The JAG PdiCS⁺ Master Modules play an important role in the JAG PdiCS System, as they take care of the recipe interpretation and execution and they control the whole process. As a consequence, the software resources of the Master Modules (registers, strings, timers and flags) contain valuable data regarding the current state of the process and the recipe execution.

The JAG Resource Backup Manager allows creation and restoration of backups of the software resources of one or several Master Modules. Typical applications include:
- speeding up and simplifying the recovery process in the event of a module failure by creating automated backups at fixed intervals
- streamlining the test and commissioning process by creating manual backups when the plant is in a specific state

**Features and benefits of the JAG RBM**

- **RBM Console (desktop application)**
  - Connect to RBM Servers
  - Define the connections to the Master Modules and the resources to be backed up
  - Create manual backups
  - Compare backups to decide which one should be restored
  - Restore backups
- **RBM Server (windows service)**
  - Create automated backups at fixed intervals
  - Event driven creation of backups (triggered by the user or by the Master Module)
  - Backup retention management
- **RBM Database**
  - MS SQL database that holds the backups and the configuration of the RBM Server
Creating consistent snapshots by using JAG PdiCS⁺ XMM-EM Master Modules

The JAG Resource Backup Manager can be used with any JAG PdiCS⁺ or JAG PdiCS Master Module, but creating snapshots requires the use of JAG PdiCS⁺ XMM-EM modules.

Thus, by creating a mirror copy of the resources in the working memory of the XMM-EM module, it is possible to create backups where all resources date from exactly the same moment in time.

Use of the Resource Backup Manager with XMM-EM modules is recommended for plants that process valuable products, as it allows minimization of the risk of product loss.

System requirements

<table>
<thead>
<tr>
<th>Component</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client PCs for the RBM Console</td>
<td>One or several PCs with Windows 7/8/10. Live connection to the RBM Server</td>
</tr>
<tr>
<td></td>
<td>with which the user is currently working and the corresponding SQL Server.</td>
</tr>
<tr>
<td>Server for the RBM Service</td>
<td>Windows 7/8/10 machine. Live connection to the Master Modules and the SQL Server.</td>
</tr>
<tr>
<td>SQL Server</td>
<td>MS SQL Server 2014 or later</td>
</tr>
</tbody>
</table>

Licensing

Licensing of the Resource Backup Manager consists of two kinds of licenses:

- A basic license per RBM server that allows manual resource backups of an unlimited number of Master Modules
- An additional license per Master Module with automated backups

The number of RBM Consoles is not taken into account for licensing purpose.

<table>
<thead>
<tr>
<th>License</th>
<th>Order number</th>
</tr>
</thead>
<tbody>
<tr>
<td>RBM basic license (per RBM Server)</td>
<td>M022.130.010.300</td>
</tr>
<tr>
<td>RBM Master Module license</td>
<td>M022.130.010.310</td>
</tr>
</tbody>
</table>