Redundancy – How To Tell If There Has Been A Failover in 64-bit Products

APPLICATION NOTE

October 2015

Description: Guide to setting up AlarmWorX64 to notify if there was a redundancy failover.
General Requirement: Knowledge of GENESIS64 including AlarmWorX, Redundancy functionality and implementation. GENESIS64 or Hyper Historian version 10.9 or later.

Introduction

When your project implements GENESIS64 or Hyper Historian redundancy you may be interested to see if and when there were redundancy failovers for your system. This logging functionality is not built-in, but it can be achieved by using MonitorWorX data points and AlarmWorX64 Server and AlarmWorX64 Logger.

MonitorWorX Point Manager

MonitorWorX Point Manager exposes redundancy-related information that can be seen in the MonitorWorX tab called Redundancy. All of this information is exposed as FrameWorX-standard data points, so they can be used in any clients. To monitor the active node, the point we will use is the Active point on a specific node.

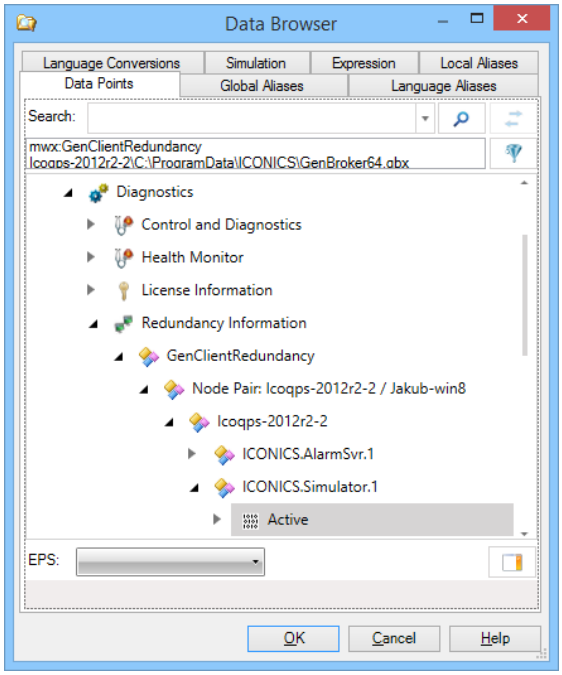

Figure 1 - Redundancy Points in Data Browser

From the figure above you can see that you can browse for the information through My Computer → Diagnostics → Redundancy Information. Under this node you will find GenClientRedundancy or UaRedundancy. Beneath each of this node you will find your configured redundancy pair and underneath are the separate nodes. You can access detailed information for each node, such as if the application is active or not.

To monitor Licensing failovers (in case of remote and redundant license servers) you can monitor license changes under My Computer → Diagnostics → License Information → Overview → LicenseNodeName

AlarmWorX64 Server configuration

To monitor the active node, we will use the Active data point for our server.

1. Launch Workbench Expand "Alarms and Notifications" and then expand AlarmWorX64 Server.
2. Create a new Alarm Tag in your Alarm Configuration.
3. Enter in a name for this tag that describes the redundancy point being monitored.
4. For the OPC Input, browse for the Active data point (from redundancy logic it makes sense to monitor Active on primary redundancy node)
5. Set Digital alarm (bottom of Alarms Limit/Digital tab)
6. Set Alarm State Value to 0, which means that this alarm will trigger when the node is not active.
7. Give appropriate Alarm messages to the alarm state as well as the normal state.
8. Apply the changes to the AlarmWorX64 Server tag you created.

Conclusion

Now that you have created your AlarmWorX64 Server tag, the next part is to log this information. To get this information logged to keep track of all failovers, you just need to make sure that AlarmWorX64 Logger logging is configured accordingly. To do so refer to the GENESIS64 help or the application note entitled, *AlarmWorX64 Logger – Quick Start*.

You can also assign the AlarmWorX64 tags you have created for redundancy monitoring to be a part of one area, so that you can filter on these alarms in the AlarmWorX64 Viewer. You can also expand the points you are looking at, so that you are also seeing if the server is Online, but not active. One aspect to consider is that the points are from the client point of view and not from the server.

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