Prioritization of Process Historian System Messages

SIMATIC PCS 7 and Process Historian

https://support.industry.siemens.com/cs/ww/de/view/66579062
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1 Introduction

The Process Historian cannot archive any data, if, for example, the connection between the OS system and the Process Historian is out of order or if sufficient hard disk capacity is no longer available. For this reason the Process Historian/PH Ready component on the OS system can trigger various OS messages. This Application Example describes how one can configure these messages with priority 16 in order to improve detection of the message for the operator or system administrator.

Configuration Used

In this example an ES/OS Single Station and a combined Process Historian/Information Server has been used.

In general a configuration with a dedicated engineering system and an OS client server structure can also be used. In this case the OS changes are made on the ES and must then be loaded onto the OS server.

Software Used

- PCS 7 V8.1
- WinCC V7.3 Upd1
- Process Historian 2014

Validity

This Application Example applies for all OS systems that are compatible with a PH 2014 (SPx) version.
2 Messages

Message types

There are two different types of PH/PH Ready message:

1. **Class = System, need not be acknowledged**
   - Message Type = Process Control System.

2. **Class = OS process control system message**
   - Message Type = Failure

All OS messages of the Class = “System, need not be acknowledged”, are shown only in the control system list and do not need to be acknowledged. We recommend that the control system list is checked cyclically (e.g. daily) for any control system messages, so that problems in the system are detected at an early stage.

All OS messages of the Class = “OS process control system message” are shown in the control system list and in the incoming alarm list, and must be acknowledged. We also recommend that the incoming alarm list is checked cyclically (e.g. daily) for corresponding control system messages.

If one configures an OS message with priority 16, a priority 16 indicator is displayed on the left next to the alarm line. All PH/PH Ready messages have priority = 0 as the default.

The Prio. 16 indicator is displayed until the messages with priority 16 have been acknowledged. It therefore makes no sense to configure a Class = “System, need not be acknowledged” message with priority 16. The Prio. 16 indicator would never disappear again.

Process Historian Messages

The following messages are triggered by the Process Historian on OS runtime.
PH Ready Messages

The following messages are triggered by the PH Ready component on OS runtime.
3 Prioritization of the PH Ready Messages via the OS Project Editor

In principle, only two PH Ready messages with priority 16 can be configured via the OS Project Editor.

<table>
<thead>
<tr>
<th>Message Number</th>
<th>Prio</th>
<th>Class</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1812202</td>
<td>16</td>
<td>OS process control system messages</td>
<td>PHRDY: No communication with Process Historian possible</td>
</tr>
<tr>
<td>1812203</td>
<td>16</td>
<td>OS process control system messages</td>
<td>PHRDY: Communication with Process Historian failed</td>
</tr>
</tbody>
</table>

Note

When you run the OS Project Editor, the OS basic configuration is adapted. Any changes in the PCS 7 standard images can be overwritten. Before running the OS Project Editor we recommend that you perform a project backup. We recommend that only the message configuration is adapted via the OS Project Editor.

Note

For a distributed system the OS configuration changes must be made on the ES and then loaded onto the OS server. For an ES/OS Single Station the OS runtime must be exited.

Procedure

1. Open the OS project via the SIMATIC manager
2. Open the OS Project Editor via the WINCC Explorer
3. Switch to the tab “General” and check the option “Only message configuration (loading only online changes no longer possible)”
4. Switch to the tab "Message Configuration"

5. Configure Prio. = 16 for the Message Numbers "1012502" and "1012503".
6. Click the "Apply" button.

7. Click the "Yes" button.
8. Start the OS runtime on an ES/OS Single Station and, for a distributed system, load the changes onto the target system.

Result

The messages are triggered on the OS runtime as highest priority messages.

Note

If further PH/PH Ready messages with priority 16 are to be configured, their class must be changed to "OS process control system message".
Prioritization of the Process Historian Messages via the OS Alarm Logging

In order to be able to better detect storage space problems on the Process Historian on OS runtime, it is sensible to record the following messages in the "OS process control system message" class and to assign it priority 16.

<table>
<thead>
<tr>
<th>System messages [ available ] - Search results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used</td>
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<tr>
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<tr>
<td>13</td>
</tr>
<tr>
<td>14</td>
</tr>
</tbody>
</table>

Procedure

1. Open the OS Object via the SIMATIC manager.
2. Open the Alarm Logging via the WinCC Explorer.

3. Click on "System messages", then on the tab "Messages" and filter all messages that include the character string "PH:" in the event.

4. For the message number = 1012607, click on the column "Message class". From the drop-down menu, select the "OS process control system message" entry.

5. For the message number = 1012607, click on the column "Priority". Configure priority = 16.
6. Repeat this process for the message numbers 1012608, 1012609, 1012612, 1012613.

7. Start the OS runtime on an ES/OS Single Station and, for a distributed system, load the changes onto the target system.

Result

The messages are triggered on the OS runtime as highest priority messages.
Note

With future OS software upgrades/updates it is possible that the project changes will be reset. In this case the configuration must be repeated. We therefore recommend that the changes are documented accordingly in the Alarm Logging.
5 References

Table 5-1

<table>
<thead>
<tr>
<th>Topic</th>
<th></th>
</tr>
</thead>
</table>
| 1 | Siemens Industry Online Support  
https://support.industry.siemens.com |
| 2 | Download page for the article  
https://support.industry.siemens.com/cs/ww/de/view/66579062 |
| 3 | |

6 History

Table 6-1

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Change</th>
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</thead>
<tbody>
<tr>
<td>V1.0</td>
<td>04/2016</td>
<td>First edition</td>
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