

Driver Monitor

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ISaGRAF Enhanced - Driver Monitor

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Driver Monitor

The Driver Monitor allows you to look up the status and statistics of a communication driver currently running on a target node. The monitor displays information for all components of field communication relating to a communication driver:

- Field communication manager's status and identification
- Communication driver's status and identification
- Field equipment's communication parameters
- Device's statistics

You can also clear the values displayed in the monitor.

Field communications enables you to define the structure required by target nodes to allow communication between virtual machines and remote equipment.

The window of the Driver Monitor module is divided into two parts: a browser and a display field. The browser, located on the left side of the window, displays the defined field communication items in a tree-like structure, with field communication managers as *roots*. The display field, to the right of the window, enables you to view information for the item currently selected in the browser.

To view the status and statistics for components of field communication

1. In the Start menu of Windows, choose **Programs**, then **ISaGRAF Enhanced**, then **Driver Monitor**.

The Driver Monitor appears.

2. In the File menu, choose **Open Project**.

The Choose the Project Database window appears.

3. In the file browser, select the PRJLIBRARY.MDB file located in the following directory:
Program Files\ISaGRAF Enhanced\Workbench\Prj*project_name*; then click **Open**.

The field communication components defined for the project appear in the browser.

4. In the browser, select a field communication item.

The display field holding the status or statistical information for the item appears.

To change the monitor's refresh period

- From the Options menu, choose **Refresh Period**.

To clear the values displayed in the monitor

- From the Tool menu, choose **Clear Statistics**.

Related Topics

“Menu Bar”, on page 3

Menu Bar

The menus of the Driver Monitor module are:

File

- Open Project opens all field communication setup data for a control project
- Exit exits the Driver Monitor module

Tools

- Clear Statistics sets all statistics to 0 for the currently displayed communication driver

Options

- Refresh Period changes the driver monitor's refresh period, in seconds

Help

- Contents opens contextual help on the Monitor module
- About opens version and copyright information on the Setup module

Field Communication Manager

The field communication manager display field provides identification and status information on the driver's field communication manager:

- Name of the field communication manager
- Identifier, name of the process attaching the field communication manager to the QNX operating system
- Version, the current version of the field communication manager
- Idle time, the total idle time of the communication driver since it was started, in milliseconds
- Run time, the total run time of the communication driver since it was started, in milliseconds
- Status of the field communication manager:
 - Ok
 - Run-time Error
 - Communication Error
 - Configuration Error
 - Out of Memory
 - Warning, Non-fatal
- Log name, the name of the trace log file. The default is ErrLog.
- QNX node, the target node number within the field network on which the field communication manager runs
- Virtual machines, the total number of virtual machines, having I/O points, running on the target node
- Priority, the field communication manager's priority on the target operating system

Communication Driver

The communication driver display field provides identification and status information on the communication driver:

- Identification, the name of the process attaching the driver to the QNX operating system
- Version, the current version of the communication driver
- Number of the communication driver
- Status of the communication driver:
 - Ok
 - Run-time Error
 - Communication Error
 - Configuration Error
 - Out of Memory
 - Warning, Non-fatal
- Maximum I/Os per block, the maximum number of I/O points being read in one request
- Restart, the number of times the field communication manager has restarted the communication driver
- Scan period, the time interval between two refreshes of I/O's values in the field, in milliseconds
- Scan count, the number of scans performed by the communication driver
- Shared memory readings, the shared memory read count
- Services, the device's special services

Communication Parameters

The communication parameters display field provides information on the communication parameters of the communication driver's field equipment. These parameters vary depending on the communication driver's protocol. For more information on the protocol-specific parameters for field equipment, refer to the communication driver's **ISaGRAF Enhanced** documentation.

Device Statistics

The Device statistics display field provides statistical information on the communication driver's device. This information is grouped in five categories.

I/O Points

- **Blocks**, the total number of blocks of I/O points. These blocks are defined by the field communication manager
- **I/O Points**, the total number of I/O points defined for the communication driver
- **Minimum Refresh**, the fastest scan period defined in the running I/O points, in milliseconds
- **Maximum Refresh**, the slowest scan period defined in the running I/O points, in milliseconds

Overhead

- **Delayed Polls**, the number of times a poll has waited to be refreshed
- **Normal Queue Requests**, the number of requests in the normal priority queue
- **Priority Queue Requests**, the number of requests in the high priority queue
- **IPC Commands**, the number of requests **ISaGRAF Enhanced** has made to the field communication manager
- **Transactions**, the number of requests received by the driver
- **Polling Delay**, the time interval between the completion of polled requests and the next polling session, in milliseconds
- **Flow Control Count**, the number of times the driver is in high level request queue

Send/ Reply

- Maximum Response Time, the slowest response time between a request and a response, in milliseconds
- Minimum Response Time, the fastest response time between a request and a response, in milliseconds
- Average Response Time, the average response time between a request and a response, in milliseconds

Events

- Incoming, the total number of events received from the communication driver
- Timeouts, the number of event replies the field communication manager sent out that were not acknowledged
- Bad, the total number of bad events received from the communication driver

Communication

- Read Requests, the total number of read requests to the communication driver
- Write Requests, the total number of write requests to the communication driver
- Total Requests, the total number of requests sent to the communication driver
- Retries, the number of retries for read/ write requests
- Checksum Error, the total number of checksum errors in frames
- Timeouts, the number of requests conducted by the field communication manager that did not bring forth responses
- Total Responses, the total number of response events from the communication driver
- Requests per Minute, the average number of exchanges between the communication driver and the field equipment per minute

Glossary

The Glossary contains terms used in the Driver Monitor and their definitions.

A-H

Clear Statistics	Clear Statistics clears the values displayed in the monitor.
Communication Driver	The communication driver display field provides identification information on the communication driver.
Communication Parameters	The communication parameters display field provides information on the communication parameters of the communication driver's field equipment.
Device Statistics	The Device statistics display field provides statistical information on the communication driver's device. The information is grouped in five categories: I/O points, Overhead, Send/Reply, Events, and Communication.
Driver Monitor	The Driver Monitor allows you to look up the status and statistics of a communication driver currently running on a target node.
Driver Monitor Browser	One of two parts of the Driver Monitor Window. Located on the left side of the window, the browser displays the defined field communication items in a tree-like structure, with field communication managers as <i>roots</i> .
Driver Monitor Display Field	One of two parts of the Driver Monitor Window. Located on the right side of the window, the display field enables you to view information for the item currently selected in the browser.
Field Communication Manager	The Field Communication Manager display field provides identification and status information on the driver's field communication manager.

Field Communications Setup The Field Communication Setup allows you to define the structure required by target nodes to allow communication between the Workbench and remote equipment.

I-Z

Identifier The identifier, in the Field Communication Manager, is the name of the process attaching the field communication manager to the QNX operating system.

Idle Time The idle time, in the Field Communication Manager, is the total idle time of the communication driver since it was started, in milliseconds.

Refresh Period Refresh period changes the driver monitor's refresh period.

Run Time The run time, in Field Communication Manager, is the total run time of the communication driver since it was started, in milliseconds.

Shared Memory Readings Shared Memory Readings in the Communication Driver is the shared memory read count.

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