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LabVIEW™ Datalogging and Supervisory Control Module Release Notes

Version 6.1

Welcome to the LabVIEW Datalogging and Supervisory Control module, the LabVIEW solution for all kinds of distributed data logging and automation needs. This document describes system requirements and installation of the LabVIEW Datalogging and Supervisory Control module. It also contains information about what is new in this version and a list of known issues.

Contents

Installation

The following sections describe how to install the LabVIEW Datalogging and Supervisory Control (DSC) module on your computer.

Installing the LabVIEW DSC Module

Before you install the LabVIEW DSC module you must have already installed LabVIEW 6.1. If you reinstall LabVIEW after installing the LabVIEW DSC module, you should *reinstall* the module after completing the LabVIEW installation.

Perform the following steps to install LabVIEW and the LabVIEW DSC module:

1. It is strongly recommended that you exit all programs before running the setup. Applications that run in the background, such as virus scanning utilities, may cause the installer to take longer than average to complete.

2. Install LabVIEW if you have not already. Refer to the LabVIEW installation instructions for help.

3. Reboot your computer. You must reboot your computer after installing LabVIEW and before installing the LabVIEW DSC module.

4. Insert the LabVIEW DSC module CD in your CD-ROM drive.

5. Run the installer as follows:

   a. If your computer system has the AutoPlay feature enabled, the installation will begin automatically.

   b. If your system does not use AutoPlay, run the following program:

      x:\setup.exe

      where x is the letter of your CD-ROM drive.

6. Follow the onscreen instructions.

7. Reboot your computer.

Required System Configuration

The LabVIEW DSC module runs on any system with the following:

- Windows 2000, Windows NT 4.0, Windows XP, or Windows Me/98/95.

- A minimum of 32 MB of RAM, 128 MB recommended.

- At least 60 MB of free disk space (for the system to use as swap space), 127 MB of swap space recommended. Increasing your computer resources will have a significant effect on performance of LabVIEW DSC module applications.

Uninstalling the LabVIEW DSC Module

To uninstall the LabVIEW DSC module, select **Start»Settings»Control Panel** and double-click **Add/Remove Programs**. In that window, select and remove the following components:

- NI LabVIEW Datalogging and Supervisory Control 6.1

- NI DSC Common Tools

- NI Historical Data Viewer

- NI Logos 4.4

- NI LabVIEW Extension Manager

- NI LabVIEW Security Extensions

- NI Server Explorer

- NI Measurement and Automation Explorer 2.2

All of these components, except for the NI LabVIEW Datalogging and Supervisory Control 6.1 component, may be shared with other National Instruments software that you have installed.

Note When uninstalling NI LabVIEW Datalogging and Supervisory Control 6.1 on some Windows Me machines, you may see meaningless text in the dialog boxes. You can choose **Yes** in the first dialog box and the uninstall will proceed correctly, rebooting your computer when it is done. Or, to fix the problem, choose **No** to exit the uninstallation program, manually replace the file uninstall_lvdsc.exe that is located in your LabVIEW 6.1 directory with the same file that is located in the InstallResources folder on the Installation CD, and restart the uninstallation program.

Compatibility Issues

You will need to recompile VIs when upgrading to a new version of LabVIEW. Consult your LabVIEW documentation for detailed information about converting or recompiling VIs from earlier versions of LabVIEW. A VI saved in the LabVIEW DSC module version 6.1 will no longer load in an earlier version.

New Features for Version 6.1

The following sections describe the new features available in this version of the LabVIEW DSC module.

String Tag Data Type

When you configure a string tag, you can select whether to treat the data in the tag as text or as binary information. In the Tag Configuration Editor, string tag dialog boxes have a new checkbox called **Text Data Only**. If this box is checked, the string tag data is published and logged as text, otherwise it is published and logged as a binary object (BLOB).

You can set the default type for string tags to either text or BLOB in the **Set Default Parameters** dialog box in the Tag Configuration Editor (**Configure»Default Parameters**).

When you export your tag configuration to a spreadsheet file, this information is represented in the Log Resolution column as 0=Binary or 1=TEXT. You can view this information in the Tag Configuration Editor if you choose **Edit»Column Setup** and add the **Log Resolution** column.

Logging and Accessing Data, Alarms, and Events on a Network Computer

You have the option to log or retrieve historical data, alarms, and events to or from a computer on the network that has Citadel installed.

Logging to a Networked Computer

You will see new options in the **Historical Logging Configuration** dialog box (**Configure»Historical** in the Tag Configuration Editor) and the **Event Configuration** dialog box (**Configure»Events** in the Tag Configuration Editor), that allow you to log to a networked computer.

Note The **Shift Display** field and **Log Format** page no longer appear for event configuration, because the LabVIEW DSC module no longer logs to `.evt` files.

Refer to the *LabVIEW Datalogging and Supervisory Control Module Developer's Manual* for more information about logging historical data and events.

Extracting Data from a Networked Computer Using Historical Data VIs

To access Citadel databases on another computer when using the Historical Data VIs, provide the Citadel path in the following format:

```
\\computer_name\local\drive\path
```

Refer to the Historical Data VI topics in the LabVIEW DSC Help for more information about path formats.

Viewing Data on a Networked Computer Using Historical Trend Viewer (HTV)

The **Select Tags for HTV** dialog box in HTV (**Tools»Datalogging & Supervisory Control»View Historical Trends**) has changed so that you can view data on another computer that has Citadel installed. Refer to the *LabVIEW Datalogging and Supervisory Control Module Developer's Manual* for more information about the classic Historical Trend Viewer.

New Options for Viewing Historical Data

Previous versions of BridgeVIEW and the LabVIEW DSC module gave you the option of viewing historical data with the "classic" Historical Trend Viewer (HTV) or the Historical Trend control in conjunction with Historical Data VIs. Version 6.1 of the LabVIEW DSC module includes the new NI HyperTrend ActiveX control and support for the new Historical Data Viewer in Measurement & Automation Explorer (MAX). Refer to the *LabVIEW Datalogging and Supervisory Control Module Developer's Manual* for more information about extracting and viewing historical data.

New Alarm and Event Controls and VIs

Table 1 describes the new Alarm & Event VIs.

Table 1. New Alarm & Event VIs

Name	Description
HIST Alarm & Event Query To Spreadsheet File	Use this VI to export data from a historical alarm & event database to a tab-delimited text file. If you also supply a valid control reference to a table or multi-column listbox, the query results will be sent to the control.
HIST Alarm & Event Query	Use this VI to extract data from a historical alarm & event database. If you also supply a valid control reference to a table or multi-column listbox, the query results will be sent to the control.
Make New Database Path	Use this VI to create a properly formatted Citadel database network path using a computer name and directory or file path.
Split Network Database Path	Use this VI to parse a Citadel database network path to get the computer name and file path.
Archive Alarms and Events	Use this VI to perform a destructive or non-destructive archival operation for alarms and events on a Citadel database.

Table 2 describes the new Alarm & Event controls.

Table 2. New Alarm & Event Controls

Name	Description
Historical Alarm & Event Query Data Format	Use this control to select which columns of data to include, as well as what date and time display format to use, in a historical alarm and event query's results.
Historical Alarm & Event Query Filter	Use this control to define a more selective query of the historical alarms and events database. You can filter on time, alarm priority, active user, descriptions, and so on.

New Historical Data VIs

Table 3 describes the new Historical Data VIs.

Table 3. New Historical Data VIs

Name	Description
Archive Database	Use this VI to perform a destructive or non-destructive archive operation on a Citadel database.
Compact Database	Use this VI to compress a Citadel database. Compressing a database frees extra room used up by deleted, archived, or lifespan-expired trend data.
Get Trace Names	Use this VI to retrieve a list of trace names from a Citadel database based on a particular pattern.
Rename Traces	Use this VI to rename traces in a Citadel database.
Delete Traces	Use this VI to delete a set of traces from a given Citadel database. Data deleted with this VI cannot be recovered.
Launch HDV in MAX	Use this VI to start the Historical Data Viewer in Measurement & Automation Explorer with the Citadel database selected.
Make New Database Path	Use this VI to create a properly formatted Citadel database network path using a computer name and directory or file path.
Split Network Database Path	Use this VI to parse a Citadel database network path to get the computer name and file path.
Data Set Logger	This button opens the Data Set Logger VIs palette.

New Tags VI Palette and Polymorphic Tag VIs

The Read Tag (discrete), Read Tag (bit array), Read Tag (string), Write Tag (discrete), Write Tag (bit array), Write Tag (string), and all Write on Change VIs no longer exist in version 6.1. They are replaced with the new polymorphic Read Tag and Write Tag VIs. The Tags VI palette also includes new VIs to read multiple tags and programmatically launch the Tag Monitor.

Table 4 describes the new Tags palette VIs.

Table 4. New Tags Palette VIs

Name	Description
Read Tag	Use this VI to read the latest value for the Tag from the database and returns analog tag values by default. You can read other data types by popping up on the VI and selecting Analog, Discrete, Bit Array, or String.
Write Tag	Use this VI to write a value to an output tag. It automatically selects the correct data type.
Read Multiple Tags	Use this VI to read the latest values of specified tags or groups of tags.This VI has analog, discrete, bit array, and string versions.
Start Tag Monitor	Use this VI to start the Tag Monitor.

Logging and Retrieving Data in Sets

To log and retrieve data in sets, you configure the Data Set Logger server to track your data sets, then use either the Historical Data Viewer in MAX, or the Data Set Logger VIs, to retrieve your data set values. Refer to the *LabVIEW Datalogging and Supervisory Control Module Developer's Manual* for more information about logging data in sets.

Known Issues

The following known issues exist in the LabVIEW Datalogging and Supervisory Control module, version 6.1.

Accessing Remote Databases with the Classic Historical Trend Viewer

You can select a `.scf` file that is located on another computer on the network with the HTV **Select Tags** dialog box. If you do, however, HTV attempts to access the database as if it were a local database rather than across the network. To access the database correctly, select the computer and path directly, using the **Data Directory** field of the **Select Tags** dialog box.

Tag Monitor and Binary String Tags

You can define string tags in the LabVIEW DSC module that are treated either as text data or as binary data. If you use the Tag Monitor to subscribe to string tags that support binary data, you will see a message indicating that the tag is of an unsupported data type. Despite this message, you can

still set the value of the tag from the Tag Monitor. When you do you will be writing text data into the binary tag. Because a binary tag can contain any information, including text, this is not considered incorrect behavior on the part of the Tag monitor.

Alarm and Event Priorities

Alarm and event priorities displayed in the Alarm & Events Display, the Tag Monitor, and the new Historical Alarm & Event Query VIs come from Citadel and use the range 1–10. Because the LabVIEW DSC module tags allow you to define alarm priorities in the range 1–15, the Tag Engine converts LabVIEW DSC module priorities to the 1–10 scale for logging and publishing over the network via Logos and Citadel. These priorities are converted as shown in the following table.

Table 5. Conversions for Alarm and Event Priorities

Converted From (Value in LabVIEW DSC Module Tags)	Converted To (Value in Citadel)
1	1
2	1
3	2
4	2
5	3
6	5
7	5
8	6
9	7
10	7
11	8
12	8
13	9
14	9
15	10

Replacement Keyboard Driver

The LabVIEW DSC module offers a replacement keyboard driver for use with Windows NT 4.0 and Windows Me/98/95. This keyboard driver provides the ability to disable certain Windows keyboard shortcuts such as <Ctrl-Alt-Del>. This keyboard driver is not for use in Windows 2000 or Windows XP. Also, for computers using custom keyboard drivers from third-party manufacturers running Windows NT 4.0, we recommend that you do not use this keyboard driver.

Corrections and Additions to LabVIEW DSC Module Documentation Set

The following sections contain information that has changed or that was unavailable for inclusion in the printed LabVIEW Datalogging and Supervisory Control (DSC) module documentation.

Deleting Databases and Database Views in Historical Data Viewer

The Historical Data Viewer Help does not describe the options for deleting a database from the Historical Data Viewer in MAX. When you delete a database from the Historical Data Viewer tree, you have the option of deleting the database view from the tree or deleting both the database view and the underlying database and data. A dialog box permits you to choose the deletion option you want.

Data Set Logger Usage

The Data Set Logger offers many potential combinations of start and end conditions for you to use when defining data set behavior. You might use **ID Tag Changes** for both the start and end condition of a data set. In this case, if the tag you select as your ID tag is an analog tag with an update deadband of zero, or if it is a string tag that is configured to always update the database when a value is written, you will generate a new data set each time you write a value to the ID tag, even if you write the same value to the ID tag several times in a row.

For example, if you have a string tag named Serial Number, and write the value abc123 to it, you will start a new data set whose ID value is abc123. If you write abc123 to the tag again, and you have configured the tag to always update whenever a value is written to it, a new data set with the same ID will be created. The Data Set Logger can handle multiple data sets with the same ID tag value, but this may not be the behavior you intended.

By default, tags are not configured in this manner. If you have configured your tags in this way, be aware that this behavior could result. To avoid it, enable deadbands for the ID tag, or configure the data set to use different start and end conditions.

Deploying Files with Your Application

You might need to copy over the following files from your `LabVIEW` directory and its subdirectories when you deploy an application:

- VIs (Refer to the *LabVIEW Datalogging and Supervisory Control Module Developer's Manual* for detailed information about which VIs are required.)
- `.scf` files
- `lookout.sec`
- `lvdsc.ini`
- `DSCEngine.ini`
- `\vi.lib\lvdsc\servers\Data Set Logger\dscdatasets.ini`
- `\project\lvdsc\scf.ini`
- `\project\lvdsc\htv.ini`
- `\vi.lib\extensions\uistartup\uistart.cfg`
- `\vi.lib\extensions\security\lvsec.cfg`

These files need to be deployed to the same location on each client computer. Do *not* include the following file, because it can prevent proper server registration:

`\vi.lib\lvdsc\init.ini`

For more information about deploying your LabVIEW DSC module application, refer to the *LabVIEW Datalogging and Supervisory Control Module Developer's Manual* or to the NI developer resources at `ni.com/zone`.

More Information and Updates

For information on LabVIEW Datalogging and Supervisory Control module updates, point your browser to

`http://www.ni.com/labviewdsc`

To download the newest patches and other software updates, point your browser to

`http://digital.ni.com/softlib.nsf`