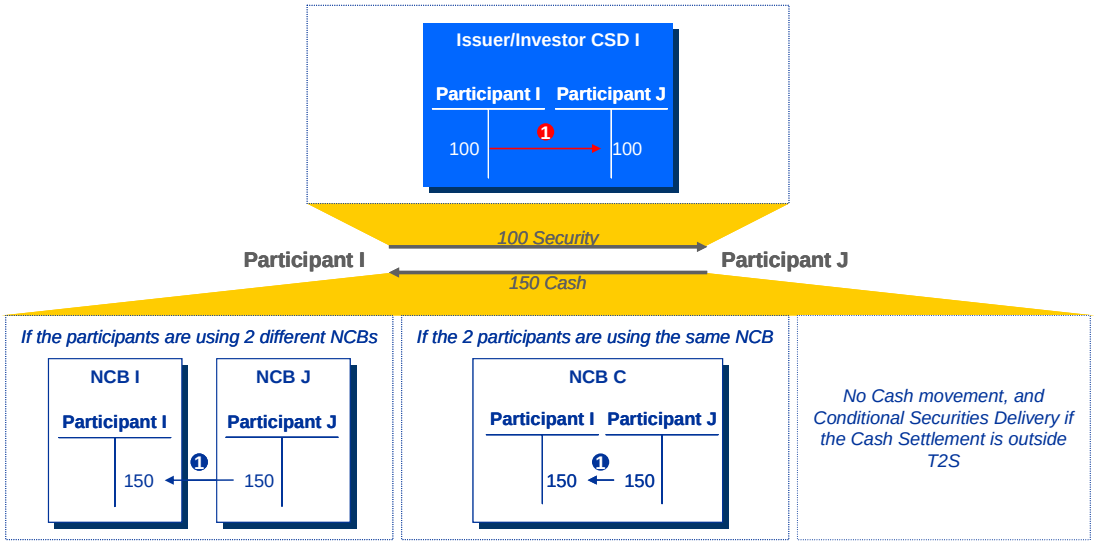
Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:



- Participant I instructs[2] T2S against participant J;
- Participant J instructs T2S against participant I;
- T2S derives security movement 1 and cash movement 1 and settles both simultaneously.

Example 2: same configuration as Example 1 with the description of the different possibilities for the cash settlement



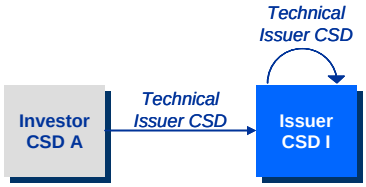
The resulting settlement procedure is the same as Example 1.

3.2 Cross-CSDs Settlement

When all the involved CSDs are CSDs in T2S ("Cross-CSD Settlement"), T2S will profit from having all the securities accounts (as well as all the dedicated cash accounts) on a single platform and settle the transaction as domestic transaction from the perspective of the parties.

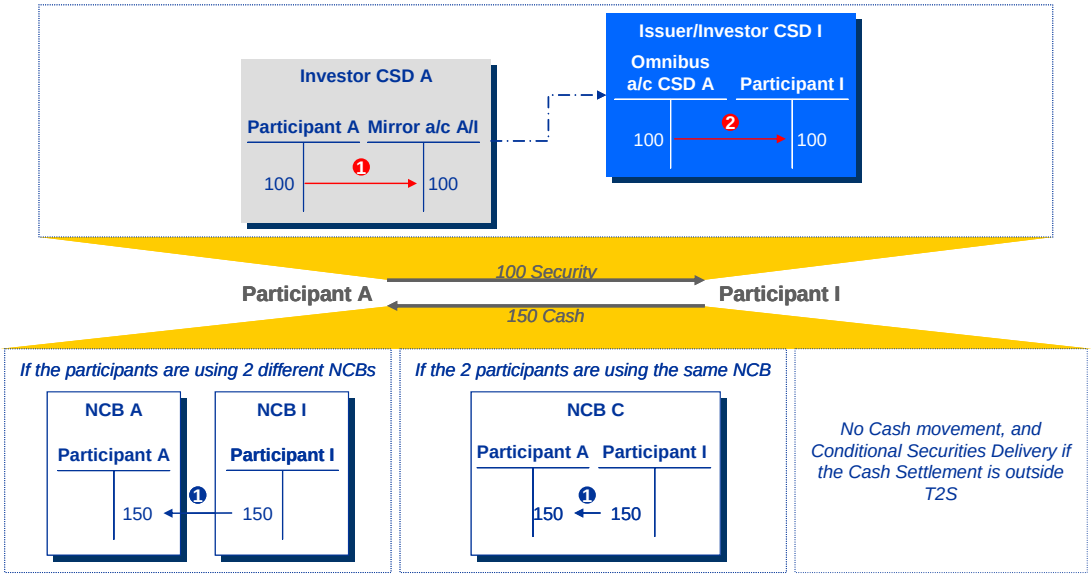
[2] Instructing is used throughout the document as covering both direct and indirect connectivity to T2S.

Example 1: transfer of securities from (to) an Investor CSD in relationship with the Issuer CSD to (from) the Issuer CSD (most common case of Cross-CSDs Settlement), where participant A of CSD A sells security to participant I of CSD I (Issuer) with the following links



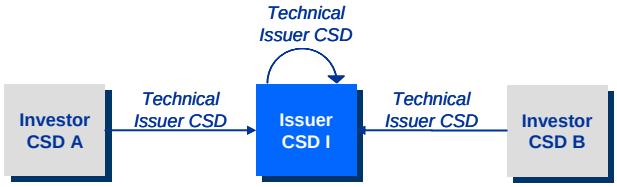
Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD A	YES	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:



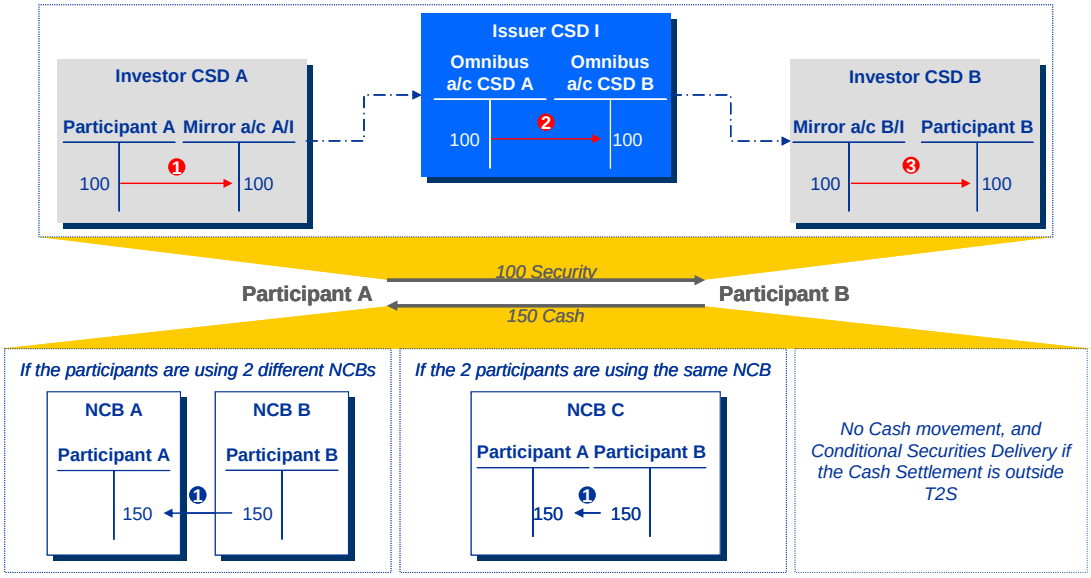
- From the perspective of the T2S parties (participant A and participant I), this looks like a domestic transaction;
- Participant A instructs T2S against participant I using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- Participant I instructs T2S against participant A using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- No additional input is required from the CSDs;
- T2S derives all the security and cash movements according to the links configured in the Static Data;
- T2S settles all the resulting security and cash movements simultaneously on an All or None basis.

Example 2: transfer of securities from an Investor CSD in relationship with the Issuer CSD to another Investor CSD in relationship with the Issuer CSD, where participant A of CSD A sells security to participant B of CSD B with the following links



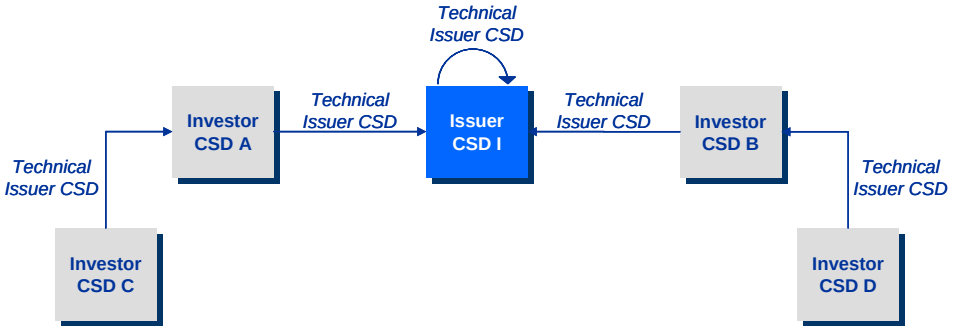
Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD A	YES	CSD I	01/01/2008	-
ISIN 1	CSD B	YES	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:



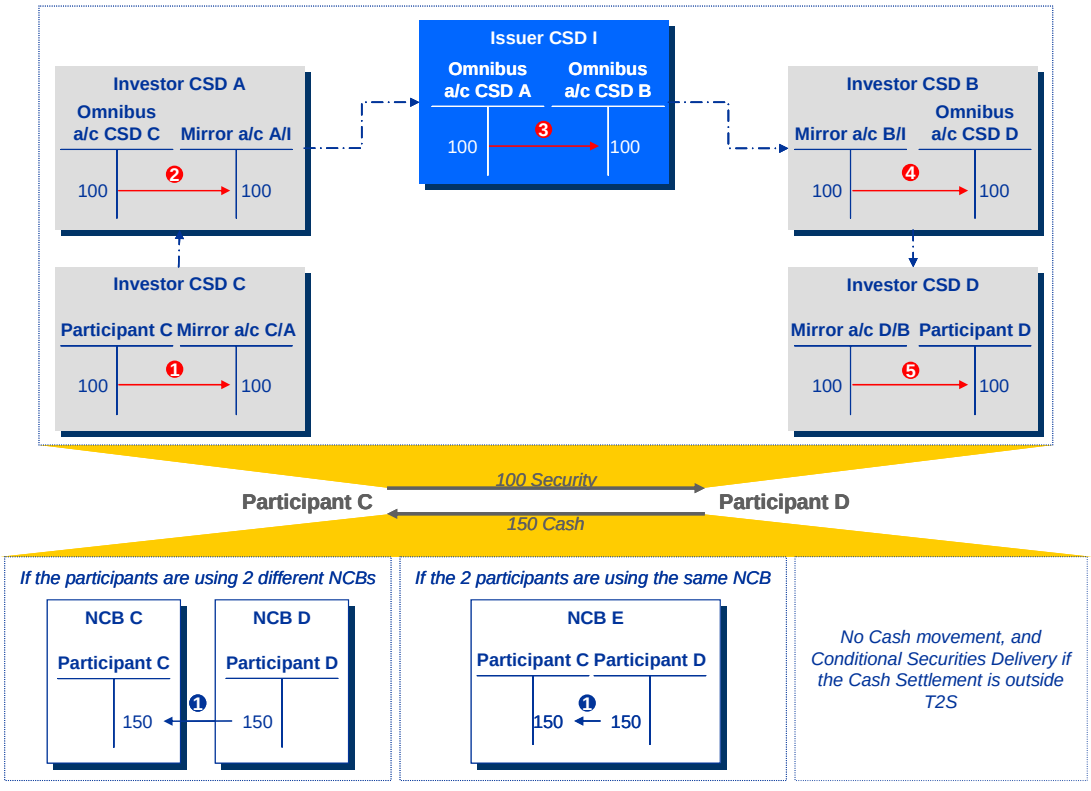
- From the perspective of the T2S parties (participant A and participant B), this looks like a domestic transaction;
- Participant A instructs T2S against participant B using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- Participant B instructs T2S against participant A using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- No additional input is required from the CSDs;
- T2S derives all the security and cash movements according to the links configured in the Static Data;
- T2S settles all the resulting security and cash movements simultaneously on an All or None basis.

Example 3: transfer of securities from an Investor CSD in relationship with a Technical Issuer CSD to another Investor CSD in relationship with a different Technical Issuer CSD, where participant C of CSD C sells security to participant D of CSD D with the following links



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD C	YES	CSD A	01/01/2008	-
ISIN 1	CSD A	YES	CSD I	01/01/2008	-
ISIN 1	CSD D	YES	CSD B	01/01/2008	-
ISIN 1	CSD B	YES	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:

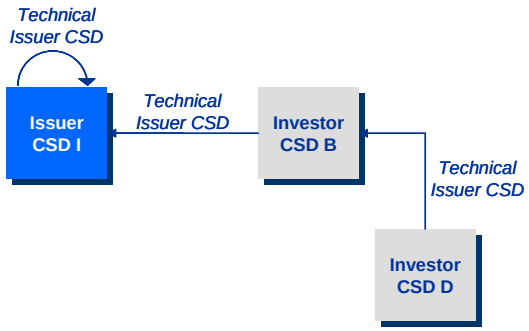


- From the perspective of the T2S parties (participant C and participant D), this looks like a domestic transaction;

- Participant C instructs T2S against participant D using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- Participant D instructs T2S against participant C using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- No additional input is required from the CSDs;
- T2S derives all the security and cash movements according to the links configured in the Static Data;
- T2S settles all the resulting security and cash movements simultaneously on an All or None basis.

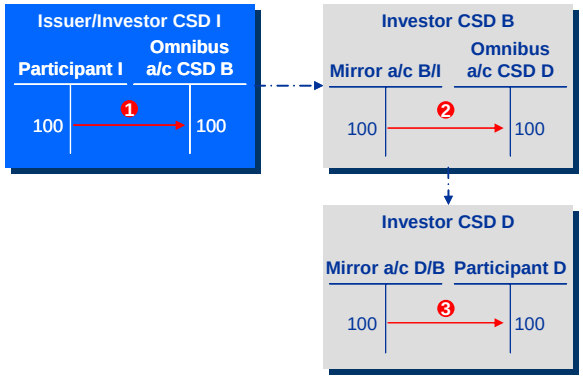
N.B. previous examples show clearly that the cash leg is not relevant in the context of links between CSDs and external CSDs since the three presented scenarios for the cash leg are the same irrespective of nature of the transaction and the links between the CSDs. Therefore, this document will not detail anymore the cash leg of a transaction.

Example 4: transfer of securities from (to) the Issuer CSD to (from) an Investor CSD in relationship with a Technical Issuer CSD, where participant I of CSD I (Issuer CSD) sells security to participant D of CSD D with the following links



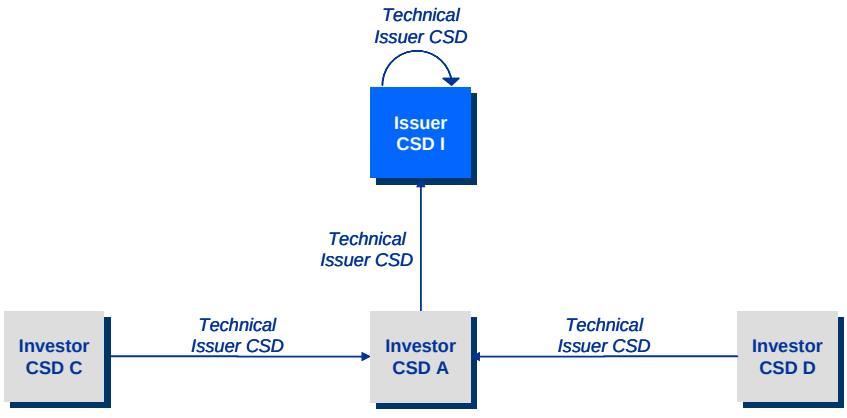
Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD D	YES	CSD B	01/01/2008	-
ISIN 1	CSD B	YES	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:



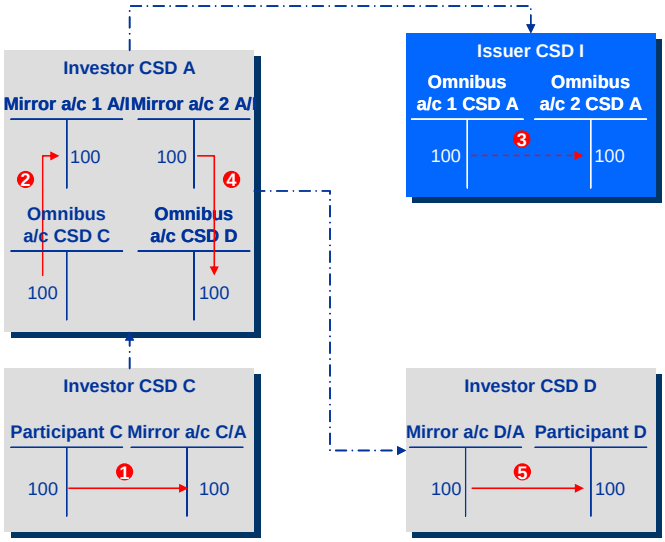
- From the perspective of the T2S parties (participant I and participant D), this looks like a domestic transaction;
- Participant I instructs T2S against participant D using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- Participant D instructs T2S against participant I using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- No additional input is required from the CSDs;
- T2S derives all the security and cash movements according to the links configured in the Static Data;
- T2S settles all the resulting security and cash movements simultaneously on an All or None basis.

Example 5: transfer of securities from an Investor CSD in relationship with a Technical Issuer CSD to another Investor CSD in relationship with the same Technical Issuer CSD, where participant C of CSD C sells security to participant D of CSD D with the following links



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD C	YES	CSD A	01/01/2008	-
ISIN 1	CSD D	YES	CSD A	01/01/2008	-
ISIN 1	CSD A	YES	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:



- From the perspective of the T2S parties (participant C and participant D), this looks like a domestic transaction;
- Participant C instructs T2S against participant D using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- Participant D instructs T2S against participant C using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- No additional input is required from the CSDs;
- T2S derives all the security and cash movements according to the links configured in the Static Data;
- If CSD A is using the same omnibus account in the Issuer CSD I for the holdings of CSD C and CSD D (the mirror account in CSD A is then also the same), security movement 3 will not generated;
    - Different omnibus accounts (presented example)

Investor	*Technical Issuer*	*Participant a/c*	*Mirror a/c*	*Omnibus a/c*	*Inter CSD a/c*	*Date From*	*Date To*
CSD A	CSD I	CSD C	1	1	1	01/01/2008	-
CSD A	CSD I	CSD D	2	2	2	01/01/2008	-

    - Same omnibus accounts

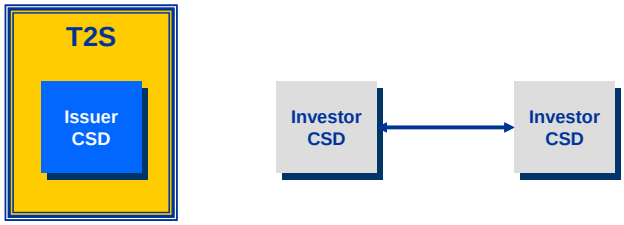
Investor	*Technical Issuer*	*Participant a/c*	*Mirror a/c*	*Omnibus a/c*	*Inter CSD a/c*	*Date From*	*Date To*
CSD A	CSD I	CSD C	1	1	1	01/01/2008	-
CSD A	CSD I	CSD D	1	1	1	01/01/2008	-

- T2S settles all the resulting security and cash movements simultaneously on an All or None basis.

3.3 External CSDs Settlement

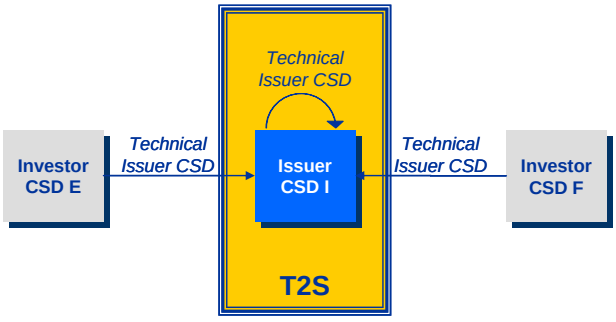
When External CSDs are involved, four scenarios need to be distinguished to explain the settlement procedure: the Investor CSDs are External and the Issuer CSD is in T2S; one Investor CSD is External, one Investor CSD and the Issuer CSD are in T2; one Investor CSD and the Issuer CSD are External, one Investor CSD is in T2S; the Issuer CSD is External, the Investor CSDs are in T2S. These scenarios are detailed in the following section.

3.3.1 The Investor CSDs are External and the Issuer CSD is in T2S



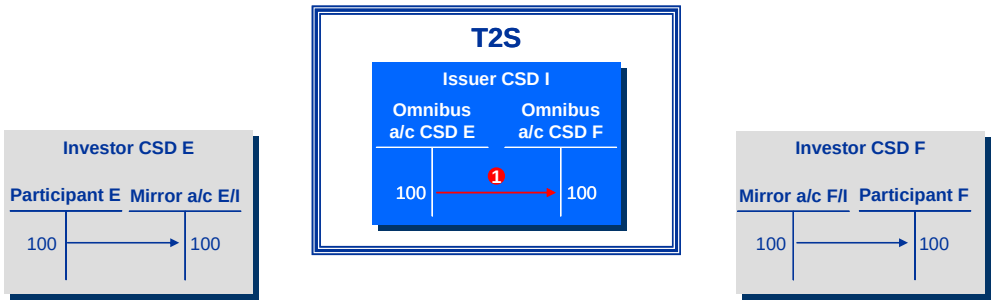
From the perspective of T2S, this looks like a transaction between the two Investor CSDs in the Issuer CSD (Domestic Settlement). Actually, the Investor CSDs are External CSDs, but they are participants of a T2S CSD (which is the Issuer CSD since it is the CSD where they are holding their omnibus account).

Example: transfer of securities from an External Investor CSD in relationship with the Issuer CSD to another External Investor CSD in relationship with the Issuer CSD, where participant E of CSD E (External) sells security to participant F of CSD F (External) with the following links



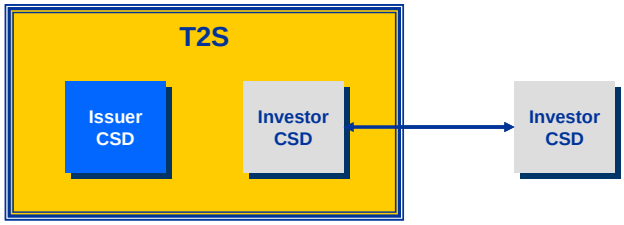
Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD E	NO	CSD I	01/01/2008	-
ISIN 1	CSD F	NO	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:



- From the perspective of T2S, this looks like a transaction between the two Investor CSDs (CSD E and CSD F as participants of CSD I) in the Issuer CSD (CSD I) (Domestic Settlement in the Issuer CSD);
- CSD E (as participant of CSD I) instructs T2S against participant F at CSD F;
- CSD F (as participant of CSD I) instructs T2S against participant E at CSD E;
- In the case of a DVP settlement in T2S currency, the External CSDs (CSD E and CSD F, as participants of CSD I) need to have a dedicated T2S cash account or to rely on a T2S settlement bank;
- T2S derives security movement 1 and the cash movement (if any3) and settle both simultaneously.

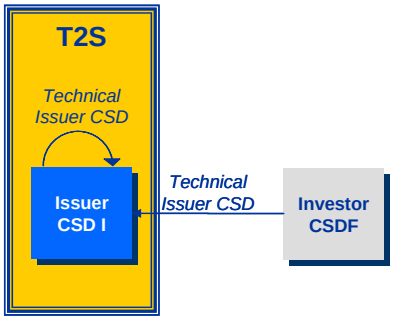
3.3.2 One Investor CSD is External, one Investor CSD and the Issuer CSD are in T2S



From the perspective of T2S, this looks like a settlement between the T2S Party and the external CSD as participant of the Issuer CSD (since the External CSD is holding its omnibus account in the Issuer CSD).

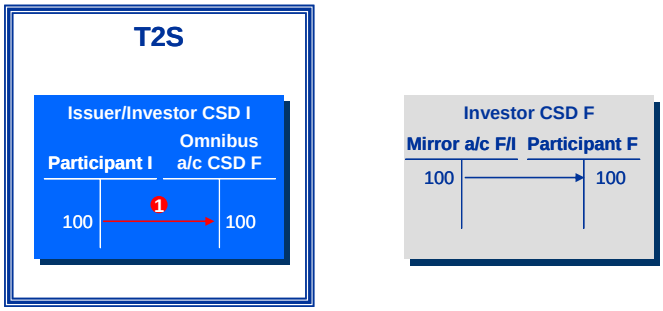
[3] Valid throughout the document for all the scenarios: In the case of Conditional Securities Delivery (CoSD), there is no cash movement in T2S. The settlement procedure is the same as for FoP but a specific Instruction Type is used and the final settlement in T2S is conditional to the cash settlement outside T2S.

Example 1: transfer of securities to an External Investor CSD in relationship with the Issuer CSD from the Issuer CSD, where participant I of CSD I (T2S CSD) sells security to participant F of CSD F (External) with the following links



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD F	NO	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:

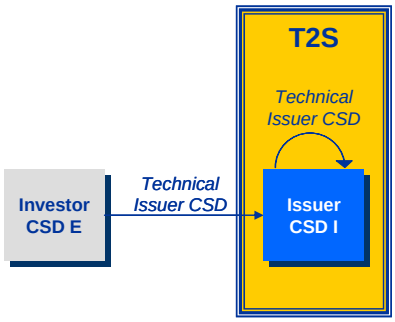


- From the perspective of T2S, this looks like a transaction between participant I of CSD I (Issuer) and the External CSD F as participant of the Issuer CSD (CSD I) (Domestic Settlement in the Issuer CSD);
- CSD I will be in charge of the interaction4 with the External CSD F according to their arrangement (external link definition);
- Participant I instructs T2S against participant F at CSD F;
- CSD F (as participant of the Issuer CSD I) instructs T2S against participant I;
- In the case of a DVP settlement in T2S currency, the External CSD (CSD F, as participant of CSD I) needs to have a dedicated T2S cash account or to rely on a T2S settlement bank;
- T2S derives security movement 1 and the cash movement (if any) according to the links configured in the Static Data;

[4] The current assumption is that the CSDs will maintain the technical link and the interaction with the External CSDs. However, T2S will be open to in source this function upon request from a CSD. If this happen, T2S will have a single standardised way to interact with all the related External CSDs.

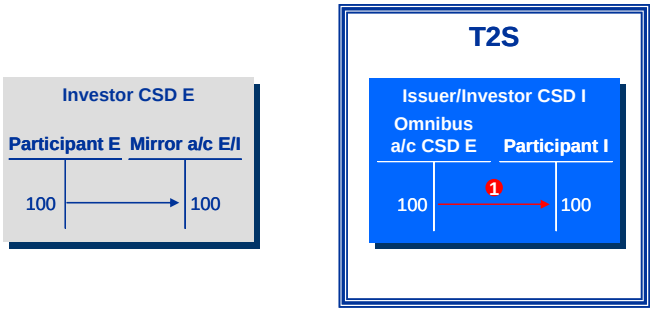
- T2S settles security movement 1 and the cash movement (if any) simultaneously on an All or None basis (DVP settlement).

Example 2: transfer of securities from an External Investor CSD in relationship with the Issuer CSD to the Issuer CSD, where participant E of CSD E (External) sells security to participant I of CSD I (T2S CSD) with the following links



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD E	NO	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

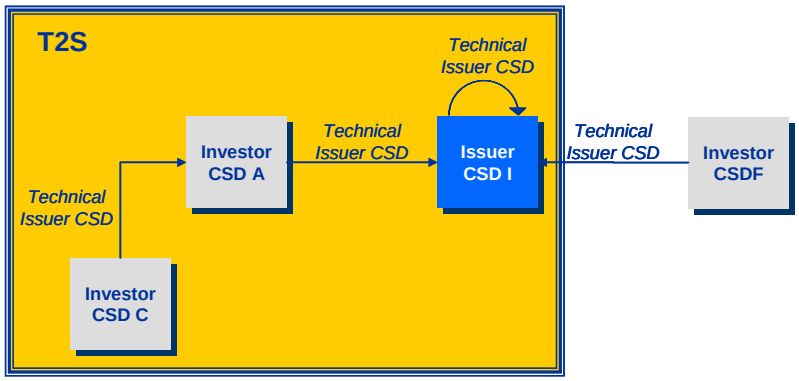
The resulting settlement procedure is:



- From the perspective of T2S, this looks like a transaction between the External CSD E as participant of the Issuer CSD (CSD I) and participant I of CSD I (Issuer) (Domestic Settlement in the Issuer CSD);
- CSD I will be in charge of the interaction with the External CSD E according to their arrangement (external link definition);
- CSD E (as participant of the Issuer CSD I) instructs T2S against participant I;
- Participant I instructs T2S against participant E at CSD E;
- In the case of a DVP settlement in T2S currency, the External CSD (CSD E, as participant of CSD I) needs to have a dedicated T2S cash account or to rely on a T2S settlement bank;
- T2S derives security movement 1 and the cash movement (if any) according to the links configured in the Static Data;

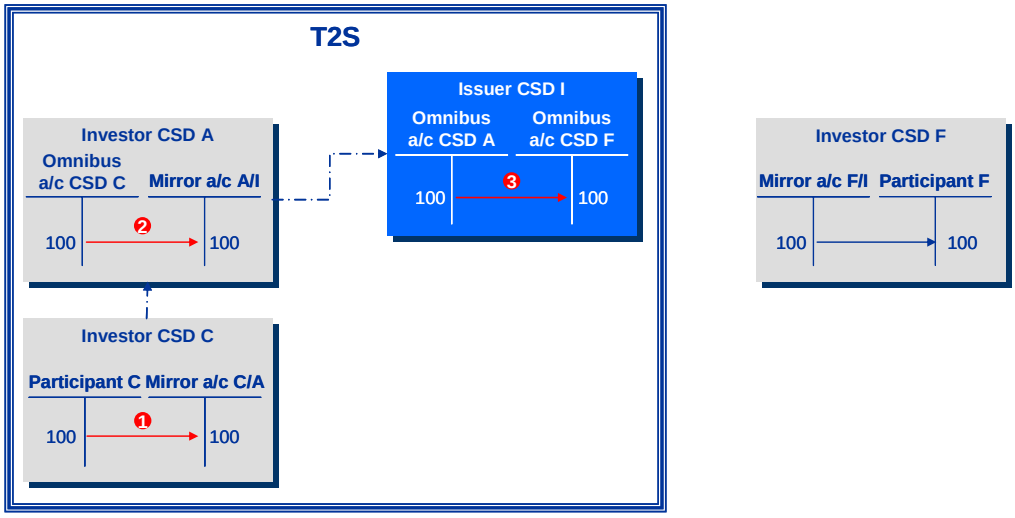
- T2S settles security movement 1 and the cash movement (if any) simultaneously on an All or None basis (DVP settlement).

Example 3: transfer of securities from an Investor CSD in relationship with a Technical Issuer CSD in T2S to an External Investor CSD in relationship with the Issuer CSD (the seller within T2S), where participant C of CSD C (T2S CSD) sells security to participant F of CSD F (External) with the following links



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD F	NO	CSD I	01/01/2008	-
ISIN 1	CSD C	YES	CSD A	01/01/2008	-
ISIN 1	CSD A	YES	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

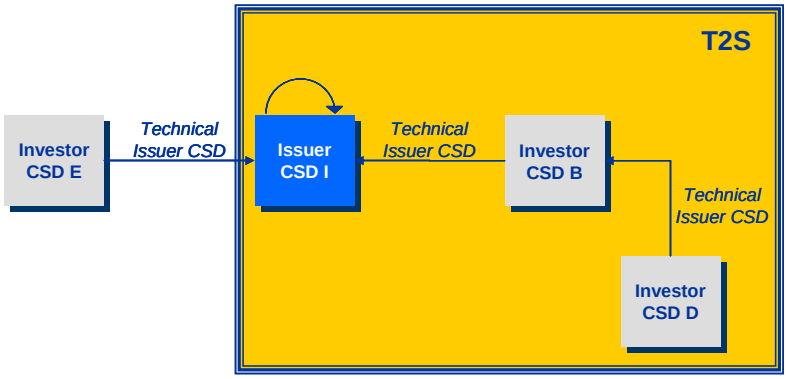
The resulting settlement procedure is:



- From the perspective of T2S, this looks like a transaction between participant C of CSD C and the External CSD F as participant of the Issuer CSD (CSD I) (Cross-CSD Settlement);
- CSD I will be in charge of the interaction with the External CSD F according to their arrangement (external link definition);

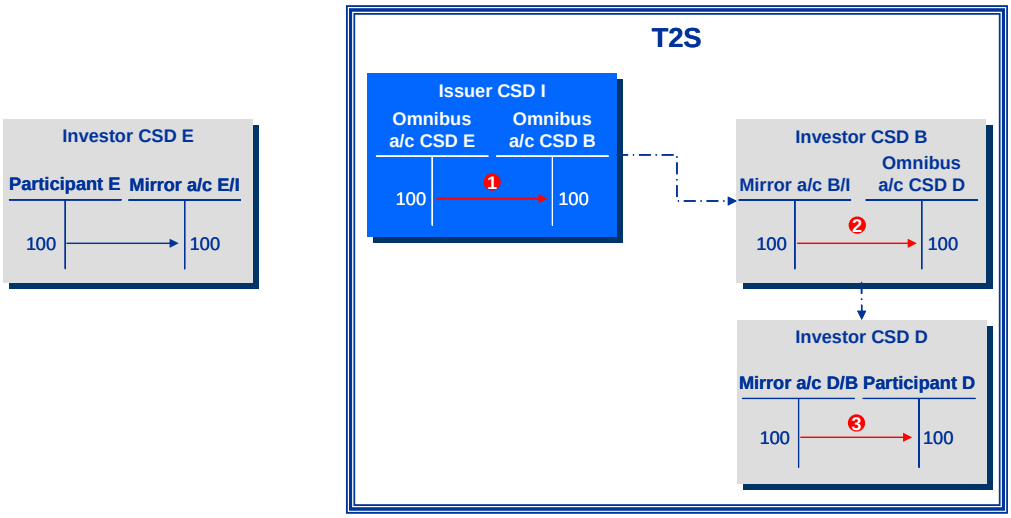
- Participant C instructs T2S against participant F at CSD F without giving the intermediary settlement chain in T2S;
- CSD F (as participant of the Issuer CSD I) instructs T2S against participant C without giving the intermediary settlement chain in T2S;
- In the case of a DVP settlement in T2S currency, the External CSD (CSD F, as participant of CSD I) needs to have a dedicated T2S cash account or to rely on a T2S settlement bank;
- T2S derives security movements 1, 2 and 3, and the cash movement (if any), according to the links configured in the Static Data;
- T2S settles security movements 1, 2 and 3, and the cash movement (if any), simultaneously on an All or None basis.

Example 4: transfer of securities from an External Investor CSD in relationship with the Issuer CSD to an Investor CSD in relationship with a Technical Issuer CSD in T2S (the buyer within T2S), where participant E of CSD E (External) sells security to participant D of CSD D (T2S CSD) with the following links



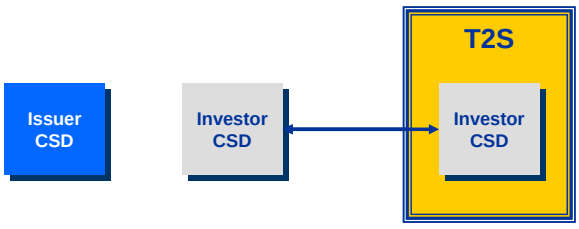
Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD E	NO	CSD I	01/01/2008	-
ISIN 1	CSD D	YES	CSD B	01/01/2008	-
ISIN 1	CSD B	YES	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:



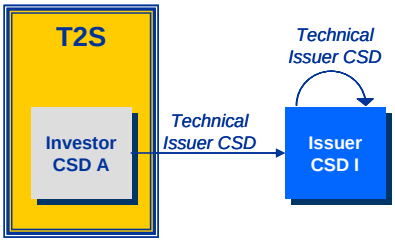
- From the perspective of T2S, this looks like a transaction between the External CSD E as participant of the Issuer CSD I and participant D of CSD D (Cross-CSD Settlement);
- CSD I will be in charge of the interaction with the External CSD E according to their arrangement (external link definition);
- Participant D instructs T2S against participant E at CSD E without giving the intermediary settlement chain in T2S;
- CSD E (as participant of the Issuer CSD I) instructs T2S against participant D without giving the intermediary settlement chain in T2S;
- In the case of a DVP settlement in T2S currency, the External CSD (CSD E as participant of CSD I) needs to have a dedicated T2S cash account or to rely on a T2S settlement bank;
- T2S derives security movements 1, 2 and 3, and the cash movement (if any), according to the links configured in the Static Data;
- T2S settles security movements 1, 2 and 3, and the cash movement (if any), simultaneously on an All or None basis.

3.3.3 One Investor CSD and the Issuer CSD are External, one Investor CSD is in T2S



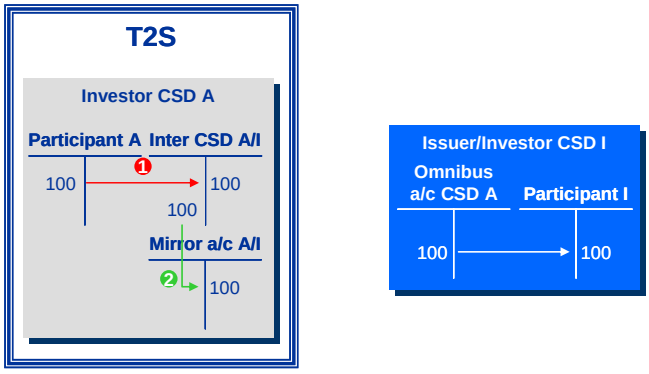
A simultaneous real-time settlement cannot be achieved. From the perspective of T2S, this looks like a settlement between the T2S Party and an inter-CSD account conditional upon the final settlement within the Issuer CSD.

Example 1: transfer of securities from an Investor CSD in relationship with the Issuer CSD to the External Issuer CSD, where participant A of CSD A (T2S CSD) sells security to participant I of CSD I (External) with the following links



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD A	YES	CSD I	01/01/2008	-

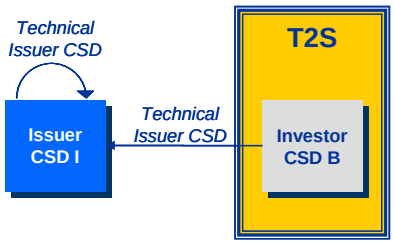
The resulting settlement procedure is:



- From the perspective of T2S, this looks like conditional settlement of a transaction between participant A of CSD A and CSD A (as its own participant);
- CSD A will be in charge of the interaction with the External CSD I according to their arrangement (external link definition);
- Participant A instructs T2S against participant I at CSD I;
- CSD A instructs T2S against participant A;
- In the case of a DVP settlement in T2S currency, CSD A needs to have a dedicated T2S cash account or to rely on a T2S settlement bank;
- T2S derives security movement 1 and the cash movement (if any) according to the links configured in the Static Data;
- CSD A (as participant of the External CSD I) instruct the External Issuer CSD I;

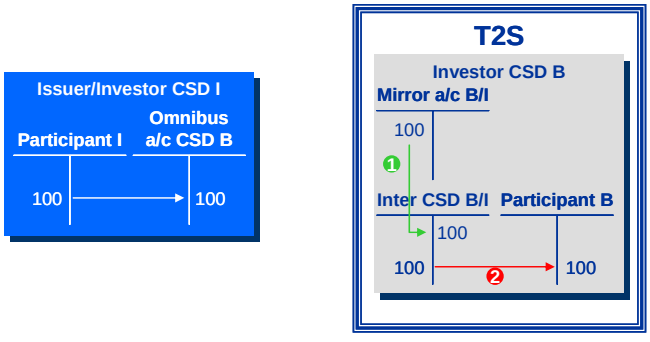
- T2S settles security movement 1 and the cash movement (if any) as CoSD (Conditional Securities Delivery-External Delivery) administered by CSD A
    - Securities are reserved;
    - The final settlement is on hold;
    - The final settlement is released by CSD A after the confirmation of the settlement within the External Issuer CSD (CSD I);
    - T2S books security movement 1 and the cash movement (if any).
- After the confirmation of the settlement within the External Issuer CSD (CSD I), CSD A instructs T2S with security movement 2 (unilateral FoP);
- T2S settles movement 2.

Example 2: transfer of securities to an Investor CSD in relationship with the Issuer CSD from the External Issuer CSD, where participant I of CSD I (External) sells security to participant B of CSD B (T2S CSD) with the following links



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD B	YES	CSD I	01/01/2008	-

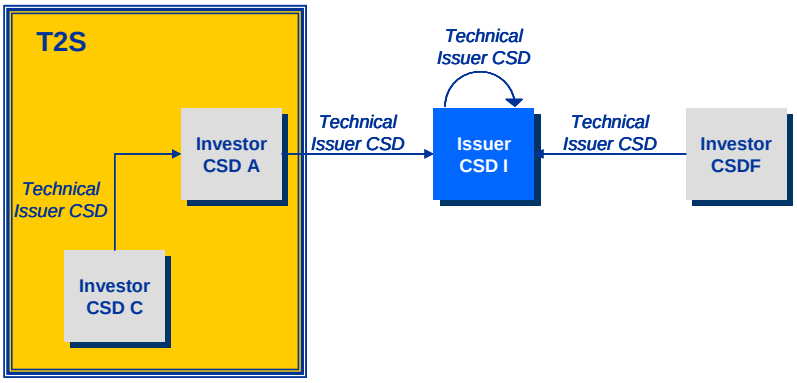
The resulting settlement procedure is:



- From the perspective of T2S, this looks like a transaction between CSD B (as its own participant) and participant B of CSD B;
- CSD B will be in charge of the interaction with the External CSD I according to their arrangement (external link definition);

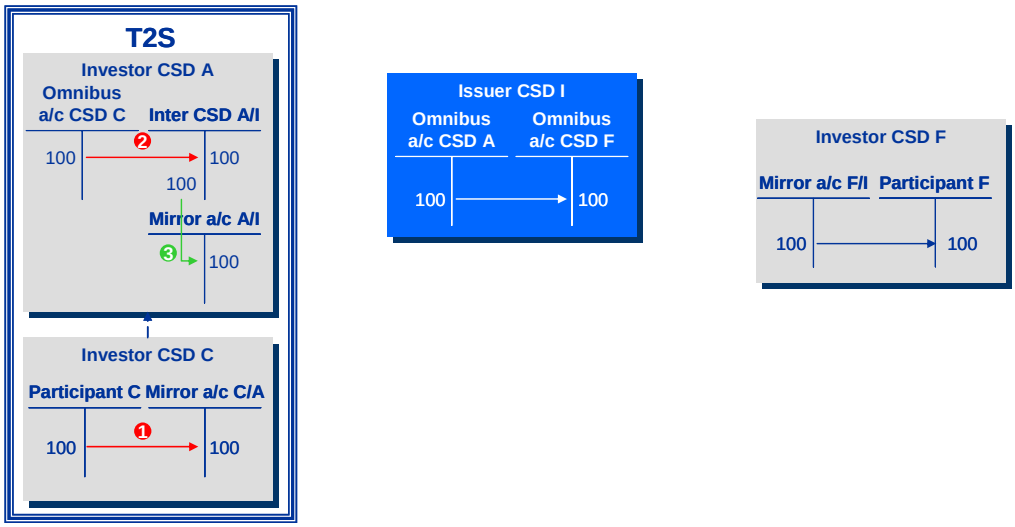
- Participant B instructs T2S against participant I at CSD I;
- CSD B instructs T2S against participant B;
- In the case of a DVP settlement in T2S currency, CSD B needs to have a dedicated T2S cash account or to rely on a T2S settlement bank;
- T2S derives security movement 2 and the cash movement (if any) according to the links configured in the Static Data;
- CSD B (as participant of the External CSD I) instruct the External Issuer CSD I;
- After the confirmation of the settlement within the External Issuer CSD (CSD I), CSD B instructs T2S with security movement 1 (unilateral FoP);
- T2S settles movement 1;
- T2S settles security movement 2 and the cash movement (if any) as CoSD (Conditional Securities Delivery-External Receiving) administered by CSD B
    - Cash (if any) is reserved;
    - The final settlement is on hold;
    - The final settlement is released by CSD B after the confirmation of the settlement of security movement 1;
    - T2S books security movement 2 and the cash movement (if any).

Example 3: transfer of securities from an Investor CSD in relationship with a Technical Issuer CSD in T2S to an External Investor CSD in relationship with the External Issuer CSD (the seller within T2S), where participant C of CSD C (T2S CSD) sells security to participant F of CSD F (External) with the following links



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD C	YES	CSD A	01/01/2008	-
ISIN 1	CSD A	YES	CSD I	01/01/2008	-

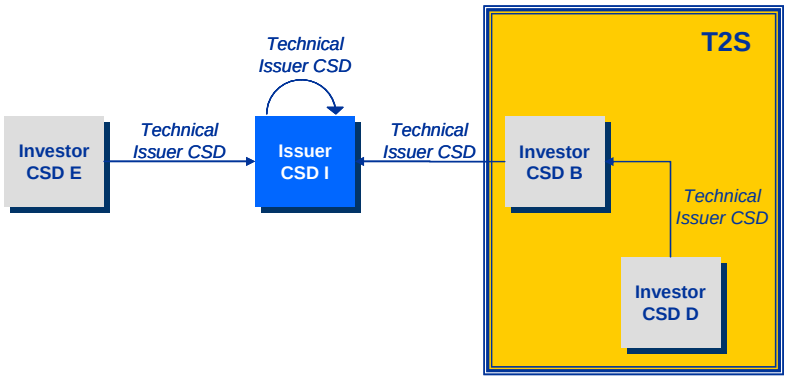
The resulting settlement procedure is:



- From the perspective of T2S, this looks like a transaction between participant C of CSD C and CSD A (as its own participant);
- CSD A will be in charge of the interaction with the External CSD I according to their arrangement (external link definition);
- Participant C instructs T2S against Participant F at CSD F without giving the intermediary settlement chain in T2S;
- CSD A instructs T2S against participant C without giving the intermediary settlement chain in T2S;
- In the case of a DVP settlement in T2S currency, CSD A needs to have a dedicated T2S cash account or to rely on a T2S settlement bank;
- T2S derives security movements 1 and 2, and the cash movement (if any), according to the links configured in the Static Data;
- CSD A (as participant of the External CSD I) instruct the External Issuer CSD I;
- T2S settles security movements 1 and 2, and the cash movement (if any), as CoSD (Conditional Securities Delivery-External Delivery) administered by CSD A
    - Securities are reserved;
    - The final settlement is on hold;
    - The final settlement is released by CSD A after the confirmation of the settlement within the External Issuer CSD (CSD I);
    - T2S books security movements 1 and 2, and the cash movement (if any).
- After the confirmation of the settlement within the External Issuer CSD (CSD I), CSD A instructs T2S with security movement 3 (unilateral FoP);

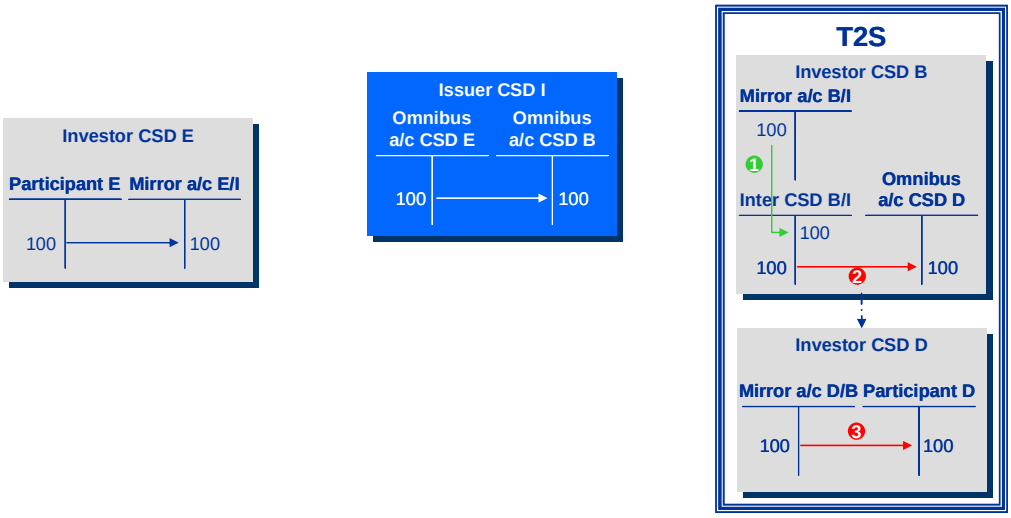
- T2S settles movement 3.

Example 4: transfer of securities from an External Investor CSD in relationship with the External Issuer CSD to an Investor CSD in relationship with a Technical Issuer CSD in T2S (the buyer within T2S), where participant E of CSD E (External) sells security to participant D of CSD D (T2S CSD) with the following links



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD D	YES	CSD B	01/01/2008	-
ISIN 1	CSD B	YES	CSD I	01/01/2008	-

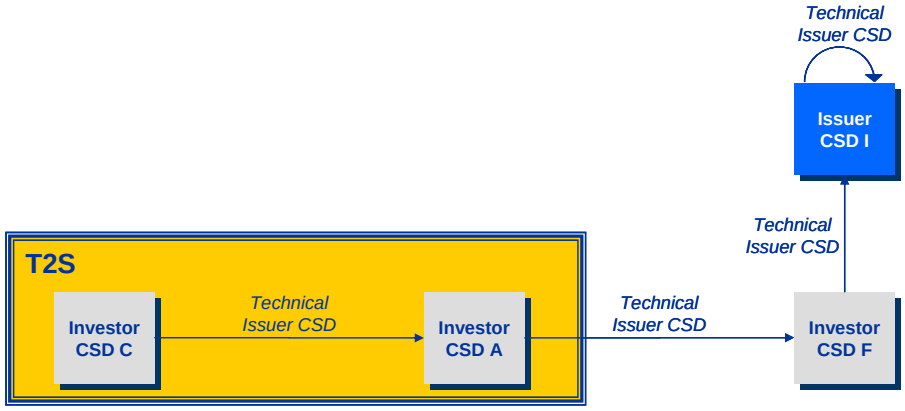
The resulting settlement procedure is:



- From the perspective of T2S, this looks like a transaction between CSD B (as its own participant) and participant D of CSD D;
- CSD B will be in charge of the interaction with the External CSD I according to their arrangement (external link definition);

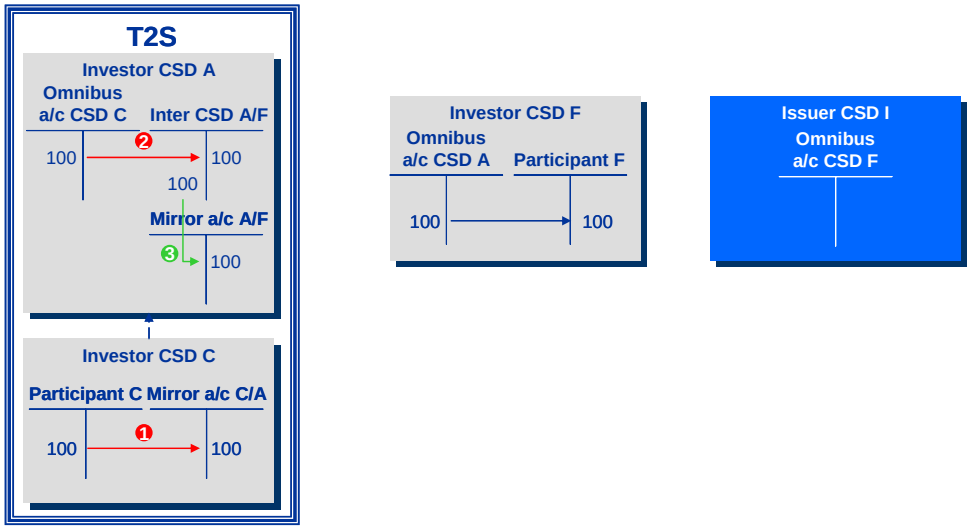
- Participant D instructs T2S against participant E at CSD E without giving the intermediary settlement chain in T2S;
- CSD B instructs T2S against participant D without giving the intermediary settlement chain in T2S;
- In the case of a DVP settlement in T2S currency, CSD B needs to have a dedicated T2S cash account or to rely on a T2S settlement bank;
- T2S derives security movements 2 and 3, and the cash movement (if any), according to the links configured in the Static Data;
- CSD B (as participant of the External CSD I) instruct the External Issuer CSD I;
- After the confirmation of the settlement within the External Issuer CSD (CSD I), CSD B instructs T2S with security movement 1 (unilateral FoP);
- T2S settles movement 1;
- T2S settles security movements 2 and 3, and the cash movement (if any) as CoSD (Conditional Securities Delivery-External Receiving) administered by CSD B
    - Cash (if any) is reserved;
    - The final settlement is on hold;
    - The final settlement is released by CSD B after the confirmation of the settlement of security movement 1;
    - T2S books security movements 2 and 3, and the cash movement (if any).

Example 5: transfer of securities from an Investor CSD in relationship with a Technical Issuer CSD in T2S to an External Investor CSD in relationship with the External Issuer CSD and acting as the External Technical Issuer CSD for the Technical Issuer CSD in T2S, where participant C of CSD C (T2S CSD) sells security to participant F of CSD F (External) with the following links



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD C	YES	CSD A	01/01/2008	-
ISIN 1	CSD A	YES	CSD F	01/01/2008	-

The resulting settlement procedure is:

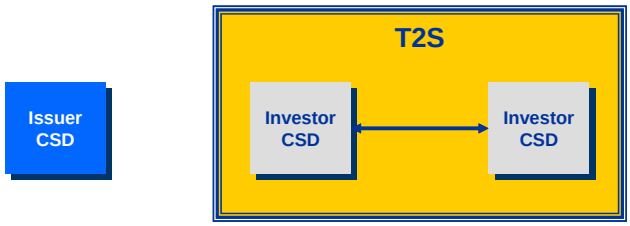


- From the perspective of T2S, this looks like a transaction between participant C of CSD C and CSD A (as its own participant);
- CSD A will be in charge of the interaction with the External CSD F according to their arrangement (external link definition);
- Participant C instructs T2S against participant F at CSD F without giving the intermediary settlement chain in T2S;
- CSD A instructs T2S against participant C without giving the intermediary settlement chain in T2S;
- If it is a DVP settlement, CSD A needs to have a dedicated T2S cash account or to rely on a T2S settlement bank;
- T2S derives security movements 1 and 2, and the cash movement (if any), according to the links configured in the Static Data;
- CSD A (as participant of the External CSD F) instruct the External CSD (CSD F);
- T2S settles security movements 1 and 2, and the cash movement (if any), as CoSD (Conditional Securities Delivery-External Delivery) administered by CSD A
    - Securities are reserved;
    - The final settlement is on hold;
    - The final settlement is released by CSD A after the confirmation of the settlement within the External CSD (CSD F);

- T2S books security movements 1 and 2, and the cash movement (if any).

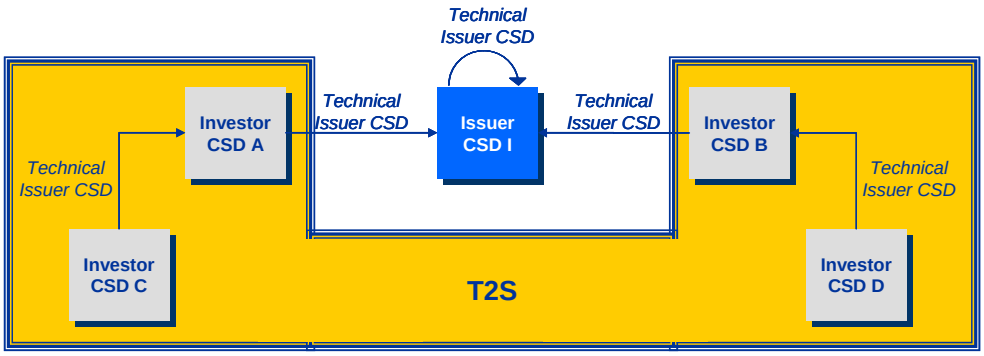
- After the confirmation of the settlement within the External CSD (CSD F),, CSD A instructs T2S with security movement 3 (unilateral FoP);
- T2S settles movement 3.

3.3.4 The Issuer CSD is External, the Investor CSDs are in T2S



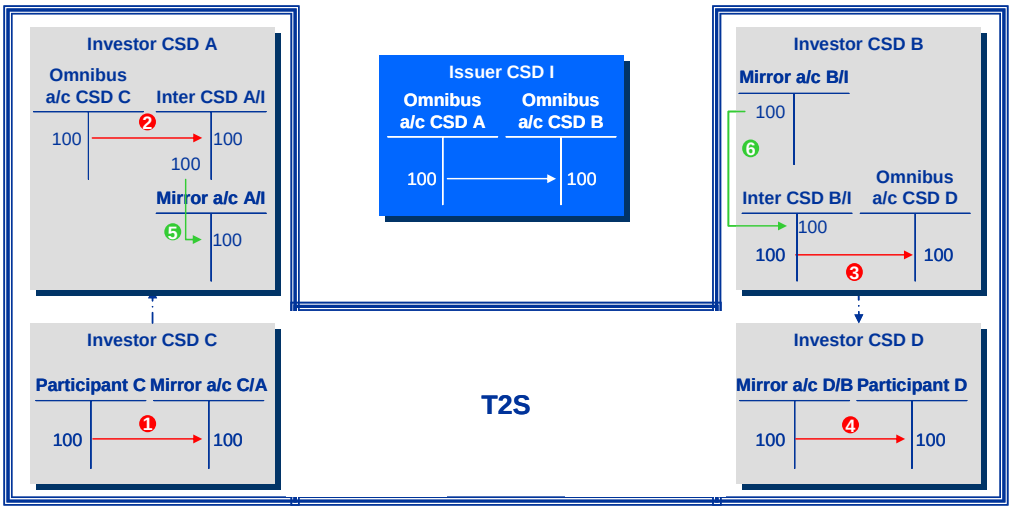
In this case, even if the Issuer CSD is outside T2S, the settlement within T2S will not be conditional: only an unsynchronised realignment needs to be sent to the External Issuer CSD. The mirroring in T2S of the omnibus accounts within the External CSD will allow this procedure and avoid the risk.

Example 1: transfer of securities from an Investor CSD in relationship with a Technical Issuer CSD to another Investor CSD in relationship with a different Technical Issuer CSD, where participant C of CSD C (T2S CSD) sells security to participant D of CSD D (T2S CSD) with the following links



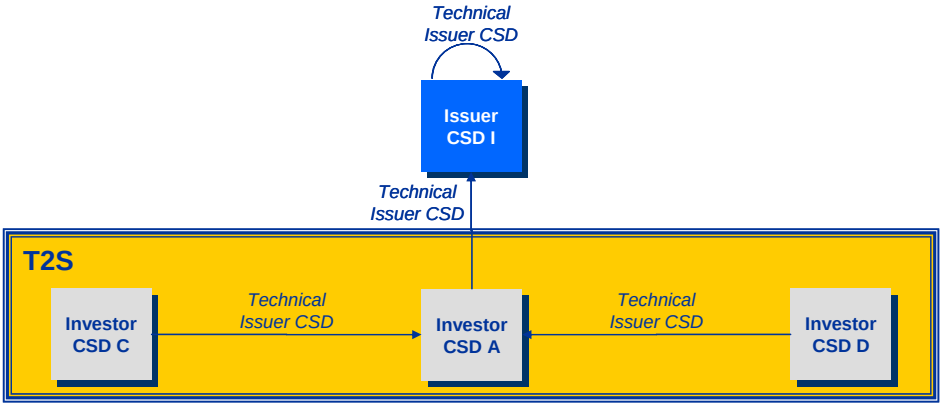
Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD C	YES	CSD A	01/01/2008	-
ISIN 1	CSD A	YES	CSD I	01/01/2008	-
ISIN 1	CSD D	YES	CSD B	01/01/2008	-
ISIN 1	CSD B	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:



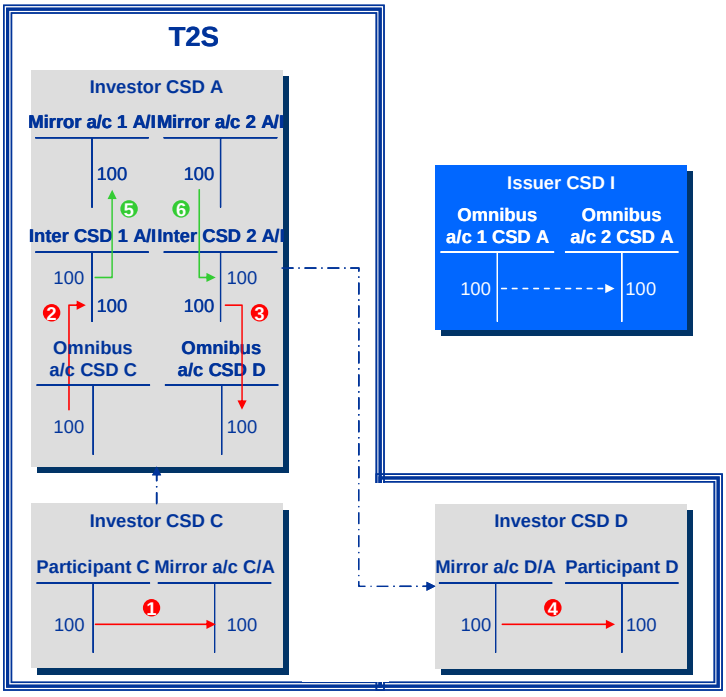
- From the perspective of the T2S parties (participant C and participant D), this looks like a domestic transaction;
- CSD A and CSD B will be in charge of the interaction with the External CSD I according to their arrangement (external link definition);
- Participant C instructs T2S against participant D using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- Participant D instructs T2S against participant C using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- T2S derives security movements 1, 2, 3 and 4, and the cash movement (if any), according to the links configured in the Static Data;
- T2S settles security movements 1, 2, 3 and 4, and the cash movement (if any), simultaneously on an All or None basis;
- CSD A (as participant of the External CSD I) triggers the realignment in the External Issuer CSD (CSD I);
- When the realignment is settled in the External Issuer CSD (CSD I), CSD A instructs T2S with security movement 5 (unilateral FoP) and CSD B instructs T2S with security movement 6 (unilateral FoP);
- T2S settles security movements 5 and 6.

Example 2: transfer of securities from an Investor CSD in relationship with a Technical Issuer CSD to another Investor CSD in relationship with the same Technical Issuer CSD, where participant C of CSD C (T2S CSD) sells security to participant D of CSD D (T2S CSD) with the following links



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD C	YES	CSD A	01/01/2008	-
ISIN 1	CSD D	YES	CSD A	01/01/2008	-
ISIN 1	CSD A	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:



- From the perspective of the T2S parties (participant C and participant D), this looks like a domestic transaction;
- CSD A will be in charge of the interaction with the External CSD I according to their arrangement (external link definition);

- Participant C instructs T2S against participant D using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- Participant D instructs T2S against participant C using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- T2S derives security movements 1, 2, 3 and 4, and the cash movement (if any), according to the links configured in the Static Data;
- T2S settles security movements 1, 2, 3 and 4, and the cash movement (if any), simultaneously on an All or None basis;
- If CSD A is using the same omnibus account in the Issuer CSD I for the holdings of CSD C and CSD D (the mirror account (Inter CSD account) in CSD A is then also the same), there is no need to interact with the External Issuer CSD (no need to instruct the External Issuer CSD and no need to instruct T2S with security movement 5 and 6);

Investor	Technical Issuer	Participant a/c	Mirror a/c	Omnibus a/c	Inter CSD a/c	Date From	Date To
CSD A	CSD I	CSD C	1	1	1	01/01/2008	-
CSD A	CSD I	CSD D	1	1	1	01/01/2008	-

- Otherwise, CSD A (as participant of the External CSD I) triggers the realignment in the External Issuer CSD (CSD I);
    - When the realignment is settled in the External Issuer CSD (CSD I), CSD A instructs T2S with security movement 5 (unilateral FoP) and security movement 6 (unilateral FoP);
    - T2S settles security movements 5 and 6.

Investor	Technical Issuer	Participant a/c	Mirror a/c	Omnibus a/c	Inter CSD a/c	Date From	Date To
CSD A	CSD I	CSD C	1	1	1	01/01/2008	-
CSD A	CSD I	CSD D	2	2	2	01/01/2008	-

4. Maintenance of Static Data

The settlement activities of CSDs pertaining to the coverage of same security will overlap. Therefore, the static data of a specific security will be required by several CSDs. This, in turn, leads to the question of which CSD will be the Security Maintaining CSD for static data that are required by many CSDs. An Issuer CSD is defined for every security:

- if the Issuer CSD for a security is in T2S, then that Issuer CSD will be the Security Maintaining CSD for all the security static data that are neither CSD nor local market specific;
- if the Issuer CSD for a security settled in T2S is an External CSD , then the responsibility for maintaining the data must be assigned:
    - in the case where there is only one Investor CSD in T2S for a security in T2S, then that one Investor CSD shall be the Security Maintaining CSD for this security;
    - when there are multiple CSDs for a given security in T2S, one CSD must be the Security Maintaining CSD for all other CSDs. The rule for assigning responsibility for the maintenance of security static data to a CSD is an organisational matter that requires further deliberation and discussion, but the conceptual model shall support the assignment of one CSD in T2S to one security for this purpose.

In the following example, the Issuer CSD of ISIN 1 is a CSD in T2S and the Issuer CSD of ISIN 2 is an External CSD:

Security	*CSD*	*CSD Type*	*Security Maintaining CSD*	*Date From*	*Date To*
ISIN 1	CSD I	Issuer	Yes	01/01/2008	-
ISIN 1	CSD A	Investor	No	01/01/2008	-
ISIN 2	CSD B	Investor	Yes	01/01/2008	-
ISIN 2	CSD C	Investor	No	01/01/2008	-

USER REQUIREMENTS

ANNEX 11

ISSUE NOTE - DIRECT TECHNICAL CONNECTIVITY

T2S Project Team

Reference:	T2S-07-0080
Date:	12 December 2007
Version:	2
Status:	Final

1. Introduction

The aim of this note is to clarify the definition of direct technical connectivity as it is described in Principle 11 and to provide more details of its features within the T2S framework. More specifically, section 2 defines the general concept of direct technical connectivity while section 3 goes into more detail providing the description of some basic issues that can help to understand how direct technical connectivity will look like both from the perspective of CSDs and the T2S parties' point of view. Finally, section 4 identifies a list of main functionalities T2S shall provide in order to allow direct technical connectivity.

2. Definition of the concept

Principle 11 states:

T2S shall allow users to have direct connectivity to its platform.

From a T2S point of view, the connectivity choice refers solely to the way in which T2S parties will interface with T2S in order to send and maintain settlement instructions as well as to access instructions and settlement and account related information. Regardless of the connectivity mode, the securities account balances will be stored in T2S IT platform, while the CSDs will retain their business and legal relationships with their participants. Equally, the instructions will be subject to equal processing within T2S, irrespective of the way the CSD participants connect to T2S. The connectivity choice will also be neutral to CSDs, since all the necessary information, even from directly connected users, will be available to CSDs.

The aim of the principle is to provide flexibility to the T2S parties connecting to T2S. This may lead to reduced costs to the users by streamlining back-office processes and ultimately reducing the number of interfaces.

In fact, direct technical connectivity is only a technical facility that should not affect the way instructions and transactions are processed in T2S. They are either received directly from the T2S parties (and are, therefore, sent in T2S format), or arrive via the CSDs. When a CSD provides value-added services, such provision should be independent from the mode of instructions entering into T2S. Thus, there should be no discrimination between the two connectivity modes. CSDs will be enabled to retrieve or receive all data necessary to deliver their services.

3. Basic issues

This section addresses some basic issues that help to clarify more in detail how T2S direct technical connectivity will work in practice.

Authorising direct technical connectivity for a T2S party

As a settlement engine, T2S will be an integral part of CSDs' systems with two distinctions: it will not be located in their premises and it will be used in common by multiple CSDs. To this extent, direct technical connectivity will be a facility provided by T2S and its use will be authorised by the CSDs according to the general terms and conditions of the respective CSD and in line with local regulations. In line with the objectives of T2S, legal harmonisation shall be pursued in order to guarantee that specific local regulations do not prevent a CSD from offering direct technical connectivity to its T2S parties and that in all cases direct connectivity should not grant superior rights to T2S parties that use it as compared to the rights emanating from any other form of connectivity provided to T2S parties through their local CSDs.

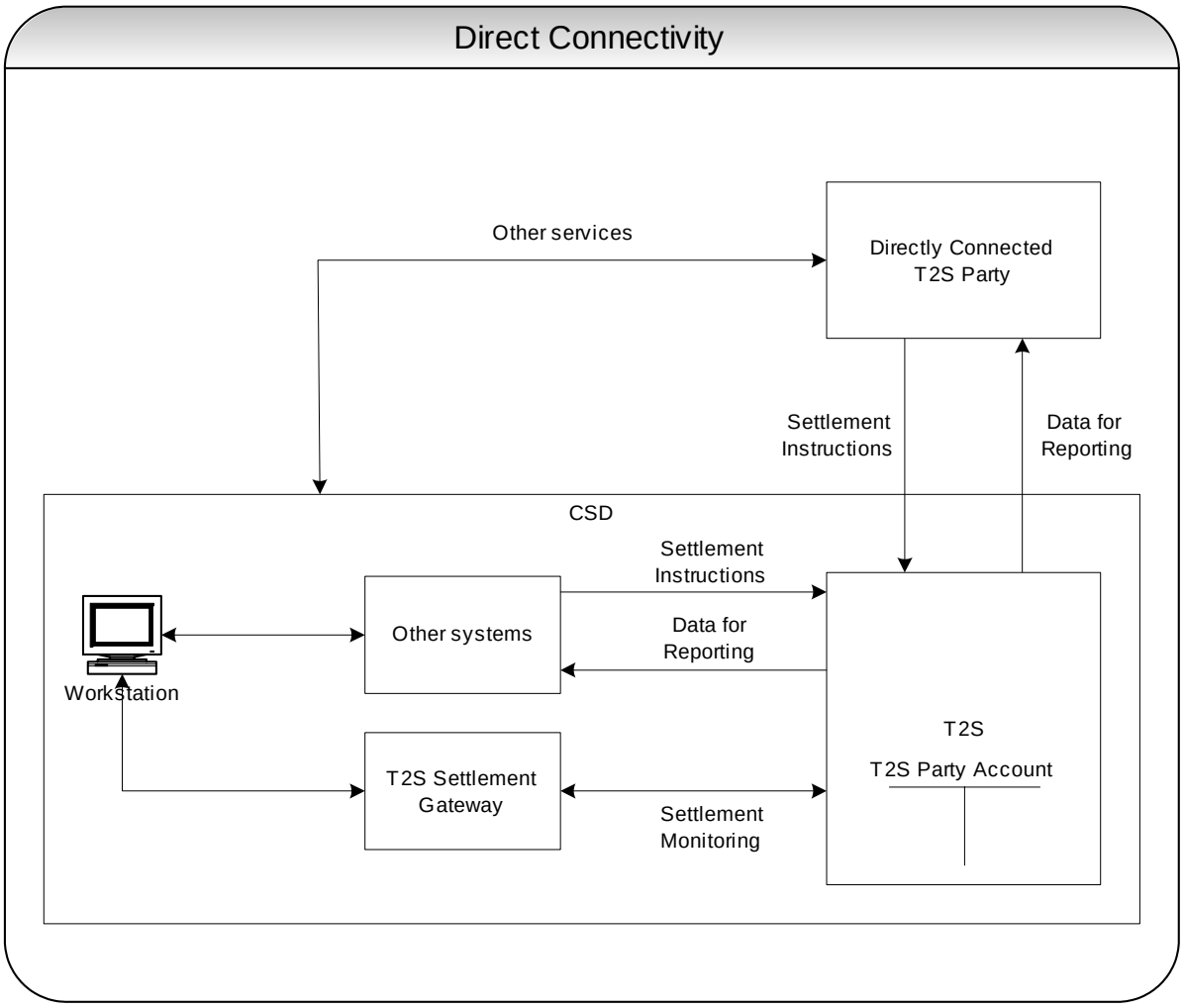
As a technical solution, direct technical connectivity is completely neutral from the business perspective. Therefore, a denial of direct technical connectivity may only take place if a CSD participant is not able to meet some well defined technical criteria (e.g. the usage of ISO 20022 standard) or legal regulations. Any criteria must be transparent and applicable to all participants.

From this perspective, a parallelism could be established with the set of facilities a CSD offers to its participants in order to access its settlement services through different channels (e.g. network connections, SWIFT-based connections, file transfer mechanisms, proprietary workstations and so on). In this context, direct technical connectivity to T2S will just be an alternative channel.

Instructions control by the CSDs

The CSD will have full control of the instructions that it is legally responsible for (i.e. instructions initiated by its participants or affecting its accounts), irrespective of whether the instructions are initiated via direct technical connectivity. This is fully ensured by the CSD's access rights.

For better clarification, reference is made to the graphic:



T2S replaces the internal settlement facility of the CSD. It is not an additional layer, but a component of the CSD system that has the particularity of being outsourced, being shared with other CSDs and being located elsewhere. The CSD will have full access to T2S and will functionally operate T2S (technically operated by the 3CB+) in terms of access rights as if it was part of the CSD's own system. Instructions that are initiated using direct technical connectivity are always visible to the CSDs, therefore they can fully control them. Furthermore, the same T2S party account is booked regardless if the related instruction is submitted by the CSD for non-settlement activities (e.g. corporate events) or using direct technical connectivity.

Similarly as today and to the extent possible in straight-through-processing mode, the CSDs will have the facility to monitor, hold, and cancel (as well as other functions) instructions of their participants in their settlement system, i.e. in T2S. This should be done in accordance with each CSDs' rules and procedures.

In addition, CSDs will be allowed to change access rights of their own participants (blocking and unblocking participants, blocking and unblocking accounts, grant and revoking direct technical connectivity, etc) in T2S no matter whether the participants is directly connected or not.

In general, T2S will make possible having full information available real time to the CSD on all instructions for which it is legally responsible. Information will be available, according to a subscription service approach, using a push and/or pull messaging for all types of transactions and transaction status changes.

Instructions validation process

T2S will perform all relevant validations defined by the CSD. According to Principle 17, T2S settlement rules and procedures shall be common to all participating CSDs. This also applies to validation rules, and it is in the mandate of TG2 (Lifecycle Management and Matching) to identify and define which validations should be performed on a settlement instruction. This is unrelated to whether the instruction is received from a CSD or from a directly connected T2S party. These T2S validations will apply to all types of instructions and will be part of a common set of rules that should be agreed across all the CSDs.
If the CSD is complementing the instructions received from its participants before sending them to T2S, it will be up to the T2S party that has chosen direct technical connectivity to complement it before sending its instruction to T2S in order to be aligned with the validation rules.

Fulfilment of legal, regulatory and supervisory reporting requirements and obligations

CSDs will have full access to and control over the information related to the instructions initiated by using direct technical connectivity and thus will be in a position to comply with legal, regulatory, and supervisory reporting requirements. Direct technical connectivity will not affect the fulfilment of those reporting obligations by the CSDs as necessary information and features to build any such reports will be available in T2S for all instructions. Data can be accessed real-time through queries at any time, and T2S will report regularly at the end-of-day or whenever deemed necessary.

Moreover, when establishing T2S, arrangements will be made with relevant regulators/supervisors and auditors to ensure compliance with the applicable national regimes. The criteria to determine auditing and inspection rights will be based in national regulation applicable to the CSD in question, with T2S providing the regulators with the required T2S information.

4. Main functionalities classification

Based on the direct technical connectivity concept and its basic principles described within the previous sections, it is possible to provide a classification of functionalities describing the main features to be addressed concerning direct technical connectivity.

1. **Services supported through direct technical connectivity**. T2S will allow CSDs to provide, according to a principle of technical harmonisation, a set of basic, standard service to T2S parties through direct technical connectivity. This set will include not only services strictly related to instruction management

and settlement, but will include all T2S services, such as different access types (e.g. on-line access, file transfer, etc) and querying functionalities to be used by the CSDs for reporting (e.g. statement of holdings, statement of settled transactions, statement of pending transactions) and report scheduling. On top of these features, CSDs will be able to build additional, valued added services to be offered to their customers within the framework of their contractual agreement with them.

2. **Services related to direct technical connectivity**. As described in the previous section, T2S will support CSDs to fulfil all their requirements and obligations irrespective of the technical channel the instructions were submitted through. Moreover, CSDs will be able to perform all their tasks concerning the authorisation of their T2S parties to use direct technical connectivity. In order to reach these objectives, various functionalities will be provided by T2S to CSDs. In the following some examples are listed.

    2.1. **Settlement monitoring**. T2S will provide CSDs with all the necessary information to allow them to monitor the settlement activities of their directly connected T2S parties and to step into the process if need be. The amount of information (i.e. which specific set of messages) CSDs will access and the way it is to be provided (e.g. in push or pull) will be configurable by each CSD using a subscription service approach.

    2.2. **Instruction maintenance and management**. Based on the settlement monitoring information, CSDs will be able to control the settlement process of their directly connected T2S parties (e.g. holding or cancelling instructions in line with their terms and conditions) as effectively as for instructions submitted via the CSD. A proper set of functionalities will be made available within T2S to allow CSDs to perform these activities.

    2.3. **Data for reporting**. CSDs will be able to access all the information related to the instructions initiated by their T2S parties using direct technical connectivity in order to comply with their legal, regulatory and supervisory reporting requirements. As already mentioned for settlement monitoring functionalities, it will be possible for each CSD to access different sets of information in different ways.

3. **Access rights**. T2S will provide the CSDs with all the required functionalities to manage access rights related to direct technical connectivity. The necessary access rights will be defined both for CSDs (in order to monitor and control the settlement processes of their T2S parties regardless they are using direct technical connectivity or not) and for T2S parties (allowing them the use direct technical connectivity according to the agreement they will have with the respective CSD).

4. **Lifecycle management**. As an immediate consequence of direct technical connectivity, the validation process currently applied by CSDs will be performed by T2S. If not, direct technical connectivity instructions submitted using direct technical connectivity would need to be validated by the CSDs before matching and settlement within T2S. For this reason T2S will provide functionalities to ensure validation

is also possible within the direct technical connectivity framework. Such functionalities should include anti-money laundering and anti-terrorist financing checks.

5. **Customer service**. T2S will provide technical customer service features for directly connected T2S parties. Such features will be provided according to the workflow defined within the general T2S organisational framework for customer service.

6. **Technical requirements**. Some requirements will define the technical details of direct technical connectivity. Such requirements refer both to technical features of T2S and to technical conditions to be met by T2S parties using direct technical connectivity (e.g. the usage of ISO 20022 will be mandatory for T2S parties using direct technical connectivity).

USER REQUIREMENTS

ANNEX 12

ISSUE NOTE - CORPORATE EVENTS

T2S Project Team

Reference:	T2S-07-0353
Date:	12 December 2007
Version:	2
Status:	Final

TABLE OF CONTENT

1 Introduction

The aim of this Annex is to describe how standard T2S core functionality can be used to settle corporate events in T2S. Indeed, the scope of T2S is securities settlement, which includes pure settlement of trading activities but also the settlement part of other businesses like corporate events. Analysis of the current situation at several CSDs shows a clear technical separation (with a close interaction) between the corporate events engine and the settlement engine, which allows the handling of corporate events, the processing of their settlement and the related reporting.

T2S will support the settlement activity generated by corporate events. This means that, when handling a corporate event, the upfront steps to be performed (before settlement) will remain at the CSD level (probably within the existing corporate events engine). Upfront steps such as event announcement, entitlement calculation, collection of shareholder's responses, etc, will still be the CSD's responsibility. Nevertheless, some of these upfront steps will require specific support from T2S; a typical example is the balance query. T2S will provide this necessary support: this issue note describes how and when.

Today, although the corporate events world is by far the most creative and hence the most complex to standardise, corporate events usually follow pre-defined schemes in terms of communication (*usually* based on ISO 15022 messages) and settlement.

The usual starting point of a corporate event is the event announcement. Already at this stage, T2S will support the CSDs by providing the securities balances, to identify the shareholders impacted. T2S also provides facilities like blocking that the CSD can decide to use (e.g. where no settlement is involved but securities cannot be traded/transferred by the shareholder until the corporate event is over) or not to use (e.g. where the underlying security[1] is not delivered and shareholder's positions should remain free during the corporate event).

In a nutshell, the CSD is free to use T2S facilities to handle the corporate event, whether to instruct, block positions/securities/accounts, cancel, amend instructions or simply query data. T2S will inform the CSD at each step of settlement processing. The same way it is doing for the settlement of regular trading instructions by providing the relevant sets of statements and reports including the settlement activities generated by the corporate event.

Although the technical settlement of corporate events is the same as for regular trade, from a processing perspective, corporate events instructions will receive special treatment, e.g. specific instruction/transaction type to identify them, settlement with the highest priority.

The CSD will continue handling specific corporate events activities like claims, fractions, management of shareholders' rights, etc. If one of these specific activities results in settlement, then the CSD will use its settlement platform, i.e. T2S, to process it.

The structure of this document is based on a grouping of corporate events from a settlement point of view. This grouping is neither standard, nor better than what is used by the market today, but it refers, from the T2S point of view, to the processing of the settlement of corporate events.

2 Corporate events (CE)

2.1 Generic groups of corporate events from the settlement point of view

When describing how settlement related to a corporate event is processed in T2S, it is helpful to group the different types of corporate events according to the settlement activity which they generate.

The following groups and the associated processes described below are proposals based on the different roles of CSDs and T2S within the post-trading chain:

1. No settlement involved, i.e. all corporate events which do not result in settlement activity. Examples are Ordinary and Extraordinary General Meetings.

2. Securities distributions (FOP), i.e. all corporate events which result in the distribution of securities. Examples are Bonus Issues, Scrip Dividends, Stock Dividends, Intermediate Securities Distributions, Rights Distributions and Spin-offs.

3. Securities exchanges (DVD), i.e. all corporate events where securities are exchanged into other securities. Examples are Conversions, Exchanges, Mergers, Redenomination, Stock Splits (depending on the accounting procedure), and Reverse Splits. Corporate events where the investor exchanges securities against other securities and at the same time pays an associated amount of cash, e.g. at a Subscription, are also included in this group. The cash leg may take place via the CSD or elsewhere.

4. Cash distributions with securities delivery (DVP), i.e. all corporate events where securities are redeemed in exchange for cash, i.e. mainly Final Maturity, Drawings, Partial Calls, and Full Calls.
DwP (delivery with payment) and RVP are also included in this group.

5. Cash distributions only, i.e. all corporate events which result in the distribution of cash only. Examples are Capital Gains, Cash Dividends, Interest Payments and Share Premium Dividends. In case there is a coupon involved in the corporate event, this would fall under the cash distributions with securities delivery category (see above, number 4).

Generic group of corporate action	Example of corporate action	Instruction sent to T2S
1. No settlement involved	Annual General Meetings	Possibility to block securities
2. Securities distribution	Rights Distribution	Securities instructions
3. Securities exchanges	Conversions	Securities instructions linked to securities instructions
4. Cash distributions with securities delivery	Final Maturity of debt instruments	Securities instructions
5. Cash distribution only	Cash Dividend	Payment instructions

The settlement of specific corporate event processes like handling of rights, management of fractions and management of claims will be supported, using regular settlement features in T2S. It should be noted that **it is not always possible to assign a corporate event** (especially if consisting of one or more corporate events) **exclusively to one group.** For some corporate events, it may consequently be necessary to link together several types of corporate events. For example, to handle a new issue, one could combine groups 2, 3, and 4. Below is a (non-exhaustive) list of the instructions that can be sent by the CSD to T2S in the five groups of corporate events identified.

2.2 Corporate events - generic steps

There are some generic steps for any corporate event regarding the interaction between a CSD in T2S and T2S. It is not necessary that all steps are included in a particular event and it is not necessary that these steps follow the same order as chosen below:

Activity at the CSD	CSD Interaction with T2S
Collect corporate event information	None
Announce it to holders of the underlying ISIN	Get balances (on record date or any other position capture date)
Calculate the entitlement and notify it	Get balances (on record date or any other position capture date)
Collect participants' election instructions (for elective events)	Block instructed balances
Cancel or amend pending instructions	Instruct cancellations and/or amendments
Process the settlement related to the corporate event	Instruct Settlement Simultaneous blocking
Trigger compensation of market claims	Query (Instructions and balances), Instruct Settlement

From a T2S perspective, the steps may result in a query, a blocking/unblocking of a holding or an ISIN, a cancellation or amendment of a pending instruction or the processing of one or more settlement instructions. The other activities, e.g. announcements to holders, calculation of entitlements, calculation of claims, are performed by the CSD itself, based on information pulled from T2S (except the CE information itself).

2.3 General settlement requirements

T2S will support the current and future market practices related to CE processing, especially the harmonisation work being handled by ECSDA, ESF and other working groups. As an example, T2S will support the CSD to process record date driven corporate events, as well as any other position capture date (e.g. ex-date). More details can be found in chapter 9 (settlement of particular instructions).

As a generic case, this document refers to CSD's interaction with T2S in the context of corporate events handling activity. However, any other party can play the CSD role, as long as the CSD has given power of attorney to that party (e.g. in Ireland, registrars are taking care of corporate events handling).

Settlement of CE instructions will take place in accordance with the sequencing rules defined in T2S, i.e. in the first or any consecutive night-time sequence for start-of-day CE settlements.

The CSD can send "already matched" corporate events settlement instructions to T2S, as described in chapter 5, in one single instruction (with both legs) or 2 separate instructions (linked together, using a matched reference).

As far as intraday CE settlements are concerned, CE instructions will be processed through real-time procedures according to their order of arrival in the settlement queue. The CSD may assign a high priority to the intraday CE settlement instructions to make sure they settle before any other intraday pending instructions. They can also be linked together to ensure an "all-or-none" settlement, and the link can be many-to-many, at the account level (i.e. several instructions for a same participant's account are linked to settle together) or at the CSD level (i.e. several instructions from a given CSD are linked to settle together, although they all refer to different participants' accounts).

There will also be a possibility to block ISIN/positions. When T2S confirms the blocking, it should send a reference that can be used by the CSD in the unblocking message. Then, CSD would (optionally) use the reference of the blocking received from T2S into the settlement instruction and T2S will automatically unblock the positions before processing the settlement instruction (refer to chapter 9).

The cash accounts used for the settlement of CE should normally be the same as for trading-related settlements, i.e. based on T2S dedicated cash accounts. However, considering the fact that some CE may only involve cash movements, the CSD (in line with the service level agreement it has with its participants) will have the option to settle these pure cash movements, either on TARGET2 RTGS accounts or on T2S dedicated cash accounts. If the CSD decide to pay the cash (entire amount or partial amount of the corporate event) on the TARGET2 RTGS account, then the CSD should go directly through TARGET2 (for that amount), without having any interaction with T2S.

Message requirements are the same as for regular settlement instructions; T2S will not generate any CE message type (i.e. equivalent of current ISO 15022 MT 564 and MT 566).

To better support direct holding systems that will face higher volumes than CSDs with indirect holding systems, there should be the possibility to use a "bulk" message to instruct settlement of CE impacting a

large number of accounts. The concept of "bulk" message in ISO[1] will consists in several transactions (all debit or all credit intended movements) in the same message for different securities accounts and different quantities. For more details, reader is invited to refer to Annex 14, Settlement of Direct Holdings in T2S.

2.4 Special considerations for cross CSDs' corporate events

Special scenarios arise for corporate events where there exist cross CSD holdings.
Necessary background and explanation of how settlement (in general) occurs in the case of cross CSDs and external CSDs settlement instructions can be found in Annex 10 (Cross-CSD settlement).
Since T2S will not administer any centralised corporate event execution, it will be up to each CSD that holds a given security to inform itself of the conditions and execute the event in due time, for its own participants, as per current market practice.
The role of Security Maintaining CSD (as described in Annex 10) does not imply the distribution of corporate event information to the eligible Investor CSDs. However, it is expected that each Technical Issuer CSD will, in its service agreement with its Investor CSDs, define which information it will supply.

2.4.1 An Investor CSD receives securities

It is proposed that T2S will check for consistency between the omnibus account in its Technical Issuer CSD and the mirror account in the Investor CSD, before admitting settlement instructions for eligibility. In that way, the holdings will always be consistent between the Technical Issuer CSD and the Investor CSD.
The ISIN of the affected security will be blocked in all Investor CSDs holding the security until the Technical Issuer CSD has settled its part of the corporate event. Then, one-by-one, the Investor CSDs in the custody chain of linked CSDs, will perform its part of the corporate event in a hierarchical order.

2.4.2 An Investor CSD delivers securities

An Investor CSD could settle its decrease of issued balance either after the Technical Issuer CSD has debited the Investor CSD's omnibus account.
To avoid any inconsistency, it is proposed that T2S will check for consistency in the system between the omnibus account in the Technical Issuer CSD with mirror account in the Investor CSD, before admitting the settlement instructions for eligibility.

[1] This requirement has to be submitted for development and is subject to approval or refusal from the market and the standard body in charge of developing ISO 20022 settlement messages.

3 CE with no settlement involved

3.1 T2S settlement functionality

The CSD ***may*** want to perform *one or more* of the following actions in T2S in connection with such a CE, in an order that might not necessary be the same as the one chosen below:

- Query all holders in the ISIN and their positions;
- If necessary, block the positions for all settlement activities (e.g. trading-related settlements) and assign a status “blocked for corporate event”, in order to freeze the positions.
- If necessary, the ISIN can be blocked as well or in place of single positions. In that case, the CSD might want to first block the ISIN and then query holders and their positions.

For performance reasons and to minimize costs, it is recommended to block at the ISIN level rather than at the position level. Blocking at ISIN level requires fewer blocking instructions (usually one instruction for the underlying security, sometimes up to three instructions when intermediary securities are involved) than blocking at position level, which will generate higher volumes.

3.2 Message interface

In case of a CE with no settlement involved, the CSD on the record date or any position capture date of the underlying security will use the query functionality provided by T2S to query the holders of a particular ISIN and their respective positions. After having all the holders and the positions, the CSD may want to block the ISIN or the positions up to a certain date. In this case, the CSD will use the blocking functionality offered by T2S, and will send a blocking instruction to T2S, regarding the ISIN, the participant account number, the quantity of security to be blocked, etc.
After carrying out the blocking, T2S will send back a blocking confirmation to the CSD. In case T2S is not able to oblige a blocking instruction, for example due to unavailability of positions, T2S will send a negative blocking status message to the CSD.
For completion of the CE, the CSD will unblock the ISIN or the positions. In this case, the CSD will use the unblocking functionality offered by T2S, and will send an unblocking instruction to T2S, regarding the ISIN, the participant account number, the quantity of securities to be unblocked, etc. Another alternative for the CSD will be to use the reference of the blocking received from T2S into the settlement instruction.
After carrying out the unblocking, T2S will send back an unblocking confirmation to the CSD. In case T2S is not able to oblige an unblocking instruction, for example due to no blocked positions, T2S will send a negative unblocking status message to the CSD. In case of Static Data changes, T2S shall re-validate all pending instructions in the system.
Also refer to the following flow of messages (flow 1).

FLOW 1

Corporate Events (CE) User Requirements

Important: Balance queries are usually performed on the underlying security (i.e. security on which the corporate event is announced and that is used as a basis for the entitlement calculation).

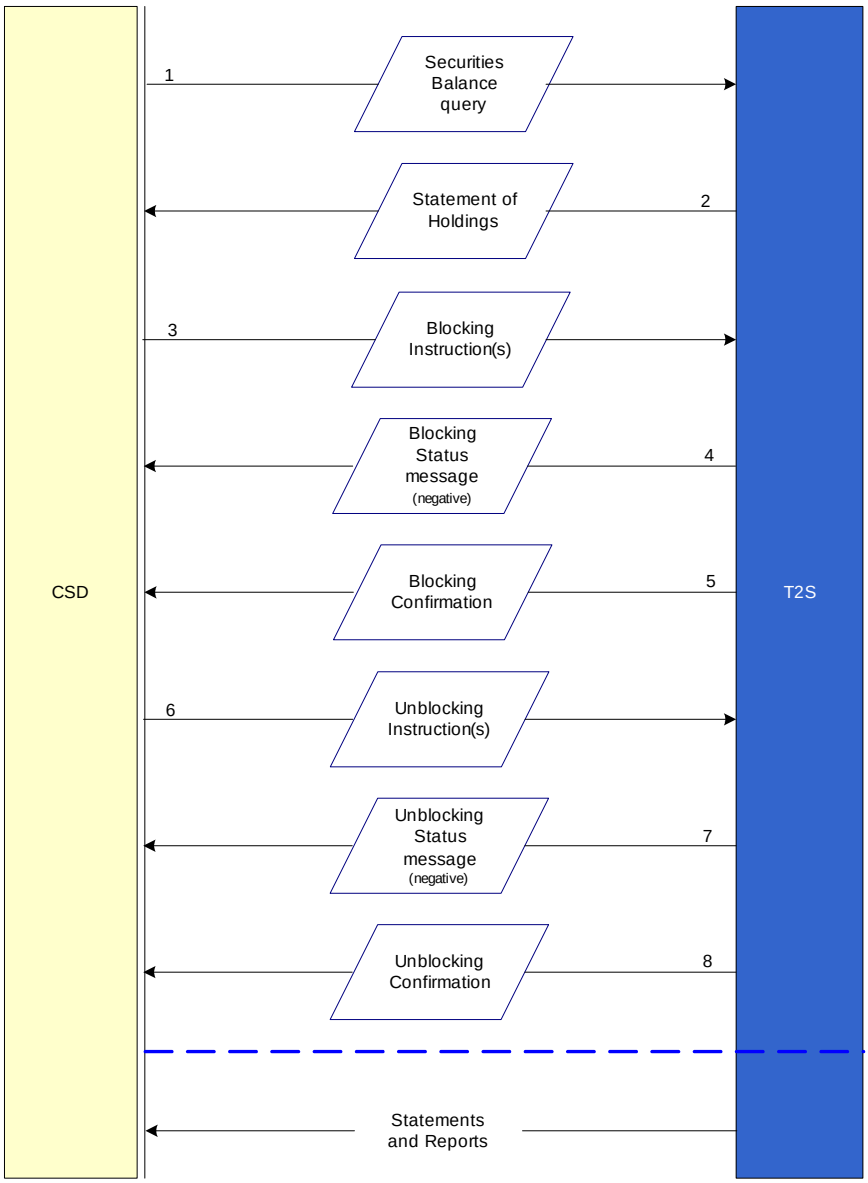
Although there will be no restriction/control in T2S, recommendation is to block at the ISIN level instead of blocking at the position level, for performance and costs reasons.

CE_NoSettlement

Corporate event with no settlement involved (e.g. proxy voting).
In general, messages are being sent on a push mode basis and real-time. Please refer to Interfaces user requirements for additional details.

Message

As per the **Subscription service** described in T2S user requirements, any T2S Actor (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.



CSD will receive balances every EoD in a dedicated report. The query feature for corporate events is in addition to the existing balances report.

As there is no settlement involved, only blocking/ unblocking messages are represented, **in case** the CSD needs to block the balances for the corporate event (eg, General Meeting, Proxy voting, ...).

The CSD can either block individual positions for settlement or block an ISIN (and consequently block the whole settlement activity for that ISIN).

1

4 CE resulting in FOP settlement

4.1 T2S settlement functionality

The needs for settlement of this group of corporate events are only related to the possibility to instruct T2S with a receipt (e.g. bonus issue) of securities or a delivery (e.g. liquidation) of securities from the beneficiary owner perspective, translating into a free of payment instruction (FOP). The CSD **may** want to perform *one or more* of the following actions in T2S in connection with such a CE, in an order that might not necessary be the same as the one chosen below:

- Query all holders in the ISIN(s) and their positions.
- If necessary, block the positions for all settlement activities (e.g. trading-related settlements) and assign a status “blocked for corporate event”, in order to freeze the positions up to a certain date.
- If necessary, the ISIN can be blocked as well or in place of single positions. In that case, the CSD might want to first block the ISIN and then query holders and their positions.
- Generate and send FOP instruction(s), debiting the agent’s issuer account and crediting the holder’s safekeeping account, or vice versa, with the correct entitlement and intended settlement date equal execution date.
- Optionally link all FOP instructions together so that they settle in an “all-or-none” mode.

Amend/cancel pending instructions (matched and/or unmatched)

  - Query for instructions, with intended settlement date after the record date, in order to cancel or amend them with the result of the corporate event (e.g. a split);
  - Generate and send the amendments or the cancellations of such pending instructions.
  - In case cancelled/amended instructions have been initially sent by a directly connected T2S Party, then T2S will also inform that party, in accordance with the subscription service.

Manage claims

  - Query for unsettled instructions, with intended settlement date equal to or prior to the record date, in order to calculate any claims;
  - Generate and send FOP or payment free of delivery (PFOD) instructions to compensate for any claims; this FOP or PFOD step may be linked with the initial delivery of the securities.
- Unblock the ISIN or the positions (if not done automatically by T2S, see above) to enable settlement.

4.2 Message interface

In case of a CE resulting in FOP settlement, the CSD on the record date or any position capture date of the underlying security will use the query functionality provided by T2S to query the holders of a particular ISIN and their respective positions. The query functionality can also be used by the CSD, to query the instructions, with intended settlement date after the record date, in order to cancel or amend all pending instructions with the corporate event if necessary; in addition to this, the functionality can be used by CSD to query for unsettled instructions, with intended settlement date equal to or prior to the record date, in order to calculate any claims.

After having all the holders and the position, the CSD may want to block the ISIN or the positions up to a certain date. In this case, the CSD will use the blocking functionality offered by T2S, and will send a blocking instruction to T2S, regarding the ISIN, the participant account number, the quantity of security to be blocked, etc.

After carrying out the blocking, T2S will send back a blocking confirmation to the CSD. In case T2S is not able to oblige a blocking instruction, for example due to unavailability of positions, T2S will send a negative blocking status message to the CSD.

For completion of the CE, the CSD will unblock the ISIN or the positions. In this case, the CSD will use the unblocking functionality offered by T2S, and will send an unblocking instruction to T2S, regarding the ISIN, the participant account number, the quantity of securities to be unblocked, etc.

Another alternative for the CSD will be to use the reference of the blocking received from T2S into the settlement instruction.

After carrying out the unblocking, T2S will send back an unblocking confirmation to the CSD. In case T2S is not able to oblige an unblocking instruction, for example due to no blocked positions, T2S will send a negative unblocking status message to the CSD.

On the payment date, the CSD will use the transfer of securities functionality of T2S, to send the FOP instruction to T2S. On successful settlement, T2S will send back a settlement confirmation to the CSD. In case of a settlement failure, T2S will send back a negative settlement status message to the CSD.

Please note that the unblocking instructions and the settlement instructions can be linked in order to settle in an “all-or-none” mode. In case of Static Data changes, T2S shall re-validate all pending instructions in the system.

Also refer to the following flows of messages (flow 2 and flow 3).

FLOW 2

Corporate Events (CE) User Requirements

Important: Balance queries are usually performed on the underlying security (i.e. security on which the corporate event is announced and that is used as a basis for the entitlement calculation).

As the underlying security is not delivered, no blocking is necessary (e.g. bonus issue, pure cash corporate event).

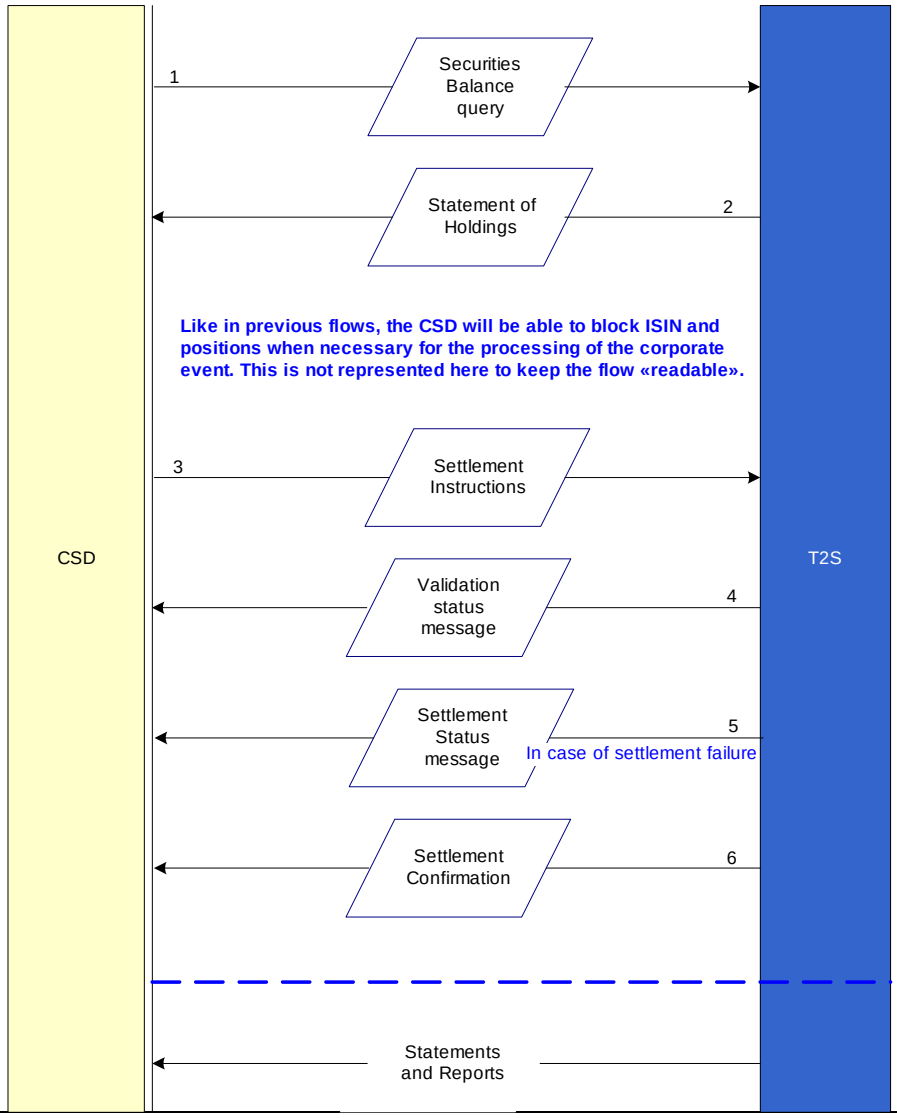
CE_NoDeliveryOfUnderlyingSecurity

Corporate event with no delivery of underlying security (e.g. bonus issue, pure cash corporate event).

In general, messages are being sent on a push mode basis and real-time. Please refer to Interfaces user requirements for additional details.

Message

As per the **Subscription service** described in T2S user requirements, any T2S Actor (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.



CSD will receive balances every EoD in a dedicated report. The query feature for corporate events is in addition to the existing balances report.

The settlement instructions related to the corporate event will follow the same flows as regular settlement instructions (eg, possible cancellation, validation process, etc.).

1

FLOW 3

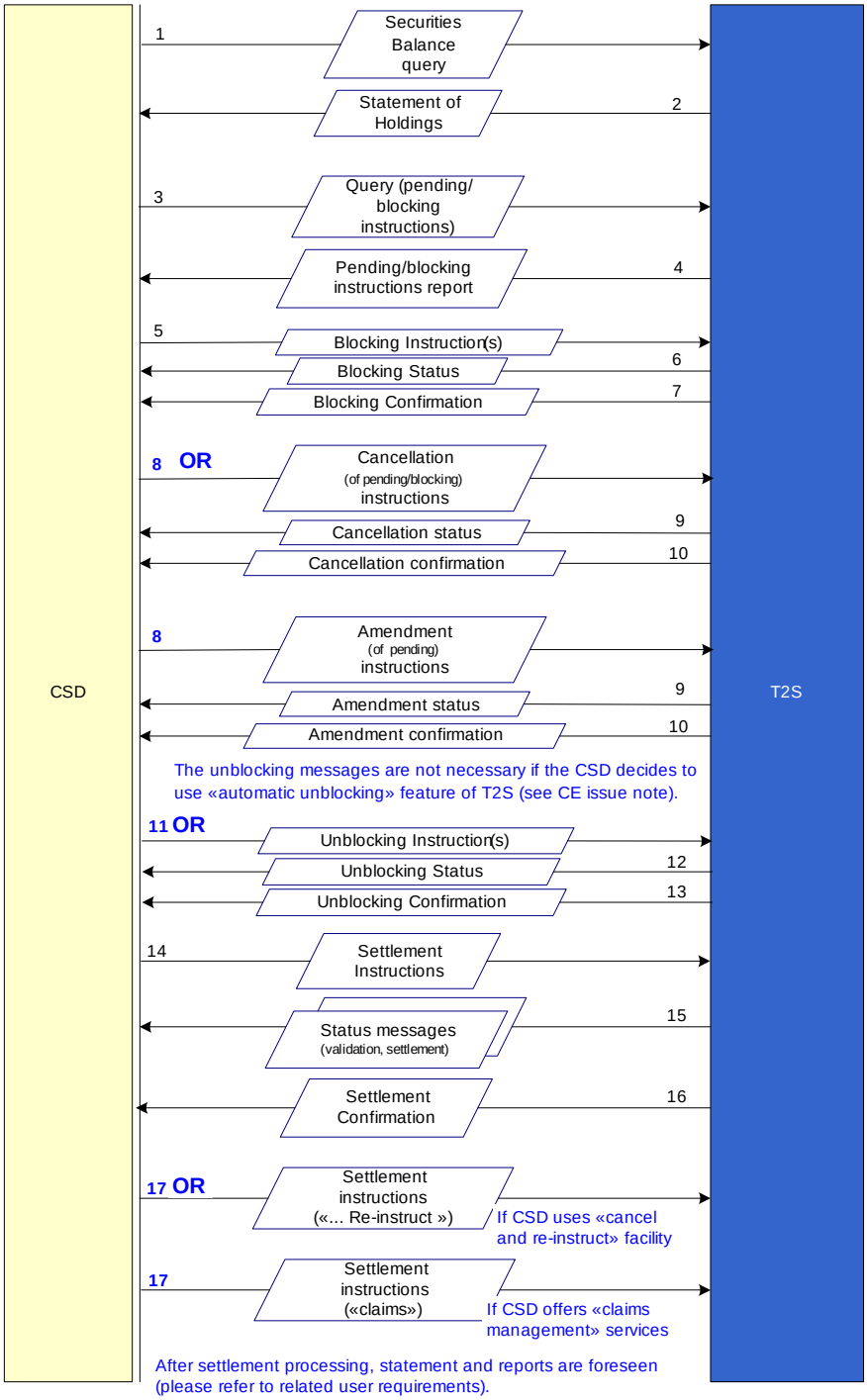
Corporate Events (CE) User Requirements

Important: As the underlying security is delivered, blocking/unblocking is necessary, preferably at the ISIN level. Regarding «unsettled/pending» instructions, CSD can either use «cancel and re-intruct» procedure or amend instructions in T2S or wait for settlement to manage claims.

Mand_CE_DeliveryOfUnderlyingSecurity

Mandatory Corporate event with delivery of underlying security (e.g. final redemption, ISIN change/assimilation). In general, messages are being sent on a push mode basis and real-time. Statements and reports, not represented here, might be sent end-of-day by T2S. Please refer to Interfaces user requirements for additional details.

As per the **Subscription service** described in T2S user requirements, any T2S Actor (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.



CSD will receive balances every EoD in a dedicated report. The query feature for corporate events is in addition to the existing balances report.

According to ESF/ECSDA standards, CSD can cancel pending instructions to process a corporate event, so the possibility should be provided in T2S. **However, T2S should offer amendment facility that can be used by the CSD whenever appropriate in the context of the corporate event handling.**

In case of pending instructions intiated by a directly connected T2S Parties, T2S should copy the cancellation confirmation or the amendment confirmation messages to the directly connected T2S Party, as part of the subscription service.

The settlement instructions related to the corporate event will follow the same flows as regular settlement instructions (eg, possible cancellation, validation process, etc.).
Please note that the unblocking instruction(s) and the settlement instructions can be linked together, to be processed on an «all-or-none» basis.

Once the corporate event has been settled, the CSD might need to «re-instruct» previously cancelled instructions or send T2S new settlement instructions generated by the claims management activity.

1

5 CE resulting in DVD settlement

5.1 T2S settlement functionality

The needs for settlement of this group of corporate events are related to the possibility to instruct T2S with a delivery versus delivery instruction (DVD). The CSD **may** want to perform *one or more* of the following actions in T2S in connection with such a CE, in an order that might not necessary be the same as the one chosen below:

- Block an ISIN (usually the underlying security);
- Alternatively, block single positions for settlement;
- Query all holders in the ISIN(s) and their positions;
- Generate and send DVD instructions, debiting the holder's safekeeping account and crediting the agent's issuer account, and at the same time debiting the agent's issuer account and crediting the holder's safekeeping account, with the correct entitlement and intended settlement date equal execution date;
- Optionally, link all DVD instructions together so that they settle in an "all-or-none" mode.

<u>Amend/cancel pending instructions (matched and/or unmatched)</u>

  - Query for pending instructions, with intended settlement date after the record date, in order to cancel or amend them with the result of the corporate event (e.g. merger);
  - Generate and send the amendment or the cancellations of such pending instructions;
  - In case cancelled/amended instructions have been initially sent by a directly connected T2S Party, then T2S will also inform that party, in accordance with the subscription service.

<u>Manage claims</u>

  - Query for unsettled instructions, with intended settlement date equal to or prior to the record date, in order to calculate any claims;
  - Generate and send FOP or payment (PFOD) instructions to compensate for any claims.
- Unblock the ISIN or the positions (if not done automatically by T2S, see above) to enable settlement.

5.2 Message interface

In case of a CE resulting in DVD settlement, the CSD on the record date or any position capture date of the underlying security will use the query functionality provided by T2S to query the holders of a particular ISIN and their respective positions. The query functionality can also be used by the CSD to query the instructions, with intended settlement date after the record date, in order to cancel or amend them with the result of the corporate event (e.g. conversion); in addition to this the functionality can be used by CSD to query for unsettled instructions, with intended settlement date equal to or prior to the record date, in order to calculate any claims.

After having all the holders and the position, the CSD may want to block the ISIN or the positions up to a certain date. In this case, the CSD will use the blocking functionality offered by T2S, and will send a blocking instruction to T2S, regarding the ISIN, the participant account number, the quantity of security to be blocked, etc.

After carrying out the blocking, T2S will send back a blocking confirmation to the CSD. In case T2S is not able to oblige a blocking instruction, for example due to unavailability of positions, T2S will send a negative blocking status message to the CSD.

For completion of the CE, the CSD will unblock the ISIN or the positions. In this case, the CSD will use the unblocking functionality offered by T2S, and will send an unblocking instruction to T2S, regarding the ISIN, the participant account number, the quantity of securities to be unblocked, etc.

Another alternative for the CSD will be to use the reference of the blocking received from T2S into the settlement instruction.

After carrying out the unblocking, T2S will send back an unblocking confirmation to the CSD. In case T2S is not able to oblige an unblocking instruction, for example due to no blocked positions, T2S will send a negative unblocking status message to the CSD.

On the payment date, the CSD will use the transfer of securities functionality of T2S, to send the DVD instruction to T2S. On successful settlement, T2S will send back a settlement confirmation to the CSD. In case of a settlement failure, T2S will send back a negative settlement status message to the CSD.

Please note that the unblocking instructions and the settlement instructions can be linked in order to settle in an “all-or-none” mode. In case of Static Data changes, T2S shall re-validate all pending instructions in the system.

Also refer to previous flow (flow 3) and to the following flow (flow 4).

FLOW 4

Corporate Events (CE) User Requirements

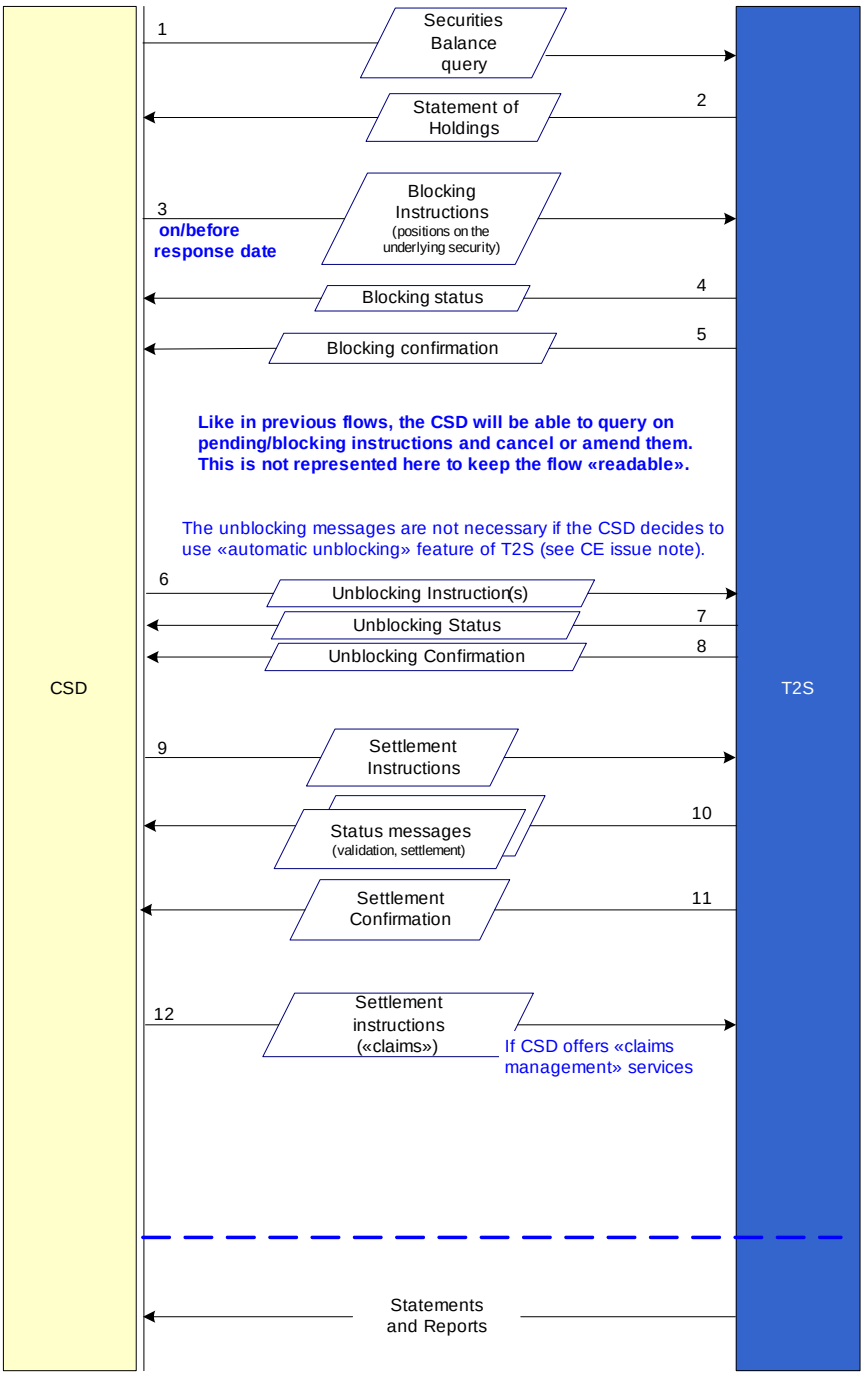
Important: As the underlying security is delivered, blocking/unblocking is necessary, preferably at the ISIN level. Regarding «unsettled/pending» instructions, CSD can either use «cancel and re-intruct» procedure or amend instructions in T2S or wait for settlement to manage claims.

Vol_CA_DeliveryOfUnderlyingSecurity

Voluntary Corporate event with delivery of underlying security (e.g. exchange offer).
In general, messages are being sent using push mode and real-time. Please refer to Interfaces user requirements for additional details.

As per the **Subscription service** described in T2S user requirements, any T2S Actor (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.

Message



CSD will receive balances every EoD in a dedicated report. The query feature for CA events is in addition to the existing balances report.

Assumption: for voluntary corporate action events, a blocking process should be foreseen, on or before final beneficiary response date.

The settlement instructions related to the corporate event will follow the same flows as regular settlement instructions (eg, possible cancellation, validation process, etc.).
Please note that the unblocking instruction(s) and the settlement instructions can be linked together, to be processed on an «all-or-none» basis.

1

6 CE resulting in DVP settlement

6.1 T2S settlement functionality

The needs for settlement of this group of corporate events are related to the possibility to instruct T2S with a delivery versus payment instruction (DVP). The CSD **may** want to perform *one or more* of the following actions in T2S in connection with such a CE, in an order that might not necessary be the same as the one chosen below:

- Block an ISIN (usually the underlying security);
- Alternatively, block single positions for settlement;
- Query all holders in the ISIN(s) and their positions;
- Generate and send DVP instructions, debiting the holder's safekeeping account and crediting the agent's issuer account, or vice versa, and at the same time debiting the paying agent cash account and crediting the holder's settlement bank's cash account, with the correct entitlement and intended settlement date equal execution date;
- Optionally, link all DVP instructions together so that they settle in an "all-or-none" mode;

Manage claims

  - Query for unsettled instructions, with intended settlement date equal to or prior to the record date, in order to calculate any claims;
  - Generate payment (PFOD) instructions to compensate for any claims.

- Unblock the ISIN or the positions (if not done automatically by T2S, see above) to enable settlement.

6.2 Message interface

In case of a CE resulting in DVP settlement, the CSD on the record date will use the query functionality provided by T2S to query the holders of a particular ISIN and their respective positions.
The query functionality can be used by CSD to query for unsettled instructions, with intended settlement date equal to or prior to the record date, in order to calculate any claims.
After having all the holders and the position, the CSD may want to block the ISIN or the positions up to a certain date. In this case, the CSD will use the blocking functionality offered by T2S, and will send a blocking instruction to T2S, regarding the ISIN, the participant account number, the quantity of security to be blocked, etc.
After carrying out the blocking, T2S will send back a blocking confirmation to the CSD. In case T2S is not able to oblige a blocking instruction, for example due to unavailability of positions, T2S will send a negative blocking status message to the CSD.

For completion of the CE, the CSD will unblock the ISIN or the positions. In this case, the CSD will use the unblocking functionality offered by T2S, and will send an unblocking instruction to T2S, regarding the ISIN, the participant account number, the quantity of securities to be unblocked, etc.
Another alternative for the CSD will be to use the reference of the blocking received from T2S into the settlement instruction.
After carrying out the unblocking, T2S will send back an unblocking confirmation to the CSD. In case T2S is not able to oblige an unblocking instruction, for example due to no blocked positions, T2S will send a negative unblocking status message to the CSD.
On the payment date, the CSD will use the transfer of securities and/or cash functionality of T2S, to send the DVP instruction to T2S. On successful settlement, T2S will send back a settlement confirmation to the CSD. In case of a settlement failure, T2S will send back a negative settlement status to the CSD.
In case of Static Data changes, T2S shall re-validate all pending instructions in the system.
Refer to previous flows (flow 3 and flow 4) also applicable to DVP settlement.

7 CE resulting in settlement of payments only

7.1 T2S settlement functionality

The needs for settlement of this group of corporate events are only related to the possibility to instruct T2S with a payment free of delivery instruction (PFOD). The CSD **may** want to perform *one or more* of the following actions in T2S in connection with such a CE, in an order that might not necessary be the same as the one chosen below:

- Query all holders in the ISIN and their positions;
- Generate and send PFOD instructions, debiting the paying agent account and crediting the holder's settlement bank's account, or vice versa, with the correct entitlement and intended settlement date equal payment date;
- Optionally, link all PFOD instructions together so that they settle in an "all-or-none" mode.

<u>Manage claims</u>

- Query for unsettled instructions, with intended settlement date equal to or prior to the record date, in order to calculate any claims;
- Generate and send PFOD instructions to compensate for any claims.

- As already mentioned in the section on General settlement requirements (§ 2.3), when corporate events involve only a cash movement, the CSD (in line with the service level agreement it has with its participants) will have the possibility to settle this pure cash movement either on their T2S dedicated cash account or on their TARGET2 RTGS account.

If the cash is paid on the TARGET2 RTGS account, then the CSD will go directly through TARGET2, without having any interaction with T2S.

7.2 Message interface

In case of a CE resulting in payments only settlement, the CSD on the record date will use the query functionality provided by T2S to query the holders of a particular ISIN and their respective positions.
On the payment date, the CSD will use the transfer of securities and/or cash functionality of T2S, to send the payment free of delivery instruction (i.e. settlement instruction with security quantity equal 0) to T2S. On successful cash settlement, T2S will send back a settlement confirmation to the CSD. In case of a settlement failure, T2S will send back a negative settlement status to the CSD.
In case of Static Data changes, T2S shall re-validate all pending instructions in the system.
Refer to previous flow (flow 2) also applicable to payments only settlement.

USER REQUIREMENTS

ANNEX 13

ISSUE NOTE - INTERACTIONS WITH ORGANISED MARKETS AND CCPS

T2S Project Team

Reference:	T2S-07-0339
Date:	12 December 2007
Version:	2
Status:	Final

TABLE OF CONTENTS

1 Introduction

The T2S project intends to contribute to the integration and harmonisation of post-trading activities in European securities markets, where settlement is currently fragmented and non-standardised. So that organised markets (trading platforms and stock exchanges) and central counterparties (including clearing houses) may benefit from T2S, the user requirements are drafted aim to cover their needs.

These needs have been collected and analysed by various T2S Technical Groups (in some of which some markets and central counterparties were represented). The needs are covered by using the generic T2S offering, as explained below.

T2S invites markets and central counterparties (referred as CCPs) to share their expertise with the T2S Project Team by commenting on relevant requirements during the public consultation.

2 Actors and Profiles

2.1 Actors

The most relevant type of actor is the T2S Party, defined as a legal entity that has a contractual relationship with a CSD in T2S. This can include stock exchanges and electronic trading platforms, as well as central counterparties. (Refer to annex 2, T2S Glossary.)

All T2S Parties are entitled to the same set of services in T2S, provided that they have the necessary profile and access rights to benefit from any particular service (refer to Static Data user requirements, chapter 11). The CSD(s) with which a T2S party has a contractual relationship will set up profiles and access rights based on the needs of the T2S party and the service offering of the CSD(s).

2.2 Profiles

Organised markets and CCPs will wish to consider seeking direct connectivity to T2S, so that they can input instructions directly; or they may choose to input instructions into one or more CSDs, or to undertake no input at all.

3 Relationship with T2S

3.1 Accounts

- **Organised markets**

Currently, organised markets often do not hold any securities or cash accounts with CSDs. (In most cases organised markets use the services and accounts of a broker/dealer for buy-in transactions, but these may be processed on CSD accounts held by the organised markets for such purposes.)

Organised markets will not need to hold a CSD account in order to instruct directly into T2S on behalf of their own trading participants, providing that a CSD is prepared to offer direct connectivity.

- **CCPs**

Currently, CCPs typically hold securities account(s) with one or several CSDs and cash account(s) with one or several commercial banks or national central banks.

In the T2S world, a CCP will be able to hold securities and cash account(s) with one or more CSD(s) and have dedicated access rights to instruct those accounts directly (subject to agreement with each CSD).

A theoretical requirement might be to open one technical global account covering more than one CSD. This however contradicts one of the T2S principles, stating that securities accounts shall remain legally attributed to each CSD.

T2S will make it more possible for a CCP to use one single account held within one single CSD to cover settlement with all participants of all the CSDs linked (directly or indirectly) to that CSD. The cross-CSD settlement will be internal to T2S and will look like domestic settlement.

3.2 Access to the platform, and access rights

- **Organised markets**

Currently, there are some direct feeds of settlement instructions, representing trades, from organised markets to CSDs. These instructions may refer to their participants' accounts or to appointed settlement agents' accounts.

Organised markets typically instruct on behalf of their users under a standard contract (granting a "power of attorney") with each user, and may also be allowed to unilaterally cancel, hold and release, block etc instructions once in the CSD.

Organised markets will be able to connect directly to T2S in order both to send instructions (with their users'

authority) and query on instructions, subject to the permission of a CSD.

They may obtain access rights from a CSD to cancel, amend, hold and release unmatched or matched instructions and any other operation they need to perform, in a unilateral way; again subject in each case to their users granting authority.

Access rights are described in Static Data user requirements (Chapter 16); and connectivity and instructing options are described in Lifecycle management and matching user requirements (Chapter 5) and Interfaces user requirements (Chapters 12 to 14).

Organised markets can of course continue to operate as they do today.

- **CCPs**

Currently, CCPs generally act as CSD participants with a direct connection to one or more CSD settlement platforms.

They often act on behalf of their users, and are allowed to unilaterally perform a variety of operations (instruct and query on instructions).

In T2S, CCPs will be able to instruct via a CSD or to connect directly to T2S (provided the CSD responsible for their accounts has authorised direct connection).

Like organised markets, they may obtain access rights from a CSD to cancel, amend, hold and release unmatched or matched instructions and any other operation they need to perform, in a unilateral way; again subject in each case to their users granting authority.

Access rights are described in Static Data user requirements (Chapter 16); and connectivity and instructing options are described in Lifecycle management and matching user requirements (Chapter 5) and Interfaces user requirements (Chapters 12 to 14).

4 Interactions (settlement flows)

4.1 Interface

- **Organised markets and CCPs**

Organised markets and CCPs mostly interact with CSDs in an application-to-application mode, with the possibility to interact in a user-to-application (interactive or GUI) mode.

As any other T2S Parties, organised markets and CCPs will use the standard T2S interface and message types etc for application-to-application traffic, and will have access to user-to-application communication.

4.2 Feed

- **Organised markets**

Organised markets generally send matched trades rather than settlement instructions to CSDs (where they send any data at all).

In T2S, organised markets will only be able to send "already matched" settlement instructions directly to T2S; this means a single message containing both buying and selling legs, and all necessary settlement data. Such instructions will not go through T2S matching (they will be treated as a valid case of "matching outside T2S") but will be checked for eligibility for settlement.

- **CCPs**

CCPs currently typically send matched instructions to CSDs.

CCPs will be able to carry on as before or send (with CSD consent) such instructions directly to T2S. Such instructions will not go through T2S matching (they will be treated as a valid case of "matching outside T2S") but will be checked for eligibility for settlement.

4.3 Messages and information

- **Markets**

Currently, organised markets will generally have access to instruction processing status messages, confirmations and some statements/reports like any other instructing party, although they do not own any of the relevant securities accounts with the CSD.

In T2S, and like any directly connected party, organised markets can receive all necessary processing information related to the instructions they have sent (as can the parties to those instructions). They will also be able (subject to consents) to query data (e.g. for reconciliation purposes) related to trades they have sent, as described in Chapter 11.

T2S can also copy the messages to the account owners, if they choose to subscribe to the service.

Further details about messages and flows can be found in Interfaces User Requirements (Chapter 12) and Messages and Reports (Chapter 13).

- **CCPs**

CCPs typically use internal codes and references (such as CCP reference, delivery account ID, trading member ID/broker ID) sent to CSDs and communicated back to settlement parties through messages and reports. In addition, CCPs receive information such as the cut-off time of the settlement day and end-of-day statements of settled, partially settled and cancelled instructions.

If it chooses a direct connection to T2S, a CCP will be entitled to the same service as any CSD/directly connected T2S Party (i.e. instructions input, messages, queries facility, reports etc) where it is the owner of accounts involved in the data. A CCP may not need any more data, unless it is using a settlement agent rather than settling across its own accounts; if it does, it may seek access to further reports as described for organised markets above.

5 Specific settlement processes

Instructions from organised markets and CCPs will have top priority for settlement.

5.1 Partial settlement

- **Organised markets**

No specific need identified.

- **CCPs**

Currently, CCPs generally seek to partially settle instructions which cannot be completely settled.

In T2S, this facility will be available to CCPs. The details of partial settlement processing are part of Settlement user requirements (Chapter 9).

5.2 Shaping

- **Markets**

No specific need identified.

- **CCPs**

Currently, CCPs may be able to shape/split instructions after they entered the settlement system at the CSD.

CCPs will be able to shape/split instructions only before they enter T2S; T2S will not provide shaping or splitting functionality. However, directly connected CCPs will be able to cancel unsettled instructions and replace them by matched instructions of a lower amount in order to facilitate their settlement during the day, on a unilateral basis.

5.3 End-of-day processes

- **Organised markets**

Close to the end of the day, there may be a need for organised markets to implement buy-in procedures. This will remain possible in T2S, whether the buy-in is settled on a broker/agent account or on the organised market's account held with a CSD.

The T2S schedule (Chapter 3) illustrates slots and deadlines for settlement processing, including start and end-of-day procedures. There is in principle an exclusive window for DVP settlement of buy-ins, late in the day.

- **CCPs**

Some CCPs currently require the settlement platform to automatically cancel failed instructions at the end of the settlement day.

This requirement can be fulfilled in 2 ways:

- CSDs provide automatic cancellation as an added-value service to CCPs;
- T2S will provide such a service to CCPs, automatically cancelling failed instructions at the end of the day in accordance with each CCP's recycling period, stored in Static Data (see Chapter 16). T2S can report cancelled instructions to CCPs so that they can re-instruct for the next day (e.g. Continuous Net Settlement process).

CCPs often currently receive an end-of-day "marker" from CSDs with detail of settled, failed and cancelled instructions. This need will be covered in T2S by statements/reports and queries, as noted above.

Where CCPs need to implement buy-in procedures, the need will be covered in the same way as for organised markets.

5.4 Emergency procedures

- **Organised markets**

No specific need identified.

- **CCPs**

Currently, CCPs may have so-called emergency procedures such as immediate cancellation of pending instructions, and blocking of securities and cash accounts, for risk management purposes.

These procedures can continue so long as CCPs have the necessary access rights, and the intervention is undertaken in accordance with the T2S schedule. However, it will not be possible for CCPs to block

securities/cash accounts of a participant using direct connections; they will have to ask the CSD of that participant to undertake such operations (as described in Chapter 11).

6 Reporting and reconciliation

6.1 Reports

- **Organised markets and CCPs**

Several statement, reports and queries are available for all T2S Parties. The details can be found in Chapters 13 and 14.

6.2 Queries (to cover statistics and reconciliation needs)

- **Markets**

Currently, organised markets are having reconciliation procedures in place with the CSD (e.g. number of trades sent to CSD/number of trades accepted by CSD). These reconciliation procedures will not be taken on board as such, but T2S will provide several query facilities for reconciliation.

The Organised markets will be able to reconcile internally based on data retrieved using T2S queries, but again only for trades they sent.

Also, there is a strong need to produce statistics. Similarly, the organised markets will be able to build their statistics using data retrieved using T2S queries, for trades they sent.

All details of queries are in Chapter 14.

- **CCPs**

No specific need identified.

USER REQUIREMENTS

ANNEX 14

ISSUE NOTE - SETTLEMENT OF DIRECT HOLDINGS IN T2S

T2S Project Team

Reference:	T2S-07-0176
Date:	12 December 2007
Version:	2
Status:	Final

EUROPEAN CENTRAL BANK

EUROSYSTEM

TABLE OF CONTENT

1. Introduction

The aim of this Annex is to describe how standard T2S core functionality can be used to solve the specific needs of the direct holding markets. The intention is that T2S will not have any extra functionality for these markets (“lean T2S”); instead, this annex describes a set of core features of T2S that some participants might wish to use. However, this does not require that a party to a settlement transaction must use these features or to change their settlement procedures in any way, in case its counterpart uses the direct holding features, e.g. in a cross-CSD settlement transaction.

The outlined solutions are based on today's functionality within the direct holding markets, but one could expect that during the period from now to 2013 harmonisation demands (e.g. due to increased cross-market trading) will most likely affect the respective market practices in converging to a common approach.

A direct holdings system is an arrangement for registering ownership of securities whereby each final investor in the security is registered by a single body, which can be the issuer itself, a CSD or a registry. In some countries the direct holding system is mandatory by law; in some others it is optional or a mix could be present, e.g. the direct holdings system is mandatory for the holdings of domestic citizens but not for those of foreigners’.

The on-going market harmonisations initiatives like MiFID and the Code-of-Conduct aim at granting the end-investor to use any intermediary for trading independent of the location of his or her securities account. It is typical of direct holding systems to make a functional separation between clearing parties and account operators, which maintain securities accounts. This allows real competition both between trading platforms and between participants within the settlement function. Thus, T2S should support this development.

In an indirect holding regime brokers/custodians will split exchange trades into various client transactions in its internal accounting systems and the legal transfer of securities takes place at that stage. This is not possible in a direct holding regime as broker's internal systems may not have legal validity for settlement purposes. Therefore, direct holding requires the central settlement system (T2S) to operate on a granular level. Exchange trades will need to be split into numerous settlement entries at the booking stage.

2. Direct holdings settlement models

There are three main characteristics that define a settlement model: securities and cash account structures (and the nature of the rights arising from the recordings on the accounts), roles of involved parties and the booking procedure.

It is important to understand that direct holding systems maintain two types of securities accounts in a CSD. We call them generically

Safekeeping accounts that are opened in the name of end-investors and to which the proprietary rights with legal effects are registered, and

Clearing/commission accounts that refer to securities accounts opened in the name of brokers/custodians for the purposes of settlement of trades in securities and in which securities belonging to one or several end-investors can be held.

The latter may only be allowed in specific cases.

There are different models prevailing in Europe regarding how to perform the settlement of transfers of direct holdings. However, there are some common features, e.g. that an end-investor has to assign an account operator of its account(s) in the CSD. The account operator can be any CSD participant that has the right to operate direct holding accounts, including the CSD itself. The account operator is responsible for the maintenance of the account and the administration of any updates regarding the holdings on the account, although they are technically executed in the CSD.

Another common feature of the direct holding systems is that they will need to handle various authorisations relevant to (end-investor securities) safekeeping accounts. That is, the systems need to let other participants than the trading parties manage parts of the settlement of the trade as well as letting the trading parties sometimes manage the bookings on the safekeeping accounts. This is typically handled via power of attorneys, proxies or other means of authorisation.

This paper describes three models currently used, which we hereafter call them intermediary model (section 2.1), direct account model (section 2.2) and multilateral model (section 2.3) and outlines possible scenarios to align the direct holding systems and T2S.

2.1 Intermediary model

This model is typically used in Ireland and the Scandinavian countries (Denmark, Norway and Sweden), in each country applied in slightly different ways (e.g. whether netting is applied on the cash side or whether different optimisation models apply). For a stock exchange trade one or both sides of the trade can be made up of more than one client order. The holdings of those clients could either be represented on directly held safekeeping accounts or on nominee/omnibus safekeeping accounts.

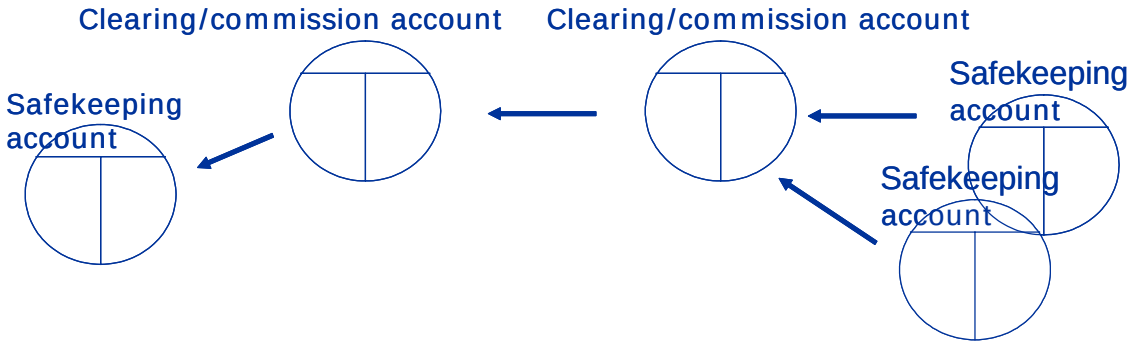
Trades performed on the stock exchange are either transferred directly from the exchange to the CSD system or via the participants' back-office systems for allocations. It is not necessary to explicitly mention the clearing account to be used for each transaction, typically the CSDs offer standing settlement instruction data for the clearing participants.

After the CSD has carried out a provisioning check, that is, a check to confirm that the clearing members have delivery or payment capacity, the settlement is performed in two steps:

The trade is settled between the brokers'/clearing participants' clearing accounts, DVP

The allocation of the trades to/from the end-investors is settled in a second, independent, step between the clearing participants and their clients, typically FOP, but DVP also possible

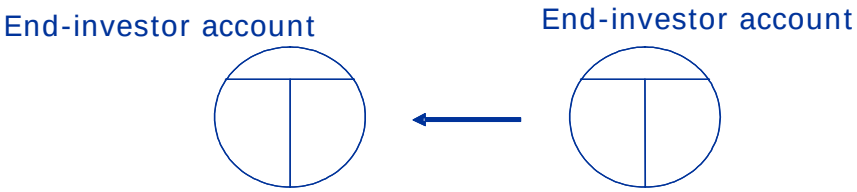
Any custody chain (i.e. when the account operator of the end-investor is not the same as the account operator of the broker) is typically settled DVP as an OTC trade, either linked to or independent from the settlement of the trade.



The provisioning on the clearing accounts are dependent on deliveries from the safekeeping accounts, the intention is that the clearing accounts have a zero balance at the end of the day, but there is not guarantee that that is the case. Any residuals at the end of the day on those accounts may in some CSDs be treated as "mismatches" and be transferred to other accounts for further investigation. A reason for such mismatch could be that the provisioning from the end-investor account was successfully settled to the clearing account, but not the delivery to the counterparty broker because of lack of cash on the buyer side.

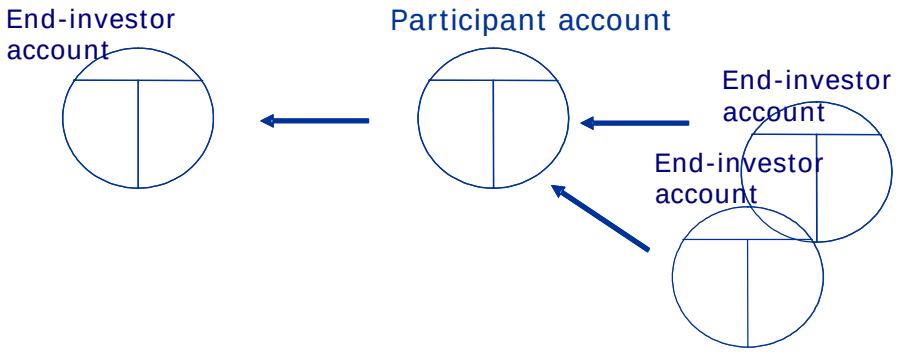
If transactions are linked to each other, delivery and payment will only take place if all the linked deliveries and payments can be executed.

The intermediary model can also be used to settle directly between end-investor accounts. It is however, from a transactional point of view not different from the situation where two participants are trading. In case of a DVP between the two end-investors their account operators (or other authorised T2S parties) have to instruct the securities movement and to arrange for the cash to settle on the proper cash accounts in the settlement system.



Even a third scenario exists where it is possible for a CSD participant to enter a DVP transaction with an end-investor he previously has no relations with. If e.g. the CSD participant acts as an account controller for the sellers it may not necessarily be that of the buyer. Depending on the rights of the CSD participant it may

be eligible to instruct the credit into the buyers end-investor account (in case of a DVP subject to the delivery of cash from the buyer's CSD participant/paying agent):

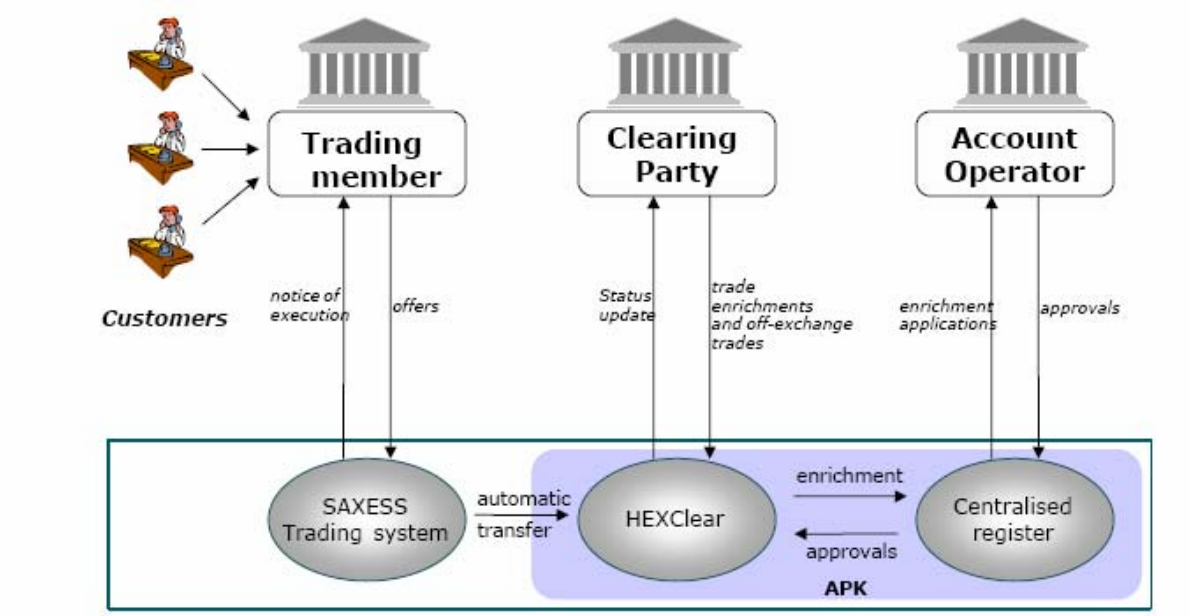


2.2 Direct account model

This model, which is used e.g. in Finland and as variants in Estonia and Slovenia, is characterised by a direct booking of securities between investor safekeeping accounts constituting an end-to-end DvP (although the cash leg is executed on broker's cash account in the CSD). As in the intermediary model, for a stock exchange trade one or both sides of the trade can be made up of more than one client order. The holdings of those clients must be represented on directly held safekeeping accounts. An exemption can be made for securities owned by a foreign individual, corporation or foundation, which may be entered in a special book-entry account (custodial nominee account) administered by a custodial account holder on behalf of a beneficial owner.

In Finland, information on trades is automatically picked up from the trading system by the Finnish CSD's (APK) clearing and settlement system (HEXClear), to which all clearing parties are connected.

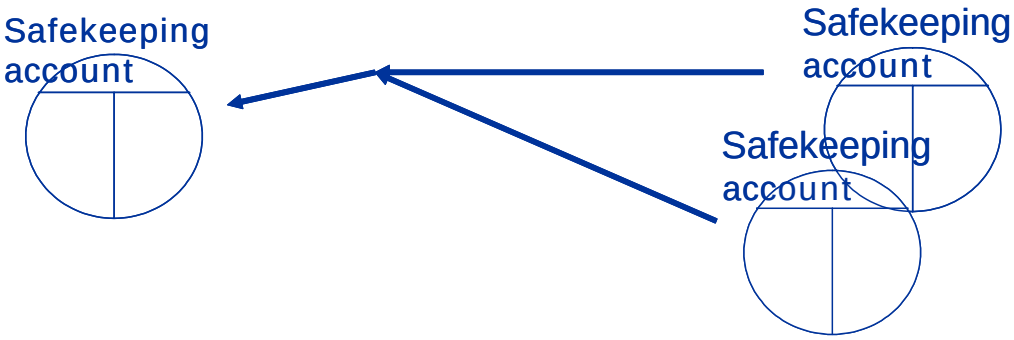
When transactions have been transferred to APK, clearing parties will enter allocations for these transactions. These "enrichments" allocate the account(s) where the securities are held and from where the transaction will be settled as well as to which account(s) they will be transferred. All the book-entry accounts are located in APK's Centralised Register and account operators authorised by APK operate the accounts. The settlement system communicates between Centralised Register and Account operators' systems and provides information to clearing parties.



Before the settlement system sends allocations on to the Centralised Register, the system will check that the total quantity of the book-entry security in the allocations does add up to (and not exceeds) the quantity in the settlement transaction, and among other things checks that the book-entry account number and business IDs are formally correct.

The Centralised Register receives the allocations from HEXClear and sends an allocation notification about the allocations or allocation applications to the account operator of the book-entry account mentioned in the allocations. The latter is in case of that the broker is not also the account operator of the account(s) in the allocation or does not have a standing proxy to access the account(s) of the account operator. In that case the account operator must approve the allocation before it takes effect.

During the process, APK reconciles the book-entry registrations with the clearing transactions before final settlement



The settlement takes place directly between the sellers' and the buyers' securities accounts, in a sort of "mini" multilateral settlement for each trade, i.e. a single debit or credit does not have to match with a corresponding credit or debit, instead it is checked that all debits equal all credits for a certain trade and that there is enough provisioning for all securities and cash bookings, before the settlement of that trade can be executed. Cash is settled instruction by instruction between the brokers' payment agents constituting BIS

Model 1. In real terms, cash bookings on payment agent accounts create a netting effect in this model if the same payment agent is used for both sides or when optimisation mechanisms are applied.

The Estonian CSD (ECSD) applies BIS Model 3 for stock exchange trades settlement (i.e. net cash on trading member/account operator level and net securities on securities account level). In Estonia allocations for stock exchange trades can only be done by trading members, while confirmations before settlement can be done either by trading members or account operators. Trading members may confirm only the buy side, thereby taking the responsibility to provide cash; account operators can confirm both the buy and the sell side (responsibility for sufficient number of securities or cash).

The Slovenian market has another allocation type, which is used for settlement of trades of fund management companies and trustee banks. This type of allocation is called registry codes, which link securities accounts between two Slovenian CSD (KDD) members in order to automatically route settlement instructions execution from trading member to settlement and/or clearing member. The routing information is managed and stored in the KDD registry system.

For stock exchange trades KDD currently use BIS 2 settlement model.

2.3 Multilateral model

This model is typically used in Greece[1] and Cyprus. As in the other models, for a stock exchange trade one or both sides of the trade can be made up of more than one client order. The holdings of those clients must be represented on directly held safekeeping accounts.

In the DVP settlement cash moves between the clearing participants and the securities are debited/credited the end-investors directly:

- Gross settlement of securities at investor accounts/sub-accounts level
- Net settlement of cash amounts at participant level

Also in the Greece and Cyprus system it is possible to perform instruction allocation (securities account data). The allocation process links the settlement instruction received from the stock exchange to an investor securities account/sub-account for:

- The crediting of securities bought
- The debiting of securities sold

Procedures exist to automatically link the instruction to an investor's securities account/sub-account based on the investor ID present in the trade data from the stock exchange.

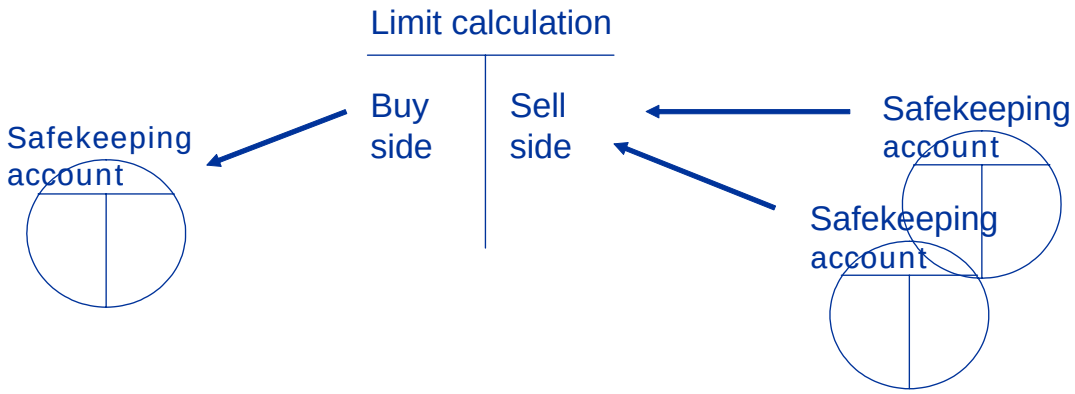
Currently in the Cyprus CSD when a participant specifies the end investor details for a sell transaction, securities are blocked until settlement. If the investor does not have enough available securities the

[1] All references to the direct holding settlement models applicable in Greece are only pertinent to the Greek CSD for equities and not to the CSD for bonds (i.e. the Bank of Greece), where the direct holding structure and the described model(s) are not relevant.

participant can not specify the investor account for settlement. This is the case for bilateral and multilateral transactions.

In both Greece and Cyprus, the settlement process is carried out during a number of batches during the day and consists of the following steps:

- 2 limits are calculated for each participant:
  - Coverage Limit (CL) = value of securities to be delivered (sale side) + net cash deposit (NCD) (if value of buys–value of sales>0)
  - Settlement limit (SL) = value of securities to be received (buy side)
- Participant settlement sequence is determined by the highest net cash deposit or the highest coverage limit. Between participants of the same priority, the settlement algorithm assigns the priority randomly. Parallel processing of more than one participant is possible.
- Per participant, buy trades are prioritized based on volume. Intraday buys take priority over other trades and are sequenced randomly.
- Sales are prioritized in a way that the amount of the sale approximates the amount of buy trade to settle.
- During each settlement batch, if the SL of the participant is sufficient and is not greater than the CL, the buy is settled against the next sale in line. In case that the amount of securities is not sufficient the buy is settled partially and the residual is settled with the next sale in line. The process stops when the SL limit of the participant is reached.
- All settlements done so far within the batch become final and irrevocable.
- Securities transfers are directly affected from/to the Securities Accounts of the seller/buyer without the intervention of any transitory technical accounts.



In Greece and Cyprus, it may not be possible to map an account in T2S directly to one account in the CSDs, because the T2S accounts are merely information around positions and their availability for settlement. For example in the Greek case a T2S account would map to the sub-accounts administered by the account operators. In order to get the “Securities account” view or the “Investor account” view, the Greek market would need to query for aggregated information.

3. T2S accounting and settlement process

T2S aims at providing settlement rules and procedures common to all participating CSDs (according to Principle 17). Principle 5 says that "The T2S settlement service will allow CSDs to offer their participants at least the same level of settlement functionality and coverage of assets in a harmonised way". In addition, Principle 6 states that "Securities account balances shall only be changed in T2S". Put together, these three principles imply that T2S should offer the capability for the CSDs and their participants to manage settlement on their accounts, whether they are representing end-investor holdings or not. The procedures for the settlement should be common, meaning that while avoiding any national specificity to be introduced and maintained the participating CSDs should strive for a harmonisation at current levels of sophistication.

Direct holdings in T2S are the registration of the ownership on end-investor level on the T2S accounts. However, it is important to note that the securities account structure in T2S is for the purpose of settlement. The CSDs in direct holding markets need to store additional information about the accounts (e.g. tax statuses) and the account holders (e.g. names, addresses, information on joint holders), in order to comply with their roles as central registers. It should be possible to have this additional information without mirroring the T2S accounts structure and the account holdings themselves. To avoid the splitting of the account information, T2S shall allow for, in addition to the settlement related data, a certain number of free text fields to be attached to the T2S securities accounts. The interpretation of the content of these fields will have to be defined by each CSD making use of one or more of the fields. This means that a participant opening an account with a CSD, which makes use of such free format fields, has to inform itself of the use and interpretation of those fields.

3.1 Requirements on T2S

Currently the requirements on T2S, as published in T2S User Requirements, are in line with the need of the direct holdings systems, at least as regarding the possibilities to represent end-investor holdings as such on T2S accounts and the possibility to perform settlement on those accounts.

However, the requirements state that all instructions shall be complete when entering T2S. T2S will not provide any kind of enrichment (i.e. the automatic process of adding information to incomplete instructions). Allocation of securities to accounts shall be done before the instructions are introduced in T2S. If the accounts originally submitted to T2S are only provisional, the allocations may take place as amendments of securities account information or as cancellations followed by re-instructions. This would partly be aligned with the direct holding models, e.g. the intermediary model, but the other two models may be slightly different, since they are assuming that the participants may add the account information after the instructions have been introduced in the settlement system, without any amendment or cancellation procedures.

T2S shall offer the possibility to store and to retrieve information received from the T2S Actors. This includes non-settlement related information. This information should be retrievable according to access

rights. As an example, CSDs will be able to retrieve tax data from instructions sent by their participants directly connected to T2S.

Another main requirement on T2S is that all settlement transactions should be balanced, i.e. any debit should have a corresponding credit. This would be aligned with e.g. the intermediary model, but not with the Greece and Cyprus multilateral model, since the latter are settling the debits and credits independently as long as the total in a batch is balanced. The Finnish direct account model is based on the assumption that the value and the number of securities on both sides of the trade add up but the number of safekeeping accounts on which bookings are made may not always be the same on both sides. In a figurative sense, each trade is settled on a “mini” multilateral basis without any intermediary steps.

In a direct holding regime also corporate events need to be booked on accounts maintained in T2S. The settlement engine will have to be capable of booking, without delay, corporate event instructions such as share swaps and splits, which in a direct holding regime could be quite extensive. In addition, this requires definition of specific booking types and statuses. One should also be prepared to the fact that a large peak capacity is required for their processing as they may be linked transactions (All-or-None). In summary, the outsourcing of accounts to T2S shall not have the consequence that the ordinary handling of a large number of corporate actions is made inefficient.

The calculation of corporate event entitlements is either based on holdings as of trade date or a certain record date. For both scenarios the CSDs have to be able to retrieve information from T2S, in order to perform the necessary calculations.

In the direct holding countries, the processing of corporate events typically also includes the calculation on any taxes on income. Since T2S does not provide the functionality for tax calculation, this has to be performed by the CSDs, before sending the settlement instructions of the corporate events to T2S. The CSDs could use the information stored on the accounts, including any customised content in the free format fields, as the necessary information for such processing.

Regarding the authorisation processes in T2S the current requirements say that authentication and authorisation processes are to be implemented to ensure that access to applications, functions and data in T2S is limited to individuals and processes, which explicitly have been granted the necessary permissions and approvals. The assignment of roles and privileges in T2S define the functions and services to which an individual user with that role is allowed or denied access. In addition it should be possible to restrict the access of the individual user to the static and transactional data pertaining to the individual user’s T2S party.

For example, if the T2S party is a participant of a T2S-connected CSD, then an assignment will e.g. restrict access of the individual user to the static and transactional data of the individual user's entity. Access to specific types of data for this individual user can further be restricted through the use of roles and privilege classes, e.g. read-only roles or roles allowed to update data. The access can even be limited to certain accounts of the T2S party. In addition, the access model must cater for the possibility that one T2S party may be authorised only to debit or credit another T2S party’s accounts.

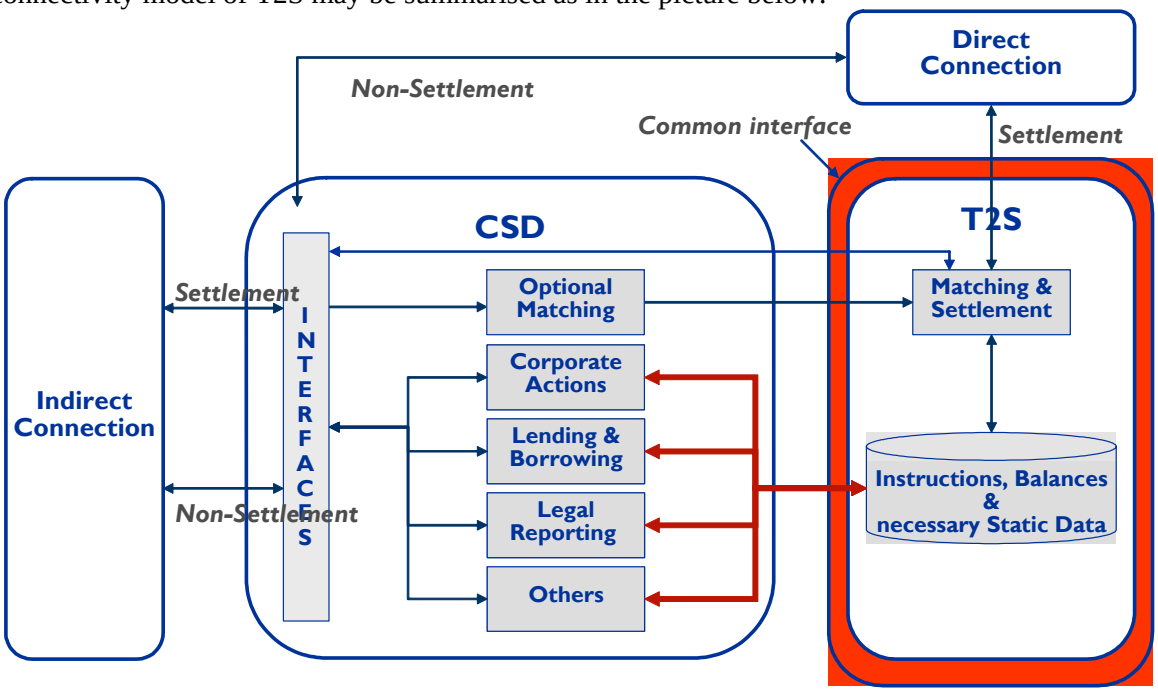
This would probably be aligned with all the direct holding models, in which individual user participants of T2S need a possibility to (under authorisation from the CSD, i.e. a licence of an account operator) e.g. add/remove rights and restrictions to the accounts.

However, since some of this information will be split between T2S and the CSD systems, it has to be decided which system is the responsible one for the consistency. The assumption, so far, is that any administrative action of information split between T2S and the CSDs, has to go via the CSD (e.g. when creating or updating securities accounts). But, for any information that only affects one system, the administrative action of such information should be sent directly to that system. For example, since the enforcing of a restriction on a position is executed only in T2S, the directly connected parties could communicate that directly to T2S. This latter statement has been questioned by some CSDs since they want to make sure that any such action is correct and validated according to their specific rules. Thus, it has to be decided for each CSD which data may be administered directly, without being routed via a CSD.

3.2 T2S Connectivity

The connectivity issues are not specific for the direct holding markets, but since in most such markets the account operators have a quite extensive responsibility to maintain end-investor information, sometimes in parallel with the CSD. Such information does not only cover static data, but also information relating to e.g. restrictions on the availability of the holdings. As mentioned above, some of that information will be split between the T2S and the CSD systems, e.g. account information. Since both the account operators and the CSD may perform the same actions, the information integrity and completeness must be ensured in T2S.

The connectivity model of T2S may be summarised as in the picture below:



The processing of settlement instructions, including validation, matching and settlement, will take place in T2S, with an option for CSDs to offer “in-house” matching or other settlement related services (e.g.

proprietary interfaces) for non-cross-CSD or non-directly connected participants. In order to offer non-settlement related services and to be able to perform tasks based on the information on balances and instructions in T2S (e.g. corporate events processing) the CSDs may retrieve information from T2S, according to the CSDs service subscriptions.

There will be possibilities for CSDs to define unique validation parameters for their own accounts, to a certain extent, e.g. a CSD can mark some accounts to be valid or not valid for certain transaction types. The T2S User Requirements (URD) clarifies how this will be represented as parameterised validation rules in T2S. The URD also clarifies how restrictions on accounts and/or positions will be represented, as well as the message flows for such instructions. If there would be a need to validate certain requests sent to T2S according to specific local rules not represented in T2S, it could not be allowed to use direct technical connectivity for such actions.

T2S will always process incoming messages in a “first-come-first-serve” basis, which means that if a same day settlement instruction is received on an account, which as a next step will be restricted due to e.g. a court order, the settlement instruction will settle if it is matched, validated and processed before the restriction arrives. This should be inline with the current procedures at the CSDs, where e.g. such court order, and the resulting restriction, is processed in parallel with continuous real time settlement based on automated STP procedures. T2S will provide time-stamp information for any instruction that is entered into T2S. Thus, it will be able to audit which instruction reached the system at what time.

A special concern arises if there would be any technical problems/delays in the access of the T2S system from e.g. a CSD, when a legal effect time has been confirmed by the CSD to a sender of an instruction (e.g. a restriction due to a court order). As a consequence of a technical problem, the instruction has not yet reached the T2S system, but it is already in legal effect. If a same day settlement instruction is received on an account, which is affected by the restriction and the settlement instruction will be matched, validated and settled before the restriction eventually arrives to T2S, there may be a conflict in the validity of such settlement. In general terms, T2S cannot unwind any transaction, the CSD must in this case instruct an offsetting instruction for immediate settlement, to restore the positions as they were at the legal effect time of the restriction. However, this operational risk is most probably already present in the current procedures, even though the threshold may not be a technical connectivity but maybe rather a manual or technical procedure within the CSDs.

3.3 Possible scenarios to align the direct holding systems and T2S

As mentioned above, the gaps between the current requirements on T2S and the needs to cover the different direct holdings models are mainly:

- All settlement instructions must be complete when entering T2S.
- All settlement transactions should be balanced.

4. All settlement instructions must be complete when entering T2S

T2S will validate that settlement instructions are complete when they enter the system. This is mainly an obstacle for the direct holding systems if they accept settlement instructions to be directly sent from the stock exchange. Such instructions do not typically include the information of the securities accounts to be used for settlement, since that kind of information may not be known at the moment when the trade order is entered into the stock exchange system. In an indirect holding regime brokers/custodians may always settle the exchange trades on the same account and sort out the allocations as a separate step in their own systems, which mean that either the stock exchange, the CSD, or a third party may recognise which account to use by default instructions.

In the context of further harmonisation and unbundling of services, it is foreseen that cross-system settlement will increase. Thus, it may not always be the case that a stock exchange member and/or its customers will settle its trades via the domestic CSD in the country of the stock exchange or via a single CSD for all types of trades.

If the trades do not carry information about the accounts to use for settlement, the stock exchange would have to route them either to a CCP or a third party system, which contained the necessary standing instructions, or to the participants themselves or the CSDs for further processing before entering T2S.

To cope with direct holding systems specific needs, if the final account information is not provided at the time of the entry of the settlement instructions into T2S, two options are described based on available settlement functionality in T2S. A third option also exists, when the account information is added to the instructions based on features in the CSDs systems, before being entered into T2S.

1) Allocation of trades
2) Amendment/replacement of trades
3) The settlement instructions are sent by the CSD on behalf of its participants already allocated.

4.1 Allocation of trades

4.1.1 Instructing T2S

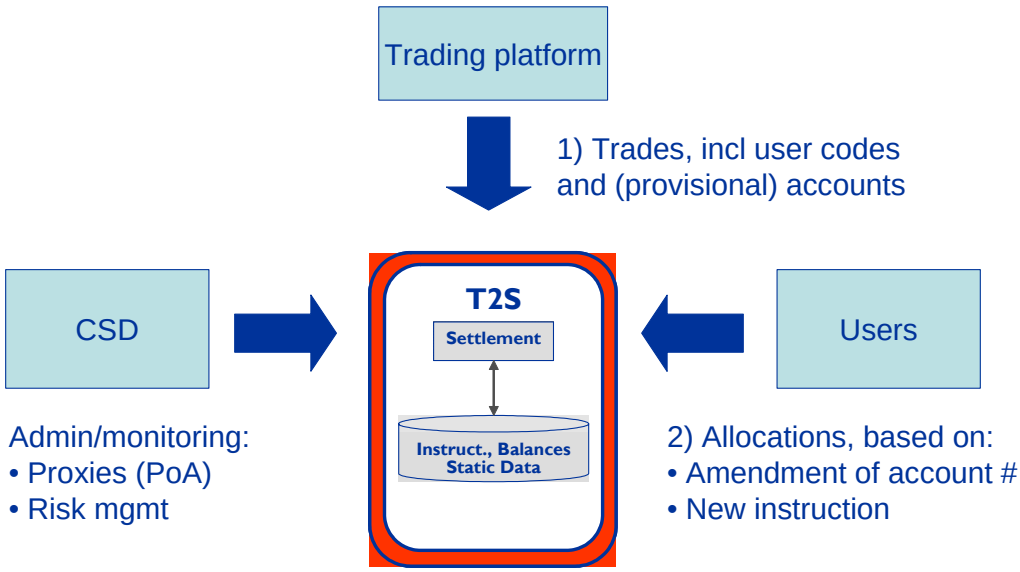
Once the trade is finalised between the two brokers, it is translated into one or several settlement instructions, which are to be sent to the settlement platform.

In the context of T2S, two possibilities should exist:

1. The trade is reported back to the trading parties, where it is translated into two different settlement instructions (buy side and sell side), which are sent directly by the participants (if directly connected) or indirectly via their CSD to T2S.
2. The trade is sent by a Trading Platform or a CCP on behalf of the participants, directly to T2S as an already matched transaction. In this case, the details of the transaction should be “translated” internally in T2S into the equivalent of two settlement instructions, provided that the transaction contains all the necessary information, including at least provisional accounts to use for settlement.

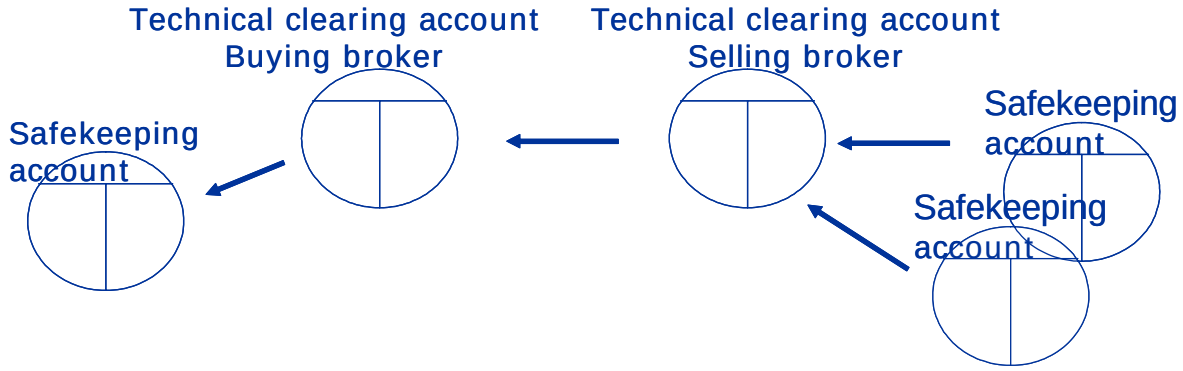
These two possibilities do not affect further steps of the settlement process. For sections 4.1 and 4.2, it is assumed that a Trading Platform is feeding T2S directly (second possibility).

In T2S, the trade will be processed as a DVP between two brokers, as at this specific point in time, the trade has not yet been allocated to the final end-investor.



4.1.2 Processing of trade and allocation instructions in T2S

To process the trade, T2S need accounts. Indeed, a general requirement of T2S states that instructions entering T2S should be complete and meant to meet validation and matching criteria. Hence, T2S will process the trade using the accounts indicated in the instructions. In the case of direct holding systems, these accounts might be pure “technical” clearing accounts, but they have to exist in T2S (see illustration below).



After (or even in parallel) the DVP trade entered T2S, the brokers might start sending the details of the allocation of the trade, as end-investors become to be known. This is the so-called “enrichment” phase.

To process the allocation of the trade, the instructing party (each broker if directly connected or their CSD) will have to send separate, complete settlement instructions. There should be as many instructions as debits/credits to take place.

However, to better support direct holding systems that will face high volumes due to above requirement related to allocations, there should be the possibility to use a “bulk” message. The concept of “bulk” message is already in place in ISO 20022[2], for other business areas, and consists in several transactions (all debit or all credit intended movements) in the same message for different securities accounts and different quantities.

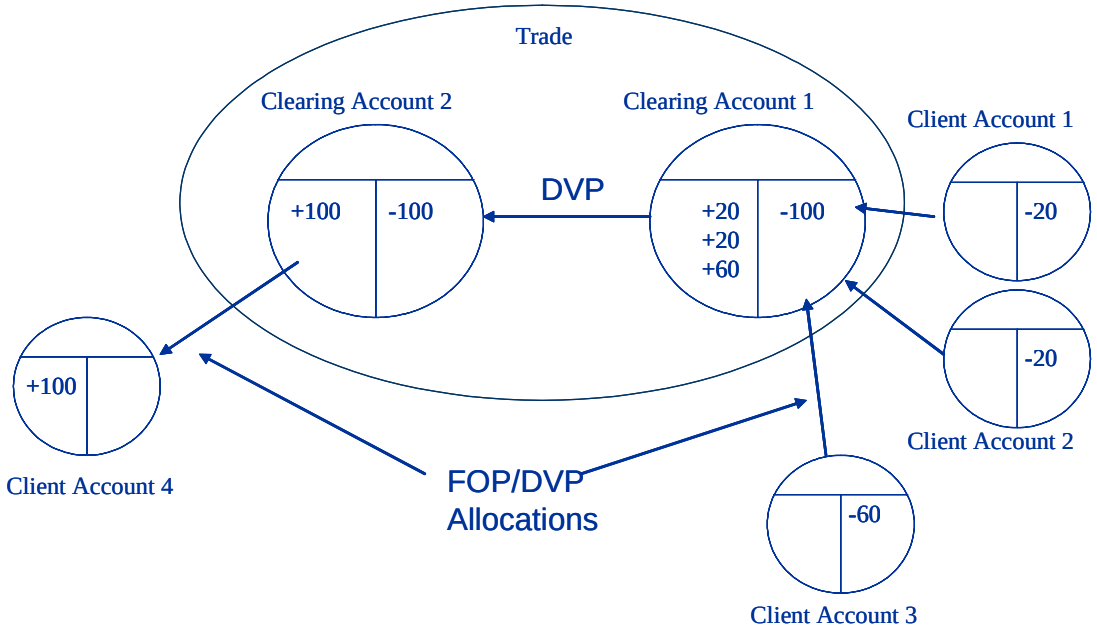
When sending allocation instructions, the instructing party (each broker if directly connected or their CSD) may link these instructions to the initial trade (using the trade reference). This is to ensure that T2S will perform the settlement of the trade and its allocations in an “all-or-none” mode (i.e. either all transactions are settled or none is) and that the settlement/transfer of a "direct and traceable ownership right in an individual book-entry security" between two account owners will settle as;

one transfer from the seller to a trusted middleman of the seller and as a conditioned (to the successful delivery from the seller and the successful payment of the buyer) second step

one transfer from the trusted middleman to the buyers trusted middleman and as a conditioned third step

one transfer from the trusted middleman of the buyer to the buyer:

See illustration below.



Once the allocation instructions arrive in T2S, the life cycle management will process the instructions as any other settlement instruction. The settlement process will perform a check that all linked instructions can

[2] This requirement has to be submitted for development and is subject to approval or refusal from the market and the standard body in charge of developing ISO 20022 settlement messages.

settle and that any other criteria is fulfilled (e.g. that an involved account is not restricted), once the instructions become eligible for settlement. This check has to be done in T2S to avoid that allocations are settled "au fil de l'eau" (i.e. not on an "All-or-None" basis) or that settlement occurs in conflict with the most recent static data information. Partial settlement may be allowed within the group of linked instructions, depending on the information indicated in the instructions.

The allocations must, as any other settlement instruction in T2S, be balanced by a matching instruction. However, it will not be necessary for the allocating parties to enter two instructions. Instead, since the instructing party would be authorised to access both the debiting and the crediting accounts, the allocations may be sent as unilateral instructions, as defined in the URD for Lifecycle management.

4.1.3 Messaging requirements

Also refer to the messages flow at the end of this document.

Once trade and allocation transactions are settled, T2S will inform the instructing party (each broker if directly connected or their CSD) as described by the Interfaces URD (same messages, statements and reports as available for indirect holding countries).

A specific request has been raised by KDD (Slovenian CSD) to receive in the settlement confirmation message the cash account of the end-investor (i.e. cash account held with the "commercial bank"). This information can be sent by T2S provided that it is received in the allocation instruction and provided that ISO 20022 settlement confirmation message contains a field to communicate such information.

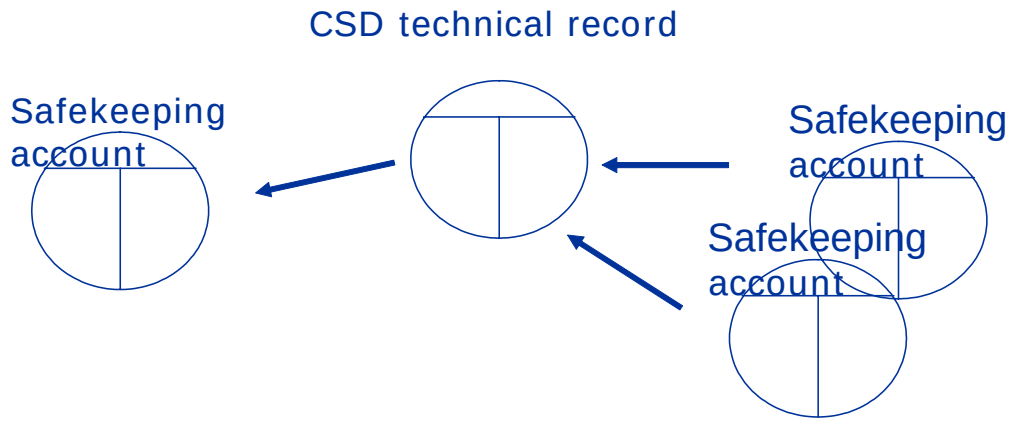
4.2 Amendment/replacement of trades

4.2.1 Instructing T2S

A second option would be to amend existing instructions and/or cancel and re-instruct. The possible ways to instruct T2S about the trade between the two brokers remain unchanged (see 4.1.1).

4.2.2 Processing of trade and amendment/cancel-replace instructions in T2S

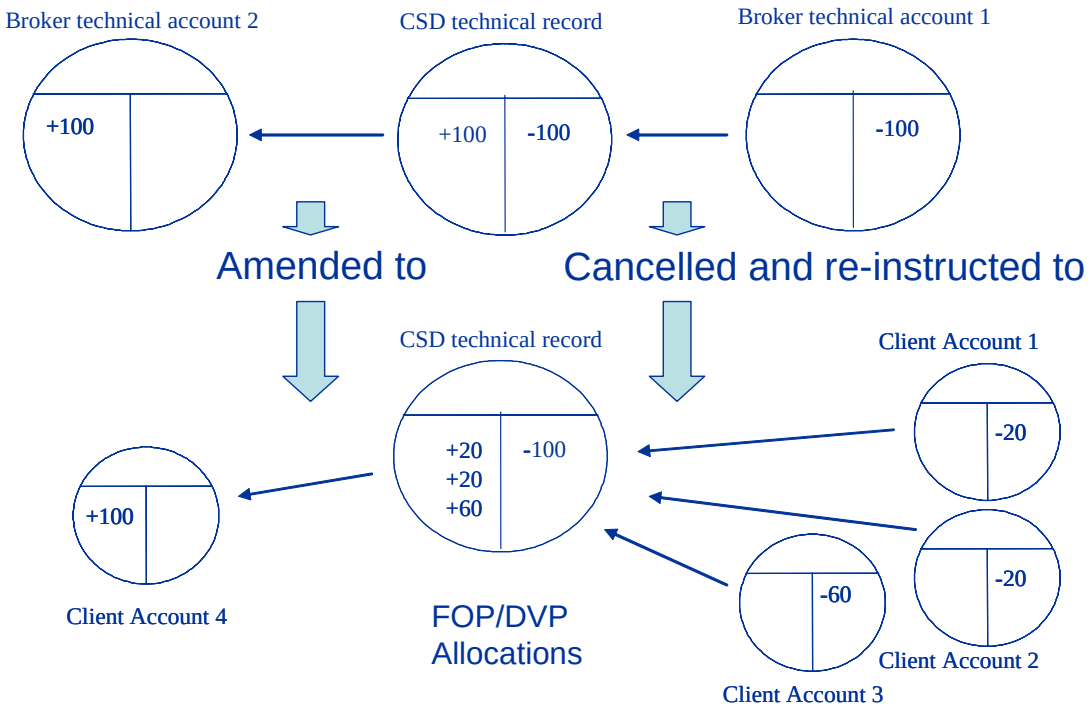
As explained in option 1, T2S need accounts to process the initial trade. Like in option 1, the parties may use technical accounts belonging to the brokers, but in addition, must balance these accounts with a CSD common technical record account. The purpose of this CSD technical record account is to "replace" the two brokers' technical accounts in the final settlement of the trade, when the trade is split (allocated) between the different end-investors (see illustration below).



As following steps, the amendments should take place to reflect the final settlement on end-investor accounts. There are two cases that should be considered.

The allocation does not require a split, i.e. behind one broker trade there is only one end-investor, then the original settlement instruction can be amended. The broker technical account is replaced by the end-investor account (below: Broker technical account 2 becomes Client account 4).

The allocation requires a split, i.e. behind one broker trade there are several end-investors, then the original settlement instruction should be cancelled and new instructions should be sent to T2S in order to process the settlement on the end-investor accounts (in the example below: Broker technical account 1 is replaced by Client accounts 1 - 3). The amendment functionality cannot be used, as it has to be a one-to-one relationship between the settlement instruction and the amendment instruction. Furthermore, the split and the shaping are not foreseen in T2S.



As proposed in option 1, it might be possible to instruct allocations into one “bulk” message.

All these instructions (initial settlement between the CSD technical record account and the brokers' technical accounts, amendment instruction, cancel/replace instructions) can be linked together (using trade reference) to settle in an all-or-none mode or can settle independently.

4.2.3 Messaging requirements

Also refer to the messages flow at the end of this document.
The messaging requirements do not differ from option 1, except that a different set of messages will be used (amendment, cancellations, etc.).

4.3 The settlement instructions are sent to T2S by the CSD already allocated

Instead of letting the participants amend or cancel/re-instruct for allocating trades in T2S, a CSD could administer this process in its own system. As a final step the CSD would send the allocated instructions to T2S. This applies specifically to CSDs in markets that have multilateral settlement, which would be obliged to do the following:

- Instruct T2S to open Securities Accounts and Cash Account(s), as many as the CSDs may require, for the purpose of offsetting the trades, as described in 5.2.
- CSDs would have full control over their accounts and would have to manage any balances left on the accounts.
- These accounts within T2S will act as counterparty between the purchases and sales.
- CSD send "already-matched" instructions to T2S for settlement
- T2S will treat these accounts in the same manner as any other securities and cash accounts.
- CSD accounts will be included in of both Night Time and Day Time settlement cycles.

4.3.1 Messaging requirements

No specific messaging requirements for this scenario, the ordinary message flow for settlement instructions would be used.

4.4 Implications for direct holding systems

The implications of the two scenarios above should be limited for the direct holding systems. In the first scenario it is more an issue for the stock exchanges and the participants to establish efficient routing mechanisms, but already today there exist good examples of how this can be arranged. In the second scenario it is more a matter of making sure that the rules and regulations allow for the two step settlement process, linked or not linked, and that the different participant categories can refer to the transactions that belong to the same trade. The latter can be performed e.g. by assigning unique reference numbers to the trades (e.g. a

combination of trade date, trade number and order book number), which are then used as reference numbers in the T2S.

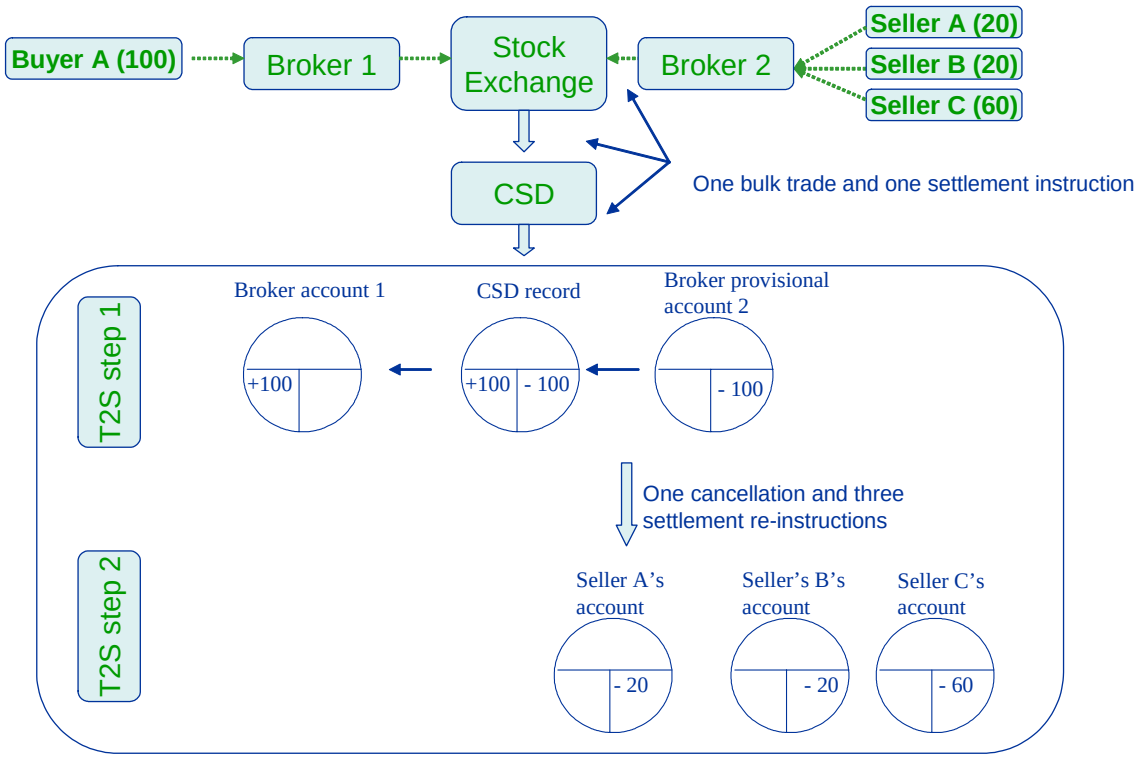
It should also be noted that, so far, the implementation of any automatic assignment of a CSD Technical Record account as a counterpart to the original parties, in order to “disengage” the seller(s) from the buyer(s), is not foreseen in T2S. Thus, such assignment has to take place before the settlement instructions enter T2S.

To let the CSDs handle the allocations in their own system, and then as a final step send the instructions to T2S for settlement, would probably not imply anything for the participants, except that it would not be possible to have a direct technical connectivity. The CSD would have to adopt the new procedures to send the final instructions to T2S. It would also have to be examined what status the technical record account would need to have in relation to existing CSD rules and regulations.

4.5 Implications for indirect holding systems

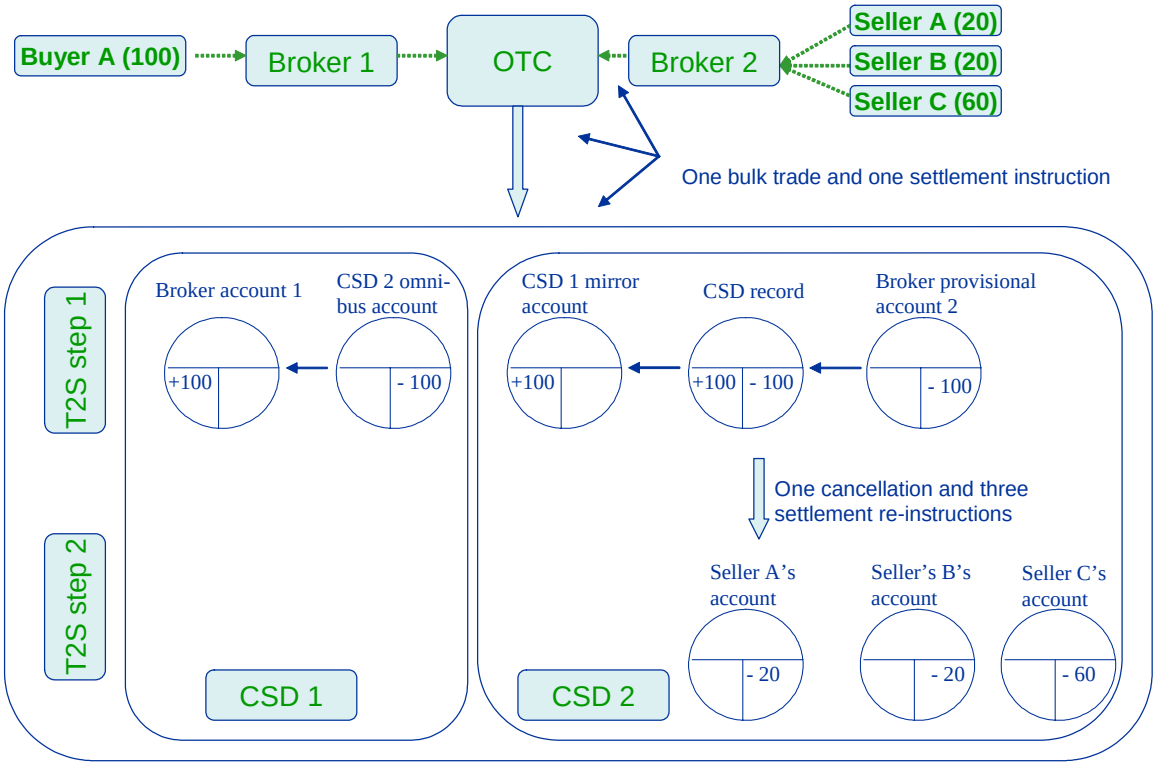
The use of the T2S core features in a direct holding market context will not affect the settlement procedures applied by other markets. Each market may decide independently which settlement procedure to apply.

In case there is a possibility for a participant in a direct holding market to either represent holdings on an end-investor level or on a nominee level (i.e. a hybrid market), T2S will support the flexibility required:



In the example above, the Broker 1 represents its customer holdings on a nominee account (Broker Account 1) and the other Broker (2) represents its customer holdings on separate end-investor accounts (Seller A – C's accounts). Both brokers would have to settle via the CSD record, but transparent to each others allocation processes.

In a cross-CSD context, the flexibility will remain:



From the perspective of the T2S parties (Broker 1 and Broker 2), this looks like a domestic transaction.

- Broker 1 instructs T2S against Broker 2 using the CSD record as the deliverer of the securities, without giving the cross-CSD intermediary settlement chain;
- Broker 2 instructs T2S against Broker 1 using the CSD record as the receiver of the securities, without giving the cross-CSD intermediary settlement chain;
- As a second step, Broker 2 may allocate the sell to one or more end-investors' accounts.
- No additional input is required from the CSDs;
- T2S derives all the security and cash movements according to the links configured in the Static Data;
- T2S settles all the resulting security and cash movements simultaneously on an All or None basis.

5. All settlement transactions should be balanced

As in any settlement regime, also multilateral regimes must be balanced in order for the settlement process to always balance a debit with a credit. Typically this is solved by means of a legal central counterparty (CCP), which will be the counterpart part for each settlement transaction, whether it is a buy or sell and whether it is netted or not. Traditional CCP regimes often requires a novation process, where the original trade is replace by two settlement obligations, one from the seller to the CCP and one from the CCP to the buyer, if settled on a gross basis. In a multilateral netting CCP regime, there will be no need for the novation of the individual trades. Instead, the CCP system calculates the net obligation for each clearing participant, per security and settlement date, and then makes a novation of the netted obligations. At the actual settlement, the net obligations are settled against a CCP account. Depending on the rules of the settlement system, those obligations must always be provisioned by the seller/buyer in order to enter the process, or it will be the CCPs responsibility to make sure that its counterparties get their claims.

In the direct holdings systems that use multilateral settlement (like Greece and Cyprus), there is no legal CCP available and no double booking process for each obligation. Instead, the settlement system checks that, in the end, the sum of all debits equal the sum of all credits. If that is the case all obligations are settled multilaterally.

This multilateral regime is also used by some non-direct holding systems, e.g. in Spain (Iberclear).

Since T2S does not allow unbalanced settlement transactions, it is not possible to apply the multilateral model without modifications, but there are at least two scenarios to reduce the gap between T2S and the direct holdings systems also in this matter:

A CCP is introduced to be the counterpart for each participant’s obligations

The settlement engine uses a “technical” common record account, but without any obligations to fulfil any claims.

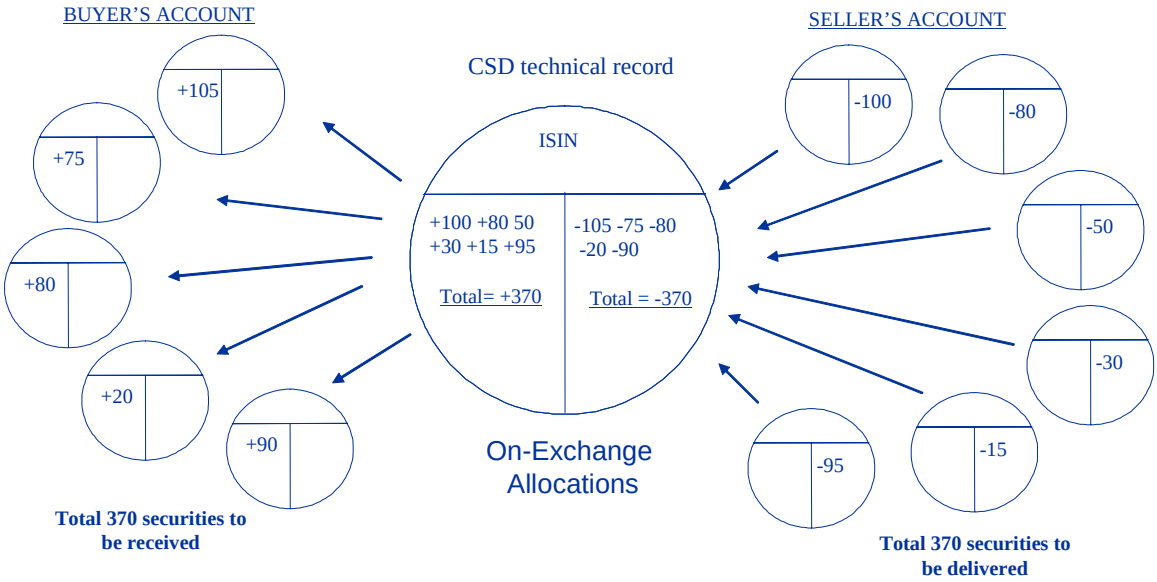
5.1 A CCP is introduced

This scenario would require the introduction of a legal entity acting as the CCP. This entity would have the responsibility to enter as a counterpart for each transaction to be settled. Whether this would include netting processes depends on the rules for such CCP. For each side of a stock exchange trade (buy or sell) the CCP would enter as counterpart, by novation. If the CCP would not take the responsibility to fulfil any claims, then only those transaction that have provisioning in place, securities or cash, would be included in the settlement process. In other words, the selection process would be the same as of today in e.g. Greece and Cyprus, but with the difference that each and every debit is credited on the CCP’s account and each and every credit is debited the same.

5.2 The settlement engine uses a “technical” common record account

Instead of introducing a formal CCP, a more technical approach could be used to settle all transactions balanced. The procedure would be the same as if a CCP had been introduced, but the bookings would be of a mere technical status. For each and every trade the settlement would be routed via a common technical account. All settlement would be conditional to the provisioning of securities or cash, which means that the technical account would never have to face lack or surplus of assets.

If necessary and allowed, partial settlement could help to increase the number of settlement instructions that settle. The use of the T2S optimisation routines would replace any current processes of calculating different limits and would make sure that as many settlement instructions as possible would settle.



5.3 Implications for direct holding systems

The implications of introducing a formal CCP could be widespread, depending on the legal framework. It would as well require an extensive change in both technical and business procedures at the participant level, since the clearing participant would face a new counterpart and new routines. On the other hand, the introduction of a CCP in the different financial markets is becoming an alternative solution, as the trade volume increases and the number of potential counterparts to a trade increases.

The use of a technical common record account would not necessary have to result in any implications, since it would be a pure technical procedure in the settlement process, without any business or procedural effects on the participants. However, it would have to be examined what status the technical record account would need to have in relation to existing CSD rules and regulations.

6. Summary

This document has described three current main models for settlement of direct holdings. The document has tried to explain the different options which will be provided by T2S within its lean concept and how the T2S core functionality can be used in order to support these main models.
In general terms there are some basic features that T2S will offer:

- T2S shall offer the possibility to store and to retrieve information received from the T2S Actors, in addition to data necessary for settlement, but T2S will not act upon it.
- To avoid the splitting of the account information, T2S shall allow for a certain number of free text fields to be attached to the T2S securities accounts, but T2S will not act upon it.
- The provision of an internal CSD technical account will allow bulked stock exchange transactions undertaken by brokers acting for retail investors to be broken into component parts for settlement, separately by buyer and seller without each split having to be re-matched. However, it should be noted that the implementation of any automatic assignment of a CSD technical account as a counterpart to the original parties, in order to "disengage" the seller(s) from the buyer(s), is not foreseen in T2S. Thus, such assignment has to take place before the settlement instructions enter T2S.

The three settlement models could be supported by T2S in the following ways:

- Intermediary model – the ordinary settlement process could be used. The linking of multiple settlement instructions to settle on an "All-or-None" basis could be used to make sure that a certain end-investor's allocation is connected to the fulfilment of a certain trade.
- Direct account model – the possibility to amend or cancel/re-instruct settlement instructions as allocations could be used. If the buy and sale side is not related to each other on a one-to-one basis, the use of a CSD technical account as an intermediate account to disengage buyer and seller could be used. The linking of multiple settlement instructions to settle on an "All-or-None" basis could be used to make sure that a certain number of end-investor allocations are connected to the fulfilment of a certain trade.
- Multilateral model – regardless of whether the obligations are netted or not, it would be necessary to introduce an intermediate account. If a legal CCP is introduced, it will participate as any other T2S party and the ordinary settlement process could be used. If no CCP is introduced, the CSD could stipulate that the settlement would be routed via a technical common account. All settlement would be conditional to the provisioning of securities or cash, which means that the technical account would never have to face lack or surplus of assets. As an option, the CSD could send all instructions already allocated to T2S, to be settled via the technical account.

The different models do not require that a party to a settlement transaction must use these features or to change their settlement procedures in any way, in case its counterpart uses the direct holding features, e.g. in a cross-CSD settlement transaction. The use of the T2S core features in a direct holding market context will

not affect the settlement procedures applied by other markets. Each market may decide independently which settlement procedure to apply.

In addition to the settlement related procedures, T2S offer the possibility to represent end-investor holdings in a flexible way on the T2S accounts, according to each market's needs. The T2S core functionality includes the possibility to define CSD specific validation rules, CSD specific restriction types and handling rules, as well as the possibility to have different authorisation rules on who may instruct or query which data.

Which model a CSD of a direct holding market eventually would decide to adapt to, is a question of total costs and efficiency. Different markets would be able to chose the model which fits the local market the best, but still considering the strive for harmonisation on a pan-European basis.

7. Message flows

Direct Holding User Requirements

TG5.xx.001.1

Option 1: allocation instructions

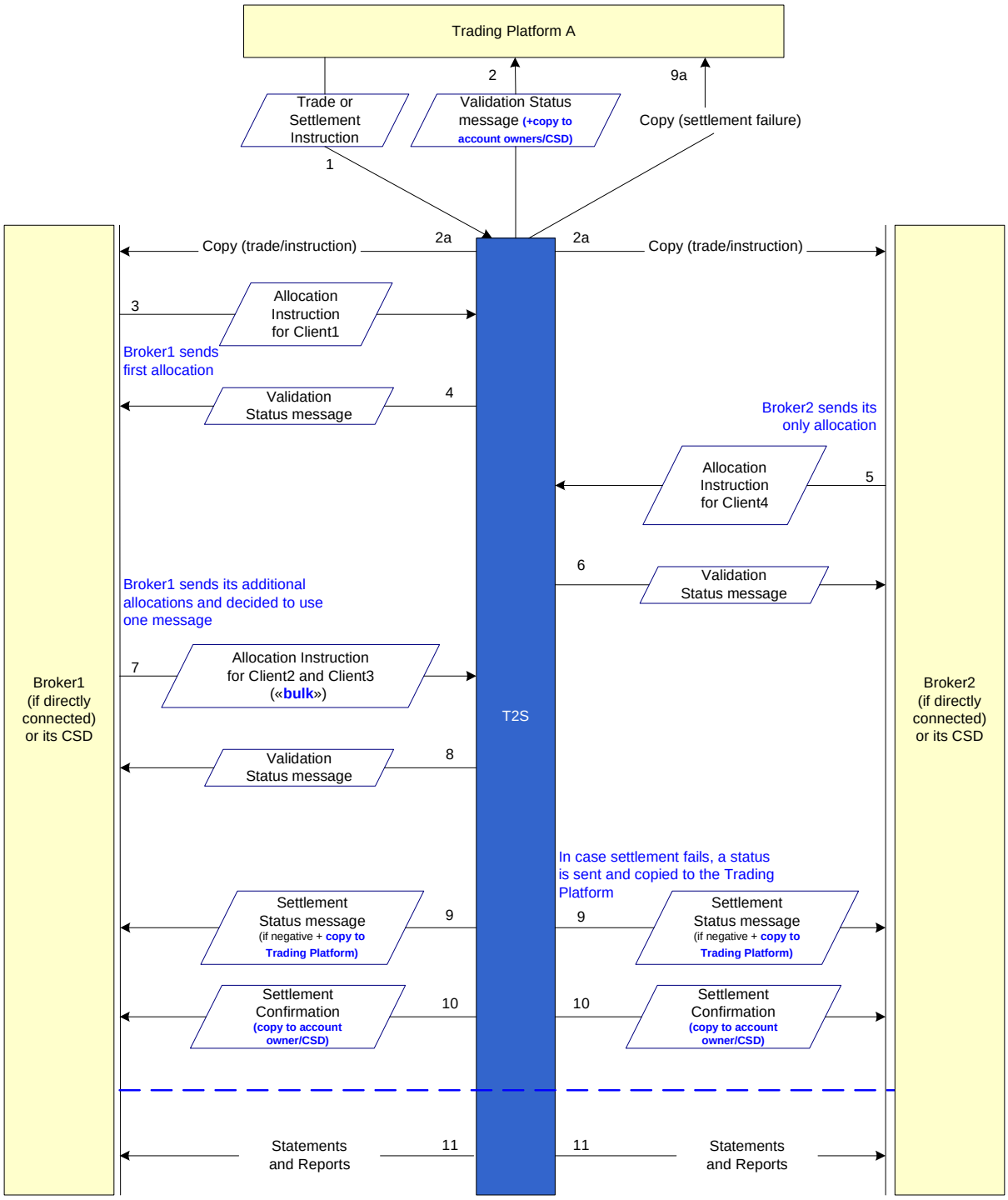
Scenario

Trade on Trading Platform A between Broker1 and Broker2 (quantity = 100).
Broker1 is selling for 3 end-investors, Client1 (-20), Client2 (-20) and Client3 (-60).
Broker2 is buying for 1 end-investor, Client4 (-100).

***Important*: only flows relevant for T2S are being represented.**

Message

As per the **Subscription service** described in T2S URD, any T2S Party (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.



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Direct Holding User Requirements

TG5.xx.001.1

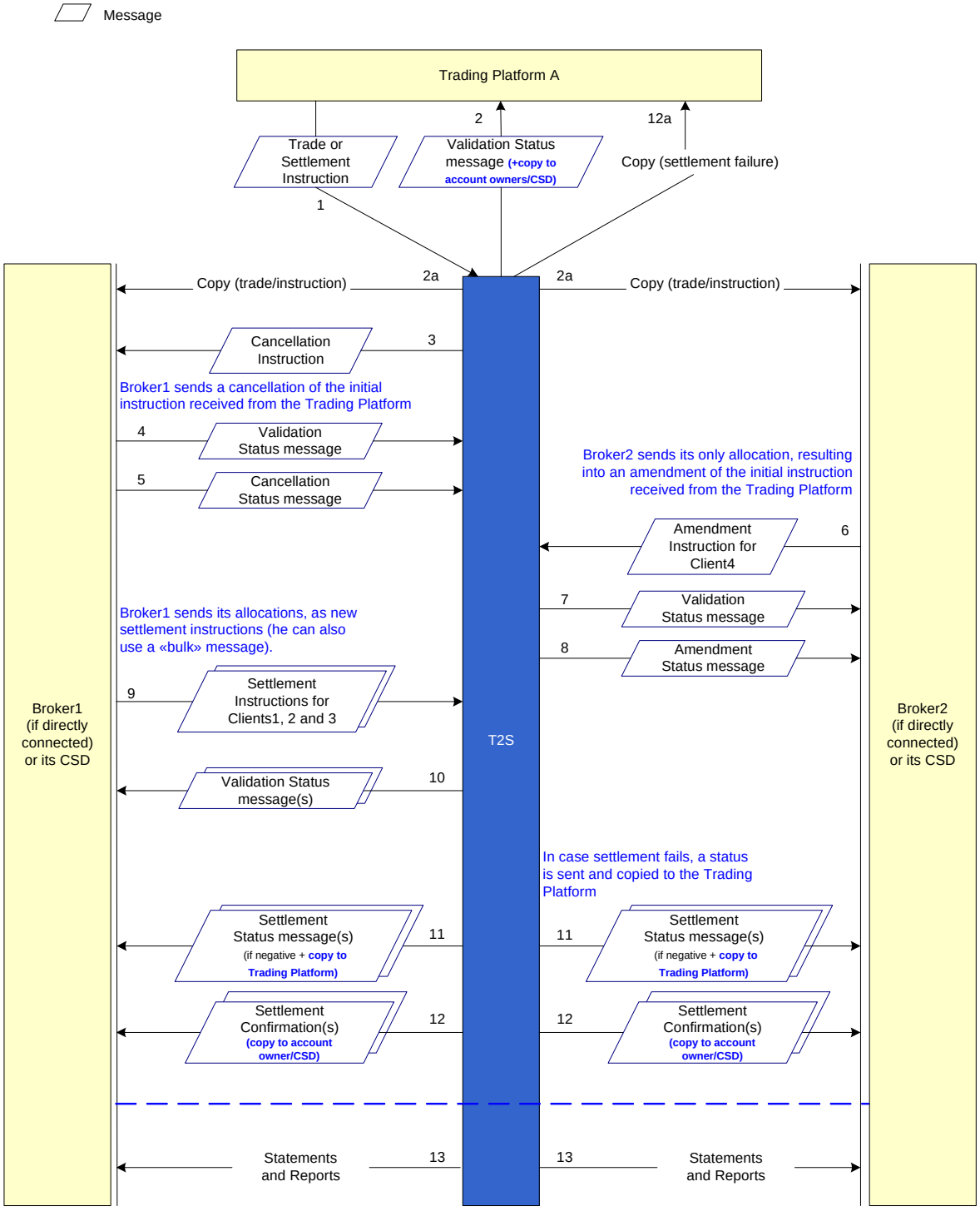
Option 2: amendment and/or cancel and re-instruct

Scenario

Trade on Trading Platform A between Broker1 and Broker2 (quantity = 100).
Broker1 is selling for 3 end-investors, Client1 (-20), Client2 (-20) and Client3 (-60).
Broker2 is buying for 1 end-investor, Client4 (-100).

***Important*: only flows relevant for T2S are being represented.**

In case a directly connected T2S Party is initiating the instruction, then the CSD responsible for the account will be able to subscribe to copies he wants to receive, if any.
Please refer to the description of the Subscription service in T2S.



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USER REQUIREMENTS

ANNEX 15

ISSUE NOTE - T2S HARMONISED FEATURES

T2S Project Team

Reference:	T2S-07-0345
Date:	12 December 2007
Version:	2
Status:	Final

TABLE OF CONTENTS

1 Introduction

Within the current post-trading landscape, European market participants do not have a harmonised enough framework, as there remain significant differences within national regulatory frameworks, applicable laws and fiscal rules, which increase the costs of settling securities transactions and of holding pan-European securities portfolios. Different national technical and market practices also pose significant market barriers for new entries to offer their services on a European level.

Whether the markets participants are transacting within or outside the euro zone, there is a general consensus about benefits of “investing” in harmonised systems, processes and practices. These benefits, mainly of financial nature, are direct and quantifiable (e.g. back-offices costs reduction) or indirect and not immediately quantifiable (e.g. better interoperability between market participants, creating business opportunities). Developing a common infrastructure acts as a catalyst to harmonise the settlement process.

Market participants’ representatives, involved in the T2S Project, have invested significant efforts to achieve one of its main goals: a shared lean harmonised settlement platform for Europe. Most of T2S benefits will come from this achievement, although the degree of harmonisation reached is not the same for all areas (see also annex 16, T2S Opportunities for further harmonisation).

This annex 15 aims at giving an overview of which areas could benefit form harmonisation work, in the context of T2S.

2 Harmonised features

Market participants have reached common agreement on harmonised features in several major areas of the settlement business such as schedule, matching, etc. For each of them, the T2S feature is introduced at a very high-level: reader is invited to refer to the user requirements chapters for further details.

2.1 Service level and accessibility

In the current financial landscape, cross-border settlement is not as cost-effective and "accessible" (i.e. not as easy and automated) as local settlement. Different reasons can explain that, such as the complexity of cross-CSD settlement, the complexity of auto-collateralisation procedures and the complexity to connect to/interface with multitude of CSDs.

In this respect, T2S features will foster harmonisation since:

- T2S will be available for both intra-CSD and cross-CSD transactions in a harmonised way;
- T2S will facilitate cross-CSD settlement among T2S connected CSDs, thanks to automated and harmonised realignment procedures (replacing former procedures for CSDs links);
- T2S will allow wide and same access to auto-collateralisation for all euro markets;
- T2S will offer a single interface to access settlement services, through harmonised connectivity options.

2.2 Data model

Since each CSD is unique in its way of functioning, markets participants that are dealing with different CSDs, have to deal with different securities accounts structures and identifications. This leads to the necessity of maintaining mapping tables and specific developments to process different account numbering schemes and account structures.

In this respect, T2S features will foster harmonisation since T2S proposes a uniform data model for securities accounts structure and accounts identification.

2.3 Schedule and deadlines

Even within the same time zone, markets participants have to manage different schedules and deadlines for settlement (especially when they settle cross-border). In addition to that, they also have to manage different

procedures imposing different timeframe to act on their settlement instructions (e.g. limit to cancel, amend, hold, etc).

In this respect, T2S features will foster harmonisation since:

- T2S proposes a harmonised schedule, in line with TARGET2 and CCBM2, and harmonised deadlines for all settlement processes and all T2S Actors;
- T2S will offer night-time settlement as a core service;
- T2S will put in place harmonised procedures to act on on-going settlement instructions (i.e. to cancel, to amend, to hold and to release, etc).

2.4 Matching

Matching is an area where ECSDA made significant progress towards harmonisation. T2S is supporting this effort by taking it further and proposing a complete set of harmonised matching rules and procedures.

T2S proposes the following features for harmonised matching:

- Matching is binding and cancellation can only be bilaterally agreed after matching;
- Hold and release mechanism has been defined to bring sufficient flexibility in the context of binding matching (i.e. unilateral hold can be performed when necessary even after matching).

2.5 Settlement processes

The settlement activity might seem “simple enough” in itself not to require harmonisation (especially when it is compared to other activities, like corporate event handling). However, several harmonisation features were defined in the context of T2S for the settlement processes, mainly related to procedures for optimisation, prioritisation and liquidity management. The major benefit for the market participants will be a more efficient settlement in central bank money, in a centralised manner for securities and cash.

This will be achieved through following T2S harmonised features:

- Use of harmonised settlement and optimisation procedures with gross real-time settlement and immediate and irrevocable transfer;
- Settlement in central bank money through similar cash settlement procedures on T2S dedicated cash accounts;
- Facility for payment banks to centralise all settlement per currency on one T2S dedicated cash account;
- Use of harmonised procedures for auto-collateralisation;

- Use of harmonised levels of prioritisation for the same types of transactions;
- Real time realignment among T2S connected CSDs;
- Harmonised night-time settlement procedures across all T2S connected CSDs.

2.6 Communication

Communication area also takes advantage of T2S Project, fostering a harmonisation of the protocol, set of messages, queries and reports. The main advantages for the market participant will be the ability to communicate using a single "language" (i.e. T2S chosen standard), to receive consolidated settlement reporting and get equal access to settlement data. Also, the communication protocol will protect the communication with the settlement platform, ensuring a high level of security, resilience and reliability.

This will be achieved through following T2S harmonised features:

- Use of a single set of messages under the same standard (i.e. ISO 20022) with common business flows;
- Use of a single set of reports and queries facilities;
- Use of a single communication protocol (i.e., Giovannini protocol).

USER REQUIREMENTS

ANNEX 16

ISSUE NOTE - OPPORTUNITIES FOR FURTHER HARMONISATION

T2S Project Team

Reference:	T2S-07-0346
Date:	12 December 2007
Version:	2
Status:	Final

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1 Introduction

As described in the previous annex (refer to 15, T2S Harmonised Features), one big achievement of the T2S Project is to reach harmonisation of several areas of the settlement business, such as matching, cross-CSD settlement, communication standard, etc.

However, during the intensive phase of user requirements drafting, it has not always been possible to reach a common view on how to harmonise certain areas. Mainly because the area of harmonisation has been much greater than has been the mandate and scope of the work of the T2S Project.

Nevertheless, T2S will further contribute to harmonisation by sponsoring work with market users on harmonised market practices in relation to the use of T2S, at the European level. It is likely that this work will expose further barriers of the kind already identified by e.g. Giovannini, as well as helping users to identify the irreducible costs of unresolved barriers in the new efficient borderless settlement environment.

The purpose of this document is to list these areas as opportunities for further harmonisation. Such list can be used as a basis for further discussions among standards bodies and harmonisation working groups, already existing today or to be set up in the future. These further discussions will be an opportunity to converge markets practices, especially to foster a harmonised use of T2S.

2 Opportunities for further harmonisation

Opportunities for further harmonisation have been classified in 4 categories:

- T2S usage: harmonisation can be achieved through a common usage of T2S features;
- Market practices: T2S support the different existing market practices, however further harmonisation would foster automation, efficiency, cost reduction and common procedures;
- Specificities and specific procedures: national/regional specificities that harmonisation could eliminate or adapt for better integration into the “regular” settlement procedure;
- Legal/regulatory and fiscal frameworks: maybe the most complex areas to harmonise, these have to be handled at the European level by the relevant authorities.

Details for each of these categories are given below.

Please note that this list is not an exhaustive one and shall be enriched during the entire T2S Project, as soon as areas where further harmonisation could bring benefits are identified.

2.1 T2S usage

T2S usage	
Account segregation level and account restrictions	T2S Actors will be offered the possibility to define the segregation level of their account structure as well as the different restrictions on accounts. The harmonisation of T2S usage of such feature should ease the account management of CSD' participants in relationship with several CSDs.
Four-eye principle	In Static Data, there is the possibility for each CSD to decide which action (e.g. setup account, modify account, etc) should be subject to four-eye principle and which action can be done by a single T2S system user. T2S usage should be harmonised so that four-eye principle is applied in a consistent manner.

2.2 Market practices

Market practices	
Handling of repo settlement	The handling of repo settlement can be initiated via one or 2 settlement instructions, depending on the market practices. This can be harmonised to streamline the process in T2S.
Instruction validation rules	Validation rules are not the same for all CSDs. A set of validation rules exist in T2S, however harmonisation is required to streamline the validations rules applied outside T2S, by the CSDs.
Usage of block trades and allocations	Usage of block trades and allocations can be further harmonised, especially in the countries with direct holding systems, to automate part of the process.
Amendment/ ”transformation” versus cancellation and replacement	CSDs do have different approaches when instructions cannot settle as initially sent. Some will amend ("transform") instructions, changing part of their content, and others will cancel and re-instruct ("replace"). T2S enables both, but there is room for harmonisation, especially at business process level (to define when amendment is preferable to cancel/replace and vice-versa).
Calendar per markets	Calendar per markets are not in line within Europe. Harmonisation would ease cross-border settlement.
Position reservation	In T2S, it is possible to move reserved securities to a reservation account or leave them on the securities account by flagging them as reserved. This is closely linked to procedures for repo versus pledge. Harmonisation could help automating the settlement reservation process.
Use of settlement standing orders and data enrichment	Further harmonisation could be reached to define a common usage of settlement standing orders and data enrichment. So far, this process was kept outside of T2S scope.
Threshold for partial settlement	Currently, there is no harmonised threshold for partial settlement (managed unilaterally at CSD and CCP levels). This could be harmonised, to enable more automation.
Recycling rules after matching	There is a harmonised ECSDA rule for recycling before matching but nothing for matched instructions. Harmonisation would enable automation.
"Already" matched instructions	T2S will support the settlement of "already" matched instructions based on either one single instruction with both selling and buying legs or 2 separate instructions. Further harmonisation could be achieved to

Market practices	
	streamline settlement processes.
Corporate events handling and settlement	Although, corporate event handling will be managed outside T2S, the settlement of corporate events will take place in T2S. An important harmonisation work is to be done in the area of corporate events to streamline their handling.
Fails management	In T2S, two implementation options are described (in chapter 3) for fails management. The choice of only one option has to be made in the context of harmonisation discussions, before T2S implementation.

2.3 Specificities and specific procedures

Specificities and specific procedures	
Settlement procedure for all direct holding countries	Direct holding countries do have different models for end-investor accounts structure and settlement. Harmonisation is necessary to eliminate specific settlement procedures for direct holding systems and streamline the processes.
Settlement procedures for multilateral instructions	Some countries do use multilateral settlement. Harmonisation work should be done to reach common settlement procedures in this area.
Collateral management procedures by NCBs	Different collateral management procedures exist at NCBs level, which make the collateral management difficult for market participants. There is room for further harmonisation in this area.
National specificities described in annex 17	Please refer to annex 17 for more details.

2.4 Legal/regulatory and fiscal frameworks

Legal/regulatory and fiscal frameworks	
Legal framework and regulatory and audit requirements	Harmonisation should be led at European level with the relevant legal and regulatory authorities.
Fiscal framework	Harmonisation should be led at European level with the relevant fiscal authorities.

Period for data archiving	Archiving obligations are not the same for all CSDs. Harmonisation at European level could help automation, reduce the size required for archiving databases and increase performance of data retrieval.
Registration procedures in EU	Harmonisation should be led at European level with the relevant registration authorities.
Local authorities access to settlement data	Harmonisation should be led at European level with the relevant local authorities**.**
Transaction reporting	Currently performed according to local rules and regulations, transaction reporting can be harmonised at European level with the relevant authorities.

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USER REQUIREMENTS

ANNEX 17

ISSUE NOTE - NATIONAL SPECIFICITIES IN T2S

T2S Project Team

Reference:	T2S-07-0209
Date:	12 December 2007
Version:	2
Status:	Final

EUROPEAN CENTRAL BANK

EUROSYSTEM

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1 Introduction

The aim of this document is to present the national specificities identified by the Technical Groups at the request of the Advisory Group. Its exhaustive nature is not certain and can be complemented at a later stage during the T2S Project.

A National Specificity is a characteristic of the settlement process, which is specific to one or a few countries as a result of legislation or market practices. National Specificities may be:

- not supported by T2S
- supported through the CSD, using T2S core functionality
- supported through the development of Specific Functionality in T2S

A Specific Functionality in T2S, as opposed to T2S core functionality, is developed specifically for one or a few countries, due to the lack of a decision in the T2S Advisory Group to include this functionality in the core. A Specific Functionality in T2S is only developed subject to the involved countries explicit agreement to finance the development of what they have requested.

The items have been analysed in order to determine if they can be covered through T2S core functionality, or if they have to be developed especially for the countries by which the national specificities have been raised.

Summary table:

National Specificity	T2S needs to provide Specific Functionality that allows to maintain National Specificity	Need for the CSD to support National Specificity in its own systems, using T2S core functionality
Multilateral instruction settlement	(Yes)	Yes
Settlement on contractual settlement date	No	Yes
Fixed value date	No	Yes
Non fungible securities	No	Yes
Settlement procedure on Spanish	No	Yes

National Specificity	T2S needs to provide Specific Functionality that allows to maintain National Specificity	Need for the CSD to support National Specificity in its own systems, using T2S core functionality
equities		
Transaction reporting to fiscal authorities/regulators	No	Yes
Maintenance of accounts / static data by users	No	Yes
Legal requirements for archiving	No	N/A
Belgian fiscal regime (X/N)	No	Yes
Other Belgian specificities	No	Yes
Danish Floating Pledge	No	Yes
Reg Ueber set up	No	Yes
Abweichendes Depot set up	Yes (tbc)	Yes
Issue date and trache information for German registered shares	No	Yes
Recycling of trades	No	No
Different calendar for non EUR CeBM currencies	No	No

2 National specificities

Settlement of multilateral instructions, with or without netting, but without a central counterparty. This issue refers to the fact that multilateral instructions do not link one specific seller to one specific buyer, but identifies groups of sellers on one side and groups of buyers on the other side. This means that the settlement of multilateral instructions cannot be done on an instruction by instruction basis. Instead, multiple instructions have to be settled together, which may require some specific procedures for fails management and for settlement during the daylight real-time settlement window (e.g. Greece, Spain and Slovenia)

Proposed solution: Specific settlement procedures have been identified and discussed with the concerned CSDs. These procedures involve settlement of multilateral instructions via intermediate accounts on the securities and/or cash side maintained by the CSDs in T2S. T2S will facilitate this by supporting the use of intermediate accounts. However, T2S will not perform any automatic processing of the original instructions or any resulting new settlement instructions, except what is already included in the T2S core functionality. When multilateral instructions have to be settled without CCP intervention, CSDs wanting to use T2S core settlement functionalities shall open securities and T2S dedicated cash accounts in their name (as many as they may require) and intervene in the settlement process. Whereas some CSDs have agreed that the availability of this possibility within the T2S core settlement functionality for multilateral instructions meets their needs, discussions are still going on with other CSDs to determine whether this is the case.

Settlement on contractual settlement date, disregarding positions and cash, secured by guarantee fund and buy-ins. This issue relates to the fact that some markets do not allow recycling fails for next day settlement, but resort to guarantee funds to settle transactions that could not settle during the day, either due to a lack of cash or securities. This procedure may require specific procedures to ensure interaction with the entity/entities managing the guarantee fund(s) (e.g. Slovenia).

Proposed solution: the entity managing the guarantee fund and buy-in should be able to submit buy-in and cash transfer instructions to ensure the timely settlement of the unsettled instructions. No significant impact on T2S is expected from this procedure. However, it should be clear that T2S will not support any procedure leading to post negative balances on the securities accounts; hence the considered instructions will remain unsettled at the end of the day.

Fixed Value Date It is possible to have fixed contractual settlement of cash or securities on value date for a DVP trade. In this case, if there is no sufficient cash to settle the cash leg of the transaction, securities have to be delivered Free of Payment on the considered value date; if the securities provision is not sufficient to settle, cash has to be paid without securities delivery on the considered value date. The remaining part of the transaction (i.e. the part that could not settle in due time) should be settled later when cash or securities are available with reference to the initial fixed value date (e.g. Germany).

Proposed solution: The procedure is handled by the CSD, who would split the instruction into one transaction that is free of payment and one that is a payment “free of securities” and submit the new instructions to T2S. This would fit with the T2S core functionality.

Non-fungible securities

Below is a non-exhaustive list of non-fungible securities that may be held in T2S securities accounts:

- Premium lottery bonds – Bonds issued by the National Debt Office of Sweden. Lotteries are performed at certain intervals during the lifecycle of the bonds, where the holders of the bonds may win an amount of money. In order to keep track of each investor's uniquely numbered bonds; a separate update of unique identifiers must take place in connection with the settlement of the main ISIN.
- Bonds with random amortisation – The selection of which holdings to redeem at each amortisation is performed via a lottery. The selected holdings are then still transferable all the way up to the actual redemption (selection and redemption could take place e.g. 30 days apart). It is necessary to trace the selected holdings through the settlement chain up to redemption (e.g. Denmark).
- Specific Italian corporate bonds traded on exchange, OTC and via a multilateral trading facility (CABOTO). For this kind of corporate bonds, the redemption is made drawing specific certificates, identified by the certificate code. This means that the certificate codes owned by every participant are stored in the securities account database of Monte Titoli. For settlement, the certificate codes need to be checked during the settlement procedure.
- Serial ISINs, certain German bonds are issued in a main ISIN and several series, which have a separate sub ISIN. These bonds may be partially redeemed early via a lottery, based on the series with the sub ISIN. In order to settle a transaction in the main ISIN, the sub ISINs have to be identified via a special screen in CASCADE (client interface to the German settlement system). Transactions are automatically blocked before settlement and have to be manually released. Serial ISINs are not very common in Germany.

Proposed solution: The CSDs in T2S should be able to handle the settlement of the non-fungible securities via the Conditional Securities Delivery (CoSD) functionality already foreseen in T2S core functionality. The instructions, based on the ISIN, would be identified as a CoSD and would remain blocked until a final release instruction is received from the administering CSD.

Settlement procedure on Spanish equities. In the Spanish equity market, all operations are numbered by the Stock Exchange (SE). As a result of a purchase or other type of change of ownership (or at the moment of the initial registration of the issue), securities are accredited to new holders and the operation number becomes what is know as the Register Reference (RR). This RR number has to be provided to the central register (Iberclear). For the buying party, Iberclear communicates the RRs to the participants who, in turn, file them away in order to facilitate later enquiries about a given operation or to resolve incidents or

claims. For sales, the participants must justify the RRs linked to the securities they sell. Iberclear validates that the sold RRs are correct (i.e. validating that the number of securities sold are equal to or less than was originally assigned to the specific RR).

Proposed solution: The RR numbers can continue to be administered by the CSD, via the Conditional Securities Delivery (CoSD) already foreseen in T2S. The CoSD functionality would be activated upon the receipt of the transaction from the two counterparties or the Stock exchange. The CSD will be able to release the instruction for settlement once it has received the RR numbers. Through the use of CoSD, the CSD will monitor the RR in their local system before settlement can take place.

Transaction reporting to fiscal authorities/regulators In some countries specific information related to regulatory reporting needs to be included in the instruction (i.e. for some UK ISINs the nationality of the Buyer is required) or at the account level (e.g. in most direct holding markets).

Proposed solution: Two alternatives can provide a solution to this specificity. The first option being the maintenance of this information by the CSD, implying a split of instruction/account data between T2S and the CSDs. The second option being storage of this information within T2S and granting access to the information to the CSDs. To simplify the instructions flow, and to not force a split of instruction content, T2S core functionality shall offer the possibility to store and to retrieve information received from the T2S Actors. This includes non-settlement related information. This information should be retrievable according to access rights. As an example, CSDs will be able to retrieve tax data from instructions sent by their participants directly connected to T2S.

To avoid the splitting of the account information, T2S core functionality shall also allow for a certain number of free text fields to be attached to the T2S securities accounts. The interpretation of the content of these fields will have to be defined by each CSD making use of one or more of the fields. This means that a participant opening an account with a CSD, which makes use of such free format fields, has to inform itself of the use and interpretation of those fields.

Opening / closing and maintaining static data of accounts directly by users. It was originally stated that only CSDs would be allowed to open/close securities accounts as part of static data through the authorisation interface. This would require several changes in local legislation (e.g. in Slovenia/Finland) which would transfer the whole responsibility for opening/closing accounts from the CSD participants to the CSDs. This specificity concerns mainly direct holding markets. Each day a big number of securities accounts openings/closings are required and closely connected - synchronously – with regular settlement processes. Issue and redemption accounts are opened by the CSD but, due to the direct holding

nature, clients' accounts are opened, closed and maintained by CSD participants (account operators) only, without any involvement of the CSD.

Proposed solution: This specificity should not have an impact on T2S. The CSD can continue to allow their participants to maintain their securities accounts. However, the administering instructions have to be sent by the CSD participants to the CSDs (i.e. no direct connectivity for these actions). The account data should then be transmitted to T2S by the CSDs, using T2S core functionality.

Legal requirement to provide reports in national language. In some jurisdictions (e.g. the French and Dutch for NBB), there is a requirement that the CSDs must provide the possibility to receive certain reports in a language as chosen by the receiver of the reports.

Proposed solution: T2S plans to provide standardised reports based on ISO 20022. Reports are not as such in a language; rather they just contain the data as specified. In order for the CSDs to forward the data in a structured format and with e.g. explanatory headings, the CSDs would need to produce them based on their own needs and the data received from T2S.

Legal requirements for Archiving. In Finland any outsourcing of the CSDs (APK) activities needs the approval of the ministry of Finance. The maintenance of centralised archiving might be considered as an outsourcing and hence might require approval. No impact is consequently expected for T2S.

Proposed solution: An indication from the Ministry of Finance of Finland has been given that outsourcing is possible in principle.

Belgian fiscal regime impacting settlement processing. This issue refers to the fact that in Belgium, the CSD is in charge of deducting the withholding tax on some transactions, on behalf of the Tax Authorities. There exist 2 types of accounts: accounts X (eXempt) and accounts N (Non exempt). If there is an instruction between two X accounts, NBB pays gross, if there is a transaction between an N and an X account or two N accounts, NBB will always pay net and transfer the withholding tax from and to the cash account of the Belgian fiscal authorities. Hence if an X account delivers to an N account, they receive the net amount and the withholding tax on the accrued interest from the fiscal authorities. If an N account delivers to an X account or an N account, they receive the net amount also and the withholding tax on the accrued interest is paid to the fiscal authorities. Withholding tax applies to interest payments, securities transactions and transfers. There is also a limitation on certain securities that can not be held on an N account with NBB.

Proposed solution: T2S needs to be able to determine if the account instructing is an X account or an N account, hence this information would need to be stored within the static data in T2S. If there is a transaction

between an X and an N account or two N accounts. T2S would automatically activate the CoSD functionality, informing NBB of the transaction. NBB in turn performs a validation of the instruction, calculates the withholding tax applicable to the transaction and links the cash payments that need to be performed to the transaction.

The CoSD functionality will allow the CSD to:

- Be informed of the instruction and perform a validation for N accounts that the securities can be held on this account.
- Have it held and make sure the directly connected delivering party can face the tax payment and hold the security to be delivered, before the settlement is processed. Else the CoSD transaction can be rejected.
- Send a cash settlement instruction to debit the delivering party of the tax amount and credit the receiving party at the same time or after the settlement of the instruction occurs.

Other Belgian specificities impacting settlement processing. In addition to the above fiscal specificity, other Belgian legal specificities have been identified, e.g.

- It is legally imposed to maintain securities issued in EUR or BEF and securities issued in other currencies into different securities accounts.
- For the securities issued in currencies other than EUR/BEF, only FOP transactions are allowed. Securities issued in EUR/BEF can have both FOP and DVP.
- No pledge transactions allowed in certain currencies
- No repo transactions allowed on the N (Non exempt) accounts
- No ISINs with selling restrictions allowed on the N (Non exempt) accounts
- Only settlement instructions received from the NBB allowed for some accounts

Proposed solution: As for the fiscal specificity, T2S can support most of these specificities by means of the CoSD functionality or based on T2S securities account validation. However, this needs to be assessed specifically for each case.

Use of T2S auto collateral instead of existing automatic collateralisation in Denmark: Auto-collateralisation based on floating pledge will still be needed in VP system in order to raise liquidity in DKK, if not offered by T2S. Hence, floating pledge generated from auto-collateralisation at VP for raising DKK liquidity should not be hampered by T2S. The floating pledge arrangement means that whenever eligible (for pledge) securities are going to be removed from the securities account earmarked for floating pledge, either due to a sale that is going to settle or due to a transfer out of the account, the collateral value of the potential sale/movement has to be calculated. If this calculated amount is less than the collateral

value not already used + proceeds from the sale, the sale/transfer out of the account is allowed, otherwise it is denied.

Proposed solution: For settlement in DKK, VP can continue to offer auto-collateralisation via the floating pledge concept. The check that the CSD participant still holds sufficient collateral to cover his obligations could be performed by VP via the CoSD functionality. All against delivery instructions for securities eligible as collateral on this account would be retained until VP has checked that sufficient collateral is held on the account to cover the account holder's obligation. If the check has been positive, VP can confirm the CoSD transaction and it can settle.

Reg Ueber account set up in Germany: The Reg Ueber set up is used by CBF clients who are dealing on the Frankfurt stock exchange, as well as regional stock exchanges, the Reg Ueber set up allows to link CBF accounts set up for the regional stock exchanges to a main account to route and settle instructions via this main account. It is also used by settlement banks to settle client's stock exchange transactions, for which they need a CBF account via the account of the Settlement bank, thus integrating it in an Omnibus account structure. It is theoretically possible to settle OTC receipt instructions on the "sub" account, but the positions can only be delivered to the main account. It is not clear if the OTC receipt functionality on the "sub" account is used.

Proposed Solution: As the stock exchange transactions are send by the Xontro system, it should be possible to input routing information there in order to send instructions of the "sub"account directly to the main account in T2S. This would not have any impact on T2S. The realignments in between the main and the sub account would not be possible as currently offered by CBF, however T2S, would allow realignments to be created by the account holder.

Abweichendes Depot account set up in Germany: Abweichendes Depot set up, is a second method of settling stock exchange transactions of a branch or client via a main account of the settlement bank. The client under this set up can chose if the settlement cash should be posted on the cash account of the main or the sub account.

Proposed Solution: The T2S team has requested further information on the booking flows regarding this set up from CBF. Once this information has been received the T2S will analyse the process further and develop a solution. CBF has indicated that Abweichendes Depot is only used by very few of their clients.

Issue surrounding the issue date / tranche information for registered shares in Germany: For the registration of securities, information on the issue date and tranche is required to be validated before performing the registration.

Proposed Solution: The T2S team has requested further information on the requirements of CBF. So far CoSD has been identified to resolve this issue. CoSD would put the instruction on hold until the validation has been performed by the CSD and allow the CSD to release the instruction for settlement if the validation was successful. CoSD in this case would be required not to block the securities position during the validation process. This proposal is still to be checked with CBF.

3 Issues brought up as national specificities, but already covered through the T2S core functionality

Recycling of trades

In some markets trades are not allowed not be recycled. They are only valid on the intended settlement date, after this day has passed; they are deleted by the CSD and have to be reinstructed by the two instructing parties. This specificity is supported by the core functionality, as whilst it is intended to harmonise the recycling periods, T2S shall remain ready to support different recycling periods for CCPs and CSDs. A recycling period of 0 days can be covered by this functionality (e.g. Slovenia, Greece).

Different Calendars for non EUR CeBM currencies (e.g. DKK).

It is possible that for a non EUR currency the opening days of the payment system are different to those of TARGET 2; hence settlement might take place on these days, requiring interaction of T2S to ensure funding. Hence the possibility to settle on a non-TARGET day when these currencies connect to T2S is required. As this issue potentially applies to any non EUR currency connected to T2S, it shall be covered via the core functionality.