

THE EUROPEAN CENTRAL SECURITIES  
DEPOSITORIES ASSOCIATION'S RESPONSE TO THE  
GIOVANNINI REPORT

April 2004

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## **Executive Summary**

### *Giovannini and ECSDA's Response*

The Second Giovannini report released in April 2003 mandated that the European Central Securities Depositories Association (ECSDA) look into the removal of three of the fifteen barriers the report identified. As announced in a press release dated 9 October 2003, ECSDA set up a working group (WG5) to review the barriers and create standards that 17 member Central Securities Depositories (CSDs)<sup>1</sup> will be committed to achieving that will aid the removal of the barriers identified by the Giovannini Committee.

This first response from ECSDA one year after publication of the second Giovannini report addresses two of the three barriers, namely barrier 7 relating to operating hours and barrier 4 relating to settlement finality. The third barrier, concerning corporate action harmonisation, will be addressed throughout the course of 2004.

The document as a whole uses the term Security Settlement Systems (SSS)<sup>2</sup> rather than CSDs as all ECSDA members<sup>3</sup> believe that it is vital that all organisations involved in settlement of both financial instruments and cash should meet the standards and not just CSDs.

The working group felt it was important to include all countries represented by ECSDA in the analysis, as, although the Euro zone is an important element in any harmonisation effort, to provide maximum benefits all countries, regardless of their currency, must be included.

### *Benefits*

Throughout the document, attention is paid to how the Standards will benefit the European market infrastructure. In general across all the standards the following main benefits should be achieved:

- **Harmonisation.** One of the biggest areas of cost for all industry participants is the need to run different processing for the same function across different markets.

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<sup>1</sup> The report does not include input from the Iceland or Cyprus members as they joined ECSDA too late for this report.

<sup>2</sup> A full list of terms and their definitions can be found in Appendix 1.

Although the Standards in this document are only the first step in this process ECSDA believes they will provide the foundation for future harmonisation initiatives. In their own right the Standards provide harmonisation for one of the key areas of market disparity, that of opening days and hours.

- **Clarity.** Through this harmonisation identified above, market participants will be able to benefit by having a clear understanding of market structures throughout Europe.
- **Settlement Efficiency and Liquidity.** Probably the most important aspect of the process is the likely increase in settlement efficiency and the provision of increased liquidity throughout the European markets.
- **Cost Reduction.** The other main benefit is cost reduction for SSS participants. Although it is notoriously difficult to put a figure on such reductions (as it varies by market player and market), friction, operational and back office costs should all reduce in the European cross border settlement business.
- **Opportunity / Fairness.** Currently, the cost of cross border settlement often means that non domestic markets are closed to only but a comparatively few sophisticated investors and that many retail shareholders who find themselves holding international securities (for example, because of mergers or takeovers with or by non domestic companies) face high costs in trading and settling them. Reducing any costs (however small) provides opportunities and creates fairness for smaller market participants.

### *Obstacles*

It is important to note that the reaching of the following standards by all SSS will not, by itself, remove the two Giovannini barriers. This is due to the fact that other areas of the market will also have to adapt their practices in order to create the single European market we are striving for. Where this is the case the report identifies which areas of the market will have to act and how.

Although all ECSDA members are committed to implementing the standards there will, in particular, be a need for ECSDA to discuss the Standards with the Central and Commercial

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<sup>3</sup> A full list of ECSDA members participating to this report and their abbreviations as used in this report can be found in Appendix 2.

Banks to ensure they are accepted and implemented by all relevant parties. Any lack of harmonisation by banks will be the biggest obstacle in implementing the Standards. This is because credit (to allow for cash settlement in central bank money or commercial bank money) is a vital part of the settlement process and, as can be seen in the main part of the text, there is still a lack of harmonised opening hours both at the SSS and banks. One area in particular is not solved in this document; that of settlement outside banking hours. Some CSDs have settlement when their local payment system is closed whereas others do not. The ECSDA recommendation is to deal with this issue after April 2005 when the Standards agreed have been implemented and the next steps should be taken, at which time it will also take into account the decisions taken by ECB about the way TARGET2 interfaces with the SSS (integrated and/or interfaced solution).

### *Standards*

ECSDA have agreed 10 Standards for implementation at various times between the present day and April 2005. Although there is a high degree of compliance by ECSDA members for some of the standards, others only have 50% of CSDs meeting the targets and there will be considerable change over the next 12 months. The short time scale is an indication of the importance all ECSDA members place on the standards.

The document identifies the CSDs who do not meet Standards, as it is important to understand the current situation and where change will be affected. It is encouraging to note that one CSD, Iberclear, has already announced planned changes for May 1 2004 as a direct result of the ECSDA work.

The standards and their implementation times are listed below:

	<b><u>Standard</u></b>	<b><u>Implemented By</u></b>
1	<i>All SSS who offer settlement in Euros should be open for Euro settlement for all types of financial instruments eligible in that SSS at least on all TARGET opening days.</i>	<i>End 2004</i>
2	<i>All SSS who offer settlement in a currency should be open for settlement in that currency for all types of financial instruments eligible in that SSS at least on all relevant currency-opening days.</i>	<i>End 2004</i>
3	<i>SSS introducing settlement in a new currency after 2004 should adapt to the relevant opening days immediately upon the new currency being available in the SSS.</i>	<i>N/A</i>
4	<i>Settlement systems should be open for activities other than settlement activity (ie reporting, enquiries, reconciliation etc.) as long as possible from a cost efficient point of view, but <u>at least</u> from the currency opening time (07.00CET for euros) to the end of the currency day (18.00 CET for euros).</i>	<i>End 2004</i>
5	<i>All European SSS should start DvP settlement by the opening time of the relevant European currency's banking system and continue to offer DvP settlement until, at a minimum, two hours before the banking system closes. (For example, all settlement systems in the Euro Zone should start DvP settlement for Euros by 07:00 CET and stop at or after 16:00 CET).</i>	<i>April 2005</i>
6	<i>For maximum efficiency and liquidity, participants should be encouraged to settle as early as possible in the morning.</i>	<i>Ongoing monitoring and action</i>

7	<i>No next value date settlement should start before the relevant banking system closes. (ie in the Euro zone no overnight batch should start until TARGET closes, currently 18:00 CET.)</i>	<i>End 2004</i>
8	<i>No settlement processing should occur between settlement systems before <u>both</u> are processing the same settlement value date.</i>	<i>End 2004</i>
9	<i>SSS should support efficient cross-border settlement in Europe by providing intraday finality in real time or by at least one settlement cycle per hour during the period identified in standard 5.</i>	<i>April 2005</i>
10	<i>In the case of a transaction being unable to settle at the first attempt on a given settlement day, all SSS should continue to try to settle the transaction as frequently as defined in standard 9 at least until the end of this settlement day as defined in Standard 5.</i>	<i>April 2005</i>

### *Next Steps*

This report is not the end of the process by ECSDA to address the Giovannini barriers but merely the first step.

ECSDA needs to work with the ESCB to agree and provide Europe with a final plan in relation to the Standards and their implementation, as many of the issues recognised in the report will need ESCB input. As noted above, this discussion will need to go beyond the Standards in this document, as other longer-term issues will also need to be addressed. In particular, agreement will be needed on settlement outside central bank payment hours.

ECSDA also plans to work closely with the Central and Eastern European Central Securities Depositories Association (CEECSDA). As the European Union expands it is important that



agreement is reached both with banks and CEECSDA before these Standards can be considered as final.

Although the Standards should not be considered final yet, ECSDA will monitor progress on the Standards and provide a progress update in its next report.

Finally, ECSDA will now also turn its attention to Corporate Actions (including company meetings and proxy voting) and the highly fragmented nature of that area of business.

## **Introduction**

The Second Giovannini report released in April 2003 mandated that the European Central Securities Depositories Association (ECSDA) look into the removal of three of the fifteen barriers the report identified.

This first response from ECSDA one year after publication of the second Giovannini report addresses two of the three barriers, namely barrier 7 relating to operating hours and barrier 4 relating to settlement finality. The third barrier, corporate action harmonisation, will be addressed throughout the course of 2004.

In recent years it has been noted that the incidence of ownership of financial instruments by investors from outside the instruments' home country has increased. This has occurred for primarily two reasons:

1. The possibility to find and analyse information on non domestic securities has changed markedly to the point where investors' knowledge and understanding of most European markets has meant a large change in demand for 'cross border' trading.
2. Companies themselves have effectively forced shareholders to hold international securities. This is due to the change in takeover and merger practice that has been apparent in the last 5 – 10 years. Prior to this time the majority of mergers and takeovers were within national borders.

Both of these reasons for changes in financial instrument ownership justify the need for common standards that investors and issuers can benefit from across all of the European market place otherwise investors and issuers will be benefited or disadvantaged merely by geographical reasons which is detrimental for the market overall. However, within the European landscape it is clear that the cost and inefficiency of cross border financial markets is still a barrier to many investors and companies even though the demand for such a European domestic market has risen sharply. For example, the cost of trading and settlement

across borders has been proven in many studies to be up to 10 times more expensive than a corresponding domestic one.

In the late 1990s ECSDA recognised the trend and demand for non domestic ownership of financial instruments and set about unitarily building an efficient and cost effective network of settlement links between CSDs to ensure that all investors had a cheap and effective way of holding and settling movements of all European financial instruments. **The goals and recommendations set out at this time still stand** but it is now recognised these links were not the final solution. This is because ECSDA developed models under the assumption that CSDs by themselves could not eliminate the differences between markets.

Now that all market players are committed to harmonisation the assumption has changed and a level of complexity can and should be removed from the models. To provide a solution for the cross border or cross system movement of both cash and financial instruments (regardless of whether this settlement is net, gross, FoP or DvP) a number of standards would be needed to ensure a commonality across the European market. For example, it is impossible to implement efficient links between two SSS that have poorly synchronised opening hours or between SSS that do not achieve intraday finality between them. These standards are not the only change needed as Regulators and local law / market practices will need to change in due course to create a common market place.

These problems reach beyond CSD links and became an issue for all investors in the European markets regardless of whether they used CSD links or some other medium for holding and transferring financial instruments. The Giovannini Committee recognised this and noted that ECSDA needed to address the key issues across all markets that should be harmonised to provide a common set of standards that investors can understand and utilise whilst providing the efficiencies needed to create an efficient and effective European market, without impacting upon the choice of providers throughout Europe.

Through its study of barriers 4 and 7 the ECSDA working group has identified 10 standards that all CSDs should implement to ensure barriers 4 and 7 removal. This report details:

- the standards that have been agreed;
- the timeframes in which they are to be implemented;
- which CSDs have yet to reach the agreed standards; and
- the obstacles to reaching the standards by European CSDs, including which other stakeholders are affected by each standard.

## Settlement Barriers

The Giovannini report noted two separate barriers (4 and 7) regarding settlement and the ability for investors to move financial instruments and / or cash across borders in relation to their securities business. ECSDA felt it was appropriate to look at the two barriers at the same time as they are implicitly linked.

The Giovannini Committee considered the most important barrier to eliminate was barrier 7 and, on initial inspection, this looks perhaps one of the easiest to solve.

### Barrier 7

*'Operating hours and settlement deadlines should be harmonised, using TARGET hours as the benchmark. ECSDA should take the lead in this initiative, in close co-operation with the ESCB. This barrier should be removed within a period of two years from the initiation of the project.'*

This is the number 1 priority identified by the Giovannini report.

ECSDA identified that there were three main factors that need to be taken into account before addressing barrier 7 and these would lead to solutions but also to obstacles to implementation of these solutions.

#### i) Currency

Throughout Europe, SSS settle in differing currencies and a number settle in multiple currencies. This, of course, leads to the first major problem: each Central Bank will have its own timetable based on its needs. In some cases, this is based on market practice but may also be linked to other requirements. For example, the Bank of England must return its Euro liquidity to the European Central Bank each day, meaning that all settlement must be finished prior to this taking place. This, in turn, means that the local CSD must have stopped cash settlement at a time of the Bank of England's choosing.

As most CSDs now either do, or plan to, operate in central bank money (either via an integrated or interfaced model) it is only possible for the CSDs to allow cash settlement in their systems provided this is acceptable to the relevant central bank. Currently, many central banks only allow settlement during the day (although the central banks in France, Italy, Denmark, The Netherlands and Switzerland do allow for pre banking hours cash movements in central bank money with the local CSD).

It should be noted that not all CSD members of ECSDA use central bank money for settlement. It is still the case that Commercial Banks also have important roles and, in Greece, are the main providers for the cash settlement leg.

As this is a key point, ECSDA felt it was important to recognise the differences between intraday and pre banking day cash movements. In order to ensure a quick resolution for the benefit of the market, ECSDA decided to address the opening hour standards into two distinct areas:

1. intraday settlement; and
2. pre banking day settlement.

Both of these topics are dealt with later in the document.

#### ii) Instrument Type

All markets operate using a number of different types of financial instruments including equities, government bonds and money market instruments. In some cases the closing time for each type of security varies so as to allow market participants to manage different types of security and collateral in a systematic way. As settlement of these instruments now tends to be harmonised and on the same domestic platform the group felt that this would become less important in the future and the Standards below reflect this view.

### iii) Time Zones

The European Union already operates across three time zones. This means that the business day starts and finishes across markets at different moments in the day. For true harmonisation to occur the start and end of day in each market needs to be at the same time across the European Union. Although TARGET can achieve this for euro zone countries it will also require SSS, Central Banks, Commercial Banks and other market participants to harmonise. Such a process will, of course, have significant obstacles attached to it.

Only by analysing currency, instrument type and time zone considerations is it possible to create the Standards needed for the market as a whole to help solve the two settlement barriers identified by the Giovannini Committee.

## **Barrier 7 – Opening Days and Timetables**

### *Opening Days – Current Situation and Proposed Standards*

ECSDA analysed the current situation of the Group’s members<sup>4</sup>. It was clear that there was little harmony currently, creating inefficiencies in the market place. Current currency opening days were analysed and the results shown in Table 1 were found for the CSDs that settle in each currency.

As can be noted there is a high degree of differential both within settlement systems that enable settlement in euros and those that settle in other currencies. There are a number of reasons for this to be the case including:

- **Historical.** Where CSDs have moved to a new currency zone, such as the euro zone, there will be pressure from market participants and unions to respect any previously observed holidays. For example, the French CSD faced great pressure to respect Bastille Day as a holiday even though it was no longer a currency holiday.
- **Religious.** In a similar vein, in countries where religious holidays fall outside currency holidays there is pressure on the CSD to stay closed. The euro zone is, again, an excellent example. TARGET holidays currently fall on New Year’s Day, Good Friday, Easter Monday, 1 May, Christmas Day and St Stephen’s Day. Four of these are religious holidays. However, in Greece for example, Orthodox holidays are observed meaning that Good Friday and Easter Monday holidays fall often on different days to the calendar used by TARGET. Of the 9 extra days the Greek CSD shuts, 6 are Orthodox holidays. This issue could be magnified if and when the euro zone is expanded.
- **Non-Local Currencies.** In some countries, such as Denmark, the CSD follows its local currency holiday. This means that the CSD closes completely for all Krone holidays regardless of the fact that its Euro settlement will also close and it may not be a Euro holiday. Local laws that mean that if the CSD opens all retail banks

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<sup>4</sup> A spreadsheet of this data can be found on the ECSDA website ([www.ecsda.com](http://www.ecsda.com)).

must open, even if the CSD is only open for settlement in a non-local currency, exacerbate this problem.

Table 1 – Opening Days in 2003

<u>Currency</u>	<u>No of Currency Holidays</u>	<u>No of CSDs Offering Settlement in Currency</u>	<u>No of CSDs who settle on all Currency Days</u>	<u>CSDs who do not comply with Currency Holidays</u>	<u>No. of Days of Settlement Holidays that are not Currency holidays</u>	<u>No of days of settlement when the currency is on holiday</u>
CHF	10	4	4	ENL <sup>5</sup>	-	4
				CBL, EB, SIS	-	8
DKK	12	5	4	ENL	1	7
				CBL, EB, SIS	-	10
Euro	6	17	11	CBL, EB	-	4
				CBF	2 <sup>6</sup>	-
				VPS	4	-
				APK (equities)	5	-
				VP	6	-
				HCS D (fix inc.)	8 <sup>7</sup>	-
				HCS D (equities)	9	1
				IBER <sup>8</sup> (equities)	20	-
GBP	8	5	4	ENL	1	3
				CBL, EB, SIS	-	6
SEK	12	4	4	CBL, EB, SIS	-	10

<sup>5</sup> A full list of ECSDA members participating to this report and their abbreviations as used in this report can be found in Appendix 2.

<sup>6</sup> It should be noted that CBF do comply with the currency holiday timetable for collateral purposes but do not allow cash movements for normal deliveries on 2 extra days.

<sup>7</sup> In 2003 HCS D was not open for settlement on 8 days given the cash settlement bank remained closed on those days.

These and other issues will be obstacles to creating a single set of opening days and can be significant in some cases. Nevertheless, the group believes that overall implementation of common system holiday structure should be implemented. ECSDA members believe it is important to move forward to ensure consistency and efficiency across SSS and cross border movements of cash and financial instruments creating a more efficient market place in Europe. As such, a number of Standards have been agreed that all CSD are committed to implementing.

*Standard 1*

*All SSS who offer settlement in Euros should be open for Euro settlement for all types of financial instruments eligible in that SSS at least on all TARGET opening days.*

*Standard 2*

*All SSS who offer settlement in a currency should be open for settlement in that currency for all types of financial instruments eligible in that SSS at least on all relevant currency-opening days.*

It has been agreed that all CSD members of ECSDA will implement both Standards by **the end of 2004**.

Currently, as table 1 shows there are 7 of the 17 CSDs (41%) who do not abide to either or both of the first two Standards. This leaves 59% who have already complied to the standard. Importantly, one CSD (Iberclear) announced (in December 2003) its intention to abide by Standard 1 and will be changing its opening days as of 1 May 2004 so that it is open for Euro settlement for all types of financial instruments eligible in Iberclear on all TARGET opening days.

It is important that these Standards are both a short-term change for all SSS to move towards a harmonised European infrastructure but also to create a template for all future changes to that infrastructure. ECSDA considered what, if any, leniency for new countries or SSS have

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<sup>8</sup> Please note that Iberclear will close only on Target holidays as of 1 May 2004 as announced via press release in

for implementing these standards when joining any monetary union (in particular the Euro zone) or introducing a new settlement currency. Although it was clear that from the time of setting a new Standard a certain grace period was needed to allow for change, it was felt that to ensure orderly markets and an efficient settlement and reconciliation platform that once this grace period was over any SSS offering settlement in a new currency should accept the Standards as part of the rules for settling in that currency:

### ***Standard 3***

***SSS introducing settlement in a new currency after 2004 should adapt to the relevant opening days immediately upon the new currency being available in the SSS.***

By implementing the Standards 1, 2 and 3, Europe's financial markets will be benefited in the following ways:

- Increased consistency, transparency and clarity across markets;
- Improved settlement efficiency and liquidity;
- Overall risk reduction;
  - operational risk
  - counterparty risk
  - credit risk
- Reduced costs;
  - operational / back office costs
  - friction costs between markets
- Enhanced opportunity for cash management;
- Opportunity benefits as the barriers to entry to a new market are reduced; and
- Improved situation for issuers

### ***Opening Days - Obstacles to Implementation of standards 1, 2 and 3***

To implement the above Standards ECSDA recognised that there are elements that need to be addressed which, in some cases, may prove difficult and some elements that are not directly

influenced by the CSDs. These Obstacles to Implementation are key factors in the success, or not of any part of the progression of an efficient European infrastructure.

## **1. Legal Issues**

ECSDA identified that in Denmark there is a specific issue that would currently prevent Denmark from meeting the standards. This is due to the fact that if the local CSD (VP) is to open to provide settlement in the currency then by law all branches of all banks in Denmark must open on the same day. Clearly, in terms of opening all major businesses on a local bank holiday would have implications with unions, staff and operational costs and the cost / benefit analysis would be difficult. Although possible, it was felt that it would be better for this legal rule to be addressed than force all institutions to open on a national bank holiday. VP has agreed to ensure that this point is made to the authorities if and when the Euro discussion is progressed.

*Size of Obstacle:* High under current law

*Approach to Resolving Obstacle:* Ensure that there is a law change as soon as possible.

## **2. Central Banks**

If a central bank refused to allow central bank money to be transferred on a particular day, the SSS would be powerless to do anything other than not allow settlement in that currency unless it has access to commercial bank money. However, ECSDA does not believe this scenario likely, as central banks should be, by definition, open whenever their relevant currency can be transferred.

There is one ECSDA country (Greece) where the Central Bank does not open on all TARGET days for domestic settlement because of religious holidays and is closed even though euros can be settled throughout the rest of Europe. This will mean that it is unlikely the CSD or any other Greek SSS will be able to open on all TARGET days until then (see below).

*Size of Obstacle: Low*

*Approach to Resolving Obstacle:* The Greek Central Bank and ECB will have to find a solution for domestic settlement.

### **3. Commercial Banks Providing the Payment System for the SSS**

Just as central banks have influence over SSS where Central Bank money is available, in systems that use Commercial Bank money the commercial banks are key participants. In fact they have, in some ways, more influence. Even if the central bank system for cross border payment is open it is not a reality that all banks will be open (eg Greece) due to religious / national holidays. To influence all banks to open for settlement in the CSD will require proof that there is a necessity to do so. In a country such as Greece where cross border settlement is limited this will be no easy task.

*Size of Obstacle: Medium*

*Approach to Resolving Obstacle:* Either all banks need to open on all banking days, or the SSS should move to Central Bank money, or if applicable, the SSS should become a bank themselves.

### **4. Issuers and / or their agents**

Although SSS can commit to these standards it is sometimes the case that issuers or their agents do not do so. In any market with registered financial instruments and where all movements of financial instruments require external registration, it is the case that the register will need to be updated with any financial instrument movements before finality can occur. If the registrar is responsible for this and refuses to open for business on certain days then it could be argued that those financial instruments under the registrars control will not be available for settlement or onward delivery. For example, a very small number of Irish securities are removed from settlement at the registrar's request on Irish Bank Holidays even if it is a TARGET settlement day.

*Size of Obstacle: Low*

*Approach to Resolving Obstacle:* Ensuring that all market participants open on the correct days.

## **5. Unions**

It is important to note that in some countries, unions could delay the implementation of SSS opening on days they currently do not. Although ECSDA members recognise that this should not be a long-term barrier, it may be a problem for implementation at the end of 2004 and could increase the cost of any implementation project.

*Size of Obstacle:* Undetermined

*Approach to Resolving Obstacle:* Working with the unions and explaining the rationale for the Standards.

## **6. Market Demand**

Demand for harmonised settlement days is high, particularly for cross border or cross system settlement. Although all ECSDA members agree that the implementation of the standards is the correct thing to do, in some markets demand for settlement on all days identified in the standards is low. There are three issues in this area

- Demand from different market players for settlement on all days varies considerably.
- The opportunity cost of a SSS implementing the standards may be high to some market players if other functionality is delayed.
- The extra cost that all market participants would have to bear by opening on an extra day may well outweigh the benefits in the short term for some market participants.

As such, in these markets it is not an assumption that the market would wish the SSS to be open where it currently closes on a national holiday, that is not a TARGET holiday for example.

*Size of Obstacle:* Medium

*Approach to Resolving Obstacle:* This will have to be addressed by each SSS via consultation with market participants. Results of any negative outcome in relation to this barrier will be documented by ECSDA at a later date. Education by SSS and Central Banks will be important.

## **7. Cost**

As mentioned above, cost will be a key issue. Although it is undoubtedly sensible for all markets to be available for settlement as described in the benefits section above, there is a cost for providing such a service. SSS, like all firms, are answerable to their shareholders and clients. Providing a service at a cost (in labour, IT and utility terms) by the SSS as well as the clients for only limited income may be difficult for the SSS to justify. The CSDs in ECSDA are willing to bear costs to implement the Standards above (and elsewhere in this report) as the benefits outlined above for the European Financial Market is expected to, in the long term, outweigh any cost issues. It is crucial that all stakeholders take a similar attitude.

*Size of Obstacle:* Potentially High

*Approach to Resolving Obstacle:* Ensuring that the long term vision and approach is taken and not a short-term cost benefit analysis.

## **8. Competition**

The main reason for the standards is to increase efficiency in the cross border market. Any SSS offering cross border settlement in this way will, to support its customers, have to provide an element of custody service. As many of the SSS clients are Custodians this will naturally put these SSS into an element of conflict and competition with their members.

It is important that no market player uses inefficiencies for their own benefit and a challenge will, therefore, be to ensure it is only valid obstacles that slow the implementation of Standards.

*Size of Obstacle:* High

*Approach to Resolving Obstacle:* Ensuring that the long term vision and approach is taken and not a short-term cost benefit analysis.

### *Intra Day Settlement Hours – Current Situation and proposed standards*

As already mentioned above, the topic of opening hours has been split into two sections; that of intra-day and pre banking day settlement. In terms of efficiency for the European markets, it was discussed whether opening hours needed to be harmonised for all settlement and non-settlement activities within a SSS. Clearly, such a high degree of harmonisation would erode a certain amount of competition between the SSS. As such, ECSDA believes that any Standards other than Standard 4 relating to opening hours should be solely related to the movement of financial instruments and cash.

Consequently, when SSS open for input, reconciliation or other non-settlement activities is a matter for each SSS and need not be harmonised. However, it is important that during the settlement period input, reporting, enquiries and reconciliation should be available across all the SSS.

#### *Standard 4*

*Settlement systems should be open for activities other than settlement activity (ie reporting, enquiries, reconciliation etc.) as long as possible from a cost efficient point of view, but at least from the currency opening time (07.00CET for euros) to the end of the currency day (18.00 CET for euros).*

This Standard has already been implemented by all ECSDA members but should be implemented by other SSS no later than the **end of 2004**.

Agreement was reached on the timing of Delivery versus Payment settlement. However, it was clear very quickly that it is entirely sensible for all SSS to offer settlement as soon as the relevant banking system opens. Indeed, for liquidity and risk purposes as much settlement as

possible should take place as close to the start of day as possible, providing the best opportunity for all market participants to manage their business activities throughout the rest of the day. The only question was whether SSS should harmonise their settlement start time either at or before the banking system opening and this is dealt with in more detail later in the document.

When a SSS should stop offering settlement, particularly across borders, was more contentious. Although, in theory, one would expect all cash settlement to finish at the same time, market demand ensures this is not the case.

- Firstly, different financial instruments have different weightings in terms of risk for market players. Consequently, in the UK for example, the market requests that equity settlement finishes before Government Bond settlement to ensure a period where all available liquidity can be put towards settling any final transactions in those instruments. This is because, given their usual high value, the costs and risks associated with settlement failure are higher than for equity transactions.
- It is also true that many SSS offer overnight collateral functionality or services. Again, it is typical for market participants to insist that all other settlement has finished before these processes are run so that they can reconcile their positions and consequently make best use of the collateral processes. Even if SSS do not offer such a service directly, market participants will still need time to manage their overnight collateral elsewhere in the market.
- Finally, if settlement is not in the local currency but uses central bank funds in a different currency then it may not be possible to continue settlement up until the currency market deadline. As mentioned above, some Central Banks need to return liquidity to another Central Bank by its closing time thus meaning it will require the SSS to close settlement earlier than it would if it was settling in a local currency.

Taking all of these into account, ECSDA agreed that there should be a window in which each SSS closes its system in relation to the market requirements and any particular instructions from its banking infrastructure. ECSDA does not believe that this would affect liquidity adversely as the majority of settlement does (and should) take place earlier in the day, as other reports have documented.

### ***Standard 5***

***All European SSS should start DvP settlement by the opening time of the relevant European currency's banking system and continue to offer DvP settlement until, at a minimum, two hours before the banking system closes.*** (For example, all settlement systems in the Euro Zone should start DvP settlement for Euros at least by 07:00 CET and stop at or after 16:00 CET).

Currently, all ECSDA members except APK (equities), HCSD, IBER (equities), INTER and VP (euros) or 71% meet the requirement for starting at the relevant time. Additionally, it should be noted that in pre-funded integrated SSS/PS model, such as APK's HEXClear, the starting time for DvP settlement is in practice related to the starting time of payment banks (who transfers the cash/liquidity to the SSS). This means, for example, in APK that even if HEXClear would be open for DvP settlement when TARGET opens, existing local market practice would still determine that DvP settlement would not start before payment banks are open since participants do not pre fund the cash in the SSS overnight.

In regard to the closing time requirement, CIK, ENL, IBER (equities), OeKB, VP (euros) and VPS do not currently meet the Standard. As such, 65% of ECSDA members meet the standard.

By implementing Standard 5, Europe will be benefited in the following ways:

- Increased settlement liquidity both in the domestic and cross border markets.
- Timely settlement of arbitrage and of same day turnaround transactions across SSS.
- Creation of a more integrated European Market.

- Increased opportunity for cross border business – this may be especially important for Exchanges, Clearing Houses and Inter Broker Dealers.

Given the fundamental changes this Standard will mean to some markets and systems it has been agreed that it should be given a slightly longer implementation time but that all SSS should have implemented the timetable **by April 2005 at the latest**.

As mentioned above, ECSDA discussed whether the standard should be

1. that all SSS should allow settlement for all types of financial instruments up until the close of the relevant banking system or
2. that the minimum deadline be a certain period of time before the close that allows each SSS its competitive decision of how to stop settlement in all financial instruments.

ECSDA decided that the best solution was to allow for a minimum close time for the reasons identified on page 23 above. However, to ensure the end of the day staggered close is of limited problem, ECSDA agreed a further standard.

## **Standard 6**

*For maximum efficiency and liquidity, participants should be encouraged to settle as early as possible in the morning.*

How this is to be implemented is still under discussion but a number of ideas have already been floated including:

- Lower tariffs for earlier settlement;
- Settlement fines;
- Automated stock borrowing and lending solutions;
- Agreed market practice;
- Linking of transactions;
- Providing the ability for transactions to be partialled or split; and
- Optimisation processes such as netting processes within the SSS.

It should be noted that all CSDs already have very high settlement rates early in the day but they will continue to monitor this area and introduce extra measures if it is felt that it is needed or appropriate. However, any such mechanisms also rely on Central or Commercial Banks to ensure funds are available as early as possible

By ensuring early settlement the following benefits will be achieved:

- Greater Liquidity.
- Increased speed of cross border or cross system settlement.
- Easier fails management due to clarity on positions and outstanding transactions.
- Greater possibility for cross border or cross system chains of transactions to be processed in a single day.

#### *Intra Day Settlement – Obstacles to Implementation of standards 4, 5 and 6*

##### **1. Central Banks and Commercial Banks**

In relation to this debate it is, in the end, the decisions of central and commercial banks in relation to their opening times that will impact the ability of the majority of SSS to meet the standards. As already mentioned, CREST in the UK can only settle Euros until 16.40 CET to allow the Bank of England to return liquidity to the ECB even though TARGET continues to 18.00 CET. However, given the flexibility built into the Standard this is not considered a major problem in this area.

In Greece the Commercial Banks generally only open at 07.00 CET, funds are generally made available for settlement at around 09.00 CET. This means that regardless of the measures taken by the local CSD, settlement will fail due to a lack of credit provision. It is vital that all parties that provide credit across all markets address this.

*Size of Obstacle:* Medium

*Approach to Resolving Obstacle:* To work with all cash providers to ensure cash is available at the banking opening hours, or the SSS to settle in central bank money, or if applicable, the SSS should become a bank themselves.

## 2. **Market Demand**

As with all changes to infrastructure, any change needs to satisfy the cost spent on doing so either in terms of creating a ‘common good’ or other type of benefit. To this end, SSS will need to convince their markets that any such change will be beneficial. For example, the Spanish equities market and the Finnish market consider it more appropriate if their domestic markets continued to open, for DVP settlement, after 07.00 CET and, as yet, there does not appear to be a strong enough case to warrant their systems opening any sooner, although both CSDs will continue to discuss the matter with their markets .

*Size of Obstacle: High*

*Approach to Resolving Obstacle:* Each market will need to be shown the benefits (created by opportunity etc) that the changes could bring, and be convinced that a change is necessary.

## 3. **Cost and Unions**

As with Obstacle 2 above, changes in market structure do not only need to be justified by demand but also cost, particularly in terms of changes in working practices. ECSDA does not believe this to be an issue for this barrier but include the obstacle for completeness.

*Size of Obstacle: Low*

*Approach to Resolving Obstacle:* Each SSS to implement the standard at the lowest cost possible and in full cooperation with any relevant unions.

### *Pre banking day Settlement – Current Situation and proposed standards*

There are ECSDA members who have what is often called overnight settlement. This is, in effect, an early start to the settlement day. Equally, others have intraday real time or batch settlement exclusively and some have both overnight and intraday settlement. This document

does not indicate whether intraday or pre banking day settlement is preferable but recognises the different practices of settlement at different times will affect settlement finality (see below) and efficiency.

In terms of the timing of settlement ECSDA has agreed that there is no pressure on the end of deadline for settlement. It is vital that for reconciliation and the provision of collateral processes that there is a clear end of day for settlement that provides market players with enough time to finalise their day's business. As the European Union expands and participants from other time zones enter the market ECSDA believe that this clear end of day will be important and ECSDA would urge TARGET not to extend cash movements past 18.00 CET at this stage.

However, the start of day is another matter. Currently, TARGET opens at 07.00 CET, which is relatively late for some markets. Taking the need for early settlement in many markets into account an earlier start by central banks might allow harmonised opening hours across all SSS to be achieved. Although ECSDA does not believe this is necessary in the short term (see below). ECSDA will contact the central banks to discuss the issue further in due course.

Until such time as this occurs many markets will still be keen to start their settlement before the central bank opens. ECSDA sees no reason to stop this practice if solutions have been found or force all markets to do so. However, it should be noted that in cases where one SSS that does not have pre banking day settlement links with another SSS that has pre banking day settlement, this may imply risk. This is because a market participant may have to take an element of credit risk or opportunity cost to allow for settlement across the link. eg depending upon the solution in place for such a link a market participant will either have to accept credit risk or provide collateral overnight to fund credit when the collateral could have been used elsewhere. For some SSS, this would change their market position, creating cost, liabilities and risk that are not currently the case. ECSDA does not support this and is particularly against the necessity for CSDs or their members to take credit risk for cross border transactions in these non-intraday processes.

ECSDA does see issues in SSS working on different settlement days at the same time. For example, the Danish CSD starts settlement for the next value date at 18.00 CET the day before whereas the Swiss CSD is still settling the current day's business this time. Any interaction between the systems at this time would lead to potential problems in relation to reconciliation, corporate actions and the transactions available for settlement. As such, it is important that CSDs have clear standards about interaction and settlement in relation to the central banks business.

### **Standard 7**

*No next value date settlement should start before the relevant banking system closes. ie in the Euro zone no overnight batch should start until TARGET closes (currently 18:00 CET).*

### **Standard 8**

*No settlement processing should occur between settlement systems before both are processing the same settlement value date.*

It has been agreed that all CSD members of ECSDA will implement both Standards by the end of 2004.

These two standards produce benefits so that there is:

- clarity in the market regarding the current value date;
- time and ease for reconciliation
- the ability for overnight collateralisation to take place before the next value date;
- a period for corporate action processing to take place; and
- the ability for participants and SSS alike to prepare for next day

### *Pre banking day Settlement – Obstacles to Implementation of standards 7 and 8*

#### **1. Cost and Demand**

As with all other Standards it is key for the SSS to take account of costs and demand in this area. Again, the level of demand for change may currently be low. Once these

areas are harmonised ECSDA believe that market participants will benefit and demand will increase.

*Size of Obstacle: Low*

*Approach to Resolving Obstacle:* This will have to be addressed by each SSS via consultation with market participants. Results of any negative outcome in relation to this barrier will be documented by ECSDA at a later date. Education by SSS and Central Banks will be important.

## **Barrier 4 – Intra Day Finality**

The second of the two barriers initially addressed by ECSDA was that of barrier 4. This was considered to be only partially in the control of the CSDs and, as noted below, the most important input in relation to finality will be needed from ESCB/CESR. However, ECSDA identified and committed itself two Standards that will contribute to remove barrier 4.

### Barrier 4

*'Intra-day settlement finality in all links between settlement systems within the EU should be guaranteed. ECSDA should co-ordinate necessary measures. These measures should be drawn up in close co-operation with the ESCB/CESR Joint Working Group. This barrier should be removed within a period of three months of removing Barriers 7 and 1.'*

This is the number 3 priority identified by the Giovannini report.

### *Intraday Settlement Finality - Current situation and proposed standards*

ECSDA defines finality in accordance with ECB as the moment when settlement becomes irrevocable and unconditional. The time at which finality occurs has a crucial impact on the liquidity of cross-border settlement. The more frequently finality occurs the more liquid cross-border settlement becomes. This is because finality in one SSS is the pre-requisite for further processing of the settlement instruction in another SSS.

### **Standard 9**

***SSS should support efficient cross-border settlement in Europe by providing in real time or by at least one settlement cycle per hour during the period identified in standard 5.***

By definition, most of those CSDs that currently do not meet Standard 5 cannot meet Standard 9 either. Furthermore, this standard will create a fundamental change in some of

these and other CSDs. It has been agreed that the standard should be implemented **by April 2005** to be in line with standard 5.

As mentioned above ECSDA does not believe that SSS should be forced to interact with each other outside of Central Bank hours but that there should be no restriction on doing so. This does have an effect on finality and efficiency as many CSDs will have the majority of settlement at different times. For example, the Finnish CSD has 100% settlement intraday but the Dutch CSD has over 90% overnight. Thus, any settlement between a Dutch and Finnish participant will not be final for some time and there is a reduced possibility of a chain of settlements being effected.

If we take the second Giovannini report literally, then all SSS should be open at all times but clearly this is a step too far and not within the control of SSS as a whole. Cross border settlement pre banking hours cannot be implemented unless credit provision is provided for, meaning that a solution across banks (central and / or commercial) in different markets will be needed.

ECSDA believes that the provision of central bank money where possible is key in the area of finality for non banking SSS. Members are committed to changing timetables (as in Standard 5) to be in line with central bank settlement but not committed to create links between each other in non central bank hours for the following reasons:

- Credit risk
- Liability
- It would be a fundamental change in CSD processing.

The best way to solve this issue in the long term would be for Central Banks to open earlier creating a longer settlement day. However, ECSDA does not believe this is necessary or recommended. This is because in the short term the following steps should be undertaken:

1. All SSS should meet Standard 5 before opening earlier. After April 2005 the next steps can be assessed.

2. Demand for pre banking day settlement internationally needs to be investigated.
3. The cost for SSS to change in this respect needs to be considered
4. SSS will need to consider how time zone differentials should be taken into account with the new EU members before any decision is made.

Until such time as central banks agree to an early start the CSDs will continue their disparity on settlement practices currently available in Europe. However, ECSDA will discuss whether there are any alternative solutions possible as well as contact the central banks to discuss the issue further at the appropriate time.

A key area of efficient intra-day settlement is that of recycling failed transactions. Current practices show that CSDs recycle transactions for deferring periods of time.

<u>Name of CSD</u>	<u>Number of days after Settlement Date that a matched <b>domestic</b> transaction is recycled.</u>
APK	50 Business Days
CIK	Stock Exchange Transactions are cancelled at the end of the intended settlement day but OTC transactions are recycled indefinitely.
CBF	40 business days
CBL	90 business days
CT	Indefinitely
EB	Market Dependant
EF	Between 0 and 30 Business Days depending upon the transaction type
ENL	10 business days
HCSD	Indefinitely
IBER	Fixed Income Transactions are cancelled at the end of the intended settlement day. For

	equities, buy in procedures and collateral processes ensure settlement always occurs.
INTER	7 Business Days for Stock Exchange Transactions but 20 for OTC transactions
MT	For non guaranteed trades buy in can occur within 30 days depending upon the participants involved, after which the transaction is cancelled. For guaranteed trades buy ins will take effect 7 days after the intended settlement date. For guaranteed government bond market trades recycling can occur for a 30 day period after the intended settlement date, after which the transaction is cancelled.
OeKB	3 Business Days
SIS	20 Business Days
VP	5 Business Days
VPC	0 Business Days or 20 business days for instruction entered into the pre-match system
VPS	5 Business Days

In a cross border context the rules vary markedly even within a CSD depending on the link. Many CSDs delete any cross border or cross system transactions after the settlement date to avoid the complexities that failed transaction create related to corporate actions. However, it is important that any transaction has the maximum opportunity to settle on any given day:

#### **Standard 10**

*In the case of a transaction being unable to settle at the first attempt on a given settlement day, all SSS should continue to try to settle the transaction as frequently as defined in standard 9 at least until the end of this settlement day as defined in Standard 5.*

Although currently all ECSDA members meet this standard technically, not all CSDs recycle all types (domestic and cross border) of transactions to all settlement process. In particular, transactions not settled in any pre banking day settlement should be submitted automatically to daylight processing. ECSDA will monitor this situation and report on any members not applying the standard at a later date. It has been agreed that all SSS should meet this standard **by April 2005**.

To progress the finality initiative in a structured approach the group agreed to take the following steps:

1. Agree a standard for recycling cross border transactions within any given day (Standard 10) both at SSS and Clearing level.
2. Agree a harmonised standard for domestic markets. This will be particularly difficult because of system capacity limitations, functional constraints and because a distinction is often made between official trades and OTC transactions.
3. Harmonise steps 1 and 2, which will also mean that solutions for cross border or cross system transaction management (market claims etc) will be necessary.
4. Agree a standard for cross border Stock Exchange Transactions so that cross border settlement can really be looked at as equivalent to domestic settlement.

Between them standards 9 and 10 will produce the following benefits:

- Maximum possibility of settlement / liquidity
- Reduction of CA difficulties at this stage until action 3 above
- Opportunity for Exchanges to compete more freely
- Efficiency

#### *Intraday Settlement Finality - Obstacles to Implementation of standards 9 and 10*

##### **1. Technical**

A number of SSS currently use batch processing for their settlement. As such, changing the number of batches per day or moving to a more real time process will be a fundamental change to their system. Encouraging, OeKB will soon introduce it's new settlement system which will comply with Standard 9 and Monte Titoli is

planning to introduce additional daylight settlement cycles into its Express II settlement platform.

*Size of Obstacle:* High

*Approach to Resolving Obstacle:* Internal processing change needed by each SSS.

## 2. **Demand for Intraday Settlement**

Linked with Obstacle 1 above is that even where there is intraday real time or multi batch settlement is available it is not always widely used. For example, although the Danish CSD has real time and batch settlement intraday, the vast majority of settlement takes place in earlier batch settlement. This will have a knock on effect to the effectiveness of links between SSS during the day and, in particular, Standard 10. For cross border or cross system settlement to be more efficient market participants must make use of all settlement periods available to them.

*Size of Obstacle:* Low

*Approach to Resolving Obstacle:* SSS must educate market participants regarding the opportunities for both domestic and cross border settlement available, and encourage use of intraday settlement.

## 3. **Market Practice**

Domestic market practice for settlement is complementary to the above two obstacles as these practices impact Standard 10 regardless of the functionality available at the SSS. In Finland, for example, market practice is that after 12.00 CET Stock Exchange trades are deactivated and should not settle unless both parties agree to settle after this time. As such, market practice will need to change.

Equally, by themselves, Standards 9 and 10 only provide the foundation in which market participants can work. In order to avoid fails in the first place participants should ensure liquidity is available eg securities lending or collateralisation. However, in the case of fails it is important that buyers and sellers take the necessary steps to ensure they have resources available to take advantage of the recycling undertaken by the SSS.

*Size of Obstacle:* Low

*Approach to Resolving Obstacle:* SSS should work with the markets to ensure market practice is in line with the Standards as described in this document, or introduce settlement discipline measures.

4. **Standard 5**

As mentioned above, those SSS that do not currently comply with Standard 5 will not be able to meet Standard 9. Thus, achieving Standard 5 is a prerequisite and all obstacles applicable for that Standard are also applicable here.

*Size of Obstacle:* High

*Approach to Resolving Obstacle:* See Standard 5

5. **Cost**

As with all other Standards it is key for the SSS to take account of costs and demand in this area. For Standards 9 and 10 there may be high costs for both the SSS and market participants eg in terms of IT.

*Size of Obstacle:* High

*Approach to Resolving Obstacle:* This will have to be addressed by each SSS via consultation with market participants. Results of any negative outcome in relation to these barriers will be documented by ECSDA at a later date.

## Appendix 1 – Glossary of Terms

Definitions are taken mainly from the Second Giovannini Report.

<b>batch or batch processing:</b>	the transmission or processing of a group of payment orders and/or securities transfer instructions in batches at discrete intervals of time.
<b>broker-dealer:</b>	a person or firm sometimes acting as broker and sometimes as principal intermediary in securities transactions.
<b>CEECSDA:</b>	Central and Eastern European Central Securities Depository Association.
<b>central securities depository (CSD):</b>	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. so that they exist only as electronic records). In addition to the safekeeping and administration of securities, a CSD may incorporate clearing and settlement functions.
<b>CESR:</b>	Committee of European Securities Regulators
<b>CET:</b>	Central European Time (GMT + 1).
<b>clearing:</b>	the process of transmitting, reconciling and, in some cases, confirming payment orders or security transfer instructions prior to settlement, possibly including the netting of instructions and the establishment of final positions for settlement. Sometimes the term is used (imprecisely) to include settlement.
<b>clearing house:</b>	an entity which provides a range of services related to the clearing of transactions and payments, and the management of risks associated with the resulting contracts.
<b>collateral:</b>	assets used / pledged as a guarantee to obtain liquidity.
<b>counterparty:</b>	the opposite party in a financial transaction or in a transfer of financial instruments.

<b>credit risk/exposure:</b>	the risk that a party will not settle an obligation in full, either when due or at any time thereafter.
<b>cross-border settlement:</b>	a transfer of financial instruments and / or cash which takes place between accounts located in different countries.
<b>cross-system settlement:</b>	a transfer of financial instruments and / or cash which takes place between accounts located in different SSS.
<b>custodian:</b>	an entity, often a bank, which safekeeps and administers financial assets on behalf of others and which may also provide various other services.
<b>custody:</b>	the safekeeping and administration of financial instruments on behalf of others.
<b>dematerialisation:</b>	the elimination of physical certificates or documents of title, which represent ownership of securities so that securities exist only as accounting records.
<b>domestic settlement:</b>	a settlement, which takes place in the country in which both parties' accounts to the transaction are located.
<b>DvP:</b>	delivery versus payment, including both net and gross settlement.
<b>ECB:</b>	European Central Bank.
<b>ECSDA:</b>	the European Central Securities Depository Association.
<b>ESCB:</b>	European System of Central Banks.
<b>fail / failed transaction:</b>	a failure to settle a securities transaction on the contractual settlement date, usually because of a lack of resources. Fail is usually distinguished from "default". It is also called a failed transaction.
<b>financial instruments:</b>	all types of securities including fixed income, money market instruments etc. that are not necessarily counted as securities in a particular market.
<b>FoP:</b>	free of payment, including both net and gross settlement.

<b>Integrated</b>	Settlement method that uses for the payment leg central bank money accounts located on the SSS platform although they remain "property" of the NCB.
<b>Interfaced</b>	Settlement method that uses for the payment leg central bank money accounts located in the central banks, while securities accounts are with the SSS.
<b>International central securities depository (ICSD):</b>	a securities settlement system, which clears and settles international securities or cross-border transactions in domestic securities. At present, there are two ICSDs located in EU countries, Clearstream Banking Luxembourg, Euroclear Bank and one in Europe outside the EU, Sega Intersettle.
<b>Irrevocable Transfer / settlement:</b>	a transfer which that is legally enforceable and is, even in the event of insolvency proceedings against a participant, binding on third parties.
<b>link between SSS:</b>	a link consists of all the procedures and arrangements, which exist between two SSS for the administration / transfer of financial instruments and cash between the two SSSs.
<b>next value date settlement:</b>	the transfer of financial instruments and / or cash on the business day before the agreed settlement date.
<b>operational risk:</b>	the risk of human error or a breakdown of some component of the hardware, software or communications systems, which is crucial to settlement.
<b>OTC:</b>	over the counter transactions. ie outside of a regulated exchange.
<b>pledge:</b>	a delivery of property to secure the performance of an obligation owed by one party (the debtor/pledgor) to another (the secured party). A pledge creates a security interest (lien) in the property so delivered.
<b>pre banking day settlement:</b>	any transfer of financial instruments, and / or cash, prior to the opening of the relevant central bank on any given day. It is also often referred to as overnight settlement.
<b>registration:</b>	the listing of ownership of financial instruments in the records of the issuer, its transfer agent/registrar, or a CSD.

**security settlement system (SSS):**

a system which permits the holding and transfer of securities, either free of payment (FOP) or against payment (DvP). It comprises all the institutional arrangements required for the settlement (and sometimes the clearing) of securities trades and the safekeeping of securities. Settlement of securities occurs on securities deposit accounts held with the CSD, ICSD or institution in charge of operating the system.

**settlement:**

an action which discharges obligations in respect of funds or financial instrument transfers between two or more parties. A settlement may be final or provisional.

**settlement finality:**

irrevocable and unconditional settlement.

**TARGET:**

Trans-European Automated Real-Time Gross Settlement Express Transfer: the TARGET system is defined as a payment system composed of one RTGS system in each of the countries which participate in stage three of EMU and the European Central Bank (ECB) payment mechanism. RTGS systems of non-participating countries may also be connected, provided that they are able to process the Euro alongside their national currency. The domestic RTGS systems and the ECB payment mechanism are interconnected according to common procedures (“interlinking”) to allow cross-border transfers throughout the European Union to move from one system to another system.

**Unconditional:**

A transfer that may not be revoked by a participant in a system, nor by a third party.

## **Appendix 2 – Participating ECSDA Members and the abbreviations used in this report**

APK	- APK
CIK	- CIK
Clearstream Banking Frankfurt	- CBF
Clearstream Banking Luxembourg	- CBL
CREST	- CT
Euroclear Bank	- EB
Euroclear France	- EF
Euroclear Nederland	- ENL
HCSD	- HCSD
Iberclear	- IBER
Interbolsa	- INTER
Monte Titoli	- MT
Oesterreichische Kontrollbank	- OeKB
SegaInterSettle	- SIS
VP	- VP
VPC	- VPC
VPS	- VPS

### **Appendix 3 - Participating Members of ESCDA Working Group 5**

Heikki Ylpekkala	APK
Cécile Dessambre	CIK
Mathias Papenfuß	Clearstream Banking
Rudiger Henning	Clearstream Banking
Michael Kempe (Chairman)	CREST
Alain Duhamel	Euroclear France
Hans Hengeveld	Euroclear Nederland
Constantin Antonakis	HCSD
Carlos Collar Duran	Iberclear
Benedita Geada Trigo	Interbolsa
Tamas Madlena	Keler
Arturas Keleras	LCD
Carla Bachechi	Monte Titoli
Angelo Gilardi	Monte Titoli
Georg Fink	OeKB
Martin Trueb	SIS
Jaroslava Vlková	Univyc
Kjeld Christensen	VP
Eva Hellstrom	VPC
Katja Goldsworthy	VPS