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## Making The Move From ArcView 3x to ArcView 8.1

By [Glenn Letham](#) (May 11, 2001)

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Updates - May 16, 2001 (see end of article)



So, you plan on migrating from from ArcView GIS 3.x to ArcView 8.1. Judging by the amount of feedback and discussions that were generated from the latest product release announcements made by ESRI this past week, the GIS community has a number of questions and concerns about what can be expected when migrating from the ArcView 3x platform to the ArcView 8x environment. This document will provide you with an overview of what you can expect as well as a pretty detailed comparison of AV3x to AV8x.

Some of the first things you'll need to get used to when working with the ArcView 8x series is the terminology. Keep in mind that when you work with ArcView 8.1, you'll be working with several standard applications. These core applications (get used to the names) are; ArcMap, ArcCatalog, ArcToolbox, and of course, several bundled extensions.

## The Standard Apps

**ArcMap** is the application that you use to visualize, create, edit, query, analyze, and present data. Get ready for a different look, however all the same functionality, and then

## WebLinks

- [ArcView 8.1](#)
- [A look at AV 8.1](#)
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May 1, 2002

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some are included.

**ArcCatalog** is the ArcView 8 application you use to find, explore, and manage your data. The ArcView GIS 3.x Shapefile Manager dialog is the closest equivalent to ArcCatalog, but it's not nearly as powerful. With ArcCatalog, you can browse and preview data (attributes also!) stored on your local computer, network, or even on the Internet. You can also create metadata.

ArcCatalog's context menus provide access to even more tools and wizards for converting data to different formats. Just right-click a data source in the Catalog Tree and click Export to see a list of options. The data source format determines which data converters are listed. You can convert shape files to geodatabases, coverages to shapefiles, rasters to MrSid, rasters to TIFF, tables to geodatabases, just to name a few.

**ArcToolbox** - this app. contains all the necessary tools for working with your data. For ArcView 8, the tools in ArcToolbox fall into 2 toolsets: Conversion Tools and Data Management Tools. available tools will vary depending on your ArcGIS seat license.

## What About Extensions?

Many of the extensions you have become accustomed to using with ArcView GIS 3.x, such as the CAD Reader, Digitizer, Geoprocessing, Graticules and Measured Grids, Legend Tool, Report Writer, and all the image support extensions, are now built-in features and functions of ArcView 8.

The ArcGIS 8.1 extensions that operate with ArcView 8.1 are ArcGIS Spatial Analyst, ArcGIS 3D Analyst, ArcGIS Geostatistical Analyst, ArcGIS StreetMap USA, ArcPress for ArcGIS, and MrSID Encoder for ArcGIS. Additional extensions are planned for release in the future.

In ArcView GIS 3.x, the CAD Reader extension enables users to add Computer Aided Design (CAD) drawing files as themes to a view, whereas ArcView 8 has the ability to automatically read CAD drawing files and you can add them as layers to ArcMap. For users that want to perform geographic analysis on features in the CAD file, a simple double-click on the CAD file, click the CAD feature to add, and click Add. To edit a CAD feature, the file must first be converted to a shapefile. Adding the CAD file directly to ArcMap without using ArcCAD enables a display-only layer.

## Data Formats

- [GeoCommunity covers GITA 25](#)
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If you've worked with ArcView 3x for any period of time, you're aware that AV 3.x stores all of your maps, charts, and tables in a project or .apr file). ArcView 8 stores all of your map information in a map document. A map document has an .mxd file extension. Whereas you can open and edit an ArcView GIS project file with any text editor, an ArcMap map document file is a "disk" file in binary format that you cannot open outside of ArcMap.

According to ESRI, in ArcView 8, you can still create and edit shapefiles. You can also display coverages, but as before, to edit a coverage you must first either convert it to a shapefile or import it into a geodatabase. Both ArcCatalog and ArcToolbox provide wizards for importing and exporting coverages and shapefiles. Keep in mind that the wizards allow you to convert only one coverage or shapefile at a time.

A SpatialNews reader provides this excellent description of what to expect from a new data structure known as a GeoDatabase. The GeoDatabase is essentially a wrapper that allows you to store multiple data layers together and adds some functionality (such as linked annotation). When you export from a Geodatabase to a ShapeFile, those extra goodies are removed and you're left with a normal ShapeFile. It appears that the ShapeFile format will remain unchanged. ShapeFiles created in AV 3.x and 8.x will be undistinguishable from one another and will be cross-compatible. 8.x introduces a new data format, called the Personal GeoDatabase. Users will be able to easily import SHP formatted data into a GeoDatabase as well as export a GeoDatabase data to ShapeFiles.

## Data Conversion

Recall, in ArcView 3x converting the active theme to a shape file (SHP) was accomplished by using the "Convert to Shapefile" command. In ArcView 8, converting a layer to a shapefile is easily done by right-clicking the file in the Table of Contents and selecting the Data Export option.

In ArcView GIS 3.x, raster data sources, like satellite images, aerial photographs, and scanned documents, are added as themes to a view. In ArcView 8, image data sources are referred to as rasters. You can add rasters as layers to ArcMap. The following are raster data formats supported by ArcView 8:

- Arc Digitized Raster Graphics (ADRG)
- Band Interleaved By Line (BIL)
- Band Interleaved By Pixel (BIP)
- Band Sequential (BSQ)
- Bitmap (BMP)

- Compressed Arc Digitized Raster Graphics (CADRG)
- Controlled Image Base (CIB)
- Digital Terrain Elevation Model (DTEM Levels 1 & 2)
- ER Mapper
- Graphics Interchange Format (GIF)
- ERDAS 7.5 GIS
- ESRI GRID file format
- ESRI GRID stack
- ESRI GRID stack file
- ERDAS Imagine
- JPEG
- ERDAS 7.5 LAN
- Multiresolution Seamless Image Database (MrSID)
- Spatial Database Engine Raster file format (ArcSDE Raster)
- Tagged Image File Format (TIFF & GeoTIFF)

*Source: ESRI Virtual Campus*

## **Forget About Avenue...**

3x - Avenue is the programming language native to ArcView GIS 3.x. When you want to customize ArcView GIS 3.x, you write Avenue code. A script editor is an ArcView GIS 3.x document that contains Avenue code for performing or automating particular tasks. To customize the ArcView GIS 3.x graphical user interface, you use the options available in the Customize dialog.

8x - You can add custom functionality to ArcView 8 by writing macros in Visual Basic for Applications (VBA) which is included with the product. Developers can also create extensions for ArcView 8 using ArcObjects™ in standard development environments such as Visual Basic, C++, or Delphi.

Are you ready for the big kicker? Remember all the time you spent honing your Avenue programming skills? Well, hopefully you also learned a bit about programming in VBA as well. In ArcView 8 you can add custom routines and functionality by writing macros in Visual Basic for Applications (VBA) (it's included with the product so don't sweat it too much). According to ESRI ArcView 8 documentation, developers can also create extensions for ArcView 8 using ArcObjects™ in standard development environments such as Visual

Basic, C++, or Delphi. If you want to use all those awesome Avenue routines you developed over the last few years or some of the great freebies you picked up from the GeoComm Software section or the ArcScripts page, you better get busy developing a method for porting your code to VBA because they won't be any use to you in ArcView 8... sorry!

## **Some Fundamental Concepts**

### **ArcView GIS 3.x (3x) -> ArcView 8 (8x)**

- Project(3x) -> Map document(8x)
- View, View frame (3x) -> Data frame (8x)
- Scripts (Avenue) (3x) -> Macros (VB) (8x)
- Theme (3x) -> Layer (8x)
- Grid (3x) -> Raster (8x)
- Image (3x) -> Raster (8x)
- Projection (3x) -> Coordinate System (8x)
- Symbol palette files (.avp) (3x) -> Styles (8x)
- SQL Connect (3x) -> Add OLE DB Connection (ArcCatalog) (8x)
- DDE (3x) -> OLE (8x)
- View (Avenue) (3x) -> FocusMap (VBA) (8x)
- Application (Avenue) (3x) -> Mxapplication (VBA) (8x)

## **New features & Functionality - (from ESRI docs.)**

- Overview window-a separate viewer window in ArcMap that presents the full extent of the data with a red box indicating the current extent being
- viewed in the display area
- Magnifier window-works like passing a magnifying glass over the data in the ArcMap display area
- Spatial bookmarks-placeholders of geographic locations and extents that you can zoom to anytime
- Symbol Property Editor-allows you to precisely edit symbols
- Style Manager-use to organize and create symbols and map elements
- Multi-layer transparency-allows you to see through layers

- Shared Edit tool-you can simultaneously edit shared feature boundaries
- Metadata Editor-ArcCatalog automatically generates spatial reference metadata; you can edit and add other metadata
- On-the-fly projection of features and rasters by importing them into feature datasets with predefined spatial references
- Image reclassification-allows you to create new rasters
- Multi-field labeling-labels can be displayed side-by-side or stacked
- Verify button for SQL statements
- Export graphic formats-TIFF, EMF, and PDF
- Dynamically create pyramid files for rasters-enhances performance when working with large rasters

### **What's My Opinion?**

Based on the feedback I've received, the thought of not being able to code in Avenue any longer is going to be a big adjustment for many people. A number of programmers are skilled in VB and will find the adjustment painless, however, there's still a matter of porting hundreds, even thousands of hours of Avenue programming to VB. This will be a real sore point for a number of users and will convince them to stick with the 3x series (I've heard from a number of people that 3x will go on, however, I've yet to hear anything official from ESRI regarding this. I'm sure it will come up at this years ESRI UC in San Diego). Another roadblock is the requirement for users to be running AV 8 on Windows NT sp 6a/ or Windows 2000. And what about Windows XP? I haven't heard much about this either. Finally, a big selling point for ESRI is likely going to be that users of AV 8 can now integrate data from the Geography Network into their projects. I've tried this and yes, it's pretty cool, however, I have to ask myself how realistic this is going to be and are there going to be issues (versioning, security, bandwidth, etc...) that creep up as a result of this? Also, can users easily access data from another webmapping site as easily as they can get data from the Geography Network? ... maybe I want to make a data server (ArcIMS of course) available to the ArcView user community without going through the Geography Network. I would like to think that ESRI business partners would be able to accomplish this.

### **Anything Else?**

If you are really serious about finding out what to expect when migration from 3x to 8x, I would recommend you start by investigating the free courses now available via the [ESRI Virtual Campus](#). "Migrating from ArcView GIS 3.x to ArcView 8" and "Introducing ArcGIS"

both provide excellent introductory material and will help to familiarize you with all the new concepts. For those of you investigating ArcGIS, there's a new book titled [Getting to Know ArcGIS Desktop](#) by Tim Ormsby which has been a GeoCommunity bestseller over the last month and is highly recommended.

## Updates and Feedback

May 16, 2001, supplied by ESRI

- **Support for ArcView 3.x** - ESRI will continue to support, maintain, and license ArcView 3.x in addition to the recent release of ArcView 8.1. For many of our users, ArcView 3.x will remain a popular choice for desktop GIS. ArcView 3.x supports a large user base and thousands of applications that ESRI is committed to maintain into the foreseeable future.

Please read a recent [ArcNews article](#) which illustrates ESRI's ongoing support for ArcView 3.x

ESRI will also continue to maintain the [ArcView 3.x product pages](#).

- **Support for Windows XP** - Based on some preliminary Windows XP beta testing, ESRI anticipates that ArcView 8.1 will be supported on the upcoming release of Windows XP. For updated information about ArcView 8.1 and Windows XP [Click Here](#)

## Comments from popular ArcView discussions

- Can 8.1 and 3.2 coexist on the same machine ? -- *"I have both running on my machine with no apparent conflicts. There is no difference in 3.2 vs. 8.1 shapefiles. They are completely backwards compatible. 8.1 is a bit slower, especially when projecting on the fly. Also, if you have the auto Labels turned on with a bunch of conflict parameters set, the display regen is a bit slow. The tradeoff is superb cartographic output! ...plus a bunch of great new features. I was sceptical at first. As a reseller and beta tester, I was less than impressed with the Beta releases. The shipping release has sold me though.*
- Can AV 8.1 and ArcInfo 8.0 co-exist? -- *"I had a user try to install AV 8.1 on his box. He also happens to have ArcInfo 8.0 on his box. He was unable to load AV 8.1 and was told he could not do so until we upgrade ARCINFO to 8.1. I understand this because the AV 8.1 is part of the ArcGIS package and is basically ArcInfo 8.1 on downers.*

[Please Post Your Comments Here](#)

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As always, The GeoCommunity would love to hear from you. Please feel free to share you thoughts and experiences about ArcView 8.1 and migrating from 3x to 8x. Send comments to [editor@geocomm.com](mailto:editor@geocomm.com)

*To request ArcView 8.1 and other ESRI software pricing from The GeoCommunity, please contact [GeoCommunity Software Support](#) and we'll provide you with details - US based customers only please.*

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