General Specifications

Model NTPC052 Exaquantum Remote Data Synchronization

GS 36J40F40-01EN

■ PROBLEM

Exaquantum PIMS systems are often located in remote locations and accessing the key historian data can be difficult especially over volatile network links, such as satellite or microwave connections.

■ SOLUTION

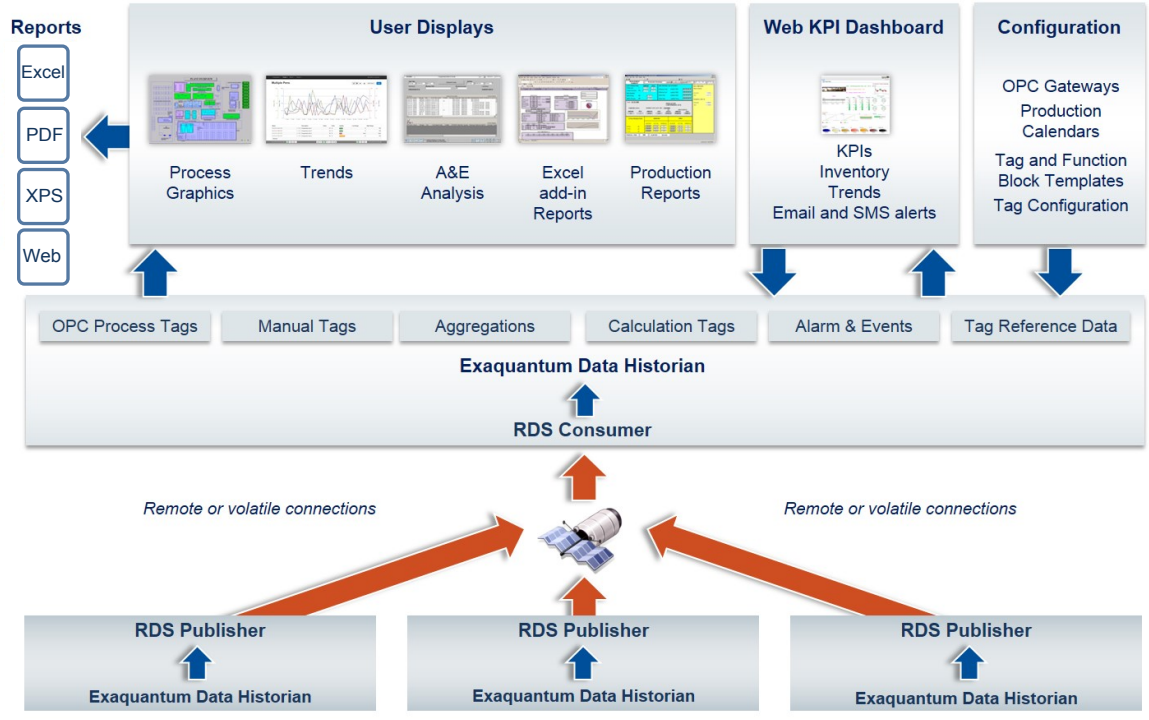
Exaquantum Remote Data Synchronization (Exaquantum/RDS), a key component of Yokogawa's specialist connectivity solutions, deployed on two or more Exaquantum PIMS historians provides secure and reliable data communication.

■ BENEFITS

- Secure and reliable data transfer method between Exaquantum servers
- Maintains duplicate data sets for backup and testing purposes
- Remote data can be made available for processing by higher end applications
- Multiple data sources can be combined at a single destination

■ KEY FEATURES

- Communication between Exaquantum historians across potentially volatile network links
- Suitable for data transfer via satellites, microwave, internet, etc.
- Can be bidirectional
- Configurable data transfer delay
- Ability to apply data encryption
- Transferred Exaquantum historical data includes the following
  - Process data
  - Calculation results
  - Manually entered data
  - 3rd party supplied data
  - Aggregations
  - Alarm and Events
  - Tag Reference Data such as 'Units of Measure' and 'Description'
- Sub-sets of Exaquantum tags can be transferred



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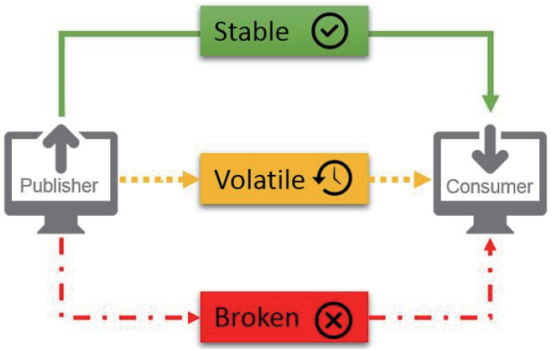
■ INTRODUCTION

With Exaquantum/RDS, one or more Exaquantum Historians can be selected as a data source (Publisher) with one Exaquantum Historian being the data receiver (Consumer). Data always flows from a Publisher to a Consumer.

When the network link between Exaquantum Historians is stable, Exaquantum/RDS transfers data between the Publisher and Consumer Exaquantum Historian systems at the specified transfer rate. This can be set to near real-time or slower where the update rate is not so crucial.

When the network link between the Publisher and Consumer Exaquantum Historians is severed, Exaquantum/RDS will wait for the network connection to be re-established. Upon re-establishment, Exaquantum/RDS will transfer the data to the Consumer that was accumulated by the Publisher while the network connection was unavailable.

Whenever the network link is disconnected for an extended period of time, Exaquantum/RDS can transfer data manually using file export. The data is packed into a file, which can then be copied to removable storage media, for transportation and importing into the receiving Consumer Exaquantum database.



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■ CAPABILITIES

Tag Mapping

Tags are mapped between the Publisher(s) and Consumer allowing data from all Exaquantum tags or a subset to be transferred. Tag naming between Exaquantum servers does not need to be consistent. The tag mapping includes the ability to specify OPC tags, reference data, aggregations, calculation and manual tags.

Alarm & Event Transfer

Exaquantum collected Alarm and Events can be transferred between a Publisher and Consumer independently of the tag data transfer. Individual event categories can be selected for transfer allowing greater control of the events that are transferred.

System Status

The Publisher and Consumer statuses are used to evaluate the overall system health; these statuses cover all the main areas of the system which are required to be working such as the network status, tag, alarm and event catch-up statuses.

Data Transfer Scheduling

Data transmission between the Publisher and Consumer can be suspended for a daily time period. Once configured, the Publisher will not send data between the configured “Start” and “End” time. This suspension option allows for activities such as scheduled maintenance or to avoid periods of high user activity across a low bandwidth link.

Manual Data Export and Import

During extended periods of a network link being unavailable between the Publisher and Consumer there is the option to manually transport a selected period of tag or alarm and event data between Exaquantum systems via portable media.

Bidirectional Communication Setup

Exaquantum/RDS can be setup to handle bidirectional communication, meaning data flows in both directions. In this case both Exaquantum servers act as both the Publisher and Consumer.

■ TYPICAL PERFORMANCE

PC Specifications

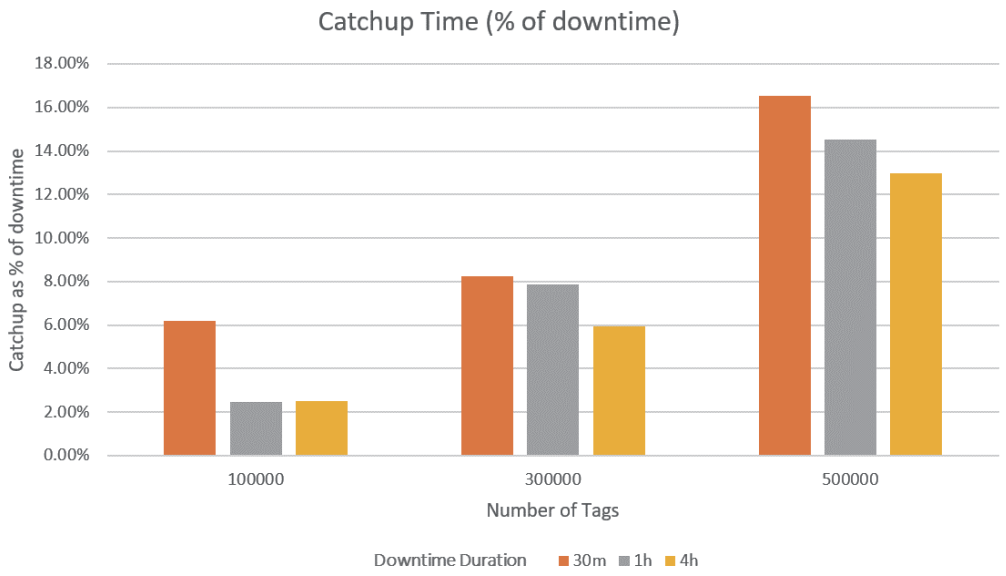
The performance information was tested with an Intel Xeon E5-2440 2.4GHz 64GB machine running Windows Server 2012 R2 with Exaquantum R3.01.

Steady State

In a steady state, transferring 500,000 tags constantly, CPU utilization is below 5%. This is based on RDS Scan rates of three, five and ten minutes for RDS publisher and consumer.

Catchup

In the event of a downtime (the process of stopping and starting the transfer of data) RDS catchup can restore data. The table shows the RDS catchup time as a percentage of downtime.



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■ HARDWARE AND SOFTWARE REQUIREMENTS

Minimum Hardware and Software Specifications

Component	Minimum Hardware and Software Specifications
Exaquantum/RDS Server	For detailed specification information, refer to the following description in “Exaquantum GS (GS 36J04A10-01E).” Hardware: ● Hardware Operating Environment “Exaquantum Server” Software: ● Software Operating Environment “Exaquantum Server” For detailed supported revision, please refer to “GS 36J40W10-01EN.”

If RDS will be installed on a different version of Exaquantum, please contact Yokogawa for assistance.

■ MODELS AND SUFFIX CODES

Exaquantum/RDS Product

		Description
Model	NTPC052	Exaquantum/RDS Product
Suffix Codes	-S	Basic Software License
	1	New Order (with Media)
	1	English version
	-STA☐	Enter the number of Publisher-to-Single-Consumer Exaquantum/RDS Server Licenses for transferring Tag data and Alarms & Events (1 - 9)
	-STD☐	Enter the number of Publisher-to-Single-Consumer Exaquantum/RDS Server Licenses for transferring Tag data only (1 - 9)
	-SAE☐	Enter the number of Publisher-to-Single-Consumer Exaquantum/RDS Server Licenses for transferring Alarms & Events only (1 - 9)
	-MTA☐	Enter the number of Publisher-to-Multiple-Consumers Exaquantum/RDS Server Licenses for transferring Tag data and Alarms & Events (1 - 9)
	-MTD☐	Enter the number of Publisher-to-Multiple-Consumers Exaquantum/RDS Server Licenses for transferring Tag data only (1 - 9)
	-MAE☐	Enter the number of Publisher-to-Multiple-Consumers Exaquantum/RDS Server Licenses for transferring Alarms & Events only (1 - 9)

Maintenance Service for Exaquantum/RDS

		Description
Model	NTMC052	Maintenance Service for Exaquantum/RDS
Suffix Codes	-S	Annual Contract
	1	Always 1
	1	Always 1
	-STA☐	Enter the number of RDS Tag data and Alarms & Events Publisher-to-Single-Consumer Licenses (1 - 9)
	-STD☐	Enter the number of RDS Tag data Publisher-to-Single-Consumer Licenses (1 - 9)
	-SAE☐	Enter the number of RDS Alarms & Events Publisher-to-Single-Consumer Licenses (1 - 9)
	-MTA☐	Enter the number of RDS Tag data and Alarms & Events Publisher-to-Multiple-Consumer Licenses (1 - 9)
	-MTD☐	Enter the number of RDS Tag data Publisher-to-Multiple-Consumer Licenses (1 - 9)
	-MAE☐	Enter the number of RDS Alarms & Events Publisher-to-Multiple-Consumer Licenses (1 - 9)

■ ORDERING INFORMATION

Specify the model and suffix codes.

■ TRADEMARKS

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- Other company names and product names mentioned in this General Specification are registered trademarks of their respective companies.