
Visual Mining, Inc.

Migrating ChartWorks Server to NetCharts® Server

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1. Introduction

This document provides administrators and developers with information for upgrading existing versions of ChartWorks Server (3.6, 3.7) to NetCharts Server 4.0.

Starting with version 4.0, the name was changed from ChartWorks Server to NetCharts Server in order to streamline product names in the Visual Mining suite. In addition to the name change, there are several significant changes in the overall product architecture. However, in most cases, these changes will be transparent to the Administrator, Developer, and End-Users. This document provides a roadmap for understanding the differences between the architectures, as well as information to reduce the time and effort required to upgrade.

Note to Our Returning Customers:

Thank you for upgrading to NetCharts Server Version 4.0. We've made many meaningful improvements to "the Server" based on your feedback, so we're confident you will enjoy the results!

If you have product questions or comments, we would like to hear from you - Please direct any questions on this product to support@visualmining.com. Please send your experiences with our products, documentation, sales staff, or tech support staff to feedback@visualmining.com.

Thank you!

—*The Visual Mining Team*

2. New Features

The following information describes only new features that will have particular impact on existing ChartWorks Server developers and administrators. A comprehensive list of new features can be found in the *Documentation* section of the online documentation. A good starting spot for self-investigation of the new features is the NetCharts Server Start Page available at:

`http://localhost:8001/index.jsp`

Administration

In NetCharts Server 4.0, the administration functions are separated from development functions. NetCharts Server 4.0 has a completely rewritten *Administration Console*. The new administration console is browser based and requires no support for RMI. The administration console is available by link from the NetCharts Server start page or from:

`http://localhost:8001/Admin`

The default login and password is “Admin”.

Security

Security is now done at the Project level, and not at an individual file level.

Configuration

Configuration of the system can now be done via a web-browser.

Scalability

The NetCharts Server can now be configured for a load-balanced environment.

Development

NetCharts Server 4.0 introduces the *Developers Console*. The developer's console provides access to all developer functions and is available by link from the NetCharts Server start page or by a URL in the form:

```
http://localhost:8001/Developer
```

Project Development

In NetCharts Server 4.0, development is now done in the context of a *Project*. All files, including chart definitions, Named Data Set files, table definitions, page definitions, images, HTML, and any other files relevant to the task can now be easily organized and managed. From within the online Project development page, the developer can create and upload files as needed. All files in the project are accessible to external browsers in the form:

```
http://localhost:8001/projects/projectname/file.xxx
```

Directories can be created in the project by using the “New” button and selecting “Directory” for the type.

ChartWorks Designer Interaction

Existing versions of ChartWorks Designer will not work directly NetCharts Server 4.0. A patch is available if desired (contact Visual Mining support). A new version of Designer is not expected until Q1 2003. Please use the NDS design tools in NetCharts Server 4.0 rather than those in Designer. With the patch, charts may still be created in Designer and saved to NetCharts Server. Alternatively, charts may be created in Designer and uploaded using the Project's *Upload* function.

Named Data Sets (NDS) To NDX

There is a new file type NDX, in NetCharts Server, which is easier to configure for variable passing. The NDX files are essentially the same as NDS files, but also have the parameter (“variables”) which identify variables names in the file that are to be replaced at run time.

Named Data Set Plugins Now Extend NDSPluginAdapter

Formerly, the default Named Data Set (NDS) plugins (JDBCPlugin/CSVPlugin) extended the StatsPlugin class. In NetCharts Server 4.0, these plugins plus the new XMLPlugin and CachePlugin classes, now extend the more powerful NDSPluginAdapter class. The NDSPluginAdapter class provides cache support, data filtering, data aggregation, and automatic parameter formatting. If your existing application is using the older-style NDS's, check below for details on possible incompatibilities.

Data Cache

NetCharts Server 4.0 provides the ability to make a single data request, have that data be put into a short or long-term named data cache, and then use filters to route the data into different parts of the chart, table, and/or page. This behavior can be implemented automatically if you use the developer console to build your application.

API Toolkits

The API now supports commands from programming-language based toolkits in addition to URL based requests. Toolkits are available for JSP, ASP/.NET, and Cold Fusion. These Project-based toolkits provide for chart requests, table requests, data requests, adding data to the data cache, and more.

Migrating ChartWorks Server to NetCharts® Server

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3. Migrating From ChartWorks Server

Before You Migrate

Review Possible Problem Areas

There are some conditions where migration may involve some adjustment of existing configuration or code. You may wish to forgo the migration and simply update the chart rendering engine of your existing ChartWorks Server. If this is applicable to you, please contact Visual Mining support.

The following are potential migration issues and the appropriate actions.

Possible Issue	Implication/Action
You are using the ChartWorks Server Security.	The Security database structure has changed. You will need to re-import, or recreate users. ACLs in NetCharts Server are restricted to projects only, not individual files.
You are using Named Data Sets (NDS) for data retrieval.	<p>Most NDS files should port over without problems, however certain directives, listed below, within the NDS are no longer supported. The following are the specific directives that are no longer supported by NDS</p> <p><i>format</i> – Was used to specify return type, now done automatically.</p> <p><i>updateRate</i> – Old style cache parameter, superseded.</p> <p><i>param</i> – Specifies the chart param name to use, now done automatically</p> <p><i>dataType</i> – Specified how data was to be formatted, now done automatically.</p> <p><i>tupleFormat</i> – Described the order of formatting data “tuples”, now done automatically based on data, parameter, and chart type.</p> <p><i>tableHeader</i> – Described HTML to write before data table, superseded by tabular data functions.</p> <p><i>description</i> – Table caption tag, superseded by tabular data functions.</p> <p><i>statsFormat</i> – Specified aggregate functions, superseded by <i>aggregateFunction</i>. See the <i>NetCharts Server Application Developers Guide</i> for more details.</p> <p>If you would like to continue to use the old-style NDS behavior, you may copy the contents of your existing <code>chartworks.es.plugin</code> classes directory into the new build. Otherwise, simply copy the new NDS files into the new project structure (described below) and test.</p>
You are using Named Data Sets to populate non data items such	You may opt to use the old-style NDS behavior, which will preclude you using any new NDX features, or you may write a

as Titles or Notes with complex tupleFormat Parameter	custom JSP to manipulate the data and put it into the cache for the Title or note to use.
You are using Applets for chart display.	Starting in NetCharts Server 4.0, *App.class files are no longer in the default package. Thus, any applet tag class references like: code = NFBarchartApp.class must be changed to code = netcharts.apps.NFBarchartApp.class
Your ChartWorks Server application uses a parameter server Agent.	Agents are no longer supported.
A CSV .nds references source data files outside the immediate chart directory.	If the source data file is outside the immediate chart directory, but on the same machine, it will need to be moved into the new Project directory or referenced via a URL path.
You are using combo charts or stock charts.	The color table order has changed for combo and stock charts such that barsets get the first colors out of the color table, following by linesets, followed by stocksets. After the migration, check the colors on these charts to ensure they are appropriate.
You have charts that autoscale.	Autoscaling on charts now scales the minimum value as well as the maximum. After the migration, check the chart display to ensure the scale is appropriate.

Pre-migration Steps

1. System Backup

Before doing anything...make sure you have backed up the ChartWorks Server directory.

2. Stop the ChartWorks Server Service

This will allow you to get files without any impact to other operations.

3. Clean the ChartWorks Chart Directories

Depending on the amount of charts, you may wish to clean out the .chart directories for each chart. The files that may be removed are usually in the form UE5H*defaultxdefault.png or UE5H*defaultxdefault.html where '*' is zero or more characters. An easy way to do this in Windows systems is to use the File Manager's "Find" function. Using the filename: UE*defaultxdefault.* will find most, if not all, of the extraneous cache files. You may delete these files from the Find dialog.

4. Create Application Collections

For each application that ChartWorks Server supports, group that application's chart directories, images, data, and associated NDS files (if any) into a separate directory. Zip up each directory with a unique name. Each of these directories will be put into a separately maintained Project in the NetCharts Server. Directory names must be alphanumeric [A-Za-z0-9] but may include spaces, underscores, and dashes. No other characters should be used in the name.

5. Identify Custom Class Files

If you have built custom java code that runs within the ChartWorks Server's JVM, like a custom NDS plugin, make sure to identify the location of its class files.

Perform The Migration

1. Install and Then Stop NetCharts Server

If you have not already done so, install the NetCharts Server on the target machine. After installation, stop the NetCharts Server service.

2. Copy Custom Class Files

If custom NDS plugins¹ or other plugins were used in ChartWorks Server, copy the .class files to the same location under the *NetCharts Server installdir/Server/root/classes* hierarchy.

3. Create and Populate Project Directories

For each of the application Zip files created in step 4 of the Pre-Migration steps, create a directory under the *installdir/Server/root/projects* directory with the same name. Unzip the contents of each of the application collections into the appropriate directory.

4. Change Path To Referenced NDS Files

If charts on the old ChartWorks Server system used NDS files, the path to those NDS files may now be incorrect since they should all be in the same directory. If that is the case, then edit the .cdl/.cdx file within the appropriate .chart directory and change the reference accordingly. If the NDS file is in the same directory, you do not need to specify its path.

⇒ *Note: Do not use the Developer Console's Chart Wizard to edit the .cdl/.cdx as any NDS references may be lost.*

5. Check Drilldown Links

If charts on the old ChartWorks Server system used active labels to “drilldown,” make sure the URL references are still correct.

6. Start the NetCharts Server And Test

Start the server and test all of the charts. Chart testing may be performed directly from the browser using a URL of the form `http://localhost:8001/projects/projectName/chart.cdx?type=PNG` or by checking the test button next to the file from within the Developer console. Of course, those files that expect to be passed data via a CDX query string should be tested with that string. NDS files may also be checked directly.

¹ A custom NDS plugin is one or more Java .class files that are used to retrieve or manipulate data for a specific purpose not covered by the default Oracle, JDBC, and CSV plugins. A custom NDS plugin does not refer to those files ending with .nds or .ndx.