

*Intel® Array Visualizer 3.3 for Windows**

Release Notes

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Overview

The Intel® Array Visualizer is a set of software components that enables array data to be visualized interactively. It also enables array data to be loaded from and/or written to disk in a variety of file formats.

The Intel Array Visualizer can be used in the following ways:

- As a Windows program (Intel® Array Viewer) to view and edit data files
- As a set of library routines (for C or Fortran) to add visualization capabilities to console programs
- As a set of ActiveX* controls (AvGraph, AvGrid, AvTree, etc.) to add visualization capabilities to GUI applications
- As a set of COM components (Array Visualizer Object Model) that can be used with compiled applications or script code
- As a method to interactively view array data while debugging Intel® Visual Fortran programs using Microsoft* Visual Studio*

The Intel Array Visualizer features include the following:

- A variety of 2 and 3D plot types: XYPlot, Contour, Image, HeightPlot, and more
- Multiple plots can be composed in one graph
- Plots can be based in a non-uniform grid
- Each graph can have an arbitrary number of axes and/or captions
- A sophisticated object model consisting of more than 60 COM modules
- The ability to save or read array data and plot properties in XML or HDF5 file format
- Arrays in Intel Array Visualizer can be of any size providing there is sufficient system resources

- Array types supported include floating point, integer, string, and arrays of compound types
- A variety of programming languages are supported: Fortran, C, C++, Microsoft C#*, VB6, VB, NET*, VBScript*, and JavaScript*

Note to users of the Intel Array Viewer Download kit:

The Array Viewer Download kit includes all the runtime components of the Intel Array Visualizer. It does not include the files needed for the development of applications using the Intel Array Visualizer.

Note to users of the Compaq* Array Visualizer:

The Intel Array Visualizer is similar in concept to the Compaq* Array Visualizer, but is a totally new implementation. Programs written to use the Compaq Array Visualizer are not source code compatible with the Intel Array Visualizer.

New Features

The following features have been added since the 3.1 release of Intel Array Visualizer:

- A Microsoft* Visual Studio Fortran Project Wizard has been added for the creation of Array Visualizer File Loader Plug-ins
- The AvPolyList plot supports additional primitive types

The following features have been added since the 3.0 release of Intel Array Visualizer:

- The Fortran library has been expanded to provide complete access to the Array Visualizer object model
- A Microsoft* Visual Studio C++ Project Wizard has been added for the creation of Array Visualizer File Loader Plug-ins
- Intel Array Visualizer ActiveX* controls can be used in Fortran Win32 projects
- Additional ActiveX* controls have been provided: AvSlider and AvGraphSB
- Intel Array Viewer provides facilities for running Macros
- A new Intel Array Viewer dialog can be used to format display of grid values
- The Intel Array Viewer About dialog contains a button to display information about registered File Loaders
- Additional file formats are supported: Text (*.txt), Excel (*.xls), PLY (*.ply), NetCDF (*.nc), Fits (*.fts), and WAVE (*.wav)
- New object model components have been added: AvFilter and AvGenerator

The following features have been added since the 3.1 release of Intel Array Visualizer:

- Support has been added for Intel® Itanium® processor and Intel® Xeon® processor with Intel® EM64T

- Array sizes greater than 2 GB are supported for 64-bit applications (given sufficient system resources)
- The AvGrid control now supports in-place cell editing
- A new dialog (File|Save Image) has been added to Intel Array Viewer to save a graph as an image file
- New functions have been added to the AvCRT and AvFRT libraries to save a graph as an image file
- The Name property in the Intel Array Visualizer object model now supports Unicode strings
- Contour graphs now support fill colors
- Eight-byte integers and extended precision floating point arrays are now supported
- Several enhancements have been made to the Array Viewer user interface
- Files can be saved to the HDF5 file format with compression
- ActiveX document support has been added to Array Viewer. This allows Array Viewer to function as a Microsoft Internet Explorer* "plugin" for HDF5 files on the Internet
- The Read and Write methods of AvDataset now support an option to read/write a section of a dataset rather than the entire array

Installation Notes

Pre-Installation Instructions

Please obtain an administrative privilege account as it is required to install Intel Array Visualizer.

Installation

NOTE: Only one version of the Intel Array Visualizer can be installed at a time

NOTE: Intel Array Visualizer can exist on the same system as any version of Compaq Array Visualizer. It is not necessary to uninstall Compaq Array Visualizer prior to installing the Intel Array Visualizer.

Post-Installation Instructions for Fortran Users

To update the Include and Lib path for Fortran projects in Intel Visual Fortran IDE follow these steps:

1. Start up Visual Studio*
2. Go to "Tools" in the Menu bar and select "Options"
3. Select "Project" from the list on the left side of the dialog
4. Select "Intel Fortran"
5. In the list of directories displayed for "Libraries", click after the last entry and add `<installation_directory>\Lib`

6. In the list of directories displayed for "Includes", click after the last entry and add `<installation_directory>\Include`

To use the AvFRT library routines in your Fortran application, add the line: "use AvFRT" to any file that makes calls to the AvFRT library. Add "use AvObjMod" if you will be using the Intel Array Visualizer Object Model routines.

Post-Installation Instructions for C/C++ Users

If you will be using the Intel Array Visualizer to develop applications with Intel C++ or Visual C++, it necessary to update the Include and Lib paths.

To update the Include and Lib path for C++ projects in Visual Studio* IDE follow these steps:

1. Start up Visual Studio*
2. Go to "Tools" in the Menu bar and select "Options"
3. Select "Project" from the list on the left side of the dialog
4. Select "VC++ Directories" under "Projects"
5. Under "Show Directories for" label on the upper-right, choose "Include files"
6. In the list of directories displayed, click under the last entry and add `<installation_directory>\Include`
7. Now under "Show Directories", choose "Library files"
8. In the list of directories displayed, click under the last entry and add `<installation_directory>\Lib`

To use the AvCRT library functions in your C/C++ application, add the line: **#include "AvCrt.h"** to any files that make calls to the AvCRT library, or add the line to your StdAfx.h file.

If you'll be using the Intel® Array Visualizer Object Model, add the line **#include "AvisLib.h"** to any files that make calls to the Object Model, or add the line to your StdAfx.h file.

If you wish to use an Intel® Array Visualizer ActiveX* control in your MFC project, follow these steps:

1. Start up Visual Studio
2. Select File, New Project, and create a new MFC project
3. Display the Toolbox (View, Toolbox)
4. Right click on the Toolbox and select "Customize Toolbox"
5. In the list of controls displayed, select the control(s) you wish to use (AvGraph, AvGrid, AvTree, etc.)
6. You can now select the controls in the toolbox and drop them onto the form.

See the Visual Studio documentation for more information on using ActiveX* controls.

Post-Installation Instructions for C#*/VB.Net* Users

After creating a new C#* or VB .NET* project, follow these steps to enable use of the Intel® Array Visualizer Object Model in your project:

1. In the Solution Explorer, select the Solution Explorer tab
2. Right click on the "References" folder
3. Select "Add Reference"
4. In the "Add Reference" dialog, select the ".Net" tab
5. Click on the "Browse .." button
6. In the "Select Component" dialog, browse to the <installation_directory>/bin directory, and select avlib.dll. You can now use Intel Array Visualizer Object Model components in your project

To use the Intel® Array Visualizer ActiveX* controls, customize the toolbox as described in the section above.

Note about C#*/VB.Net* Samples: If you are using Microsoft* Visual Studio .NET* 2003, you will need to convert the project to the 2003 format, close the project, and then re-open before building and running the sample.

Known Limitations

This section contains information on known limitations of the Intel Array Visualizer:

1. Not all graph and plot properties are implemented (i.e. setting them might not cause any visible effect).
2. Graphs are printed at only the screen resolution in Array Viewer. For best results, use the Save Image dialog, or the VBScript sample Samples\Script\CreateImage.vbs to create a high resolution image file and then print the file.

Documentation

The documentation index is provided for easy access of all documents. The Document index is available from the Array Visualizer program folder and is located at:
<installation_directory>\Array Visualizer\docs\doc_index.htm

The *Intel® Array Visualizer online help* consists of the following documentation:

- The *Intel® Array Viewer online help* provides information for using the Array Viewer application for developers and casual users
- The *Intel® Array Visualizer online help* provides information on using the Array Visualizer libraries for developers

Notation Conventions

Release Notes and user guide documentation use the notation conventions listed in the following table:

Style	Definition
<i>This type style</i>	indicates an element of syntax, a reserved word, a keyword, a file name, or part of a program example (text appears in lowercase unless UPPERCASE is required)
This type style	indicates what you type as input
<i>This type style</i>	indicates an argument on a command line or an option's argument
[<i>items</i>]	indicates that the items enclosed in brackets are optional
{ <i>item</i> <i>item</i> }	indicates a set of choices from which you must select one
... (ellipses)	indicates that an argument can be repeated several times
<code>icl</code>	is a placeholder for the compiler name. Valid placeholders include <code>icl</code> and <code>ec1</code> . For example, <code>icl /O3 mysource.c</code> indicates that either <code>icl</code> or <code>ec1</code> may be used to compile <code>mysource.c</code> with the <code>/O3</code> compiler option.

Notes

The online help contains buttons that, under certain circumstances, may not display correctly and may not work. If you experience this problem, please access the following Web page to download a patch for Internet Explorer* applicable to your operating system: <http://support.microsoft.com/?kbid=811630>

For more information on this, see Microsoft Knowledge Base Article 822989: <http://support.microsoft.com/?kbid=822989>

If you are running Windows* 2000 with SP4 installed, follow these instructions instead:

1. Unregister the HTML Help ActiveX control by running the following command from a command prompt:

```
regsvr32 /u :\winnt\system32\hhctrl.ocx
```

2. Now re-register the control:

```
regsvr32 :\winnt\system32\hhctrl.ocx
```

Technical Support

Intel no longer provides active technical support for the Intel Array Visualizer. The [Intel Array Visualizer User Forum](#) continues to be available and provides a place for users to share experiences and usage tips. Please visit that forum for more information.

Resolved Issues

The following issues have been resolved since the 3.0 release of Intel® Array Visualizer:

1. Graphs can now be created within subgroups.
2. A problem that occurred when a graph and a group had the same name has been fixed.
3. A problem that occurred when HeightPlot graphs referenced a section in the XYSource has been fixed.
4. HDF5 files that contain variable length strings now load correctly.
5. A problem that caused the New Window command to fail when the file path contained space characters has been fixed.
6. Dataset or Attribute objects of Unicode Strings can now be saved in the HDF5 file format.

The following issues have been resolved since the 3.1 release of Intel® Array Visualizer:

1. A problem that caused Array Viewer to crash when large HDF4 files were loaded has been fixed.
2. A problem where Unicode text pasted into comment fields was corrupted has been fixed.

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