

# **OPC Toolbox™ Release Notes**

## How to Contact MathWorks



[www.mathworks.com](http://www.mathworks.com) Web  
[comp.soft-sys.matlab](mailto:comp.soft-sys.matlab) Newsgroup  
[www.mathworks.com/contact\\_TS.html](http://www.mathworks.com/contact_TS.html) Technical Support



[suggest@mathworks.com](mailto:suggest@mathworks.com) Product enhancement suggestions  
[bugs@mathworks.com](mailto:bugs@mathworks.com) Bug reports  
[doc@mathworks.com](mailto:doc@mathworks.com) Documentation error reports  
[service@mathworks.com](mailto:service@mathworks.com) Order status, license renewals, passcodes  
[info@mathworks.com](mailto:info@mathworks.com) Sales, pricing, and general information



508-647-7000 (Phone)



508-647-7001 (Fax)



The MathWorks, Inc.  
3 Apple Hill Drive  
Natick, MA 01760-2098

For contact information about worldwide offices, see the MathWorks Web site.

*OPC Toolbox™ Release Notes*

© COPYRIGHT 2005–2011 by The MathWorks, Inc.

The software described in this document is furnished under a license agreement. The software may be used or copied only under the terms of the license agreement. No part of this manual may be photocopied or reproduced in any form without prior written consent from The MathWorks, Inc.

FEDERAL ACQUISITION: This provision applies to all acquisitions of the Program and Documentation by, for, or through the federal government of the United States. By accepting delivery of the Program or Documentation, the government hereby agrees that this software or documentation qualifies as commercial computer software or commercial computer software documentation as such terms are used or defined in FAR 12.212, DFARS Part 227.72, and DFARS 252.227-7014. Accordingly, the terms and conditions of this Agreement and only those rights specified in this Agreement, shall pertain to and govern the use, modification, reproduction, release, performance, display, and disclosure of the Program and Documentation by the federal government (or other entity acquiring for or through the federal government) and shall supersede any conflicting contractual terms or conditions. If this License fails to meet the government's needs or is inconsistent in any respect with federal procurement law, the government agrees to return the Program and Documentation, unused, to The MathWorks, Inc.

### Trademarks

MATLAB and Simulink are registered trademarks of The MathWorks, Inc. See [www.mathworks.com/trademarks](http://www.mathworks.com/trademarks) for a list of additional trademarks. Other product or brand names may be trademarks or registered trademarks of their respective holders.

### Patents

MathWorks products are protected by one or more U.S. patents. Please see [www.mathworks.com/patents](http://www.mathworks.com/patents) for more information.

<b>Summary by Version</b> .....	<b>1</b>
<b>Version 3.1 (R2011b) OPC Toolbox Software</b> .....	<b>4</b>
<b>Version 3.0 (R2011a) OPC Toolbox Software</b> .....	<b>5</b>
<b>Version 2.1.6 (R2010b) OPC Toolbox Software</b> .....	<b>8</b>
<b>Version 2.1.5 (R2010a) OPC Toolbox Software</b> .....	<b>9</b>
<b>Version 2.1.4 (R2009b) OPC Toolbox Software</b> .....	<b>10</b>
<b>Version 2.1.3 (R2009a) OPC Toolbox Software</b> .....	<b>11</b>
<b>Version 2.1.2 (R2008b) OPC Toolbox Software</b> .....	<b>12</b>
<b>Version 2.1.1 (R2008a) OPC Toolbox Software</b> .....	<b>13</b>
<b>Version 2.1 (R2007b) OPC Toolbox Software</b> .....	<b>14</b>
<b>Version 2.0.4 (R2007a) OPC Toolbox Software</b> .....	<b>15</b>
<b>Version 2.0.3 (R2006b) OPC Toolbox Software</b> .....	<b>16</b>
<b>Version 2.0.2 (R2006a) OPC Toolbox Software</b> .....	<b>17</b>
<b>Version 2.0.1 (R14SP3) OPC Toolbox Software</b> .....	<b>18</b>
<b>Version 2.0 (R14SP2+) OPC Toolbox Software</b> .....	<b>19</b>
<b>Compatibility Summary for OPC Toolbox Software</b> ...	<b>20</b>



## Summary by Version

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

<b>Version (Release)</b>	<b>New Features and Changes</b>	<b>Version Compatibility Considerations</b>	<b>Fixed Bugs and Known Problems</b>
<b>Latest Version V3.1 (R2011b)</b>	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

<b>Version (Release)</b>	<b>New Features and Changes</b>	<b>Version Compatibility Considerations</b>	<b>Fixed Bugs and Known Problems</b>
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](http://mathworks.com) for the latest release and for previous releases:

- Latest product documentation
- Archived documentation

## 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	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):

<b>New Features and Changes</b>	<b>Version Compatibility Considerations</b>	<b>Fixed Bugs and Known Problems</b>
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):

<b>New Features and Changes</b>	<b>Version Compatibility Considerations</b>	<b>Fixed Bugs and Known Problems</b>
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):

<b>New Features and Changes</b>	<b>Version Compatibility Considerations</b>	<b>Fixed Bugs and Known Problems</b>
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):

<b>New Features and Changes</b>	<b>Version Compatibility Considerations</b>	<b>Fixed Bugs and Known Problems</b>
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):

<b>New Features and Changes</b>	<b>Version Compatibility Considerations</b>	<b>Fixed Bugs and Known Problems</b>
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):

<b>New Features and Changes</b>	<b>Version Compatibility Considerations</b>	<b>Fixed Bugs and Known Problems</b>
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 14
- “Time Series Objects Now Supported” on page 14

### 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):

<b>New Features and Changes</b>	<b>Version Compatibility Considerations</b>	<b>Fixed Bugs and Known Problems</b>
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):

<b>New Features and Changes</b>	<b>Version Compatibility Considerations</b>	<b>Fixed Bugs and Known Problems</b>
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 18
- “Changing TimerPeriod Property” on page 18

### 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 19
- “New Item Property: QualityID” on page 19

### 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.

<b>Version (Release)</b>	<b>New Features and Changes with Version Compatibility Impact</b>
<b>Latest Version V3.1 (R2011b)</b>	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