GENESIS64 - Platform Services

APPLICATION NOTE

July 2011

Description: Guide to architecture of GENESIS64 Platform Services
OS Requirement: Windows Server 2003 x64/Vista x64/ Server 2008 x64/Windows 7 x64/ Server 2008 R2 x64
General Requirement: ICONICS GENESIS64

Introduction

Platform Services is a general term that is used for a group of services and applications that provides data to clients, and allows clients to configure application servers.

GENESIS64 version 10.6 introduces a new concept of a separate client and server installation so they can be independent with the aim of further enhancing security and ease of deployment. In short, a client should be just a Graphical User Interface for viewing and configuring data, however, all the data processing and actual configuration should be done on the server side. Nevertheless, they can naturally be installed in the same box.

In this application note, we will try to explain the architecture of Platform Services with the presumption that there is a remote client that wants to see data from a known server.

Cornerstones of Platform Services

When talking about Platform Services, we are actually talking about the following components:

FrameWorX Server

Key piece of Platform Services. It is the communication layer for ICONICS applications. FrameWorX server aggregates requests from clients and retrieves data for them through various data protocols such as OPC DA, OPC HDA, OPC AE, OPC UA, OPC .NET, BACnet, SNMP, web Services etc.

AnalytiX catalog

AnalytiX catalog could be considered as an optional data mediator where you can organize your data from various sources into logical objects in your own address space. You can also group your real-time data points with historical data sources. On top of that, there is a couple of ICONICS applications that uses AnalytiX catalog as the main data manager with powerful capabilities.

Workbench server

Workbench server is a set of web services for Workbench that are hosted on Internet Information Services (Windows' web server). Workbench accesses these web services over HTTP through port 80. As such, port 80 must not be blocked by a firewall. Workbench server is a Middle-tier server that allows remote configuration of your Back-end servers such as AlarmWorX64 Logger, AlarmWorX64 Server, TrendWorX64 Logger etc. as well as Middle-tier Services such as Security, Licensing, AnalytiX catalog etc.

Two-level Server Architecture

GENESIS64 is proud to empower its users with two key features that keep the system secure while providing ubiquitous data access. To achieve this goal, GENESIS64 version 10.6 introduces a concept of Middle-tier and Back-end servers. These servers should typically be separated among different stations to fulfill their security roles completely but one machine can have the role of both if the security is not a concern.

The following paragraphs outline the major features and roles of the two server types.

Middle-tier servers

- The only point that operator communicates with
- Server which is exposed to the public and can be used for Load Balancing of requests
- Protects the Back-end servers from unauthorized access or license violation
- Each client has one Middle-tier server that handles all its requests.

Back-end servers

- Serves data to Middle-tier servers
- Remote clients cannot connect to them directly
- There is no security between Middle-tier and Back-end servers to improve the communication efficiency
- They are typically secured behind firewalls and NAT
- OPC and other servers that provides any type of data to clients may be considered back-end servers

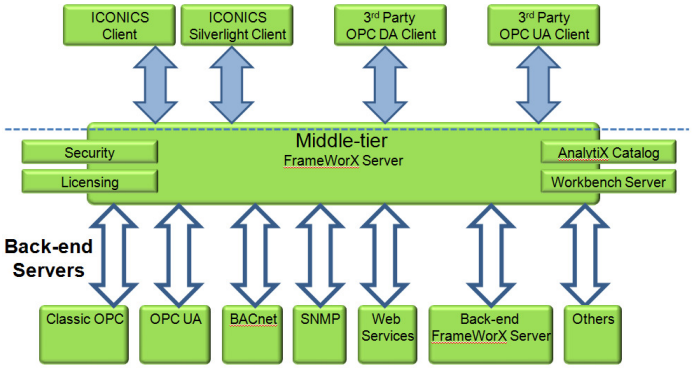

Figure 1 - GENESIS64 Architecture