

Test Pilot of NetSPEX CADD Standard Implementation Software by Stephen Spangler

Implementing the A/E/C CADD Standard – how to do it?

When the A/E/C CADD Standard was first released in 1995, the Center immediately started receiving requests for tools to implement such a massive standard. The first A/E/C CADD Standard CD did contain symbols and linestyles in electronic format, but the field wanted something more. In response to this need, the Center developed the A/E/C CADD Workspace, which was released for MicroStation in 2000 and updated for MicroStation V8 and AutoCAD in 2002.

Both the workspaces were successful, but there were still issues. For one, the two workspaces did not look the same (**Figures 1 and 2**). While the AutoCAD workspace and the MicroStation workspace achieved exactly the same results, users who wanted to work with both tools had to learn both tools to determine how to place information on the same level or layer.

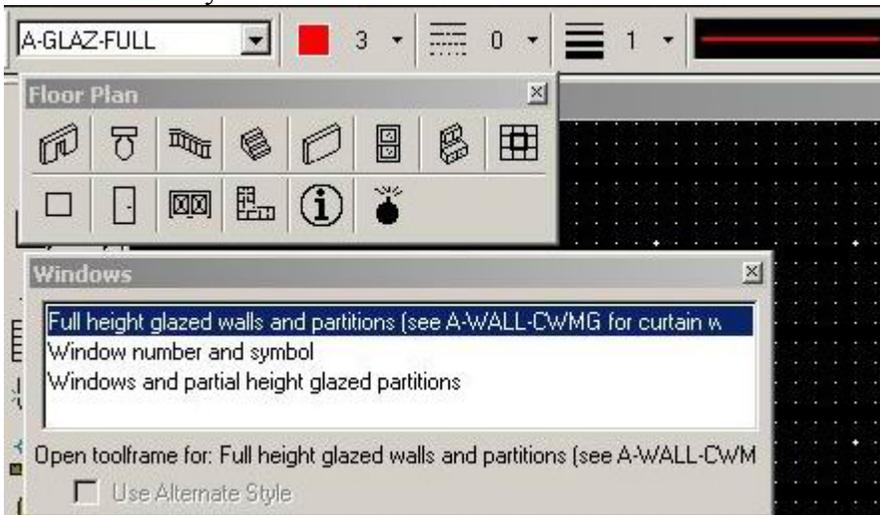


Figure 1 MicroStation Workspace

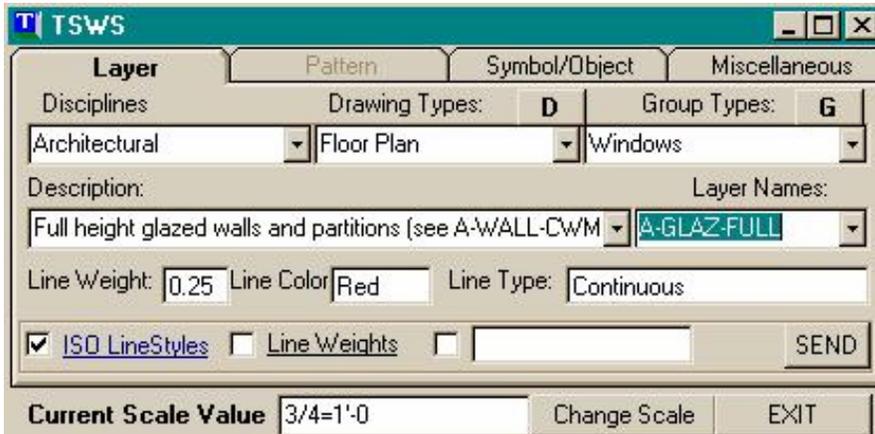


Figure 2 AutoCAD Workspace

Another problem was the time it took to implement changes to the Workspace and disseminate this information to the field. If a change was made to the A/E/C CADD Standard (like a level color change, or a symbol addition), that change had to be incorporated into the A/E/C CADD Standard database. Depending on the revision, these incorporations could be simple or quite cumbersome. Once the modification was made, the MicroStation workspace had to be regenerated. The results of that regeneration had to be made available to all users, and the resulting files had to be copied into the correct location on their computer or server, before they could implement the latest revisions to the Standard. Similarly, the resulting resource files from the MicroStation regeneration had to be made available for the AutoCAD workspace. Once the Center made sure that all updated files were available via CD or the Internet, there was no way to guarantee that the users had or were using the latest updates! This process took considerable time resulting in a lag between the field receiving the latest A/E/C CADD Standard data and incorporating revisions of the Workspace.

The Search for Other Implementation Methods

In an effort to speed up the time in getting updates out efficiently and quickly to the users, the Center started looking at various 3rd party CADD Standard implementation packages that were available. Three main criteria the Center focused on were: 1. does the package work in the latest software releases of both AutoCAD and MicroStation, 2. does the package look the same in both AutoCAD and MicroStation, and 3. does the package use a single database for inputting and exporting Standard information? NetSPEX from Professional Software Solutions, Inc. (ProSoft) was the first package in our evaluation that met all three criteria. An additional bonus feature of NetSPEX is that the A/E/C CADD Standard is already included as a ready-to-use standard.

NetSPEX

Whether you are in MicroStation or AutoCAD, the look of NetSPEX is the same (**Figures 3 and 4**). It operates in a manner that is similar to the MicroStation A/E/C CADD Workspace, but with a twist. Instead of selecting the type of item you want to place (e.g., door, window), you select the graphic component you want to place (e.g., pattern, symbol, line). When the component is selected, the database is queried to display a listing of only items that meet that type of component (i.e., fire wall patterning would not be available if a Linear component were selected). This makes it easier to locate the type of component you are trying to create/place. Another feature of NetSPEX is that when you have selected the item you want to place, the NetSPEX window collapses into a small “hotlink” icon window, thereby freeing up monitor display space until the next time you need to use NetSPEX (**Figure 5**). NetSPEX also contains a more robust Checker application for verifying that files are in compliance with the Standard. Whereas the Workspace Checker only showed a list of items that were non-compliant, the NetSPEX Checker will offer suggestions for making the item compliant. Various compliance/non-compliance reports can be generated easily on-the-fly by the user.

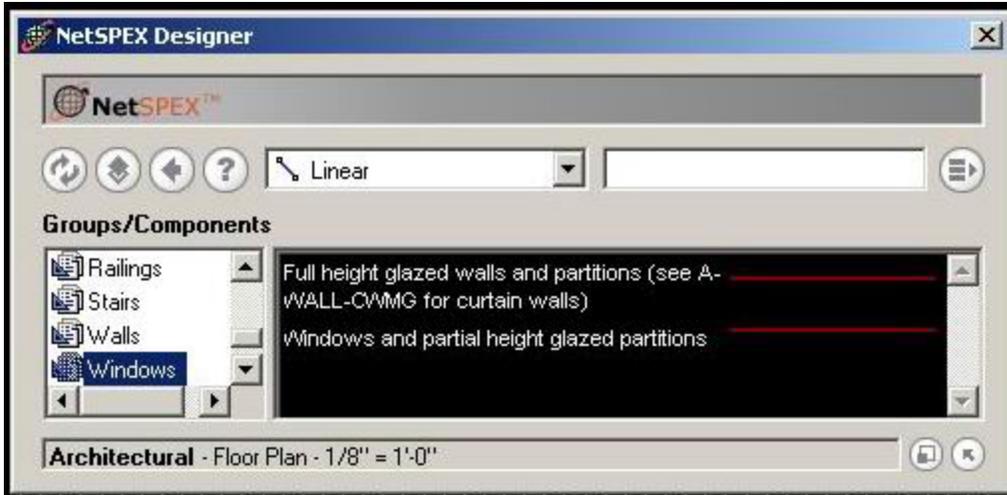


Figure 3 MicroStation NetSPEX window

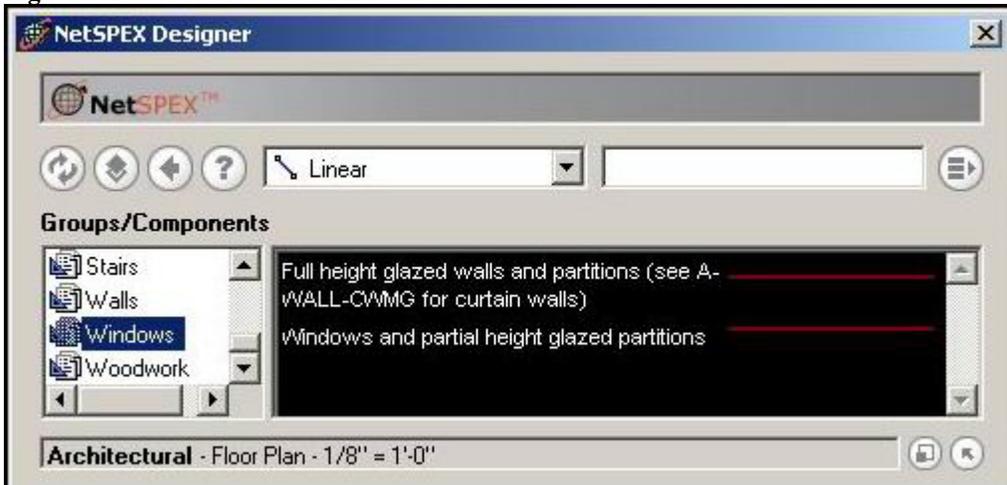


Figure 4 AutoCAD NetSPEX window

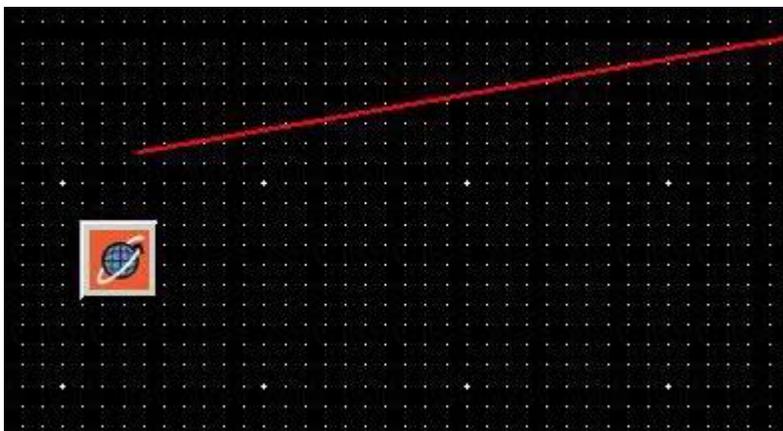


Figure 5 NetSPEX "hotlink" button

NetSPEX and the Center

As part of Project 96.017 (Maintenance, Revision, and Implementation of the A/E/C CADD Standard), the Center was tasked with purchasing NetSPEX software for a

test implementation, to see if NetSPEX could ultimately replace the Workspace methodology for implementing the Standard. In April, ProSoft offered 50% off the current prices for NetSPEX, so the Center purchased the following: the NetSPEX Main Server software, two (2) copies of the NetSPEX Mirror Server software, and one hundred (100) licenses of NetSPEX Designer. How does all this work? The Center will maintain the A/E/C CADD Standard database on a server located at the Center, using NetSPEX Administrator. Two remote locations (COE District offices) will be the hosts of the mirror servers. When a change is made to the A/E/C CADD Standard, the Center can “push” those changes at any time to the Mirror Servers. Once the change is pushed to the Mirror Servers, any person capable of using NexSPEX Designer Workstation within the network will see these changes immediately (**Figure 6**).

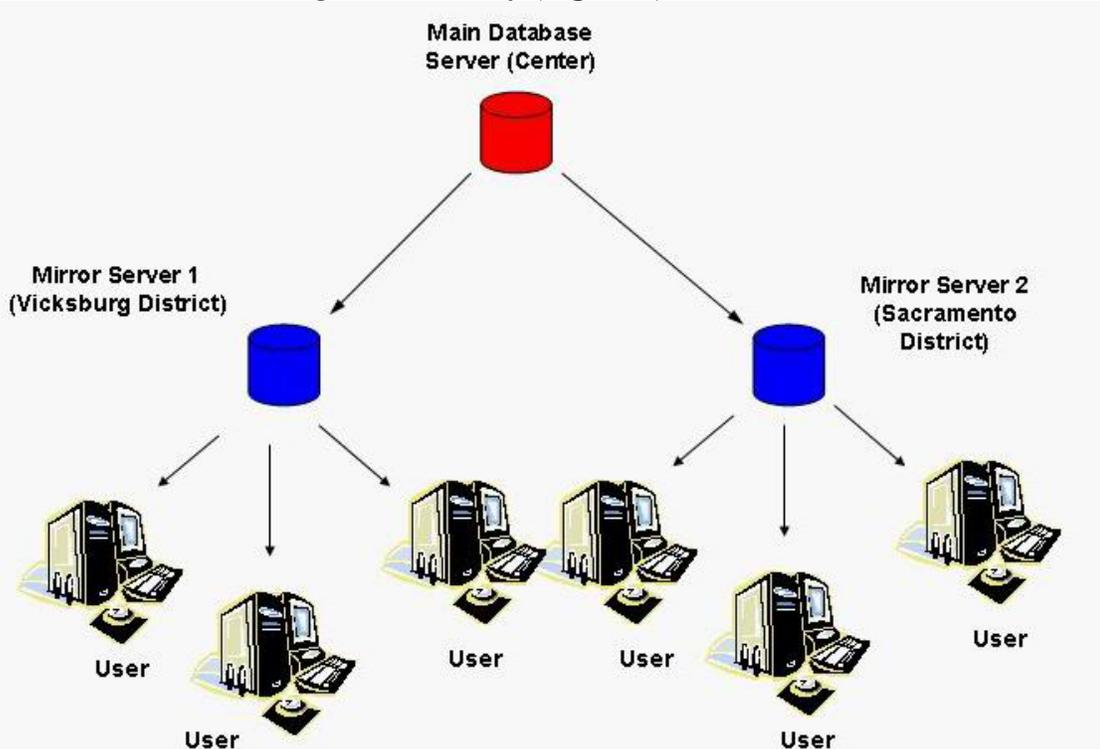


Figure 6 How NetSPEX data gets to the user

NetSPEX System Requirements

Current CAD Platforms supported:

AutoCAD 2000i, 2002, 2004

MicroStation J, V8 and V8.1

NetSPEX Designer Workstation requirements:

- Windows 2000 Professional or
- Windows 2000 Server or
- Windows NT Workstation 4.0 SP6 or
- Windows NT Server 4.0 SP6 or
- Windows XP Professional
- At least 5 MB hard drive space reserved for application files and cache

- LAN/WAN/Internet connection to one of the two NetSPEX mirror servers
- Internet Explorer 5.5 or later

During the months of July and August, the Center will be evaluating the A/E/C CADD Standard database provided with NetSPEX to determine its accuracy. Even though the A/E/C CADD Standard database is provided with NetSPEX, it is still ProSoft's interpretation of what the Center was trying to accomplish. Edward Huell and Stephen Spangler will go through the database and make corrections as necessary. In August, the Center will set up a website where DoD personnel can download the NetSPEX Designer software and a license/configuration file to attach to the appropriate mirror server. Since the Center only has 100 licenses, the Center's NetSPEX site will be restricted to people within the .mil domain. In September, look for an announcement on the Center's homepage regarding the activation of the NetSPEX website. We look forward to any feedback on this exciting endeavor!