

### GS 34P02A01-02E

#### ■ GENERAL

The STARDOM is the first system rolled out as a Yokogawa network-based control system (NCS). An NCS proposes an architecture designed for the e-business era. The increasingly common business practice of E-commerce provides an environment for swiftly responding to changes in market demand in many industries. However, these industries have now come to require a new system architecture for industrial control systems. An NCS meets these emerging new requirements and offers high flexibility to build a superior control system, i.e., a system befitting each user's purpose. The STARDOM is an NCS that embodies Yokogawa's expertise in the industrial automation market. Reliability, operability, flexibility, scalability, and other keys for implementing functionality in an industrial control system are all featured in the STARDOM. The STARDOM allows users to enjoy the merits of important information technologies such as, Web, Java, and security as part of the system. The use of a variety of these ITs allows an open system to be configured more flexibly to suit each user's intended application e-commerce, supply chain management without having knowledge of particular systems.

Besides, the STARDOM is a Commercial Off-The-Shelf (COTS) system, thus slashing the total costs of ownership. Also offered by the STARDOM is a new way of operation and monitoring using a VDS Viewer or FAST/TOOLS as the human interface. This means that whatever the operation and monitoring task, it can be performed anytime, anywhere with a thin client as a COTS platform.

Its control network can be any TCP/IP-based network such as an Ethernet, fiber distributed data interface, or wireless satellite communication network, and a variety of communication protocols in the control layer can be combined with the system.

Yokogawa SCADA solution consists of the following highly independent components:

- FCN (FCN-500 and FCN-RTU) autonomous controllers
- VDS Versatile Data Server Software
- Application Portfolios
- FAST/TOOLS supervisory data server

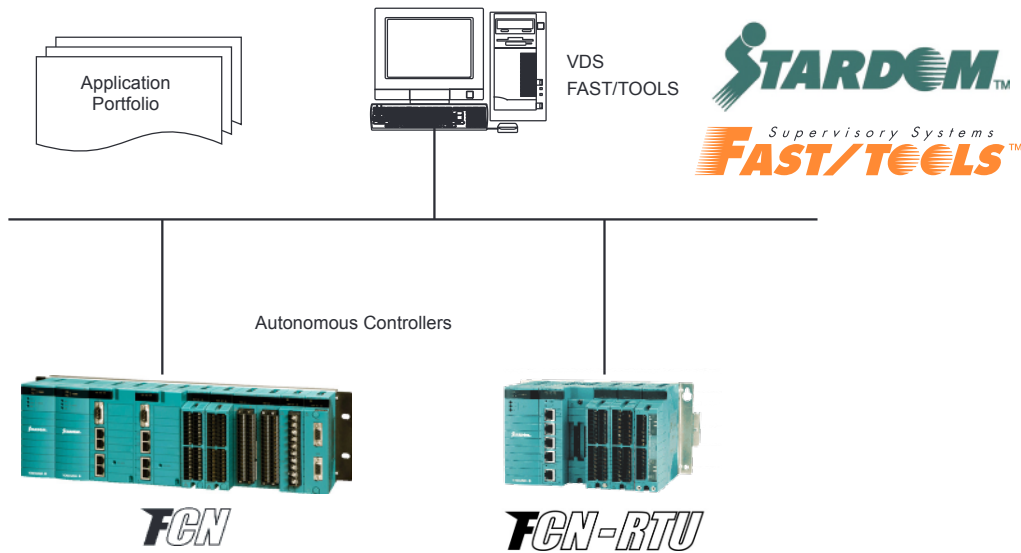


Figure The STARDOM Components

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## ■ AUTONOMOUS CONTROLLERS

Autonomous controllers are offered in two types: FCN (FCN-500) and FCN-RTU. Either is a highly reliable intelligent controller having memory with ECC and a wealth of RAS features on rugged hardware. They can carry out regulatory and sequence control, such as PID loop control. For engineering descriptive coding, five IEC 61131-3-compliant programming languages are supported. FCN-RTU can also serve as Java virtual machines, allowing file transfers using the FTP protocol, autonomous event notifications by e-mail, and Web server applications and user-developed Java applets to run.

### ● FCN (FCN-500)

FCN (an acronym of Field Control Node) is a modulus controller assembled with CPU, I/O, and other modules as necessary. It supports a variety of I/O modules, has superb expandability, and can build a highly reliable system with its power supply, CPU, and control network duplexed.

### ● FCN-RTU

FCN-RTU (Low power Autonomous controller) is a modulus controller assembled with a CPU module with built-in analog, digital I/O, communication ports. Up to eight arbitrary I/O module can be installed (with long base module).

FCN-RTU can be used wide temperature range and high altitude place.

## ■ VDS VERSATILE DATA SERVER SOFTWARE

VDS is a software package that runs under a Windows operating system and implements a Web-based human machine interface, OPC server functions, data acquisition from a variety of controllers and devices, and historical data management. Other features include:

- Graphic windows for operation and monitoring, are enabled by HMI server and HMI client (VDS Viewer) mechanism.
- Object-oriented, COM/DCOM-enabled data sever
- Optionally duplexed network that links autonomous controllers with readily available Ethernet devices.
- Link with not merely autonomous controllers of the STARDOM but also Yokogawa FA-M3 controllers and other manufacturers' controllers
- A wealth of optional packages such as Report Package and Trend Package
- Components practically usable on Visual Studio, including graphic components and multi-task application development supporting components

## ■ FAST/TOOLS

FAST/TOOLS is a scalable software package that runs under a Windows, Linux, and UNIX operating systems and implements a Web-based supervisory control human machine interface, OPC server/client functions, data acquisition from a variety of controllers and devices, alarm management, and historical data management. Other features include:

- PLC/RTU based control systems
- Quadruple redundancy system
- Multiple process sites operating and monitoring
- Wide area communication
- On-line configuration
- Seamless integration with Relational Database (RDB)

## ■ APPLICATION PORTFOLIOS

Application Portfolios are packages in which many years of Yokogawa's expertise in control system configuration are packed, and provide application libraries of broad ranges of software parts from small parts to those covering an entire plant control application. Application Portfolios increase efficiency of all engineering stages from designing, coding, debugging, to startup.

## ■ RELATED DOCUMENTS

VDS	GS 34P02A02-01E
FCN-RTU Low Power Autonomous Controller Functions	GS 34P02Q02-01E
FCN Autonomous Controller Functions (FCN-500)	GS 34P02Q03-01E
Application Portfolios (FCN-500/FCN-RTU)	GS 34P02P20-02E
FAST/TOOLS	GS 50A01A10-01EN

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