General Specifications

LBC2100
System Integration OPC
Client Package

CENTUM VP

GS 33K20D10-50E

[Release 5]

■ GENERAL

The System Integration OPC Station (hereinafter referred to as SIOS) integrates the CENTUM VP system and other process control systems (PCSs). It allows the CENTUM VP to exchange data with other PCSs and to receive alarms and events generated by the PCSs through the OPC server.

■ SYSTEM CONFIGURATION

SIOS is a general-purpose PC-based station where the basic functions of SIOS are installed. It operates as a gateway that connects the CENTUM VP system and the OPC server to other PCSs. SIOS is connected to the control bus (V net or Vnet/IP) as a CENTUM VP station. SIOS and the OPC server are connected through Ethernet or Vnet/IP open communications (on the bus 2 side). Moreover, the OPC server and SIOS can be configured on the same PC (*1). SIOS exchanges data with other PCSs, and acquires alarms and events through the OPC server to access the other systems according to the OPC DA 2.0 interface stipulated by the OPC Foundation.

  *1:   If the OPC server is to run on the same PC as SIOS, make sure beforehand that it will cause no problems.
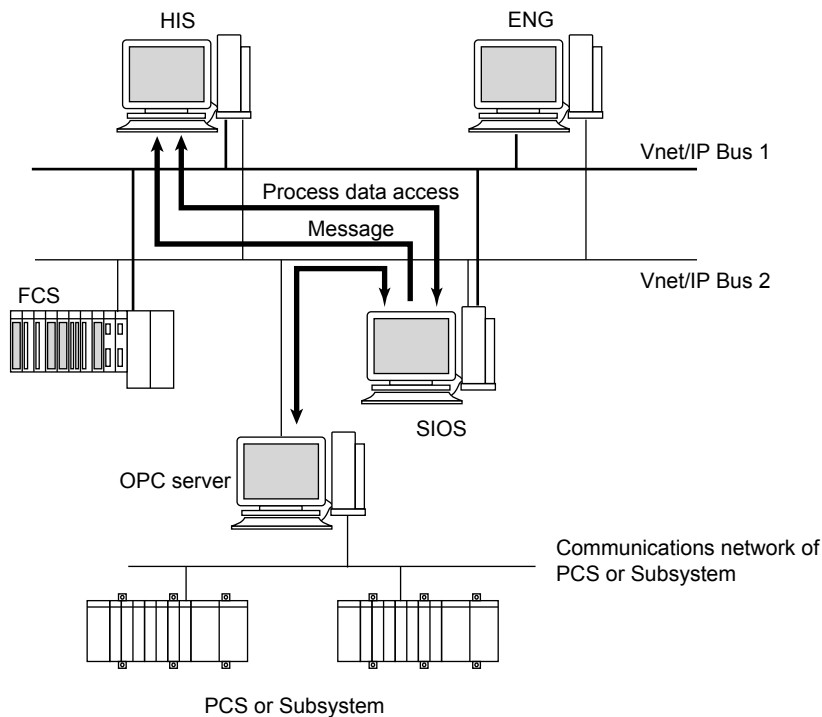
Figure System Configuration

![YOKOGAWA logo]

■ FUNCTIONS of SIOS

Process Data Access Function

SIOS accesses systems from the third-party vendors through the OPC server using an OPC data item ID. There are two ways to access data items: one is SIOS tag where one tag name corresponds to one OPC item ID; the other is SIOS instrument tag where one tag name corresponds to more than one OPC item ID. Only STARDOM can access data item by SIOS instrument tag. SIOS has a conversion table to convert the tag names for the CENTUM VP system and the OPC data item ID. Moreover, SIOS converts data that the OPC server has acquired into data types for the CENTUM VP system. SIOS also changes the status of the acquired data into a data status for the CENTUM VP system depending on the quality flag returned by the OPC server.

The OPC server's data acquisition status, a faulty OPC client or server, communication problems with the OPC server, or the like, are informed to HIS as system alarms and reflected in the data status as well. SIOS can also allocate tags that can be used to monitor the connection status with the OPC server. These SIOS functions enable the CENTUM VP system to exchange data with systems from the third-party vendors by accessing tag names as in usual FCS's. These data can be used for operation and monitoring in the CENTUM VP system.

Data acquired via SIOS can be displayed on the following HIS screens:
• Graphic view (with control, overview and graphic attribute)
• Trend view (trends at one-second intervals cannot be displayed.)
• Faceplate view, tuning view, process reports view, and the like

We can operate and supervise other system's function blocks from HIS like CENTUM VP function blocks. (*1)

*1:   In order to make other systems' function blocks responding to that of CENTUM VP, detailed information concerning other systems' function blocks is needed. For STARDOM, information required for responding to function blocks is available in standard packages.

Note: SIOS is not counted in the number of FCS's for the operation and monitoring of the Standard Operation and Monitoring Function or for the engineering of the Standard Builder Function.

Message Functions

SIOS can send the following messages to the CENTUM VP side, allowing the CENTUM VP system to monitor messages in the message monitor view, system alarm view, historical message report view, etc.
• Notification of events detected by SIOS (system alarms):
  Messages such as start or stop of SIOS operation, communications errors with the OPC server, or communications recovery are notified to HIS as system alarms.
• Notification of events from the OPC server (sequence messages):
  Alarms and events on the side of systems from the third-party vendors, which are notified by the A&E server, are all notified to the HIS as arbitrary character-string of sequence messages, regardless of event types or categories. The OPC event attributes notified to HIS are given in the table below.

Table OPC Event Attributes Notified to HIS

Attribute	Description	Notification to HIS
Source	Event generation source	X
Time	Event generation time	X
Type	Event type (simple, tracking, and condition)	–
EventCategory	Category Event category (defined by vendor)	–
Severity	Importance	–
Message	Event-related message string	X

X: Available
–:   Not available

Messages received by SIOS are selected by the SIOS filters. The following types of filters can be specified:
    Event type (simple, condition, and tracking)
    Event category

■ COMMUNICATION CAPACITY

Number of TAG: 100,000
Data access throughput: 4,480 data items/sec.
Maximum number of connected OPC servers:
      16 DA servers
      16 A&E servers
Number of data items: 2,000,000 (*1)
  *1:   This is number of data points for SIOS Instrument Tags. For SIOS Tags, the number of data point is the same as the number of tags (i.e., 100000).

■ OPERATING ENVIRONMENT

Hardware Requirements

Machine: IBM PC/AT compatible
           It is recommended that a server PC be selected for hardware reliability.
CPU: 2 GHz or faster (Operable on a PC with hyper-threading and multiple CPUs.)
Main memory: Windows 7 6 Gbyte or more
           Windows Vista 2 Gbyte or more
           Windows Server 2008 R2 8 Gbyte or more
           Windows Server 2008 4 Gbyte or more
           ECC memory recommended.
Network: Vnet/IP interface card (necessary if Vnet/IP is used)
           V net interface card (necessary if V net is used)
           Ethernet card (unnecessary if bus 2 is used for Vnet/IP)
           Various interface cards used by OPC server (necessary if the OPC server runs on the same PC as SIOS)
Disk capacity: 10 Gbyte or more
Peripherals: Uninterruptible power supply (recommended)
Optical disc drive: DVD-ROM

Software Requirements

Windows OS and Service Pack conform to the operation environment for LHS5100, LHM5100 Standard Builder Function.

Install only the OPC server function on the PC where SIOS is installed. If the OPC server runs on the same PC as the SIOS functions, make sure beforehand that it will cause no problems.

Requirements for OPC Server

OPC servers that access systems from the third-party vendors should be compliant with the following interfaces:

DA server: Compliant with OPC DA2.0 custom interface
A&E server: Compliant with OPC A&E1.0 custom interface

■ MODEL AND SUFFIX CODES

		Description
Model	LBC2100	System Integration OPC Client Package
Suffix Code	-V	Software license
	1	Always 1
	1	English version

■ ORDERING INFORMATION

Specify models and suffix codes.

■ TRADEMARKS

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