

COMMON INTERFACE CHANGE REQUEST 2020-04-10 (1)

Originator: RNE + CET4Biz (PCS TIL provider)



CI to CI communication

This CR is made for simplification of Route Configuration with Heartbeat check from CI to CI.

This is an extract from the current documentation used internally at RNE for setup of RNE PCS CI connection. We use the screenshots from the current system in order to explain where exactly the changes should be applied.

The Change Request proposes the implementation of the wizard to simplify the "step-by-step" procedure from Remote LI, via Heartbeat to Outbound Routing configuration. It can serve as an idea for all other configuration most frequently applied use cases in CI. The benefit: it would dramatically speed up the process of the configuration, especially for the newcomers. It also would provide a guidance for the user, which will reduce the configuration errors which in the most cases cause major delays in CI-2-CI communication establishing.

For each step we added "Change Request" on how should the User Interface act.

1 General

1.1 Introduction

In general, CI-2-CI connection with route configuration is done in 3 steps:

- 1. Heartbeat (bidirectional communication)
- 2. RNE CI sends message to the respective agency CI
- 3. RNE CI receives message (from the respective agency CI)

Please note that the screenshots below is taken from Banverket (Trafikverket, SE) connection to RNE PCS CI case.

2 Establishing Heartbeat – the first part of the wizard

The first step for confirming that the communication in both directions is functioning, is to establish the Heartbeat. This requires following steps:

- 1. define outbound remote LI for the respective agency
- 2. define inbound remote LI for the respective agency (NOTE: if we're configuring communication with IM agency, we need to define one remote LI for each RU partner)
- 3. reload cache
- 4. check heartbeat connection

Note: In order for this step, and generally the whole setup to work, a network connection has to be possible therefore, we recommend a network check on all sides involved (firewall,...)

Change Request: the steps 1, 2 and 3 should be done in wizard mode in the GUI. The GUI should offer "Routing Configuration with new Remote LI in Wizard mode". If the user choses this option, the wizard mode is entered.



2.1 Outbound Remote LI

Path: Administration -> Remote LI Config -> Edit

Change Request (Wizard step W1): this should be the first step of the wizard.

Configuration

Message Direction: Out-bound CRD: →>unchecked‹‹ Remote LI Name: >>Company Name<<_OUT Hostname / IP Address: >>Your_IP_Address<</pre> Heartbeat Service URL: >>empty<< Instance No: 01 Select Protocol: Https No of Attempts: 1 Status: Active Receiver Company: >>Company ID<< Alternate Host: >>leave empty<< Secure LI Name: taftest1.railneteurope.info Communication Mode: Web Service Port: 443 Time Interval: 15

Example



board Administration R	Reference Data Log & Audit Metao	data Mapping	LI Information Reports		
Roles Legacy Connectors S	s Config Remote LI Config Routing Cor	nfiguration Replica	tion Config Master Data Internationalizati	ion Info	
Administration >> Remote LI Co	nfig >> Edit Remote LI				
Remote LI Information					
Message Direction: *	Out-bound	۲	Status: *	Active In-Active	
CRD :					
Remote LI Name: *	BANVERKET_CI_OUT		Receiver Company: *	Banverket - 0074	•
Host Name/IP Address: .	188.121.68.68		Alternative Host Name/IP Address:		
Instance No: *	01		Sender LI Name: *	taftest1.railneteurope.info	
			Communication Mode: •	JMS WebService Proxy Required:	
Select Protocol: *	Https		Port •	443	
No.of Attempts:	1		Time Interval:	15 Seconds	

Change Request: the wizard should automatically highlight the button "**next: setup inbound remote LI**" in the lower right corner for the next step, additionally to the buttons provided now (Save, Reset, Cancel).

"Save" action and "next:..." action should reload the cache in background to avoid the manual action which is currently needed.

2.2 Inbound Remote LI

Important: If we are configuring communication with IM agency, we need to define one remote LI for each RU partner.

Path: Administration -> Remote LI Config -> Edit

Change Request (Wizard step W2): after the "**next**:.." button was clicked in previous step **W1**, the GUI should automatically fill the form on the page with the inverse settings of Sender and Receiver as well as corresponding host names and IP addresses.

Configuration

```
Message Direction: In-bound
Remote LI Name: >>Sender Company‹<_>>Receiver Company Initials‹<_IN
Host Name/IP Address: >>Sender IP Address‹<
Instance No: 02
Sender Company: >>Sender Company ID‹‹
Select Protocol: Https
Status: Active
Receiver Company: >>Receiver Company ID‹‹
```



```
Alternative Host Name: >>leave empty<<
Sender LI Name: >>Sender Company<<_>>Receiver Company Initials<<_IN
Communication Mode: Web Services
Port: 443
```

Example

Roles Legacy Connectors Sy	ys Config Remote Ll Config Routing Config	uration Replica	tion Config Master Data Internationalization	n Info	
Administration >> Remote LI Co	nfig >> Edit Remote LI				
Remote LI Information Message Direction: *	In-bound	•	Status: •	Active In-Active	
Remote LI Name: *	BANVERKET_CI_IN_0074		Receiver Company: *	Green Cargo - 2174	٣
Host Name/IP Address: *	188.121.68.68		Alternative Host Name/IP Address:		
Instance No: •	02		Sender LI Name: *	BANVERKET_CI_IN_0074	
Sender Company: *	Banverket - 0074	*	Communication Mode: *	JMS WebService Proxy Required:	
Select Protocol: •	Https	٣	Port: •	443	

Change Request: additionally to the buttons given now (Save, Reset, Cancel), the buttons "**next: heartbeat check**" and "**back**" (to the "outbound" configuration) should be highlighted in the lower right corner. The actions **Save** or **next** should automatically reload cache.

2.3 Reload Cache

Cache reload is needed to be sure that the new settings are being used by the system.

Path: LI Information -> Cache Info -> click on the the icon for All Reload

Change Request: this step should become obsolete in this wizard mode. The cache should be reloaded on each Save/Next action in the wizard mode. The Reload Cache GUI function should remain as a stand alone GUI function, but should not be the part of the wizard mode.

Nice to have: on the lower part of the form, there should be the cache status written in the small letters like: "the last cache reload <timestamp>". With that information, the user can easier decide if the manual cache reload is required.

2.4 Check Heartbeat connection

Path: Dashboard -> Outbound Online Status -> Outbound Remote LI Status

WARNING (not the part of the change request – just a recommendation for improvement): sometimes RNE CI doesn't send any heartbeat messages. The only workaround we've found so far is to restart JBoss.

Change Request (Wizard step W3): The heartbeat status for THIS connection should be shown, not all the heartbeats as currently. The heartbeat check GUI as today which shows all the heartbeats, may, of course, remain, but in wizard mode, where the dedicated communication is done, it is obsolete to show all the heartbeats.



Example (current system)

Administration Reference Data	Log & Audit Metadata	Mapping LI Information	Reports	
atus Outbound Online Status Inbound Onli	ine Status Configuration Status			
ashboard >> Outbound Online Status >> Ou	tbound Remote LI Status			
Outbound Graphical Overview Outbound	Table Of Connectors Outbound	d Remote LI Status		
+ Legend				
Records Per Page 50				Auto Refresh: Seconds: 10 X Actual Time: 18
Records Per Page 50				Auto Refresh: Seconds: 10 🔹 Actual Time: 18
Records Per Page 50	Heart Beat	Heart Beat TimeStamp 🔻	Message Exchange	Auto Refresh: ■ Seconds: 10 ▼ Actual Time: 18
Records Per Page 50 Remote LI BANVERKET_CL_OUT	Heart Beat	Heart Beat TimeStamp 🔻 2018-10-14 18:15:10.578	Message Exchange	Auto Refresh: Seconds: 10 V Actual Time: 18 Last Message Exchange Time V 2018-10-14 18:11:54.941
Records Per Page 50 Remote LI = BANVERKET_CLOUT C4B_Dev_CLOUT_0079_0083	Heart Beat	Heart Beat TimeStamp ▼ 2018-10-14 18.15.10.578 2018-10-14 18.15.11.257	Message Exchange	Auto Refresh: Seconds: 10 • Actual Time: 1 Last Message Exchange Time • 2018-10-14 18:11:54:941
Records Per Page 50 Remote LI * BANVERKET_CL_OVIT C48_Dev_CL_OVIT_0079_0083 tocal_BANVERKET_out	Heart Beat	Heart Beat TimeStamp	Message Exchange	Auto Refresh: Seconds: 10 • Actual Time: 18 Last Message Exchange Time ▼ 2018-10-14 18:11:54:941
Records Per Page 50 Remote LI * BANYERKET_CLOUT C4B_DRV_ERKET_CUI tocal_BANYERKET_CUI tocal_BANYERKET_CUI	Heart Beat	Heart Beat TimeStamp ▼ 2018-10-14 18:15:10:578 2018-10-14 18:15:11:257 2018-10-14 18:15:11:371 2018-10-14 18:15:25:602	Message Exchange	Auto Refresh: Seconds: 10 • Actual Time: 18 Last Message Exchange Time • 2018-10-14 18:11:54:941

Change Request: The button at the lower right corner should be shown "**next: Routing Config-uration**", "**back**" (to the "inbound" configuration). The next step in wizard mode should be the configuration of Legacy Connector for Outbound Routing.

3 Routing Configuration with Legacy Connectors - the second part of the wizard

Change Request (Wizard step W4): The legacy connector menu containing the list of legacy connector types (ws connector, file system connector etc.) should appear. This is the preparation step for outbound routing configuration.

3.1 Outbound Legacy Connector

Choose the legacy connector which YOUR legacy system uses to send the messages via CI to the partners.

(Example from PCS TIL) Path: Administration -> Legacy Connectors -> FS Connectors -> Add FS Connector

Change Request: the data (Sender ID, Receiver ID) from the wizard step **W1** "Outbound Remote LI" should be automatically filled in the form. UTF-8 should be default setting.

Configuration

```
FS Instance Name: FS_OUT_>>RU_Code<<_>>IM_Code<<_>>Message_Type<</pre>
Directory: /root/usr/local/CommonComponents/FS/messages/out/>>message<//>
pany_code<</pre>
Status: In-Active
Company: >>IM Company ID<</pre>
File extension: xml
Message Direction: Out-bound
```



Character Encoding: UTF-8
Sender ID: >>RU Company ID<<
Message Format: Common-XML-2_2_4
Receiver ID: >>IM Company ID<<
Associated Message: >>Message Type<< - 2.2.4
Error Delete: True
Post Delete: True
Work suffix: empty

Example

S Instance Name:	FS_OUT_1174_0074_PRM	Company: •	Banverket - 0074	•
lirectory: •	/root/usr/local/CommonComponents/FS/message:	File Extension:	xml	
itatus:	OActive In-Active			
lessage Direction: •	Out-bound v	Message Format: *	Common-XML	٣
haracter Encoding: •	UTF-8 T			
iender ID:	Statens Järnväger - 1174 🔹	Receiver ID:	Banverket - 0074	٣
upported Message types:		Associated Message types: *		
PathDetailsMessage - 2.1.7 PathConfirmedMessage - 2.1.7 PathConfirmedMessage - 2.1.7 PathDetailsRefusedMessage - 2.1.7 PathDetailsRefusedMessage - 2.1.7 ReceiptConfirmationMessage - 2.1.7 ErrorMessage - 2.1.7	- F Contractioned 2 - 55			
ptional Info	T			

Change Request: additionally to the buttons Save, Reset, Cancel, the additional buttons "**next: outbound routing configuration**" and "**back**" should be added

3.3 Routing Configuration

The next step is to change the routing configuration for the respective message.

Change Request (Wizard step W5): This is an ideal case for wizard. The routing configuration form should be shown. The data from the previous steps should be automatically filled in the form: Receiver company, Message type, Remote LI.

Path: Administration -> Routing Configuration -> Message Routing -> Edit Out-Bound Message Routing



Configuration

Routing Name: MR_>>Message Type<<_Out_>>Sender Company Code<<_>>Receiver Company
Code<<
Receiver Company: >>Company ID<<
Sign: unchecked
Status: Active
Encrypt: unchecked
Message Type: >>Message Type<< - 2.2.4
Remote LT : NReceiver Company// CT OUT-01
Compress: unchecked
Auto Resend Request: unchecked
· · ·

Example

Administration >> Routing Configuration	>> Message Routing >> Edit Out-Bound Message Routing			
Message Routing				
Routing Information Message Direction: Out-Bound				
Outbound Routing Information Routing Name: *	MR_PRM_OUT_2174_0074	Message Type: *	PathRequestMessage - 2.1.7	*
Receiver Company: *	Banverket - 0074	 Remote LI : • 	BANVERKET_CI_OUT-01	*
Sign:	Encrypt:	Compress:	Auto Resend Required:	
	Activo III Activo			

Change Request: Additionally to the buttons Save, Reset and Cancel, the buttons "**check con-figuration status**" and "**back**" should be shown.

3.4 Configuration Status

The last step in this setup is to check the outbound configuration status, in order to make sure that the right configuration is being used.

Note: Currently, the Filter can be used to find the configuration that is needed. In the wizard mode, the use of filter in this step should become obsolete. The filter possibility, may, of course, remain, but, if the wizard runs well, it should be used only in the rare cases during the wizard mode.

Path: Dashboard -> Configuration Status -> Outbound Configuration



Change Request (Wizard step W6 – the last step): The status of the outbound configuration should be automatically shown, according to the data from the previous steps from the wizard. There should be no need to search / filter, the data should already be pre-checked.

Example

tus Outbound Online Sta	itus Inbou	and condition St									
	n Status	Outhound	Configuration	M				_			
Outbound Configuration	Inhound	Configuratio	Jonniguration								
Outbound Conliguration	inbound	Configuratio	'n								
- Filter						-		_			
Connector Type:	Select from	n list		Sender ID:	Select from list		Receiver ID:	S	elect from	list	
Common Metadata:	Select from	n list		Private Metadata:	Select from list	•	Mapping Definition:	S	elect from	list	
Remote LL:	DANGEDKE	TOLOUT									
INCLUDED LT	DAINVERKE	1_0_001	*	Configuration Type:	Complete	*					
+ Legend	DANVERKE		·	Configuration Type:	Complete					-	
+ Legend Records Per Page 50	Sandra 2	Providence 2		Configuration Type:	Complete	v Manulus Definition v	Harris Barden -	Size 1			
Records Per Page 50 Connector Connector Connector	Sender ▼	Receiver ▼	▼ Private Metadata ▼	Common Metadata	Complete	¥ Mapping Definition ▼	Message Routing ▼	Sign 1	• Ency •	Comp -	Remote
Records Per Page 50 Connector - ES_OUT_1174_0074_PRM ES_OUT_1274_0074_PRM ES_OUT_1274_0074_PRM	Sender ▼ 1174 2474	Receiver ▼ 0074	Private Metadata ▼ PathRepuest/lessage_2.1 PathRepuest/lessage_2.1	Cominguration Type: Common Metadata = PathResuesTMessape_2.1 DathDemus Ressape_2.2.	Complete Mapping Association ▼ MA_PRM_0UT_1174_0 MA_PRM_0UT_2174_0	• Mapping Definition ▼	Message Routing T MR. PRIN. CUIT_2174_5074	Sign 1	• Ency •	Comp -	Remote BANVER
Filter - Filter - + Legend Records Per Page 50 - Connector • - FS_OUT_1174_0074_PRM - VS_OUT_0074_PRM - VS_OUT_0074_PRM -	Sender ▼ 1174 2174 0081	Receiver ▼ 0074 0074	Private Metadata Private Metadata PathRepuestMessape-21 PathRepuestMessape-21	Contiguration Type: Common Metadata * EathRecuestMessage 2.1. PathRecuestMessage 2.1.	Mapping Association ~ MA_PRM_OUT_1174_0_ MA_PRM_OUT_1174_0_ MA_PRM_OUT_2174_0_	• Mapping Definition ▼	Message Routing V MR. PRM. OUT_2174_0074 MR. PRM. OUT_2174_0074 MR. PRM. OUT_2174_0074 MR. PRM. OUT_2174_0074	Sign [•] N N	Fency F N N	Comp ▼ N N	Remote BANVER BANVER
Records Per Page 50 Connector • FS_OUT_1174_0074_PRM - FS_OUT_001_0074 VIS_OUT_001_0074 VIS_OUT_0074_074	Sender ▼ 1174 2174 0081 1174	Receiver - 0074 0074 0074 0074	Private Metadata PathRequestMessage 2.1. PathRequestMessage 2.1. PathRequestMessage 2.1.	Controuration Type: Common Metadata PathRecuestMessage 2.1. PathRecuestMessage 2.1. PathRecuestMessage 2.1.	Complete Mapping Association ~ MA_PRM_OUT_1174.0. MA_PRM_OUT_2174.0. MA_PRM_OUT_2174.0. MA_PRM_OUT_20061.0.	• Mapping Definition ▼	Message Routing T MR_PRM_OUT_2174_0074 MR_PRM_OUT_2174_0074 MR_PRM_OUT_2174_0074 MR_PRM_OUT_2174_0074	Sign * N N N	Fincy V N N N	Comp ▼ N N N N	Remote BANVER BANVER BANVER BANVER
Records Per Page 50 Connector • ES_OUT_1174_0074 PRM ES_OUT_1074_0074 PRM WS_OUT_0081_0074 WS_OUT_1174_0074 WS_OUT_1074_0074	Sender ▼ 1174 2174 0061 1174 2174	Receiver ▼ 0074 0074 0074 0074	Private Metadata PathRepuestMessage 2.1. Pat	Contiguration Type: Common Metadata ▼ PathReauestMessape 2.1. PathReauestMessape 2.1. PathReauestMessape 2.1. PathReauestMessape 2.1.	Complete Mapping Association V MA PRM OUT 1174 0. MA PRM OUT 2174 0. MA PRM OUT 2174 0. MA PRM OUT 2174 0.	• Mapping Definition ▼	Message Routing - MR_PRM_OUT_2174_0074 - MR_PRM_OUT_2174_0074 - MR_PRM_OUT_2174_0074 - MR_PRM_OUT_2174_0074 - MR_PRM_OUT_2174_0074 -	Sign V N N N N	▼ Ency ▼ N N N N	Comp ▼ N N N N	Remote BANVER BANVER BANVER BANVER BANVER

Change Request: The button in the lower right corner should be **"back"** and **"exit wizard mode"**

4 Activities After the Initial Configuration

Change Request: when the user wants to add new messages in one routing configuration with one partner for which the configuration is already existing, the routing and mapping configuration for messages shall run as follows: the user shall be able to select the messages in the appropriate schema from the list he would like to use in the communication with the partner. The system shall automatically prepare the routing and the mapping for all selected messages, because the information is given (as seen above in the wizard). Currently, for any new message configuration, all the steps have to be made to add a message, however, it can be dramatically simplified, as proposed.

Change Request: The user should be able to select the partner (like in our example Banverket/Traafikverket), and then, in one GUI step see all the configuration and connection statuses related to that partner:

- heartbeat sign
- routings
- message list
- message exchange status list

This would save users' time to browse through 5 different functions, apply the same filters every time and browse through the long result lists.



Add any other information