

Application Note on:

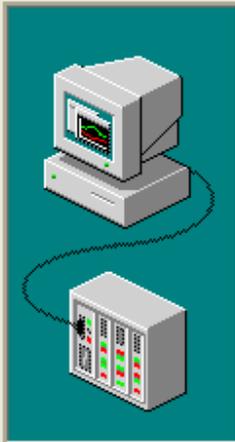
EQ7000EDH+ with IGS using Ethernet IP driver.

In this example we are reading 10 words from integer file 7 starting at word 0.

Also reading 5 words from floating file F8 starting at word 0 from the PLC5 on a DH+ node address ( 07 Octal = 07 decimal) and the EQ7000 IP address is 192.168.2.236



### New Channel - Network Interface



This channel is configured to communicate over a network. You can select the network adapter that the driver should use from the list below.

Select 'Default' if you want the operating system to choose the network adapter for you.

Network Adapter:

Default

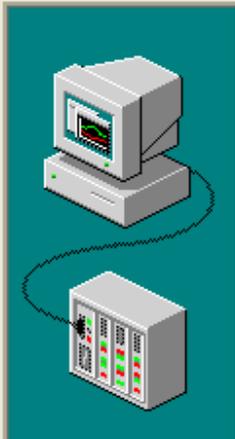
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### New Channel - Write Optimizations



You can control how the server processes writes on this channel. Set the optimization method and write-to-read duty cycle below.

Note: Writing only the latest value can affect batch processing or the equivalent.

Optimization Method

- Write all values for all tags
- Write only latest value for non-boolean tags
- Write only latest value for all tags

Duty Cycle

Perform 10 writes for every 1 read

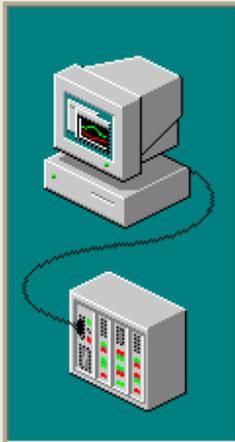
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### New Channel - Optimization Suggestions



To achieve maximum performance, there are a number of optimizations that must be employed when designing your server and controller application:

- Establish multiple connections with a single device by referencing this device from multiple channels
- Select the proper Protocol Mode
- Alias sub-structures
- Select the proper SOTS
- Use Logix Arrays whenever possible.

[Click Here For More Information](#)

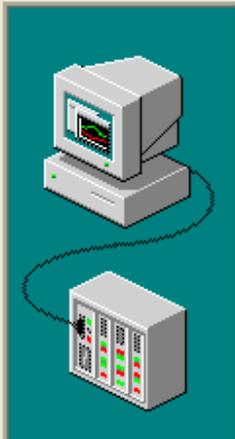
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### New Channel - Summary



If the following information is correct click 'Finish' to save the settings for the new channel.

Name: Channel2  
Device Driver: ControlLogix Ethernet  
Diagnostics: Disabled

Network Adapter:  
Default

Write Optimization:  
Write all values for all tags  
10 writes per read

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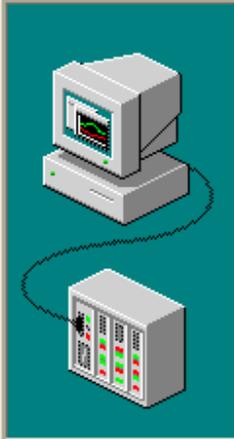
Finish

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## New Device - ID



The device you are defining may be multidropped as part of a network of devices. In order to communicate with the device, it must be assigned a unique ID.

Your documentation for the device may refer to this as a "Network ID" or "Network Address."

Device ID:

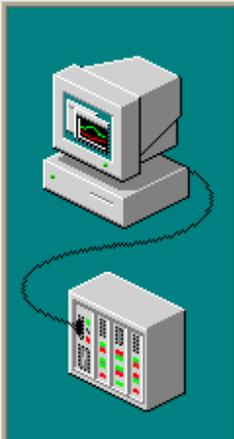
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## New Device - ID



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Device ID:

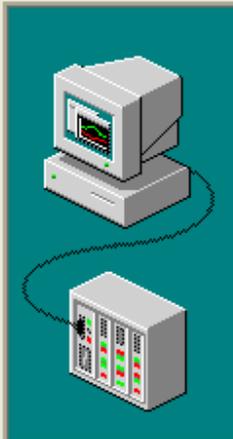
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### New Device - Timing



The device you are defining has communications timing parameters that you can configure.

Connect timeout:  seconds

Request timeout:  milliseconds

Fail after:  successive timeouts

Inter-request delay:  milliseconds

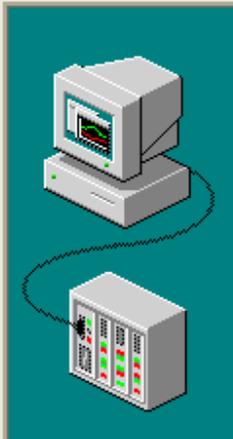
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### New Device - Auto-Demotion



You can demote a device for a specific period upon communications failures. During this time no read request (writes if applicable) will be sent to the device. Demoting a failed device will prevent stalling communications with other devices on the channel.

Enable auto device demotion on communication failures

Demote after:  successive failures

Demote for:  milliseconds

Discard write requests during the demotion period

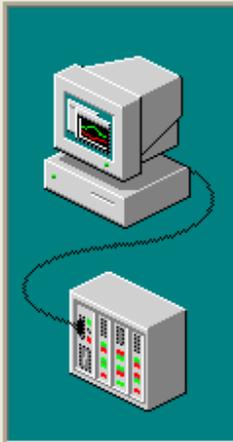
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### New Device - Database Creation



The device you are defining has the ability to automatically generate a tag database.

Determine if the device should create a database on startup, what action should be performed on previously generated tags, group to add tags to, and allowing subgroups.

Startup:

Action:

Add to group:

Allow automatically generated subgroups

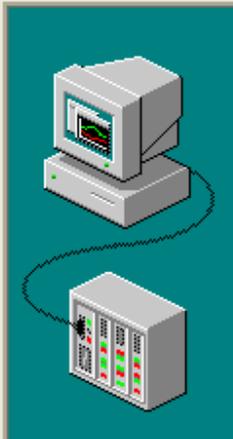
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### New Device - ENI DF1/DH+ /CN Gtwy Communications Parameters



Set the TCP/IP port number the Logix gateway or ENI device is configured to use. Default port is 44818.

The Request Size determines the max number of bytes the driver can request in a transaction.

See Help for FF supporting Block Writes.

CL ENET Port Number:

Request Size:  Bytes

Perform Block Writes for Function Files supporting Block Writes.

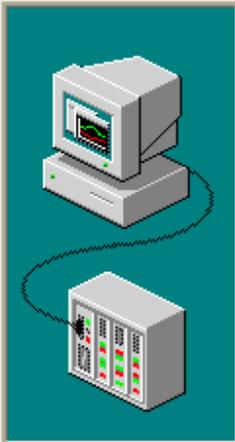
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### New Device - Summary



If the following settings are correct click 'Finish' to begin using the new device.

Name: Device1  
 Model: DH+ Gateway: PLC-5  
 ID: 192.168.2.236,0,0.A.7

Connect Timeout: 3 Sec.  
 Request Timeout: 1000 ms  
 Fail after 3 attempts  
 Inter-Request Delay: 0 ms

Auto-Demotion: Disabled

Tag database startup: Do not generate on startup  
 Tag database action: Do not overwrite

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### Tag Properties

General | Scaling

Identification

Name:  

Address:   

Description:  

Data properties

Data type:  

Client access:  

Scan rate:   milliseconds

OK   Cancel   Apply   Help

**Tag Properties** [Close]

General | Scaling

Identification

Name:  [Icon]

Address:  [?] [✓]

Description:  [Icon]

Data properties

Data type:  [v]

Client access:  [v]

Scan rate:  [v] milliseconds

OK Cancel Apply Help

**Industrial Gateway OPC Server - [C:\Program Files\Industrial Gateway Server\Projects\EQ7000EDH+.opf \*]**

File Edit View Users Tools Help

Tag Name	Address	Data Type	Scan Rate	Scaling	Description
Float 8	F8:0 [S]	Float	100	None	Floating point file F8 read 5 words start at word 0
Int7	N7:0 [10]	Word	100	None	Integer file 7 read 10 words start at word 0

Date	Time	User Name	Source	Event
3/18/2013	3:04:59 PM	Default User	Industrial Gateway OPC Server	ControlLogix Ethernet device driver loaded successfully.
3/18/2013	3:04:59 PM	Default User	Industrial Gateway OPC Server	DF1 device driver loaded successfully.
3/18/2013	3:04:59 PM	Default User	Industrial Gateway OPC Server	Simulator device driver loaded successfully.
3/18/2013	3:37:17 PM	Default User	Industrial Gateway OPC Server	Starting ControlLogix Ethernet device driver.
3/18/2013	3:37:17 PM	Default User	ControlLogix Ethernet	AB ControlLogix Ethernet Device Driver V4.101.168 - U
3/18/2013	3:38:20 PM	Default User	Industrial Gateway OPC Server	Demo timer started. (2 hours, 0 minutes, 0 seconds remaining.)
3/18/2013	3:38:20 PM	Default User	ControlLogix Ethernet	Error occurred during a request to device 'Channel2.Device1'. [CIP Error=0x0...
3/18/2013	3:51:01 PM	Default User	Allen-Bradley Ethernet	Device 'Channel1.Device1' is not responding.
3/18/2013	4:06:57 PM	Default User	Allen-Bradley Ethernet	Device 'Channel1.Device1' is not responding.
3/18/2013	4:06:57 PM	Default User	ControlLogix Ethernet	Error occurred during a request to device 'Channel3.Device1'. [CIP Error=0x0...
3/18/2013	4:10:23 PM	Default User	Allen-Bradley Ethernet	Device 'Channel1.Device1' is not responding.
3/18/2013	4:10:24 PM	Default User	Allen-Bradley Ethernet	Unable to read data starting at N7:0 on device 'Channel1.Device1'. [Status=...
3/18/2013	4:10:24 PM	Default User	Allen-Bradley Ethernet	Unable to read data starting at F8:0 on device 'Channel1.Device1'. [Status=0...
3/18/2013	4:11:49 PM	Default User	Industrial Gateway OPC Server	Stopping ControlLogix Ethernet device driver.
3/18/2013	4:11:52 PM	Default User	Industrial Gateway OPC Server	Stopping Allen-Bradley Ethernet device driver.
3/18/2013	4:11:57 PM	Default User	Industrial Gateway OPC Server	Closing project C:\Program Files\Industrial Gateway Server\Projects\EQ7000E...
3/18/2013	4:12:31 PM	Default User	Industrial Gateway OPC Server	Industrial Gateway OPC Server Started
3/18/2013	4:12:31 PM	Default User	Industrial Gateway OPC Server	Opening project C:\Program Files\Industrial Gateway Server\Projects\EQ7000...
3/18/2013	4:12:31 PM	Default User	Industrial Gateway OPC Server	Allen-Bradley Ethernet device driver loaded successfully.
3/18/2013	4:12:31 PM	Default User	Industrial Gateway OPC Server	Starting Allen-Bradley Ethernet device driver V4.101.168 - U
3/18/2013	4:12:31 PM	Default User	Allen-Bradley Ethernet	Allen-Bradley Ethernet Device Driver V4.101.168 - U
3/18/2013	4:12:39 PM	Default User	Industrial Gateway OPC Server	ControlLogix Ethernet device driver loaded successfully.
3/18/2013	4:12:39 PM	Default User	Industrial Gateway OPC Server	DF1 device driver loaded successfully.
3/18/2013	4:12:39 PM	Default User	Industrial Gateway OPC Server	Simulator device driver loaded successfully.
3/18/2013	4:14:35 PM	Default User	Industrial Gateway OPC Server	Starting ControlLogix Ethernet device driver.
3/18/2013	4:14:35 PM	Default User	ControlLogix Ethernet	AB ControlLogix Ethernet Device Driver V4.101.168 - U

Ready Clients: 0 Active tags: 0 of 0

**OPC Quick Client - Untitled \***

File Edit View Tools Help

Item ID	Data Type	Value	Timestamp	Quality	Update Count
Channel2_System_A...	String	Default;NVIDIA nForce Net... [192.168.2.109]	16:17:12:234	Good	2
Channel2_System_E...	Boolean	0	16:17:12:234	Good	2
Channel2_System_N...	String	Default	16:17:12:234	Good	2
Channel2_System_W...	Long	10	16:17:12:234	Good	2

Date	Time	Event
3/18/2013	4:17:12 PM	Added group 'Channel1_System' to 'Intellution.IntellutionGatewayOPCServ...
3/18/2013	4:17:12 PM	Added 7 items to group 'Channel1_Statistics'.
3/18/2013	4:17:12 PM	Added group 'Channel1.Device1_System' to 'Intellution.IntellutionGatewayOPCServ...
3/18/2013	4:17:12 PM	Added 4 items to group 'Channel1_System'.
3/18/2013	4:17:12 PM	Added group 'Channel1.Device1' to 'Intellution.IntellutionGatewayOPCServ...
3/18/2013	4:17:12 PM	Added 13 items to group 'Channel1.Device1_System'.
3/18/2013	4:17:12 PM	Added 2 items to group 'Channel1.Device1'.
3/18/2013	4:17:12 PM	Added group 'Channel2_System' to 'Intellution.IntellutionGatewayOPCServ...
3/18/2013	4:17:12 PM	Added group 'Channel2.Device1_System' to 'Intellution.IntellutionGatewayOPCServ...
3/18/2013	4:17:12 PM	Added 4 items to group 'Channel2_System'.
3/18/2013	4:17:12 PM	Added group 'Channel2.Device1' to 'Intellution.IntellutionGatewayOPCServ...
3/18/2013	4:17:12 PM	Added 15 items to group 'Channel2.Device1_System'.
3/18/2013	4:17:12 PM	Added 2 items to group 'Channel2.Device1'.

Ready Item Count: 65

OPC Quick Client - Untitled

File Edit View Tools Help

Intellution.IntellutionGatewayOPCServi

Item ID	Data Type	Value	Timestamp	Quality	Update Count
Channel2.Device1.Floa...	Float Array	[ 293752, 587503, 881255, 1.17501E+006, 1.46876E+006 ]	16:17:12:390	Good	1
Channel2.Device1.Int7	Word Array	[ 1945, 3890, 5835, 1945, 1945, 1945, 1945, 1945, 1945 ]	16:17:12:500	Good	1

Date	Time	Event
3/18/2013	4:17:12 PM	Added group 'Channel1._System' to 'Intellution.IntellutionGatewayOPCServi'.
3/18/2013	4:17:12 PM	Added 7 items to group 'Channel1._Statistics'.
3/18/2013	4:17:12 PM	Added group 'Channel1.Device1._System' to 'Intellution.IntellutionGatewayOPCServi'.
3/18/2013	4:17:12 PM	Added 4 items to group 'Channel1._System'.
3/18/2013	4:17:12 PM	Added group 'Channel1.Device1' to 'Intellution.IntellutionGatewayOPCServi'.
3/18/2013	4:17:12 PM	Added 13 items to group 'Channel1.Device1._System'.
3/18/2013	4:17:12 PM	Added 2 items to group 'Channel1.Device1'.
3/18/2013	4:17:12 PM	Added group 'Channel2._System' to 'Intellution.IntellutionGatewayOPCServi'.
3/18/2013	4:17:12 PM	Added group 'Channel2.Device1._System' to 'Intellution.IntellutionGatewayOPCServi'.
3/18/2013	4:17:12 PM	Added 4 items to group 'Channel2._System'.
3/18/2013	4:17:12 PM	Added group 'Channel2.Device1' to 'Intellution.IntellutionGatewayOPCServi'.
3/18/2013	4:17:12 PM	Added 15 items to group 'Channel2.Device1._System'.
3/18/2013	4:17:12 PM	Added 2 items to group 'Channel2.Device1'.

Ready Item Count: 65