RELEASE NOTES

Lookout™ Release Notes

Version 6.0

Welcome to Lookout 6.0, the National Instruments human machine interface (HMI) and supervisory control and data acquisition (SCADA) software system. This document describes installation, new features, and known issues.

For detailed information on the new features in Lookout 6.0, consult your online and printed documentation. For the latest information not included in this document, refer to the readme.txt file on your Lookout CD.

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NATIONAL INSTRUMENTS™

System Requirements

Lookout requires the following:

- Pentium class or equivalent PC running at 266 MHz or faster

- At least 128 MB RAM

- 200 MB free disk space, plus possibly 100 MB or more, depending on how much historical data you intend to log to the Citadel storage system; you should also have about 50 MB of disk space for file swapping on Windows 2000/NT/XP computers

- Windows 2000/NT 4.0 or later/XP. Lookout requires that Windows NT include service pack 6a and the 6a Security Rollup Package, which are part of the July 26, 2001 security update available at www.windowsupdate.com. Lookout does not support Windows Me/9*x*.

- Internet Explorer 5 or later

- Monitor display setting of at least 800×600 pixels

- Network card and TCP/IP networking installed on the computers you want to connect, if you intend to take advantage of Lookout networking

Note Performance of Lookout depends on the number, size, and complexity of processes you are running. While the minimum requirements are fine for some processes, you should plan on using more powerful computer configurations for complex and data intensive applications.

- You must be properly set up on a network with TCP/IP protocols installed if you want to use the networking capabilities of Lookout. You must be able to ping any computer on your network that you intend to have as a part of your Lookout network. To test this, access a command prompt and enter the following command:

  `Ping compname`

  where `compname` is the name of the computer you want to ping.

  If TCP/IP is functioning properly on your computer, you should receive a response that looks something like the following example:

  Pinging *compname* [123.45.67.89] with 32 bytes of data:

  Reply from 123.45.67.89: bytes=32 time<10ms TTL=128

  Reply from 123.45.67.89: bytes=32 time<10ms TTL=128

  Reply from 123.45.67.89: bytes=32 time<10ms TTL=128

  Reply from 123.45.67.89: bytes=32 time<10ms TTL=128

If TCP/IP is not working properly on your computer, consult your system administrator. Refer to the *Lookout Developer's Manual* for more information on networking and network configuration with Lookout.

Tip If your computer does *not* have a command prompt available in the Windows **Start** menu or in **Start»Programs**, select **Start»Run** and enter `cmd.exe` in the **Run** dialog box. This opens a command prompt you can use for the `ping` command.

Installation

Installing Lookout is more than just copying files to your computer. You must register Lookout for long-term use of your I/O points, and for instances of Lookout that are intended to run server processes, you also must register to activate your client connections. There are also a number of Lookout system configuration options you should set when you install. If you plan on networking with Lookout, you also should test to make sure TCP/IP is present and running on all the computers you intend to use.

Installing onto Computers with Existing Versions of Lookout

- **(Lookout 3.8 or earlier)** Avoid installing Lookout 6.0 over Lookout 3.8 or earlier. Either uninstall Lookout 3.8, or put Lookout 6.0 in a new directory. You can then move or copy Lookout 3.8 process files to the Lookout 6.0 directory.

- **(Lookout 4.0 or later)** To get the maximum stability, National Instruments recommends that you install Lookout 6.0 on a clean computer without previous versions installed. If you really want to have Lookout 6.0 and the previous versions on the same computer, National Instruments strongly recommends that you not run them at the same time.

Installing

Complete the following steps to install Lookout:

1. Run the Lookout `setup.exe`. If you are installing from a Lookout CD, insert the CD in your CD-ROM drive. If your computer has the AutoPlay feature enabled, the installation begins automatically. If your system does not use AutoPlay, run `x:\Lookout\setup.exe` where `x` is the letter of your CD-ROM drive.

2. Follow the onscreen instructions.

3. Reboot your computer.

Activating Lookout

If this is the first installation of Lookout on the computer you are using, or if you have any lost or corrupted your activation, you are prompted to activate Lookout the first time you launch it. Until you activate it, Lookout is limited to 50 I/O points and one client connection, and it only runs for 30 days.

When you activate Lookout, you unlock it for permanent use at your appropriate I/O count. If you do not activate Lookout by the end of the 30-day period, it lapses to a demo system. Refer to Chapter 1, *Introduction to Lookout*, of the *Lookout Developer's Manual* for more information about activating Lookout.

Uninstalling Lookout

To uninstall Lookout, select **Start»Settings»Control Panel» Add/Remove Programs**. Select **National Instruments Software** and choose to remove **NI Lookout 6.0**.

Activation Instructions

Activate Lookout Software

Complete the following steps to activate Lookout software:

1. Launch the Lookout software.

2. The Lookout – Unlicensed Version message box opens when you launch Lookout for the first time. Click **Activate Lookout**, which launches the NI Activation Wizard.

    You also can run an evaluation version of Lookout. The evaluation version of Lookout is limited to 50 I/O points and one client connection, and it only runs for 30 days. If you do not activate Lookout by the end of the 30-day period, it lapses to a demo system.

3. In the NI Activation Wizard, select a method to acquire the activation code and click **Next**:

    *   Automatically activate through a secure Internet connection—Automatically receive an activation code.

    *   Use a Web browser, email client, telephone, or fax machine to acquire an activation code—Contact National Instruments to obtain an activation code. You will then enter the code in the NI Activation Wizard to activate Lookout software.

    *   Apply a 20-character activation code previously acquired for this computer—Enter a code you have obtained to activate Lookout software.

4. Enter or verify your serial number. Click **Next**.

5. Follow the instructions on the screen to complete the activation.

6. For all options other than **Auto**, you must run the NI License Wizard again and select **Apply a 20-character activation code previously acquired for this computer**. Enter the activation code you obtained from National Instruments.

7. When you successfully activate Lookout, click **Finish**.

Activate Client Connection

Complete the following steps to activate client connection for Lookout.

1. Launch the Lookout software.

2. Select **Options»System** from the menu, and click the **Activate Client Connection** button, which launches the NI Activation Wizard.

3. In the NI Activation Wizard, select a method to acquire the activation code and click **Next**:

   • Automatically activate through a secure Internet connection—Automatically receive an activation code.

   • Use a Web browser, email client, telephone, or fax machine to acquire an activation code—Contact National Instruments to obtain an activation code. You will then enter the code in the NI Activation Wizard to activate client connection.

   • Apply a 20-character activation code previously acquired for this computer—Enter a code you have obtained to activate client connection.

4. Enter or verify your serial number. Click **Next**.

5. Follow the instructions on the screen to complete the activation.

6. For all options other than **Auto**, you must run the NI License Wizard again and select **Apply a 20-character activation code previously acquired for this computer**. Enter the activation code you obtained from National Instruments.

7. When you successfully activate Lookout Client Connection, click **Finish**.

What's New in Lookout 6.0

The following additions and changes are included in Lookout 6.0.

NI License Manager Activation

Previous versions of Lookout required registration, keycodes, and in some cases, hardware keys. Instead of these mechanisms, Lookout 6.0 uses the NI License Manager to activate Lookout with the appropriate I/O count and client connections. For more information about activation and licensing, refer to the *Activate Lookout* topic in the *Lookout Help*.

New Toolbox

The new floating toolbox in Lookout gives you quick access to some of the most common menu commands and objects.

New Object Explorer Icons

New distinctive icons help you identify different objects in the Object Explorer and anywhere the Lookout object navigation tree appears.

Diagnostics Menu Option Added for Ethernet Objects

When you create a driver object that communicates via Ethernet, an **Options»***Object* **Ethernet Options** menu item appears so that you can choose to generate a diagnostic file.

New AB_SLC500 SLC 5/05 Support

The AB_SLC500 driver object now supports the SLC 5/05 port through either a serial or Ethernet connection.

Changes to Lookout Objects

New S7_HMI Data Members

MD0F - MD65532F and DB0.DBD0F - DB65535.DBD65532F

New TextEntry Data Member

enterValue

New ModbusSlave Parameters

Identifier, Mode

New ModbusSlave Ethernet Support

The ModbusSlave object now supports Modbus Ethernet mode. You can use ModbusSlave object to simulate a Modbus Ethernet or Modbus Serial device.

New Loader Data Member and Parameter

DatabaseLifespan, DatabaseName

New HyperTrend Data Members

Start, StartTime, CursorPos

New Hitachi Object Data Member Ranges

L0 - L3FFF changed to L0 - L13FFF
WL0 - WL3FF changed to WL0 - WL13FF
DL0 - DL3FE changed to DL0 - DL13FE

New CitadelControl Remote Archiving

In Lookout 6.0, you now can archive data remotely with the CitadelControl object. You cannot do that in Lookout 5.1 or earlier.

ActiveX Object Subproperties

In Lookout 6.0, ActiveX object now supports both to-level properties and subproperties. Subproperties are shown in hierarchical folders.

New Menu Items

File»Export Process Data Members

Edit mode only. This command exports all data members used in a process to a CSV file.

File»Change Password

This command allows you to change the password for the current account.

View»Show Toolbox

Edit mode only. This command displays or hides the floating toolbox.

Help»Patents

This command displays National Instruments Patents information.

New Online Help Format

The Lookout Help is now in compiled HTML (`.chm`) format rather than WinHelp (`.hlp`) format.

New Getting Started Video

Lookout 6 includes a new Getting Started Video on the installation CD. The video provides a short introduction to the Lookout environment and development concepts. You can launch the video from the Lookout Autorun utility. The video file, `lookout.wmv`, is available under the root directory of the Lookout CD. To play the video, you may need to download the latest Windows Media Player from `www.microsoft.com`.

Citadel 5 Database

Lookout 6.0 includes Citadel 5, a new version of the Citadel historical database. Citadel 5 introduces data access from ActiveX Data Objects (ADO) clients and improved Open Database Connectivity (ODBC) support.

Database Names

Citadel 4.*x* identified databases exclusively by their path. Citadel 5 uses database names. Because of the new Citadel 5 format, some Lookout dialog boxes have been revised, the ODBC data source setup has changed, and the Historical Data Viewer has been updated.

Compatibility with Older Versions of Citadel

Lookout 6.0 logs to and retrieve from Citadel 5 databases only. You must convert Citadel 3.8 or 4.*x* databases to Citadel 5 if you want to use them with the current version of Lookout. Refer to the *Converting Databases to Citadel 5 Format* section for information about converting existing databases.

Expanded Access to Citadel 5 Data

The Citadel 5 ODBC driver is compliant with SQL 92 and ODBC 2.5 standards. All clients that follow these standards can retrieve data from a Citadel 5 database. ADO clients can access the Citadel 5 database using the ODBC driver through the Microsoft OLE DB Provider for ODBC Drivers. You can use a Microsoft Query Wizard to build queries.

Citadel 5 Tables

Citadel 5 tables are different than Citadel 4.*x* tables. For more information about Citadel 5 tables, refer to the *Structured Query Language* appendix of the *Lookout Developer's Manual*.

Storage and Security for Alarms and Events

Citadel 5 uses Microsoft SQL Server or MSDE 2000 (Microsoft SQL Server Desktop Engine 2000) to store alarms and events. MSDE 2000 is a light version of Microsoft SQL Server. The major restriction of MSDE 2000 is that the size of one database is limited to 2 GB, so you must upgrade to the full version of SQL Server 2000 if an application exceeds this 2 GB limit.

To connect to and access a remote SQL Server database, local and network clients can use one of two security modes: Windows Authentication Mode or Mixed Mode. Windows Authentication Mode security uses the built-in Windows security system and takes advantage of Windows NT domains. All clients that need to access SQL Server remotely must be properly configured on the same domain to access data stored on remote SQL Server computers. Clients must connect through the Windows security system on the server.

Mixed Mode security allows clients to connect to a server using either Windows Authentication or SQL Server Authentication. With SQL Server Authentication, all user accounts are stored within the SQL Server, and clients do not need to go through the built-in Windows NT security system. Mixed Mode security is simple to set up because clients need not be on the same domain. They only need to have the correct user name and password to access the SQL Server. However, SQL Server Authentication is more vulnerable than Windows Authentication Mode.

Citadel 5 uses SQL Server Authentication by default, so network clients do not need to be explicitly configured. The installer enables Mixed Mode security on existing SQL Servers or installs MSDE 2000 with Mixed Mode security if the target computer does not have SQL Server installed.

The default password for the SQL Server administrator `sa` is left blank. NI recommends that you assign a strong password to the `sa` user. Use the following command line utility to set the SQL Server administrator password:

```
osql -U"sa" -P"" -Q"sp_password NULL, 'new_password', 'sa'"
```

Use the following command to change an existing password:

```
osql -U"sa" -P"old_password" -Q"sp_password 'old_password',
'new_password', 'sa'"
```

If Mixed Mode security is not acceptable, change both the SQL Server and Citadel login modes by setting the registry DWORD values `HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\MSSQLServer\MSSQL Server\LoginMode` and `HKEY_LOCAL_MACHINE\SOFTWARE\ National Instruments\Citadel\5.0\IntegratedSecurity` to 1. This forces the use of Windows Authentication mode.

NI recommends changing the login mode immediately after installing Lookout. If you change the login mode after you have logged data, you must reattach all existing Citadel databases. Restart the SQL Server and Citadel services to implement the changes. If you use Windows Authentication Mode, remember that you might need to explicitly configure the server computer and all clients.

New Version of Historical Data Viewer

With the Historical Data Viewer that comes with Lookout 6.0, you can view both Citadel 4.*x* and Citadel 5 databases in Measurement & Automation Explorer (MAX). You also can convert Citadel 4.*x* databases to Citadel 5 format.

Changes to NI Services

Lookout 6.0 introduces a new version of the Citadel service, which appears as **National Instruments Citadel** in Windows **Services** and `nicitdl5.exe` in the Task Manager. To start and stop this or other NI services, use Windows **Services** available in the **Control Panel**.

New System Options Items

User cannot open or close processes: This option prevents an unauthorized operator from opening or closing processes.

Always show Object Explorer in edit mode: Select this checkbox if you want to always show Object Explorer when you switch Lookout from run mode to edit mode.

New RenameTrace Object

Use the new RenameTrace object to rename the computer names, paths to a process, folders, or traces in a Citadel database. For more information about the RenameTrace object, refer to the *Lookout Help*.

Datalogging Lifespan and Resolution

The lifespan of data logged to Citadel 5 is now set per-process instead of per-data member. All traces in a process have the same lifespan setting of the process. You are not able to specify lifespan for the Data Member Configuration or the Logger object.

For numeric data members, you can choose an appropriate **Resolution** in the Data Member Configuration dialog. This sets the level of precision for the logged data.

Limits on Lookout Instances

In Lookout 5.1 or earlier, you can launch unlimited instances of Lookout. However, in Lookout 6.0, due to some limitations with Citadel 5, you can launch only one instance of Lookout on one computer.

Compatibility and Conversion Issues

Converting Databases to Citadel 5 Format

To log new data to an existing database, do not log data until you convert the database to Citadel 5. If you log data from a converted application before converting the database, Lookout creates a new, empty Citadel 5 database in the same location as the older Citadel database and logs data to

that new database. To get all the logged data back into one database after that happens, you must use the Historical Data Viewer to convert the older Citadel database and then merge it with the new Citadel 5 database.

In Historical Data Viewer, right-click the **Historical Data** category, select **Create New** from the shortcut menu, and choose the appropriate conversion in the dialog box that appears. If you cannot locate the database you want to convert, you might need to create a Citadel 4.*x* version of it in Historical Data Viewer before choosing to convert it to Citadel 5.

You cannot convert a database remotely. You must convert it on the computer where it exists.

Opening Older Process Files in Lookout 6.0

(Lookout 4.0, 4.5, and 5.*x*) To open Lookout 4.0, 4.5, and 5.*x* processes in Lookout 6.0, open the .lks file instead of the .l4p file when you load a process. As soon as the process opens, save it to update the .l4p file.

(Lookout 3.8) If you are upgrading from Lookout 3.8, open the .lks file in Lookout 6.0, then save the process to create a new .l4p file. Some minor adjustments might have to be made in some processes, and you will have to change redundancy using backup computers. Refer to the following sections for more information about compatibility and conversion issues when upgrading from Lookout 3.8.

Lookout 3.8 and Lookout 6.0 Compatibility

The following list contains known compatibility issues and fixes for Lookout 6.0 that might affect Lookout 3.8 users who are upgrading.

- Lookout 6.0 does not run on Windows NT version 3.51 or earlier. You must be using Windows NT 4.0 or later.

- Earlier versions of Lookout process files used the file extension .lkp, and state files used the extension .lst. Lookout now uses the .l4p extension for process files and .l4t for state files.

  If you want to continue to run your old 3.8 processes in a 3.8 version, save backups of the files. Otherwise, recompiling a 3.8 process in Lookout 4 or later will create (if you save) new .lks, .l4p, and .l4t files. Lookout also creates new security files using the .lka extension.

- Avoid installing Lookout 6.0 over Lookout 3.*x.xx*. Either uninstall your previous version of Lookout, or put Lookout 6.0 in a new directory, transferring or copying files for conversion.

- Lookout 3.*x.xx* can run on the same computer with Lookout 6.0, and a process in one can be networked to a process in the other using DDE. If you intend to run both versions at one time, start the earlier version of Lookout first.

- Lookout 3.8 Citadel files cannot be used by Lookout 6.0. You should maintain old Citadel files separately from Lookout 6.0 database files.

- Events are now stored with alarms and process data in the Citadel database.

- The default location for data logged with the Spreadsheet object is the `Lookout` directory. The `Lookout` directory is also the default for any spreadsheet files you might export from the DataTable object or `.csv` (comma separated value) files you might create with the Print Alarms dialog box. If you do not want these files to be created in the `Lookout` directory, enter a complete path (including file name) for the location where you want the file created.

Converting Lookout 3.8 Processes to Lookout 6.0

To load a Lookout 3.8 process file in Lookout 6.0, select **File»Open** and set the **Files of type** to Lookout Source Files (`*.lks`), as shown in the following illustration.
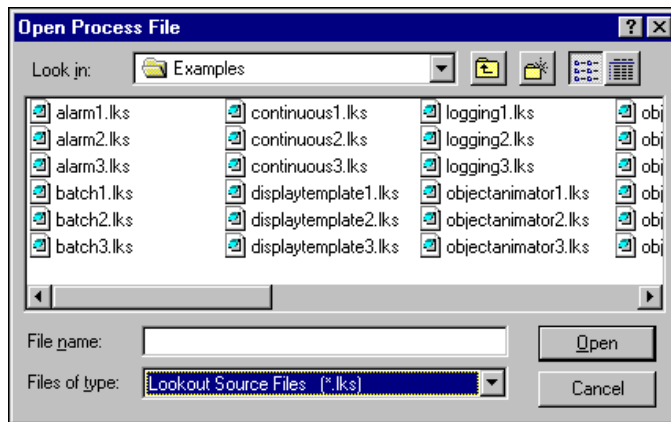
Select the file you want to convert and click the **Open** button (or double-click the file name). Lookout uses the built-in CBL compiler to recompile the 3.8 source file into a Lookout 6.0 process file.

Converting 3.8 files might require the following adjustments:

- Lookout 3.8 versions of the Pot, Switch, Pushbutton, and TextEntry objects that are remoted convert as L3Pot, L3Switch, and so on, and continue to function as they formerly did. You cannot create new 3.8 objects like these through Lookout 6.0.

  Because remote position source connections have changed in response to the demands of networking, you might find you want to replace L3 versions of these controls with the new Lookout 6.0 versions, especially if you want these controls to operate over a network. Delete

the old controls and replace them with new controls using the same names. The Connection Browser and Object Explorer can help you track all the connections that might need to be re-established if you decide to make these replacements.

- ODBC/SQL limitations: With the introduction of networking and hierarchical arrangement of objects within processes, it is easy to exceed the 62 character limit that exists in Microsoft Access and Microsoft Query. Even fully-compliant ODBC programs are limited to 126 characters, so some consideration of these limitations when assigning computer, process, and object names is necessary if you intend to use SQL queries.

- The old LKSwap CBX no longer works. If you used this special object from the old Lookout Evaluation Guide, you will have to replace it with the Lookout Loader object, which is more flexible and powerful than the old LKSwap object. Lookout 6.0 can run multiple processes, so it is not necessary to shut one process down before running another.

- Fonts are preserved when converting Lookout 3.8 process files to Lookout 6.0 using the `.lks` file, but font code page information is lost. This appears to mostly affect international users whose languages use a different code page than the US code page.

- The $Alarm object syntax in a `.lks` file has changed. The full URL for a $Alarm object will be as follows:

```
\\machine\process\$Alarm
```

- Your custom built Lookout 3.8 `.cbx` files should run in Lookout 6.0 as long as they were developed using the Lookout Object Developer Toolkit. If you have problems with a custom `.cbx`, contact National Instruments technical support for help in resolving the problem.

- The Lookout HyperTrend object now accesses data through a URL connection. The data source for that connection must be logged to the Citadel database for the HyperTrend to display the data.

- When you convert a process with a Lookout 3.*xx* HyperTrend in it, Lookout automatically creates a named expression to make the URL connection to. Lookout automatically logs this named expression to the Citadel database. To maintain your converted HyperTrend objects, you must use or replace these named expressions.

- If you have Lookout 3.8 processes that use the NI DAQ or NI SCXI objects, and you have a version 6.5.1 or earlier of NI-DAQ installed on your computer, you must upgrade to NI-DAQ 6.5.2 or later to use Lookout 6.0. You can download the current version of NI-DAQ software from the National Instruments Web site.

  If your Lookout process will be running on the same computer as your National Instruments Data Acquisition or SCXI hardware, we

recommend that you edit your process to use the OPCClient object to connect to NI-DAQ for performance reasons.

Importing Old Security Files into Lookout 6.0

If you are upgrading from Lookout 4.0 or later, Lookout converts your security file automatically when you open it with the National Instruments User Account Manager. If you are upgrading from Lookout 3.8, you can import the user account information into Lookout 6.0 using the User Account Manager, as follows:

1. In edit mode, select **Options»User Manager** from the Lookout menu. The User Account Manager dialog box appears.

2. Select **User»Import Security File**. The following dialog box appears.
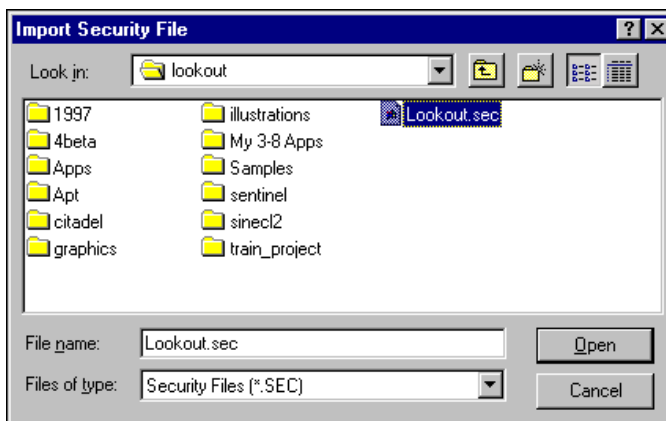
3. Navigate to your old Lookout 3.8 security file `lookout.sec`, and select it. Lookout 3.8 kept the `lookout.sec` security file in the `Lookout` directory.

4. Click the **Open** button.

5. If you have already created any user accounts in an earlier version of Lookout that are the same as accounts you used in Lookout 3.8, you will receive a message informing you that a user account with that name already exists. You may replace your recently created account, or choose not to use the old account information.

6. Exit the User Account Manager.

Note Unlike Lookout 3.8, Lookout 6.0 maintains the `lookout.sec` security file in the Windows `System` directory. To implement the accounts that you have defined when you deploy your process, you must use the same `lookout.sec` file for each copy of Lookout running on your network. Copy your `lookout.sec` file to the Windows `System` directory in every computer you intend to run Lookout on.

Known Issues

The following known issues exist for Lookout 6.0. Internal tracking codes are shown in parentheses for applicable issues.

Pushbutton Behavior with Lookout WebBrowser

If a Pushbutton is connected to the saveAs data member of the Lookout WebBrowser ActiveX, it stays pressed in when you click it. To release it, click it again. (2V5DL402)

Cannot Change Position of Minimized Panel

If a panel is minimized, you cannot programmatically change its position. Changes to its X and Y data members are ignored. If you want to use pushbuttons to open a panel in more than one location, create two panels that look the same but open in different locations. (2UIEAACP)

ActiveX Pipe Control Appearance Changes

ActiveX pipe controls in Lookout show white lines around the object border. When you save and reopen the process, the RelX and RelY settings in the Property Pages are changed. (2UGH8TR3)

Tiway.cbx Does Not Limit Request Length to 70 Bytes for FACTS 405 Network

When using a TI 435 PLC with a 405 FACTS network, there is a 70 byte response limit. One Tiway object with multiple connections and I/O points might cause the PLC to go offline. The Lookout Tiway driver object does not enforce this limitation. To avoid exceeding the 70 byte response limit, create multiple Tiway objects, each of which requests only a few data members or values. (2NT882PE)

Listbox ActiveX Object Does Not Work in String Compares with =

When a Lookout Listbox ActiveX object is used in an expression with =, the expression does not evaluate correctly. For example, ListBox1.properties.selectedItem="Text1" is not TRUE when it should be. Use an EXACT(Text1, Text2) function instead, which returns TRUE when Text1 = Text2. (2MGDMCI1)

Loading New Recipe Prevents State File Save

If you have edit access to a process in a development version of Lookout, loading a new recipe, which is a process change, prevents Lookout from saving the state file. Select **File»Save** to save the process after loading the recipe file, and Lookout will save the state file properly. Run-time versions of Lookout do not have this problem. (2ICAIECC)

Second DataTable Connected via DDE Does Not Shrink

A second DataTable connected to a source DataTable through DDE will not shrink when the source table shrinks. If the number of rows in the source DataTable is reduced, the second DataTable receives the new data but does not clear the extra rows of old data. To avoid this problem, use the `enable` data member to disable and re-enable the second DataTable whenever the source DataTable changes size. (25TEA49L)

Pager Message Does Not Work if # Required by Numeric Pager Service

The Pager object might not send a message to a numeric pager service that asks for # key at end of message. To send a message to a numeric pager that uses the # key to indicate the end of the message, put the phone number and message in the phone number field separated by commas, and leave the message field empty. (2ET9BFCC)

Moving Window Over Custom .wmf Graphic Distorts Image

If you drag another window over some custom `.wmf` graphics on a control panel, the graphic might appear partially erased. Minimize and restore the control panel to redraw the graphic. (2G39SQ26)

Displays that are Outside the Screen Area

If you move a display off the screen, you cannot delete it from Object Explorer due to remaining dependencies. Either edit the display coordinates in the `.lks` file or increase the screen size to make the display visible again. (1XF9K97F)

Lookout Control Sources and Refresh Value Operations

A Lookout control with a Local source and a direct connection does not change if something acts to alter the value or status of the PLC or object it is connected to. Instead, Lookout restores the control value to the PLC or object in the following circumstances:

- When the driver object is modified or I/O is reconfigured
- When the process is reloaded

- When communication is restored after a communications failure

- After 100 polls in some cases (this varies from driver to driver and might depend on `.ini` file settings)

If you operate a Lookout control with a Remote source connection, and the PLC register it is connected to cannot or does not change when Lookout writes the new value out to the PLC, the control snaps back to display the actual PLC register value or status. Whether or not this problem occurs depends on data transmission time between your Lookout computer and the field hardware. To prevent this problem, Lookout has built-in delays for most driver objects. The following driver objects do not have a built-in delay:

- AdvantechPCL

- DeltaTau

- Dynamic

- ProfibusDP

- ProfibusL2

- Reliance

- Sixnet

- Wizdom

The following two driver objects do not support remote source connections at all because the underlying protocols do not allow this sort of connection:

- Aquatrol

- DeviceNet

Another way to correct snap-back problems caused by slow communication is to adjust the SnapDelay setting that is available with some control objects. For Switch and Pushbutton objects, use the SnapDelay data member; for the Pot object, use the SnapDelay `lookout.ini` setting.

Connection Browser Open with No Processes Visible

Occasionally the Connection Browser might open with no processes visible in the window. Close the Connection Browser and then reopen it. This usually clears the problem. If for some reason it does not, close the Connection Browser again and make sure you select a process in your Object Explorer before reopening the Connection Browser.

Missing Aggregate Definitions

If you load a process that includes an Aggregate object, but the corresponding aggregate definition is unavailable, the Aggregate does not function properly. It appears in the Object Explorer as expandable, but it does not expand. (270DIAYZ)

Administrator Access Needed to Download Lookout Player

If you want to use the Lookout Web Client feature on a computer running Windows 2000/NT/XP, you must have administrator privileges to install the Lookout Player component of the Web Client. After the Lookout Player is installed, administrator privileges are not required to use the Lookout Web Client successfully.

Pot Connected to an FP-2010 Can Fluctuate

When you change the value of a Pot object that is remotely connected to a published data member of the FieldPoint FP-2010, the Pot can fluctuate in value before it reaches its final state. To address this problem, try changing the snapDelay setting in the lookout.ini file. Refer to the Lookout Help for more information on this setting. (28I89I7M)

ToshibaTSeries Sets PLC Values to 0

If the ToshibaTSeries object does a write before a read, it sets all the PLC values to 0. (1V5HS5M0)

Web Clients and the Sequencer Object

If you use the Web Client to browse a Lookout process that uses a Sequencer, and you browse to another URL while the Sequencer is active, Lookout might stop the process and reset the Sequencer, inserting a huge wait value in the active sequence step. Avoid using the Web Client with Lookout processes that use a Sequencer object. (28FGCNBD)

Pulse Object Erratic Behavior

The Lookout Pulse object might operate erratically, including missing some pulses, if you use period or duration numbers that are not simple. Using an expression to calculate a pulse period or duration is one way to encounter this problem; using too precise a number such as 1.26 seconds is another way. (28B89NBD)

Including Custom Graphics when You Deploy

Remember that graphics are not included in Lookout source files (.lks). When you move processes from one computer to another, you must copy all graphics, including custom graphics. (2D6F3BDF)

Expression Displays that Automatically Resize

Lookout resizes expression displays when reopening a project. If an expression value has more characters than can be displayed in the given size of the expression display, it shows **####**. If you close the project and reopen it, Lookout automatically resizes the expression display so that the string stored in the state file fits. This can be a significant problem if, for example, an expression is displaying input that is several hundred characters long. (2AJCJQTM)

Web Client Alert Has Incorrect Slashes in URL

No matter what URL you enter in the Web Client export options, the slashes are always shown as forward slashes in a Web Client Alert. If you use back slashes with an http URL, the URL does not work, but the Lookout alert message displays the correct URL with forward slashes. If you are confused because the URL looks correct in an alert message, check the direction of the slashes in your export options. (28B9OI9L)

Aggregate Problems with Incorrect Computer Name

If you have the incorrect computer name entered in the System Options dialog box and you drag and drop an Aggregate object data member on a panel, you get bad quality (a red X) for the data member. Additionally, you might find that some data members you did not intend to expose in the Aggregate object are visible in the Object Explorer. Select **Options» System** and make sure the computer name matches the name in your Windows networking configuration. (246FA49L)

Using the ! and NOT Expression Functions

In Lookout expressions, the ! function has a transient TRUE value, but the NOT function does not. To negate an expression without a glitch, use NOT rather than !. (239957E9)

Tooltips Show up Only when Toolbox is Active Window

Tooltips show up only when toolbox is the current active window. (39J9NAPQ)

Ethernet Drivers Not Retry

Modbus Ethernet does not retry when it is not getting a valid response. The parameter "Retry Attempts" is ignored. (2VCBRUCP)

Report Object with Black Bitmap File

Report object may generate a black `.bmp` file on computers with 256 colors (8 bits) display settings. Increase the color depth to 16 bits or higher to correct this. (2X0AKM02)

Connection Browser Items Not Sorted

Sometimes the items in Connection Browser are not sorted. (2M6H2BB4)

Connecting Device to LPT Port Hangs Lookout

If you create a driver object (like Modbus) and connect it to a LPT port (like LPT1), Lookout hangs. To prevent this from happening, you need to configure the driver object corresponding to the physical connection. For example, if you connect the Modbus device to COM1, you need to configure the Modbus driver object to COM1 as well. (32TAH9A3)

Circular Reference For Remote Connection with Inaccurate Alarm

If Lookout detects a circular reference for remote connection, like Pot1:=Pot1.value, it reports an alarm as "Circular reference in logic: Source -> Source -> ...". The alarm is not accurate enough for you to locate the problem. You can first check all the remote connections in your application to see if there is circular reference. If you still cannot locate the problem after checking the remote connections, contact National Instruments for help. (33C0T3PQ)

NI Keyboard Driver Filter Conflicts with Computer Standby

If you chose to install the NI Keyboard Driver Filter, and when your computer is going to enter standby mode, the Windows system may hang. Avoid installing the NI Keyboard Driver Filter if you want to use computer standby. (39K19CGO)

Drivers Do Not Support Time/Quality

The following driver objects do not support the time/quality feature:

- AdvantecPCL
- All Applicom Objects
- DeltaTau
- NIDeviceNet and NIDeviceNetExplicit

- Dynamic

- FF (FOUNDATION FieldBus) Objects

- ProfibusDP

- ProfiSinecL2

- Sixnet

- Wizdom

Without the time/quality support, these objects will not tell their data members are invalid (by a red X) when they have a problem communicating with the devices. Also, the Lookout quality functions will not work on these objects. (3C8CD8ZU)

Bug Fixes

The following bugs have been fixed for Lookout 6.0:

- Problem of writing to individual Modbus bits has been resolved. (2C7GHH85)

- Lookout Panel function keys act like pushbuttons instead of switches now. (2EACD8PE)

- When changing V datamember in **"Edit Data Member Configuration"**, Tiway object does not crash lookout any more. (2ZH7UIE9)

- Web Client process does not crash when you close Internet Explorer. (2KO7R5O7)

- **"Edit Data Member Configuration"** dialog box has resizable windows. You can see full tag names by moving the horizontal scrollbar. (2JHB2CPE)

- Modbus MOSCAD Ethernet driver does not crash Lookout any more. (2WH7P9I1)

- BOUT data member of the DNP Driver in Lookout is writable now. (2YB978CP)

- The GE Versamax driver is able to Poll the %R Register in the 1024 range. (2LL9FEB4)

- Lookout can read the Modbus 32-bit unsigned holding register in a reverse order. If you want to enable this option, please set "[all] ReverseByteOrder=1" in modbus.ini file. (2S9GSJ02)

- User with a security level allowed to exit Lookout can exit now. (2OM4IR8D)

- The Lookout Web Client will not crash if running on a multiprocessor machine. (3CACOTZU)

- The Commfail data member within the Lookout pager object resets after a communications failure. (313B6S7N)

- S7 HMI driver can correctly translating data now. (35BCO0D3)

- You can unregister computer in Lookout now. (33AEFAY1)

- OPC Client can indicate communication failure correctly if **Use Asynchronous I/O** is not checked. (32JAFUY1)

- You can change your login password in Lookout now. (2UQDTDE9)

- Lookout can launch Component Works Control help file (`cwui.chm`) now. (2UO3ACH7)

- `SQLExec` Object does not cause memory to leak any more. (3AKETPI1)

- The Alternator object would cause a crash on a computer with NI PCI-485-2 installed. This problem has been fixed. (2VK9JKCP)

- You cannot save a process with a read-only LKS file, but Lookout considers this operation as successful. This problem has been fixed. (270DANYZ)

- You cannot use the CitadelControl object to log data remotely over the network. This problem has been fixed. (29MCRKMV)

- S7_HMI datamember I0.0–I65535.7 should be read-only. This problem has been fixed. (3AR8USH7)

More Information and Updates

For the most recent Lookout news and updates, visit `ni.com/lookout`.

To download the newest patches and other updates, visit `ni.com/downloads`.