PI Troubleshooting Tips: Connecting SPROXY on backend R3 to PI ESR

Purpose:
In this Wiki, we will take a look at a common issue which happens when setting up the connection from an ABAP back-end R/3 system to a Process Integration (PI) / Process Orchestration (PO) system for the purpose of ABAP proxy communications.

Overview:
We will document some of the known causes and solutions to this issue and clear up some of the questions surrounding the way SAP have designed these objects to be displayed in transaction SPROXY.

Background:
The vast majority of issues connecting a back-end SPROXY to a PI/PO Enterprise Services Repository (ESR) are configuration related. We will attempt to remove any possible doubts here regarding the required configurations. We will also attempt to clarify how/why objects that are visible in the PI ESR are not visible in the back-end SPROXY, even when the connection has been successfully configured.

Configurations:
We will provide a high level explanation of the required configurations and links to the relevant SAP Help documentation showing what to do (there are already a lot of resources on SCN explaining these configurations). Note: there will be slight variations on the required configurations depending on whether you are connecting to a PI ABAP stack or PI Java only system.

1. In the SLD used by the PI/PO system, it is necessary to create a Technical System and Business System to represent the backend ABAP proxy system.
2. In the PI UME it is necessary to create 2 users
   1. esr_user – which should be a copy of the PIREP<SID> user
   2. PIAPPPL<SID of the ABAP Backend System> - which should be a copy of the PIAPPL<SID of AEX> user
      Note: Do not take any chances with these users. Ensure they are copies of the existing PI* users so there can be no possible issues with user type or user authorizations.
3. In the Backend R/3:
   1. create an SM59 Destination, SAP_PROXY_ESR, of Type G to connect to the PI ESR (using user in 2a)
   2. create an SM59 Destination, e.g. <Backend SID>_To_<PI SID>, of Type G to connect to the PI AEX (using user in 2b)
   3. In transaction SXMS_IECONF, set the Role of Business System to Application System and the Corresponding Integ. Server to dest:// <Backend SID>_To_<PI SID> as below.

<table>
<thead>
<tr>
<th>Integration Engine Configuration Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Integration Engine Configuration Data" /></td>
</tr>
</tbody>
</table>

4. configure the connection to the System Landscape Directory
   SLDAPICUST should be set up to point to the SLD of PI system
   User maintained here should be similar to that in PI. If connecting to an AEX use the SAP_CL_<SID> user.
SAPLDAPI and LCRSAPAPI are only necessary if connecting to a dual stack PI
5. complete HTTP Service activation as per Activating an HTTP Service on the Receiver System
6. complete queue registration as per Registering Queues
7. if you wish to monitor the backend proxy systems in the PI system Component Monitoring, create the PIRWBUSER (or a copy of this) in the backend system (SU01). See Creating a User for the Runtime Workbench. Ensure the correct user Type is maintained and the correct role is assigned.

Troubleshooting:

Use the below reports, via transaction SE38, to check the configurations and connections:

1. SPROX_CHECK_IFR_CONNECTION
2. SPROX_CHECK_IFR_ADDRESS
3. SPROX_CHECK_IFR_RESPONSE
4. SPROX_CHECK_HTTP_COMMUNICATION

Known Issues:

SAP KBA 1759641 SPROXY error: 'No connection to ESR'
SAP KBA 2370153 Connection problems setting up SPROXY to PI ESR
SAP KBA 2020228 SPROXY error CX_SRAPI_PRECONDITION_VIOLATED

What PI related objects should be visible in SPROXY:

When the connection to the PI ESR has been correctly established, it is not automatic that all objects in the PI ESR become visible in trx SPROXY.

- SAP SWCV's will not be visible in the backend sproxy unless the actual component is installed on the backend. See SAP Note 2029135 Software component from Enterprise Services Repository is not visible in Enterprise Services Browser (TA SPROXY), for more details on this. "SAP Software Component Versions (SWCVs) available in Enterprise Service Repository (ESR) are only shown if the same SWCV is also installed in the backend."
- Any custom objects in SWCV's using the "sap.com" extension - sap.com is reserved for SAP objects. Do not use this for your own custom configurations.
- Any objects in Namespaces's using the "sap.com" extension - sap.com is reserved for SAP objects. Do not use this for your own custom configurations.

See the notes below for more details and workarounds:
- SAP Note 1528587 PI ESR Content Objects are not visible in SPROXY
- SAP Note 2266714 PI ESR objects are not visible in SPROXY

See Also:

SAP Help: Configuring Business Systems with Integration Engine (for a Dual Stack PI)
SAP Help: Configuring Business Systems Using the Local Integration Engine (for a Single Stack PI AEX)
SAP Note 2215183 Enterprise Service Browser - documents the new browser layout in transaction SPROXY