General Specifications

NTPF100
Exaopc
OPC Interface Package

GS 36J02A10-01E

■ GENERAL

As data sharing between information systems increases, the requirement to efficiently access and use plant information to meet business needs in a timely manner also increases. Within the process industry, the control room contains valuable information that has previously been inaccessible. Exaopc was created to provide an open OPC interface bridge between the control room and the outside world.

Exaopc is an OPC server running on a Microsoft Windows platform which can be connected to a variety of PCSs (Process Control Systems) providing OPC clients with process data and alarm events.

This GS contains the specification for the Exaopc OPC Server Interface Package.

■ FUNCTIONAL SPECIFICATIONS

Exaopc supports the following OPC specifications:

● Data Access (DA) Server Function

The DA Server reads and writes process data using item IDs as identifiers.

● Historical Data Access (HDA) Server Function

Exaopc automatically saves instantaneous values acquired from the DA Server and A&E Server, to an HDA historical database. The OPC client can access historical data by first connecting to the HDA Server.

● Alarms & Events (A&E) Server Function (*1)

The A&E Server provides alarms and events from plants that occur asynchronously. The following messages are available from Yokogawa CENTUM Integrated Production Control Systems:

- System alarm messages
- Process alarm messages
- Mode/status change messages
- Sequence messages
- Operation guide messages
- Engineering maintenance messages
- Operation record messages
- Server internal errors

● Batch Server Function (*2) [VP Batch, CS Batch 3000]

The Exaopc batch server function (Exaopc/Batch) reads and writes batch data and its related information with VP Batch and CS Batch 3000.

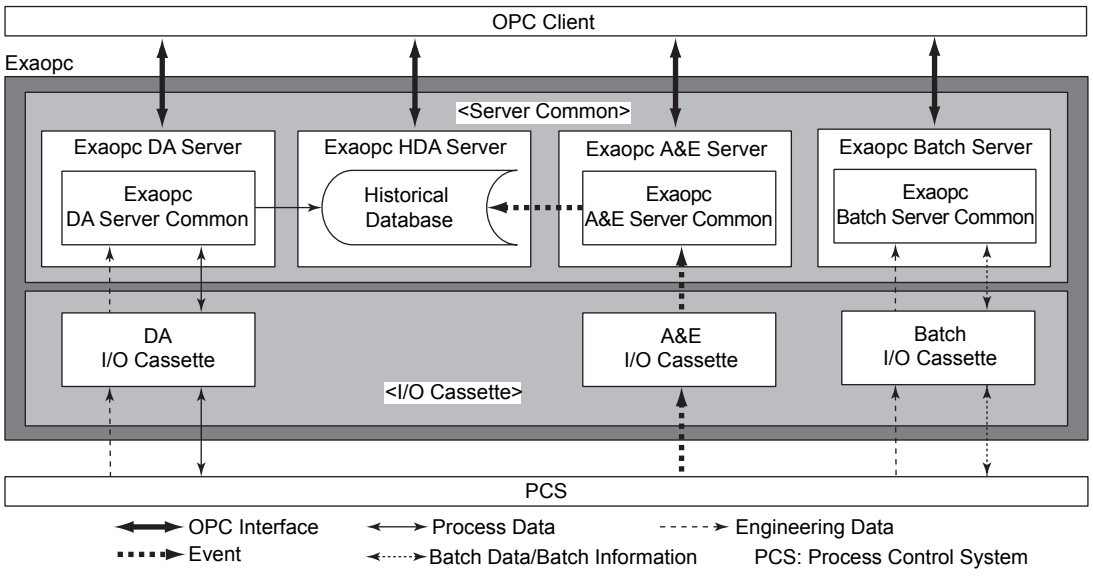
● OPC Security Interface

Exaopc provides security by using an OPC Security-compliant interface whenever an OPC Client uses the DA, A&E, HDA and/or Batch servers.

*1: A&E server of Exaopc R3.72 or later supports for CNETUM VP "Consolidated Alarm Management Software (CAMS) for HIS."

*2: OPC client is dedicated to Exaquantum/Batch.

■ GENERAL CONFIGURATION



F01E.ai

YOKOGAWA

Yokogawa Electric Corporation
2-9-32, Nakacho, Musashino-shi, Tokyo, 180-8750 Japan
Tel.: 81-422-52-6375 Fax.: 81-422-52-5994

GS 36J02A10-01E

34th Edition Mar. 18, 2015 (YK)

■ FEATURES

● Major Applications

The Exaopc OPC Interface can be used in a wide variety of OPC client applications.

- Yokogawa packages, including Exaquantum PIMS and Exapilot (Operation Efficiency Improvement Package)
- OPC standard compliant general-purpose applications
- User applications

● Compliance with OPC Specifications

The Exaopc package supports OPC standard interface functions (DA/A&E/HDA, Batch, Security) specified by the OPC Foundation, and additional functions such as data item browsing.

● Exaopc supports Compliance Test Tool (CTT) [CENTUM VP/CS 3000]

Exaopc supports Compliance Test Tool (CTT) provided by the OPC Foundation. (Custom Interface for DA3.0, DA2.05a, A&E1.10, or HDA1.20)

Note: On CTT Compliance mode, some functions of Exaopc R3.21 or earlier version may not operate. If OPC client is Exaquantum, Exapilot, Exasmoc, or Exarqe, the conventional mode should be used.
When use DA3.0, the CTT Compliance mode should be used.

● Connectivity with CENTUM Systems

Exaopc can be connected to Yokogawa CENTUM VP/CS 3000/CENTUM CS.

● Automatic Backup

The process data acquired by the DA server is automatically saved and stored in the historical database as backup data. Access to the stored data is enabled by the HDA server function.

● Equalization [CENTUM VP/CS 3000/CS]

A list of tags in CENTUM can be equalized by Exaopc. When function blocks (tags) are added, deleted or changed in the FCS (Field Control Station) builder and they are loaded, a change notification is sent to Exaopc. Exaopc will then update function block data based on the received data.

● Browsing [CENTUM VP/CS 3000/CS]

Users can view the content of the OPC server from OPC client. The OPC client can access CENTUM tag list Exaopc acquired by Equalization functions.

● CENTUM Security [CENTUM VP/CS 3000/CS]

Exaopc security (account, scope of monitoring, operation ID, operator console group and access level) is dependent on the CENTUM.

● Traffic Control

When an OPC client attempts to access a large volume of data from a CENTUM CS system loading problems may occur (load concentration on control stations and control buses, in particular). To prevent problems, access from OPC clients are restricted to avoid the maximum accessible data rate being exceeded.

● Expanded Test Functions [CENTUM VP/CS 3000]

By connecting to the Expanded Test Functions on CENTUM VP/CS 3000 users can access the FCS simulator on a station with CENTUM VP/CS 3000 engineering functions. Therefore, users can perform engineering and testing OPC clients without using actual FCSs.

● Multiple Project Connection [CENTUM VP/CS 3000]

On Exaopc, users can use Multiple Project Connection functions for CENTU VP/CS 3000, which enables integrated monitoring of multiple projects. This allows users the ability to handle CENTUM VP/CS 3000/CS project data on Exaopc as well as the data from their own project.

To use these functions, the supervisory CENTUM VP/CS 3000 system requires a Multiple Project Connection Package.

Function specifications, restrictions, and the operational environment for these functions are the same as for CENTUM VP/CS 3000. See GS 33K05K20-50E/GS 33M05K20-40E/GS 33Q02S10-31E “LHS5450/LHS4450 Multiple Project Connection Package” for further information.

● Viewer Function and Tool Function

These functions provide various kinds of viewer and tool to check and monitor Exaopc operation status.

Software Configuration Viewer, Station Viewer, OPC Connection Confirm, Exaopc Server Monitor

● IT Security support

A user can select suitable security level out from standard and legacy types. This IT security level is common through Yokogawa system products, and Exaopc is able to have the same IT security as CENTUM system.

● Exaopc Product Security Function

In order to tighten the security for accessing the CENTUM system, access to the CENTUM data is blocked until after the user authentication is done by logging on to the OPC client.

■ CONNECTED SYSTEMS

System	Connection Method
CENTUM VP (Including Entry Class) R5.01 or later	Vnet/IP or V net
CENTUM VP (Including Entry Class) R4	Vnet/IP or V net
CENTUM CS 3000 (*1)	Vnet/IP or V net (*1)
CENTUM CS	V net

*1: Vnet/IP is supported on CENTUM CS 3000 R3.05 or later, and Exaopc R3.10 or later.

■ SYSTEM CONFIGURATION

● Server/Client Composition

The following two client/server configurations can be used:

- The OPC client exists on a PC with Exaopc installed.
- The OPC client exists on a supervisory computer (Windows PC).

Only one Exaopc can be installed in one PC. Two or more Exaopc can not be installed in one PC.

● Multiple Clients

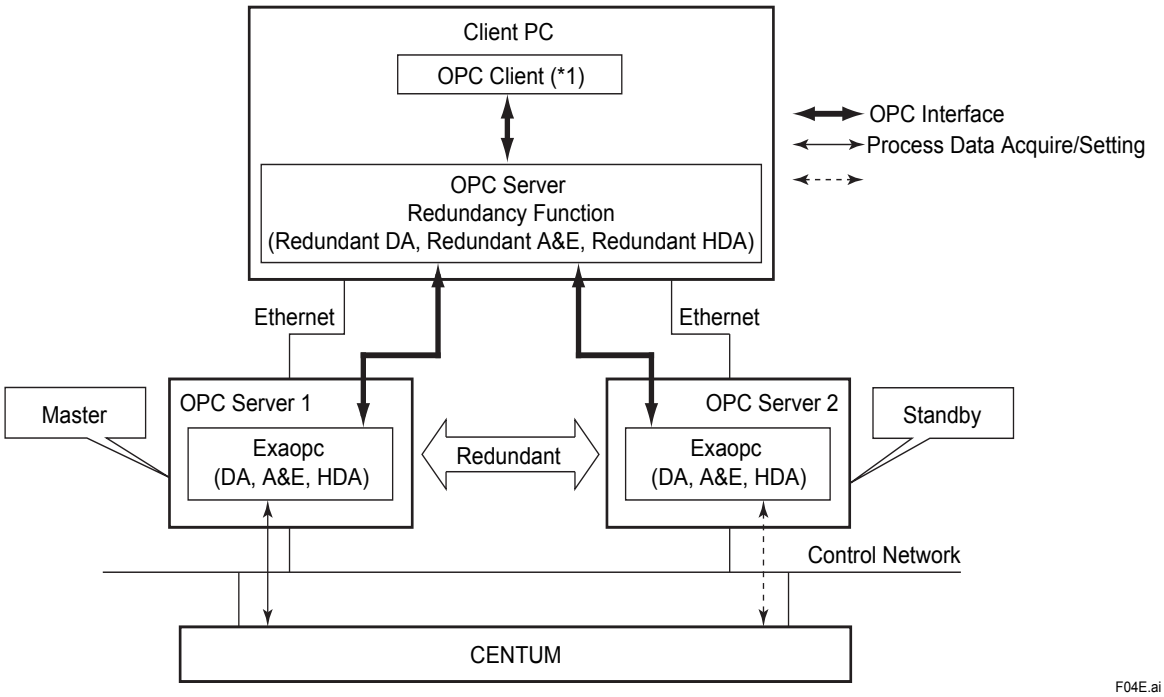
A single Exaopc can be accessed from multiple OPC clients.

● Multiple Servers

Users can access multiple Exaopc's from a single OPC client.

● Duplicated OPC Server Configuration

Exaopc-RD (installed on the OPC client machine) supports OPC Server redundancy by monitoring two Exaopc servers and automatically switching from the Master to the Standby Exaopc server if the Master becomes unavailable. Please contact Yokogawa for additional information.



*1: OPC client is exclusively used for Exaquantum or Exapilot.

Figure: Configuration Example for Duplicated OPC Server

● CENTUM VP/CS 3000 and CENTUM CS System Configuration

- Exaopc is directly connected to the DCS control buses using the VF702/VF701/VI702 Control Bus Interface Card to communicate with control stations. This provides Exaopc with the ability to read and write tag data and receive process messages.
- Exaopc automatically equalizes engineering data from the CENTUM ENG/EWS Engineering Station.
- Multiple Exaopc servers can be connected to one CENTUM system. Those servers are counted as control bus stations equivalent to Human interface station (HIS) /Information Command Station (ICS) on the system.
- Please configure the entire system considering the CPU loading of the control stations and the bus loads of the control buses.
- Exaopc for VP Batch and CS Batch 3000 can be connected to VP Batch and CS Batch 3000 packages.
- Connection to CENTUM VP Entry Class and CS 3000 Entry Class is similar to that of CENTUM VP/CS 3000.

.

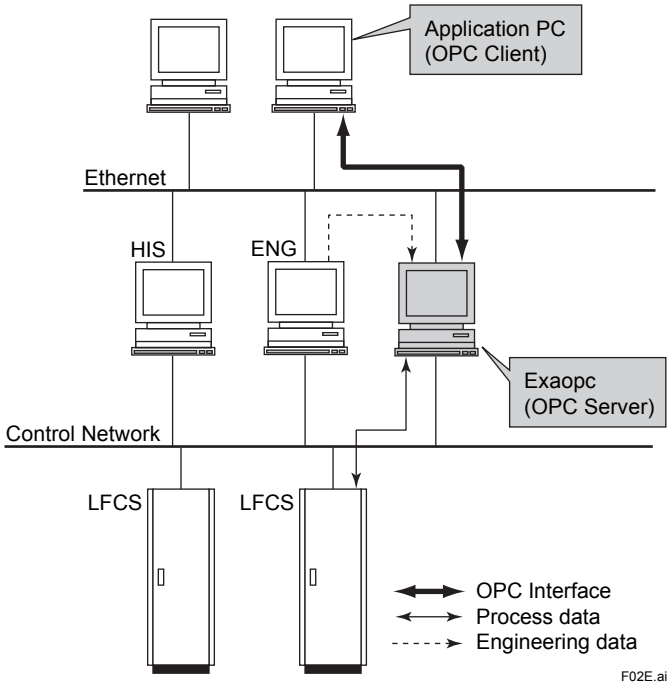


Figure: Configuration Example for CENTUM VP/CS 3000

■ APPLICATION CAPACITY

OPC Server function	Item	Application capacity
DA Server	A number of clients (A number of server objects)	100 clients
	A number of groups (A number of group objects)	1000 groups
	A number of Item IDs	10000 item IDs/group 100000 item IDs/all groups
	Cache update period (Data gathering period)	1 to 3600 sec
	Max. throughput of data access (*1)	2000 item IDs/sec or conditional possible 4000 item IDs/sec (*5)
A&E Server (*2)	A number of clients (A number of server objects)	100 clients
	Max. number of event-registered objects (Max. number of event subscription objects)	1000 objects
HDA Server (*3)	A number of clients (A number of server objects)	100 clients
	A number of browser (A number of browser objects)	100 browser/server object 10000 browser/all server objects
	A number of item IDs	100000 item IDs/server object
	Max. historical data save period (*4)	Not restricted (Depends on disk capacity, its area is defined with a Record parameter)
Batch Server	A number of clients (A number of server objects)	100 clients
	A number of groups (A number of group objects)	1000 groups
	A number of item IDs	10000 item IDs/group 100000 item IDs/all groups

*1: It depends on the conditions of the project and the application.

*2: On Exaopc, process alarms are treated as condition events. A table is provided to manage process alarm occurrence, ACK and recovery events. In case of overflow on the table due to numerous process alarms, the OPC client will receive the process alarm occurrence events only. DCS will receive a system alarm to notify the overflow situation on the table.

*3: If the data requests for a HDA are more than 20000 ItemIDs (2880 default recodes per each ItemIDs), the response may take a long time. It may be necessary to use one or more Exaopc. (Example: the phenomenon may occur when using the catch up function of Exaquantum.)

*4: The PC performance may be influenced when the number of records increases from the default value.

*5: In order to achieve 4000 item ID/sec throughput, all of the following conditions must be met.
- The software release number is R3.70 or later for Exaopc and R5.01 or later for CENTUM VP.
- FCSs are all new stations of CENTUM VP R5/R6
  FFCS-V (models AFV30☐ and AFV40☐) R5 or later
  FFCS-C (model A2FV50☐) R6 or later

The throughput of 4000 item IDs/sec. is still achievable when UGS is included in the station configuration.

[Supplement]

If any station that does not meet the above conditions is included in the domains within the project, the throughput becomes 2000 item IDs/sec.For example, if SCS (including SSC60☐), AVR10D, SIOS, or GSGW is included in the station configuration, then the throughput is 2000 item IDs/sec.

When a CENTUM project consists of multiple domains, the above conditions (*5) must be met in all domains.

UGS : Unified Gateway Station
SCS : Safety Control Station
AVR10D : Duplexed Vnet Router
SIOS : System Integration OPC Station
GSGW : Generic Subsystem Gateway

■ OPERATING ENVIRONMENT

● Hardware

Machine:

When not applying CAMS for HIS Support function (NTPF100-S1, NTPF100-S3 or NTPF100-SB)

Specification Item		OS		
		Windows Vista, Windows Server 2008 (32bit)	Windows 7 (64bit)	Windows Server 2008 R2 (64bit)
CPU	Required	Pentium 4 2.84 GHz or faster	Core 2 Duo 2.13 GHz or faster	Xeon Dual Core 2.93 GHz or faster
	Recommended	Core 2 Duo 2.66 GHz or faster	Xeon Dual Core 2.0 GHz or faster	
Main memory	Required	2 GB or more (*1)	4 GB or more	
	Recommended	4 GB or more		
Disk capacity	Required	10 GB or more	20 GB or more	
	Recommended	40 GB or more	40 GB or more	50 GB or more
Drive	Required	DVD-ROM Drive		

*1: 1 GB of main memory is supported for revision up from R3.60 or earlier versions of Exaopc.

When applying CAMS for HIS Support function (NTPF100-S6)

Specification Item		OS		
		Windows Vista, Windows Server 2008 (32bit)	Windows 7 (64bit)	Windows Server 2008 R2 (64bit)
CPU	Required	Xeon Quad Core 2.80 GHz or faster		
Main memory	Required	4 GB or more		
Disk capacity	Required	Free area of 40 GB or more		
Drive	Required	DVD-ROM Drive		

When applying Exaopc OPC Server Redundancy (Exaopc-RD) (NTPF100-SX)

Specification Item		OS	
		Windows Server 2008 (32bit)	Windows Server 2008 R2 (64bit)
CPU	Required	Pentium 4 2.84 GHz or faster	Xenon Dual Core 2.93 GHz or faster
	Recommended	Core 2 Duo 2.66 GHz or faster	
Main memory	Required	2 GB or more	4 GB or more
	Recommended	4 GB or more	
Disk capacity	Required	20 GB or more	20 GB or more
	Recommended	40 GB or more	50 GB or more

Communication device:

System	Compatibility of communication device
OPC clients (Including SBP product)	Ethernet-ready network card
CENTUM VP/CS 3000/CENTUM CS	VF702/VF701 Control Bus Interface Card
CENTUM VP R5.01 or later	VF702/VF701 Control Bus Interface Card, and VI702 Vnet/IP Interface Card

● Software

The following lists the software requirements for Exaopc and the OPC Client connected to Exaopc according to the Exaopc release numbers.

Exaopc release number	Windows (Exaopc, OPC Client)	Service Pack (Exaopc)
R3.01	Windows 2000 Professional or Windows 2000 Server	4
	Windows XP Professional	1, 2
R3.10, R3.11, R3.20	Windows 2000 Professional or Windows 2000 Server	4
	Windows XP Professional	1, 2
	Windows Server 2003 Standard Edition	1
R3.21	Windows 2000 Professional or Windows 2000 Server	4
	Windows XP Professional	2
	Windows Server 2003 Standard Edition	1, 2
	Windows Server 2003 R2 Standard Edition	2
R3.50	Windows Vista Business Edition	1
	Windows XP Professional	2, 3
	Windows Server 2003 Standard Edition	2
	Windows Server 2003 R2 Standard Edition	2
R3.60	Windows Vista Business Edition	1, 2
	Windows XP Professional	2, 3
	Windows Server 2003 Standard Edition	2
	Windows Server 2003 R2 Standard Edition	2
	Windows Server 2008 Standard Edition	2

Exaopc release number	Windows		Exaopc (OPC server)	OPC client (*1)	Exaopc-RD
R3.70, R3.71, R3.72, R3.73	Windows 7 Professional (64 bit)	SP1	XX	XX (*2)	N/A
	Windows Vista Business Edition (32 bit)	SP2	XX	XX	N/A
	Windows Server 2008 Standard Edition (32 bit)	SP2	XX	XX	XX
	Windows Server 2008 R2 Standard Edition (64 bit)	SP1	XX	XX	XX
R3.73 continued	Windows 8.1 Professional (32 bit and 64 bit)		N/A	XX	N/A
	Windows Server 2012 Standard Edition (64 bit)		N/A	XX	XX

XX: Available N/A: Not available

Note: Only the latest version of Exaopc is available for sale.
Exaopc package and its Windows operating system (OS) must share the same language environment.
Exaopc for OPC server redundancy function (Exaopc-RD) is operable on Windows Server.

*1: Windows of client PC that tested OPC connection with Exaopc
*2: 32-bit OS is supported only for OPC client connected to Exaopc R3.71 or later.

● Commectability between CENTUM versions / revisions and Exaopc revisions

You can use Exaopc and CENTUM with the following combinations.
Some combinations are prohibited, or some of the features are not available with certain combinations.

Combinations of Exaopc and CENTUM CS 3000/CENTUM VP (for NTPF100-S1)

Exaopc	CENTUM CS 3000						CENTUM VP							
	R3.01 R3.02 R3.03	R3.04 R3.05	R3.06	R3.07	R3.08	R3.09	R4.01	R4.02	R4.03	R5.01	R5.02	R5.03	R5.04	R6.01
R3.01	XX	X (*1)	X (*1)	X (*1)	X (*1)	X (*1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R3.10	XX	XX	X (*1)	X (*1)	X (*1)	X (*1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R3.11	XX	XX	XX	X (*1)	X (*1)	X (*1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R3.20	XX	XX	XX	XX	X (*1)	X (*1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R3.21	XX	XX	XX	XX	XX	X (*1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R3.50	XX	XX	XX	XX	XX	X (*1)	XX	X (*1)	X (*1)	X (*1)	X (*1)	X (*1)	X(*1)	X(*1)
R3.60	XX	XX	XX	XX	XX	XX	XX	XX	X (*1)	X (*1)	X (*1)	X (*1)	X(*1)	X(*1)
R3.70	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	X (*1)	X (*1)	X(*1)	X(*1)
R3.71	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX (*1)	X(*1)	X(*1)
R3.72	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX(*1)	X(*1)
R3.73	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX

XX: Available. Expanded Test Functions of Exaopc is available.
X: Available. However, Expanded Test Functions of Exaopc is not available.
N/A: Not available.

*1: Since the Exaopc was released earlier than the CENTUM, the Exaopc may not fully support newly added functions of the CENTUM.

Combinations of Exaopc and CENTUM VP (for NTPF100-S6)

Exaopc	CENTUM VP		
	R5.03.20	R5.04	R6.01
R3.72	XX	XX (*1)	X (*1)
R3.73	XX	XX (*1)	XX

XX: Available. Expanded Test Functions of Exaopc is available.
X: Available. However, Expanded Test Functions of Exaopc is not available
*1: Since the Exaopc was released earlier than the CENTUM, the Exaopc may not fully support newly added functions of the CENTUM.
Use NTPF100-S6 to acquire A&E messages of CAMS for HIS.

Combinations of Exaopc and CENTUM CS (for NTPF100-S3)

	CENTUM CS R2.10 or later
Exaopc R3.01 or later	X

X: Available.

Combinations of Exaopc Batch Server and CENTUM VP Batch / CS Batch 3000 (for NTPF100-SB)

Exaopc/ Batch	CENTUM CS Batch 3000						CENTUM VP Batch						
	R3.03	R3.04 R3.05	R3.06	R3.07	R3.08	R3.09	R4.01	R4.02	R4.03	R5.01	R5.02	R5.03	R5.04 R6.01
R3.01	XX	X (*1)	X (*1)	X (*1)	X (*1)	X (*1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R3.10	XX	XX	X (*1)	X (*1)	X (*1)	X (*1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R3.11	XX	XX	XX	X (*1)	X (*1)	X (*1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R3.20	XX	XX	XX	XX	X (*1)	X (*1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R3.21	XX	XX	XX	XX	XX	X (*1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
R3.50	XX	XX	XX	XX	XX	X (*1)	XX	X (*1)	X (*1)	X (*1)	X (*1)	X (*1)	X (*1)
R3.60	XX	XX	XX	XX	XX	XX	XX	XX	X (*1)	X (*1)	X (*1)	X (*1)	X (*1)
R3.70	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	X (*1)	X (*1)	X (*1)
R3.71	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX (*1)	X (*1)
R3.72	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	X (*1)
R3.73	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX

XX: Available. Expanded Test Functions of Exaopc is available.
X: Available. However, Expanded Test Functions of Exaopc is not available.
N/A: Not available.

Note: Exaopc Batch Server does not support multiple project connection function.
*1: Since the Exaopc was released earlier than the CENTUM, the Exaopc may not fully support newly added functions of the CENTUM.

● Limitations in coexistence with Solution-based software packages (SBP)

In case one or more SBP products (*1) and the Exaopc reside in a single PC, it is called “coexistent.”
The applicable combination of a server and client(s) for Exaopc and other SBP products is as shown below.
Use the latest release numbers of the SBP products at the release of Exaopc R3.73.

*1: Exaopc, Exaquantum, Exaquantum/Batch, Exapilot, Exasmoc, and Exarqe

The combination of SBP Products and Exaopc to be coexistent is as show below.

	Exapilot (R3.96)	Exaquantum (R2.85)	Exaquantum /Batch	Exaplog (R3.40)
Exaopc (R3.73)	OK	OK (*1)	N/A	OK

OK: Applicable N/A: Not Applicable

Note: When Exaopc resides with other SBP products, all the IT Security models must be identical.
Please contact Yokogawa when Exaopc resides with other revisions.
Please contact Yokogawa for coexistence with Exasmoc/Exarqe.
*1: Set Exaopc IT Security to ‘Legacy model.

● Remarks when connecting Exaopc with other SBP products via network

Please consider to set the IT security level of each SBP products as the same level as the security model when it is resided with Exaopc, even when it is connected via network.

● Document Browser

Adobe Reader 10.1 or 11.0

Note: It is necessary to install Adobe Reader to read document of Exaopc.

■ SUPPORTED OPC SPECIFICATIONS

The Exaopc package provides the OPC client with an interface with the following specifications:

● DA Server

- OPC Data Access Custom Interface Specification Version 2.05a/3.0
- OPC Data Access Automation Specification Version 2.0
- OPC Security Custom Interface Specification Version 1.0

● A&E Server

- OPC Alarms and Events Version 1.10 (Exaopc R3.10 or later) (*1)
- OPC Alarms and Events Automation Specification Version 1.0 (draft)
- OPC Security Custom Interface Specification Version 1.0

*1: OPC Alarms and Events Version 1.0 had been supported by Exaopc R3.01.50 or earlier.
The specification range of the “severity” for the SetFilter method is changed from “0 to 1000” (A&E1.0) to “1 to 1000” (A&E1.10).
When “severity=0 value” is set for the SetFilter method to Exaopc A&E1.10 OPC server, an error code will be returned by Exaopc because it is out of range.
Be sure to use A&E version compatible with both Exaopc and an OPC client accordingly.

● HDA Server

- OPC Historical Data Access Custom Interface Version 1.2
- OPC Historical Data Access Automation Interface Version 1.0 (draft)
- OPC Security Custom Interface Specification Version 1.0

● Batch Server

- OPC Batch Custom Interface Specification Version 1.0
- OPC Batch Automation Specification Version 1.0
- OPC Security Custom Interface Specification Version 1.0

Visit the web site of OPC Foundation at http://www.opcfoundation.org for OPC interfaces.

■ ANNUAL MAINTENANCE CONTRACT

The product is supplied without the manufacturer’s warranty costs. Users are required to enter into an annual maintenance contract to receive maintenance service from the first year of the purchase onward. For more details of the maintenance service, please refer to “Maintenance Services for Solution-Based Software Package” [GS 36J20A10-01E].

■ MODEL AND SUFFIX CODE

Exaopc OPC Interface Package

		Description
Model	NTPF100	Exaopc OPC Interface Package
Suffix Codes	-S	Basic Software License (with media)
	1	For CENTUM VP/CS 3000, CENTUM VP/CS 3000 Entry Class (DA, A&E, HDA Server Functions)
	3	For CENTUM CS (DA, A&E, HDA Server Functions) (*5)
	6	For CENTUM VP (Support “CAMS for HIS”, DA, A&E, HDA Server Functions) (*1)
	B	For VP Batch, CENTUM CS Batch 3000 (DA, A&E, HDA, Batch Server Functions; Exaopc/Batch) (*2) (*5)
	X	For OPC Server Redundancy (Exaopc-RD) (*3) (*5)
	1	English version
Option Codes	/Y-QTM	For Yokogawa OPC Clients: Exaquantum
	/Y-PLT	For Yokogawa OPC Clients: Exapilot (*4)
	/Y-SMC	For Yokogawa OPC Clients: Exasmoc
	/Y-RQE	For Yokogawa OPC Clients: Exarqe
	/Y-OMS	For Yokogawa OPC Clients: Exaoms
	/Y-CLB	For Yokogawa OPC Clients: Exaopc Client Library (for NTPT900)
	/Y-TRF	For Yokogawa OPC Clients: TriFellows
	/Y-OTH	For Yokogawa OPC Clients: Other products

*1: A&E server function of NTPF100-S6 notifies either one of the following messages
the A&E when “CAMS for HIS” is disabled or
the A&E when “CAMS for HIS “ is enabled
*2: Exclusively used for Exaquantum/Batch.
*3: Exclusively used for Exaquantum or Exapilot.
*4: AAASuite (Advanced Alarm Administrator) Alarm Rationalization Assistance Package is included.
*5: Please contact Yokogawa for purchasing the Suffix Codes “-S6”, “-SB” or “-SX”.

Maintenance Service for Exaopc

		Description
Model	NTMF100	Maintenance Service for Exaopc
Suffix Codes	-S	Annual Contract
	1	For CENTUM VP/CENTUM CS 3000
	3	For CENTUM CS
	6	For CENTUM VP (Support “CAMS for HIS”)
	B	For CENTUM VP/CENTUM CS 3000 (Exaopc/Batch)
	X	For OPC Server Redundancy (Exaopc-RD)
	1	Always 1

■ ORDERING INFORMATION

Specify model and suffix codes.

■ TRADEMARK

- Exaopc, Exapilot, Exaquantum, Exaplog, Exasmoc and Exarqe are registered trademarks of Yokogawa Electric Corporation.
- CENTUM is a registered trademark of Yokogawa Electric Corporation.
- All other company and product names in this GS are registered trademarks or trademarks of respective companies.