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<tr><td colspan="3">General Information (Origin of Request)</td></tr>
<tr><td colspan="3">☐ User Requirements Document (URD)</td></tr>
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Request raised by: 4CB	**Institution:**	**Date raised:** April 2020
Request title: Adoption of Ascertia solution for NRO functionalities on TIPS and CRDM^{TIPS} GUI		**Request ref. no:** TIPS-0034-SYS

Request type:	
1. Legal/business importance parameter: (H, M, L)	**2. Market implementation efforts parameter – Stakeholder impact:** (H, M, L)
3. Operational impact: (H, M, L)	**4. Financial impact parameter:** (H, M, L)
5. Functional/ Technical impact: (H, M, L)	**6. Interoperability impact:** (H, M, L)
Requestor Category: (H, M, L)	**Status:** Allocated to a Release

Reason for change and expected benefits/business motivation:

NRO (Non-Repudiation of Originator) is a functionality provided by both TIPS GUI and CRDM^{TIPS} GUI, which allows users to sign the message sent to the application backend. The client-side signature is currently based on Java Applet technology. Such Applet technology is being discontinued by major providers of Java Virtual Machine (JVM is the component running at client side and providing the environment where the user's signature is calculated).

In order to allow the NRO functionality to be ensured even in client eco-systems whereas Applet are not supported anymore, 4CB identified an alternative technology for such function and decided to enhance their Web-based applications using this technology. The alternative to Applet technology has been identified in the Ascertia© signing client (ADSS Go>Sign Client Apps)), used at browser side to calculate user's signature and Ascertia© server (ADSS server) to verify, at backend side, such a user's signature.

The Ascertia solution (ADSS server + ADSS Go>Sign Client Apps) is currently used in T2 Internet Access and CoreNet context and that has already proved to be reliable, stable and responsive from a performance point a view. It will also adopted in T2S GUI for the very same purpose.

The change is required and urgent because Applet technology has already been discontinued and its use lead to the risk to prevent customers from being able to install new version of the JVM software on their workstation or could lead to the need to have multiple versions of the JVM on their workstations.

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Description of requested change:

It is requested to change TIPS GUI and CRDM^{TIPS} GUI in order allow users to sign the NRO interactions without activating any Applet into their web browser.

The new solution will:

- Direct the user to install an Ascertia signing client (directly downloaded from a 4CB URL) onto his workstation. This action will be needed only during first interaction;
- Activate the Ascertia signing client when the user has to sign the message directed to the web backend;
- Interact, at backend level, with the Ascertia server for all the tasks related to the signature verification.

The change activity includes the installation and customization of the ADSS components, the adaption of the GUI application and for those users whose IT configuration does not contain the Applet technology anymore the possibility to have a dedicated desktop software (Go>Sign Desktop).

The organisational aspects concerning the provision of this software will be dealt with updating the NRO technical document which will also provide steps for the Go>Sign Desktop installation.

Go>Sign Client applications installation and customization support will be offered by Service Desk and 4CBs technical and administration teams.

As this will be the U2A NRO solution adopted by ESMIG for T2 –T2S – TIPS services and ECMS only one Go>Sign Desktop application version will be used and distributed.

Go>Sign Client applications are already in use in TARGET2 for Internet Access and Contingency Network, 4CBs will guarantee that no different client versions are needed by TARGET2 T2S and TIPS even before the go-live of CSLD project.

Here below a short summary of main impacts on customer side concerning GoSign Desktop client:

Go>Sign Desktop is a Windows and MacOSX installable middleware product. ADSS server communicates with Go>Sign Desktop using JavaScript and supports any modern HTML5 browser.

Operating Systems: Windows 10, Windows 7, Mac OS X 10.4 Tiger and above

Browsers: Go>Sign Desktop works with any modern HTML 5 browser including Edge, Chrome, Firefox etc.

Go>Sign Desktop listens for JavaScript requests from the web browser on the following port:

- HTTPS PORT=8782

Go>Sign Desktop application is located by the web browser JavaScript using a FQDN (Fully Qualified Domain Name) and the following entry is added to the local 'hosts' file (e.g. C:\Windows\System32\Drivers\etc\hosts):

127.0.0.1 client.go-sign-desktop.com

The above value (*client.go-sign-desktop.com)* must NOT be changed.

ADSS Go>Sign Desktop can be installed on the user workstation either by manual rollout or by remote Installation using Windows Group Policy.

ADSS Go>Sign Desktop Go Software licensing costs will be covered as part of the Change Request.

ADSS Go>Sign Desktop application has two log levels. First informational, which is for normal use, and second, debug, which should only be used when investigating performance issues, functionality problems, etc.

By default, ADSS Go>Sign Desktop logging level is set to INFO. Furthermore, this update will modify the qualified configuration for users of the U2A NRO service (updated NRO Technical document will be provided together with CR detailed assessment).

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Submitted annexes / related documents:

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Proposed wording for the Change request:

CRDM TIPS UHB v3.0

1) §2.1 Overview of the Graphical User interface

[…]
NRO specific requirements

- The Ascertia signing client installation onto the TIPS user workstation will be triggered with the first attempt to sign an instruction.

The TIPS users have to ensure that the security settings of their institutions, i.e. firewalls, allow for installation of the ~~applet~~ Ascertia package/application.
[…]

2) §1.2.3 Validation – Screenshot to be amended

[…]

In order to ensure non-repudiation of origin (NRO) for critical transactions, the use of a digital signature has been implemented for specified screens. This means that the user will be asked to enter a PIN code for signature purposes whenever an instruction is initiated. With the entry of the PIN,

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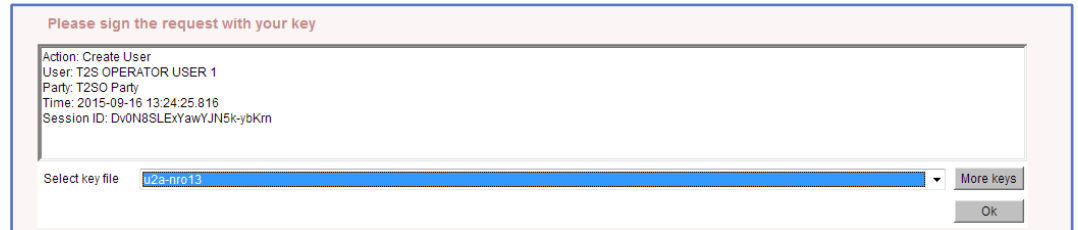CRDM attaches a digital signature to the instruction entered by the CRDM actor.

Illustration 1: Digital signature

[…]

TIPS UHB v3.0

3) §2.3.2 Setup and login process

[…]

NRO specific requirements

The Ascertia signing client-installation onto the TIPS user workstation will be triggered with the first attempt to sign an instruction:

The TIPS users have to ensure that the security settings of their institutions, i.e. firewalls, allow for installation of the Ascertia package/application.

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High level description of Impact:

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Impacts on other projects and products:

Outcome/Decisions:

L3 analysis - General Information

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	Impact on TIPS	
Business Interface		
	A2A Interface	
X	U2A Interface	
Settlement Engine		
	Payment Transaction	
	Liquidity Transfer	
	Recall	
Queries and Reports		
	Queries	
	Reports	
Other functions		
	Local Reference Data Management	
	Statistics	
	Complex Queries and Reports	
	Mobile Proxy Look-up	
Common Components		
	ESMIG	
X	CRDM	
	Archiving	
	Billing	
	DMT	
Operational Tools		
	SLA Reporting	
	TMS	
	Technical Monitoring	
	Change Management	
	Capacity Management	
Infrastructure request		
	Application components impacted	
	Application components not impacted	

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Operational activities		
	Business activities impacted	
	Technical activities impacted	
New functionalities		

Impact on documentation		
Document	**Chapter**	**Change**
TIPS UHB	§2.3.2 Setup and login process	NRO description amended
CRDM TIPS UHB	§2.1 Overview of the Graphical User interface §1.2.3 Validation	NRO description amended Screenshot to be amended
Training documentation		
Other documents		

Overview of the impact of the request on TIPS (L2 view)
Summary of functional, development, infrastructure, operational and security impacts

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Summary of functional impact:

Minor impact on functional documentation is foreseen stemming from this Change Request.

Both CRDM TIPS UHB and TIPS UHB have to be updated to take into consideration the migration to the new Ascertia signing client.

Summary of application development impact:

Both TIPS U2A and CRDM U2A applications shall be adapted in order to integrate the new Ascertia functionalities, 1) allowing users to calculate and attach their PKI signature to the message sent by the GUIs dialogues (both TIPS and CRDM GUIs) and 2) allowing server applications (TIPS and CRDM) to verify the user's signature.

Summary of infrastructure impact:

It is necessary to procure the following products and services: U2A NRO product licenses for test & training and production, signing user licenses, verification user licenses and support and maintenance.

Summary of operational impact:

No operational impact.

Summary of security impact:

See Change Request analysis.