Ethernet Global Data (EGD) Configuration Server

Instruction Guide

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Acronyms and Abbreviations

EGD	Ethernet Global Data, a control network and communication protocol
OPC	OLE for Process Control
XML	Extensible Markup Language

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1 Overview

The Ethernet Global Data (EGD) Configuration Server is a Windows® service that responds to EGD configuration messages. These messages include:

- Get and Put commands
- Revision and status information

Extensible Markup Language (XML) files defined in the EGD Protocol Specifications are stored by the server.

Any EGD Class 3 device will respond to EGD configuration messages. EGD configuration messages are transferred over TCP/IP, using xml as a data abstraction layer. Devices that communicate configuration information among one another must use the configuration port. Tools or servers must use the configuration server port.

2 Installation

The EGD Configuration Server is installed as part of the WorkstationST* product. It may also be installed by other GE tools developed by members of the Communication Center of Excellence (CoE).

Note Installations by other GE tools must be removed prior to installing the GE ControlST* Software Suite.

The *EgdCfgServer.exe. config* file is an .xml file included in the installation folder. When the service starts up, this file is read and its settings are applied. The settings are all documented in the *SampleAppConfig.xml* file in the installation folder.

The installation folder has a subfolder called *Docs*, which contains configuration files. The *EgdCfgServer.exe. config* file setting of *DocRoot* can be used to change this default file location.

The installation folder also has a subfolder called *Logs*, which contains a diagnostic log. This default file location can be changed using the *EgdCfgServer.exe. config* file setting. When the diagnostic log file becomes full, it is copied to a backup, and a new file is opened.

Note Both the *Docs* and the *Logs* folder can also be modified by a registry entry. WorkstationST sets the appropriate registry entry to override these so that the user may specify where the files will reside.

For more information, refer to the *ToolboxST User Guide for Mark Controls Platform* (GEH-6700 or GEH-6703).

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3 Typical EGD Files

The details of each EGD configuration file type are defined in the EGD Protocol Specifications. The EGD files for a particular device are kept in a subfolder labeled with the producer ID.

Note Each .xml file can be customized for unique applications. The EGD Protocol Specifications defines the schema and the way to customize each file.

Typical files provided for an EGD device are defined as follows:

The **ProducedData.xml** file contains information about a producer, including the producer ID, a list of IP addresses, and a list of exchanges that are produced. Each exchange element contains information about the exchange destination and a list of variable elements on the exchange.

The **SymbolTable.xml** file contains a list of variables with additional information for each variable. The variables do not all have to be produced variables. They can be additional variables that are not on exchanges in the *ProducedData.xml* file. Typically, all variables listed in a ProducedData.xml file would also be listed in the SymbolTable.xml file.

The **ConsumedData.xml** file contains consumed device configuration. The consumed devices are called *required producers*. Each required producer contains the same information as the *ProducedData.xml* file. The variables may be bound to an exchange, in which case they are listed under an exchange element with their offset in the exchange defined. Unbound variables are listed in an unbound variables section. If unbound, they are merely a list of variables the device expects to consume. The running EGD device binds the data by obtaining a copy of the producer's *ProducedData.xml* file.

The **GuiDevice.xml** file contains configuration information, as well as the list of IP addresses that also resides in the *ProducedData.xml* file. This file is used by the EGD Management Tool (EMT) to determine the appropriate tool to start based on the EGD device configuration.

The **MasterSymbolTable.xml** file is common to all EGD devices. It contains system-level information that includes format specifications and alarm class information.

4 Glossary of Terms

Bind - To establish the correspondence between the data in an exchange and variables in a device.

Bind/Build - To bind the configuration for each consumed exchange and create/update the configuration for any produced exchange.

Collection - More formally, an EGD Collection. A group of devices that constitutes a formal subset of the devices participating in a particular EGD installation. This arbitrary grouping allows users to subdivide the system to make some tasks easier.

Consume - To receive an EGD data message (exchange).

Consumer - An EGD node configured to receive an EGD data message.

EGD - A mechanism that provides access to global data between nodes supporting the EGD protocol.

Exchange - An EGD data message consisting of a header and a body of data. The header contains the producer ID and the exchange ID that uniquely identifies the message. The body of data is a block of bytes in a format agreed upon by the producer and all consumers.

Feature - An element of the WorkstationST runtime system, which can be optionally enabled through the ToolboxST application. Examples include OPC Server, Recorder, and Alarm Viewer.

Global Data - A concept in which multiple controllers on a network can share information by exchanging portions of their local memory with peer controllers.

OPC (OLE for Process Control) - A standard for data exchange in the industrial environment (OLE is Microsoft's Object Language Embedding). The OPC foundation provides specifications for various OPC standards such as OPC DA (Data Access) and OPC AE (Alarm and Event).

Produce - To send an EGD data message (exchange).

Producer - The EGD node configured to send data messages. The source of the data samples for an exchange.

Refresh - To bind the configuration for each consumed exchange for a particular consumed device.

Runtime - Software stored in the controller's Flash memory that converts application code (pcode) to executable code.

Unbound Variables - Variables required by a consumer that were not found in the producer configuration during the bind.