OPC Toolbox™ Release Notes

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OPC Toolbox™ Release Notes

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Summary by Version

This table provides quick access to what is new in each version. For clarification, see "Using Release Notes" on page 2.

Version (Release)	New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
Latest Version V3.1.1 (R2012a)	Yes Details	Yes Summary	Bug Reports Includes fixes
V3.1 (R2011b)	Yes Details	No	Bug Reports Includes fixes
V3.0 (R2011a)	Yes Details	No	Bug Reports Includes fixes
V2.1.6 (R2010b)	No	No	Bug Reports Includes fixes
V2.1.5 (R2010a)	No	No	Bug Reports Includes fixes
V2.1.4 (R2009b)	No	No	Bug Reports Includes fixes
V2.1.3 (R2009a)	No	No	Bug Reports Includes fixes
V2.1.2 (R2008b)	No	No	Bug Reports Includes fixes
V2.1.1 (R2008a)	No	No	Bug Reports Includes fixes
V2.1 (R2007b)	Yes Details	No	Bug Reports Includes fixes
V2.0.4 (R2007a)	No	No	Bug Reports Includes fixes
V2.0.3 (R2006b)	No	No	Bug Reports Includes fixes
V2.0.2 (R2006a)	Yes Details	No	Bug Reports at Web site

Version (Release)	New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
V2.0.1 (R14SP3)	Yes Details	No	Bug Reports at Web site
V2.0 (R14SP2+)	Yes Details	No	Bug Reports at Web site

Using Release Notes

Use release notes when upgrading to a newer version to learn about:

- New features

- Changes

- Potential impact on your existing files and practices

Review the release notes for other MathWorks® products required for this product (for example, MATLAB® or Simulink®). Determine if enhancements, bugs, or compatibility considerations in other products impact you.

If you are upgrading from a software version other than the most recent one, review the current release notes and all interim versions. For example, when you upgrade from V1.0 to V1.2, review the release notes for V1.1 and V1.2.

What Is in the Release Notes

New Features and Changes

- New functionality

- Changes to existing functionality

Version Compatibility Considerations

When a new feature or change introduces a reported incompatibility between versions, the **Compatibility Considerations** subsection explains the impact.

Compatibility issues reported after the product release appear under Bug Reports at the MathWorks Web site. Bug fixes can sometimes result in incompatibilities, so review the fixed bugs in Bug Reports for any compatibility impact.

Fixed Bugs and Known Problems

MathWorks offers a user-searchable Bug Reports database so you can view Bug Reports. The development team updates this database at release time and as more information becomes available. Bug Reports include provisions for any known workarounds or file replacements. Information is available for bugs existing in or fixed in Release 14SP2 or later. Information is not available for all bugs in earlier releases.

Access Bug Reports using your MathWorks Account.

Documentation on the MathWorks Web Site

Related documentation is available on `mathworks.com` for the latest release and for previous releases:

- Latest product documentation
- Archived documentation

Version 3.1.1 (R2012a) OPC Toolbox Software

This table summarizes what is new in Version 3.1.1 (R2012a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
Yes Details below	Yes — Details labeled as **Compatibility Considerations**, below. See also Summary.	Bug Reports Includes fixes

Conversion of Error and Warning Message Identifiers

For R2012a, error and warning message identifiers have changed in OPC Toolbox™.

Compatibility Considerations

If you have scripts or functions that use message identifiers that changed, you must update the code to use the new identifiers. Typically, message identifiers are used to turn off specific warning messages, or in code that uses a try/catch statement and performs an action based on a specific error identifier.

To determine the identifier for a warning, run the following command just after you see the warning:

```
[MSG,MSGID] = lastwarn;
```

This command saves the message identifier to the variable MSGID.

To determine the identifier for an error, run the following commands just after you see the error:

```
exception = MException.last;
MSGID = exception.identifier;
```

Tip Warning messages indicate a potential issue with your code. While you can turn off a warning, a suggested alternative is to change your code so that it runs without warnings.

Version 3.1 (R2011b) OPC Toolbox Software

This table summarizes what is new in Version 3.1 (R2011b):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
Yes Details below	No	Bug Reports Includes fixes

64-Bit Support

This release supports OPC Toolbox in 64-bit MATLAB.

Before using OPC Toolbox with 64-bit MATLAB for the first time, you must run opcregister to install the 64-bit OPC Core Components. This applies even if you have previously installed the OPC Core Components, either through 32-bit MATLAB or installation of an OPC Server on the local host. Failure to install the 64-bit OPC Core Components that ship with this version of OPC Toolbox can result in local OPC servers being unavailable to OPC Toolbox.

Version 3.0 (R2011a) OPC Toolbox Software

This table summarizes what is new in Version 3.0 (R2011a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
Yes Details below	No	Bug Reports Includes fixes

Support for Historical Data Access Servers

OPC Toolbox now supports OPC Historical Data Access (OPC HDA) specification version 1.2. This allows you to access and visualize historical process data from an OPC Historical Data Access server (commonly referred to as an historian).

Key features of OPC HDA support are:

- You can browse networks for Historical Data Access servers.

- A single OPC HDA client object allows you to manage connections to an HDA server, to browse the server name space, and to read raw and processed data from the server.

- An OPC Historical Data Access object allows you to easily manipulate and visualize data retrieved from OPC HDA servers.

New OPC HDA Functions

The OPC HDA read functions include:

- readRaw — Reads raw historical data for a selection of item tags over a selected time span.

- readAtTime — Reads data from the server at specific time intervals. It can return array data as an output, by specifying an optional 'datatype' argument.

- readProcessed — Reads processed data from the server for chosen item tags using an aggregate type defined from a list of available types. It can

return array data as an output, by specifying an optional `'datatype'` argument.

- `readModified` — Reads all modified data between two times for a particular item.

The OPC HDA data object functions include:

- `tsunion` — (Time stamp union) Converts all data to have the same time stamps, by resampling at the union of the time stamps of all items.

- `tsintersect` — (Time stamp intersection) Converts all data to have the same time stamps, using the time stamps common to all items in the array. Removes all data that is not common to all elements (items) in the data object.

- `resample` — Converts all data to have the given (regularly) sampled time stamps that you provided. Combines elements with the same item ID, so that `resample` creates data objects with unique item IDs.

- `plot` — Generates a plot so you can visualize the historical data.

Getting Help

For a command-window listing of available functions and links to their specific help, type:

```
help opc.hda
```

You access the Historical Data Access (HDA) functions through the `opc.hda` package. For this reason, to get help on a particular HDA function, you must prefix the function name with `opc.hda`. For example, to get help on the `getServerInfo` function, type:

```
help opc.hda.getServerInfo
```

Other prefixes, such as `opc`, `opc.hda.Data`, or `opc.hda.Client` might be necessary, as listed in the output for `help opc.hda`.

To view OPC HDA documentation in the help browser, see

- "Quick Start: Using OPC Historical Data Access Functions"

- "Historical Data Access User's Guide"

- "OPC Historical Data Access (HDA)" functions category

Demos

Demos for OPC Historical Data Access Tutorials are in the help documentation under the `Demos` node in OPC Toolbox.

Version 2.1.6 (R2010b) OPC Toolbox Software

This table summarizes what is new in Version 2.1.6 (R2010b):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
No	No	Bug Reports Includes fixes

There are no new features or changes in this version.

Version 2.1.5 (R2010a) OPC Toolbox Software

This table summarizes what is new in Version 2.1.5 (R2010a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
No	No	Bug Reports Includes fixes

There are no new features or changes in this version.

Version 2.1.4 (R2009b) OPC Toolbox Software

This table summarizes what is new in Version 2.1.4 (R2009b):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
No	No	Bug Reports Includes fixes

There are no new features or changes in this version.

Version 2.1.3 (R2009a) OPC Toolbox Software

This table summarizes what is new in Version 2.1.3 (R2009a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
No	No	Bug Reports Includes fixes

There are no new features or changes in this version.

Version 2.1.2 (R2008b) OPC Toolbox Software

This table summarizes what is new in Version 2.1.2 (R2008b):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
No	No	Bug Reports Includes fixes

There are no new features or changes in this version.

Version 2.1.1 (R2008a) OPC Toolbox Software

This table summarizes what is new in Version 2.1.1 (R2008a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
No	No	Bug Reports Includes fixes

There are no new features or changes in this version.

Version 2.1 (R2007b) OPC Toolbox Software

This table summarizes what is new in Version 2.1 (R2007b):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
Yes Details below	No	Bug Reports Includes fixes

New features and changes introduced in this version are

- "Graphical Display of OPC Data" on page 16
- "Time Series Objects Now Supported" on page 16

Graphical Display of OPC Data

The new `trend` function provides a graphical display of live OPC data for an OPC group object. You can now watch live data stream to a MATLAB figure window. The `trend` functionality is independent of OPC logging tasks. More information is available on the `trend` reference page.

Time Series Objects Now Supported

OPC Toolbox software now supports time series objects, allowing easier analysis and visualization of time domain data in MATLAB software. The addition of this functionality involves the extension of the existing OPC Toolbox functions `getdata` and `opcread` to support the creation of MATLAB time series objects. The new functions `opcstruct2timeseries` and `opcqid` have also been added to the toolbox to support this feature. More information is available on the reference pages for these functions.

Version 2.0.4 (R2007a) OPC Toolbox Software

This table summarizes what is new in Version 2.0.4 (R2007a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
No	No	Bug Reports Includes fixes

Version 2.0.3 (R2006b) OPC Toolbox Software

This table summarizes what is new in Version 2.0.3 (R2006b):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
No	No	Bug Reports Includes fixes

Version 2.0.2 (R2006a) OPC Toolbox Software

This table summarizes what is new in Version 2.0.2 (R2006a):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
Yes Details below	No	Bug Reports at Web site

New features and changes introduced in this version are

opcregister Function Enhanced

The opcregister function has been enhanced with a '-silent' option to install OPC Foundation Core components without dialog boxes.

Version 2.0.1 (R14SP3) OPC Toolbox Software

This table summarizes what is new in Version 2.0.1 (R14SP3):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
Yes Details below	No	Bug Reports at Web site

New features and changes introduced in this version are

- "Full Event Log" on page 20
- "Changing TimerPeriod Property" on page 20

Full Event Log

The event log is no longer cleared when a new event arrives and the event log is full. Instead, the oldest event is removed to make space for the new event. For more information, see the reference page for the EventLogMax property, by typing

```
doc EventLogMax
```

Changing TimerPeriod Property

You can now change the TimerPeriod property while a client object is connected.

Version 2.0 (R14SP2+) OPC Toolbox Software

This table summarizes what is new in Version 2.0 (R14SP2+):

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems
Yes Details below	No	Bug Reports at Web site

New features and changes introduced in this version are

- "Support for Simulink Software: OPC Toolbox Block Library" on page 21
- "New Item Property: QualityID" on page 21

Support for Simulink Software: OPC Toolbox Block Library

This release of OPC Toolbox software includes support for communicating with OPC servers from Simulink software. The OPC Toolbox block library includes blocks for reading data from an OPC server, writing data to an OPC server, and running a Simulink simulation in pseudo real time (by slowing the simulation to run at system time). For more information on using OPC Toolbox software with Simulink software, see "Using the OPC Toolbox Block Library" in the User's Guide.

New Item Property: QualityID

The QualityID property has been added to daitem objects. The QualityID, expressed as a 16-bit unsigned integer, represents the quality of the data item when last read. To work with the QualityID property, you use the function opcqparts to convert the QualityID property into vendor, major, substatus, and limit status information; and the function opcqstr to convert the QualityID property into a string. For more information, see the QualityID property reference page.

Compatibility Summary for OPC Toolbox Software

This table summarizes new features and changes that might cause incompatibilities when you upgrade from an earlier version, or when you use files on multiple versions. Details are provided in the description of the new feature or change.

Version (Release)	New Features and Changes with Version Compatibility Impact
Latest Version V3.1.1 (R2012a)	See the **Compatibility Considerations** subheading for this change: • "Conversion of Error and Warning Message Identifiers" on page 4
V3.1 (R2011b)	None
V3.0 (R2011a)	None
V2.1.6 (R2010a)	None
V2.1.5 (R2010a)	None
V2.1.4 (R2009b)	None
V2.1.3 (R2009a)	None
V2.1.2 (R2008b)	None
V2.1.1 (R2008a)	None
V2.1 (R2007b)	None
V2.0.4 (R2007a)	None
V2.0.3 (R2006b)	None
V2.0.2 (R2006a)	None
V2.0.1 (R14SP3)	None
V2.0 (R14SP2+)	None