

# Windows Server 2008 Logo Certification

By Peter Varhol

Running the certification tests can give an IT shop insight into both how applications use Windows Server 2008 and what capabilities are most important to their users.

Enterprises seeking to understand why they should buy server applications that are certified under the Windows Server 2008 Logo Program can learn about the advantages directly, by running the certification tests on software prior to purchase or deployment. By doing so, they can assure themselves of the quality of a prospective application and what affects it might have on the servers and clients on which it is installed.

Enterprise IT professionals do this through the Software Certification Toolkit, a collection of software tools that define the details of the logo certification program. In addition to guiding independent software vendors (ISVs) in the design and implementation process of their applications, the Software Certification Toolkit provides a means for end user IT groups to test commercial logo certified applications as well as other applications to determine the impact of these applications on their servers.

The Software Certification Toolkit can be freely downloaded on the Microsoft site at [http://www.innovateon.com/pageLayout.aspx?pageID=WinServer\\_Test\\_CertifiedFor](http://www.innovateon.com/pageLayout.aspx?pageID=WinServer_Test_CertifiedFor). This kit includes detailed instructions on how to replicate these tests in any server environment, as well as ways to capture the results and make assessments as to the ability of an application to safely fit into the existing server infrastructure.

The heart of the Software Certification Toolkit is the Certification Tool, a comprehensive blueprint for performing the certification tests. The Certification Tool provides a complete solution for IT professionals for delineating and understanding the tests, determining what is needed to begin the tests, setting up the application and test environment, recording the results, and providing a summary of test results for easy inspection and analysis. It also provides links to external technical resources for those seeking additional information on the certification process, running certification tests, and interpreting the results.

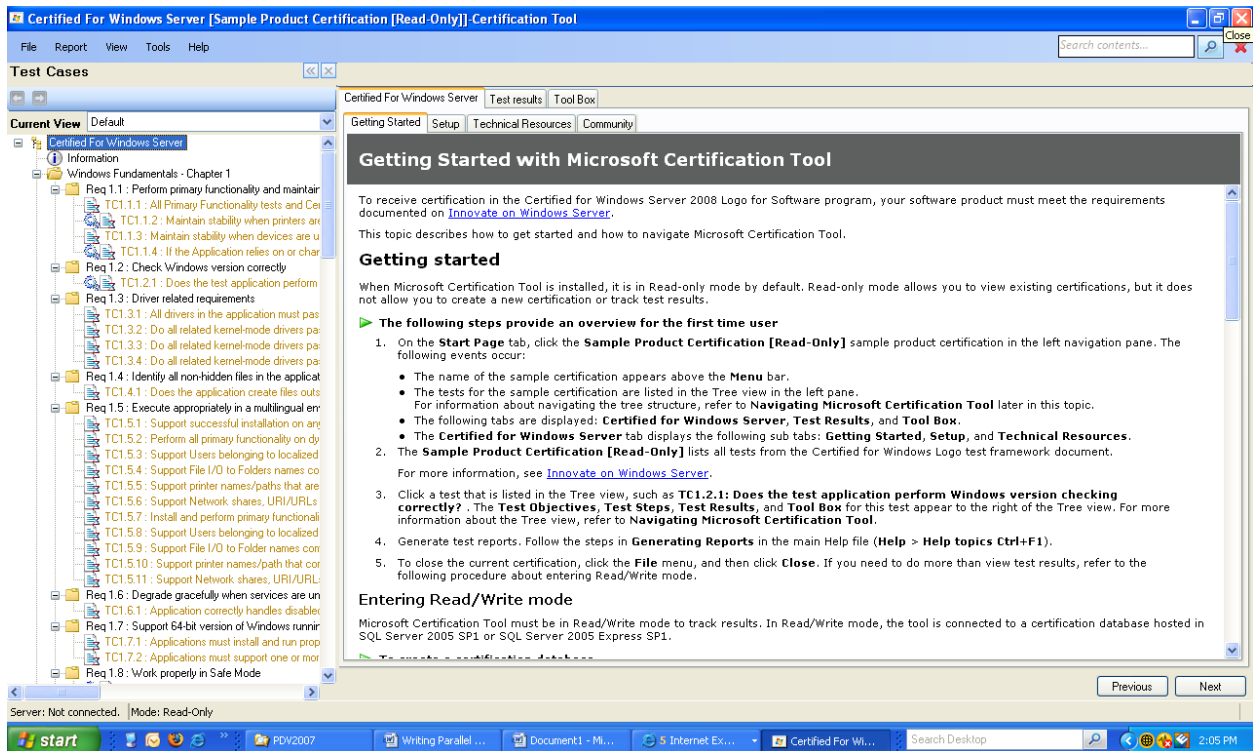


Figure 1. The Microsoft Logo Certification Tool provides an environment for understanding certification testing and beginning a certification process.

The Certification Toolkit is installed onto a desktop system and connected to a SQL Server database and target server across the network. It drives the testing on the server and saves the results to the database. Installation and setup with the database and server take only a few minutes.

## Beginning a Certification Test

An IT group might begin a test series on an existing or prospective application with the Certification Tool by creating a new certification test record. Once created, the new record serves as a repository and summary for a round of tests designed to assess one or more aspects of the certification process. Once you create a test record, the tool describes how to prepare an application for testing.

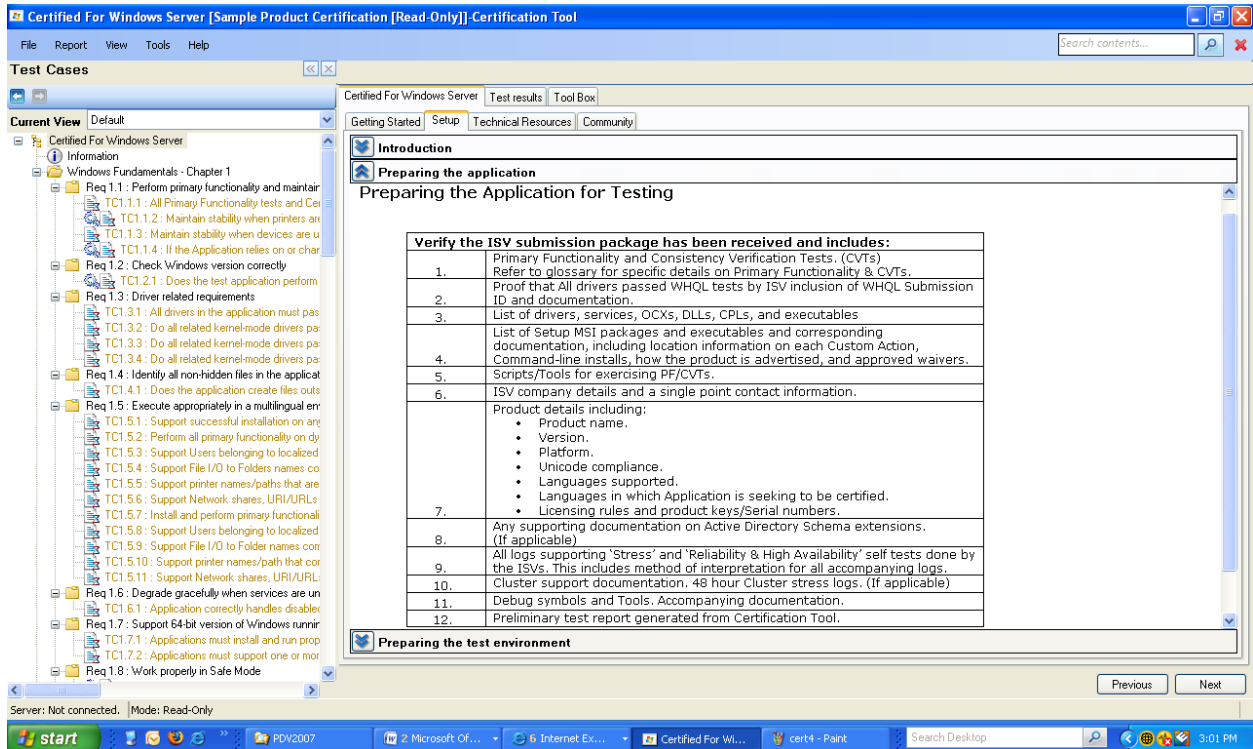


Figure 2. The Certification Tool describes in detail how to prepare an application for testing.

The entire certification test suite covers over 100 test cases, involving fundamental operation, installation and removal, security, reliability and high availability, client components, and Hyper-V virtual machine compatibility. These tests are delineated in the Certification Tool, and can largely be run through that tool. In some cases, they are run with the assistance of external tools, with the Certification Tool monitoring and recording the results.

Once an IT professional has set up the Certification Tool, it is ready to begin testing. The tabs in the right-hand pane provide information on the prerequisites for each individual test, and detailed instructions for executing those tests. Any IT person can use this information to configure the tool, run the tests, and record and analyze the results.

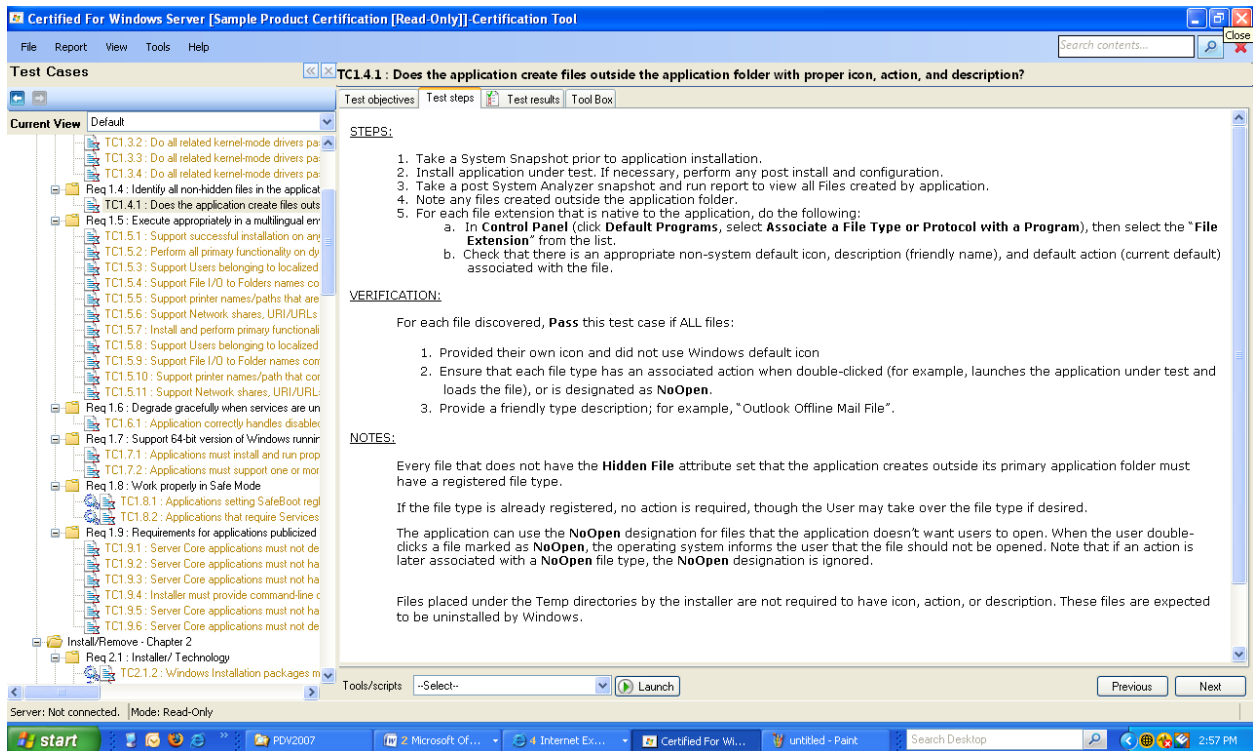


Figure 3. The Windows Server 2008 Certification Tool provides step-by-step instructions on how to execute a test, and what results constitute successful completion of the test.

In many cases, IT groups have no need to run all of the tests, and may want to run the tests in a different order than they occur in the tool. In that respect, the Certification Tool offers an enormous amount of flexibility in setting up and executing tests, and in analyzing the results. You can determine which tests you want to run and execute only those tests. You can also set up the tool to work with different types of external tests, depending on the requirements of the individual test.

You can also change the order in which the tests are run. By default, when you start a new certification, these tests are presented to you by each pillar of quality they are designed to target. While this might help you understand the test, it might not be the best order to execute the tests, depending on the type of application and testing environment. You can create custom views in order of execution of tests that best suits your application type.

Of course, in the case of IT professionals in an enterprise, the goal is not to re-certify these applications. There is usually no need to run all of the tests; instead, you run the tests that give you confidence in the application and the testing process in general, and to make sure about the capabilities and limitations that are important to your organization specifically. What the Windows Certification toolkit provides is the platform and structure for making sure that the logo certification process covers areas of importance for your own organization, and that you can independently run those tests that mean the most to the IT group and the users of the application.

## **Tools for Enabling Certification**

One of the biggest problems with server applications is that it is rarely clear what changes those applications are making to that server. Given the complexity of the Windows Registry, and the potential for changes and additions to services and drivers, it is almost impossible for an IT professional to understand all of the implications to a server or server farm from the installation of an application.

Why is this important? Changes to the Registry have the potential to make a system less stable, depending on the number and impact of those changes. Registry changes or service additions also have the potential to open a system to security violations. Yet by their very complexity and obscurity, these changes aren't usually identified and tracked by IT groups.

In response, Microsoft provides the System State Analyzer. This tool looks at the state of your server both before and after the installation of an application, and can compare what has changed during the course of the installation. Using this tool, IT groups can record and track changes to the system configuration due to the installation of a new application.

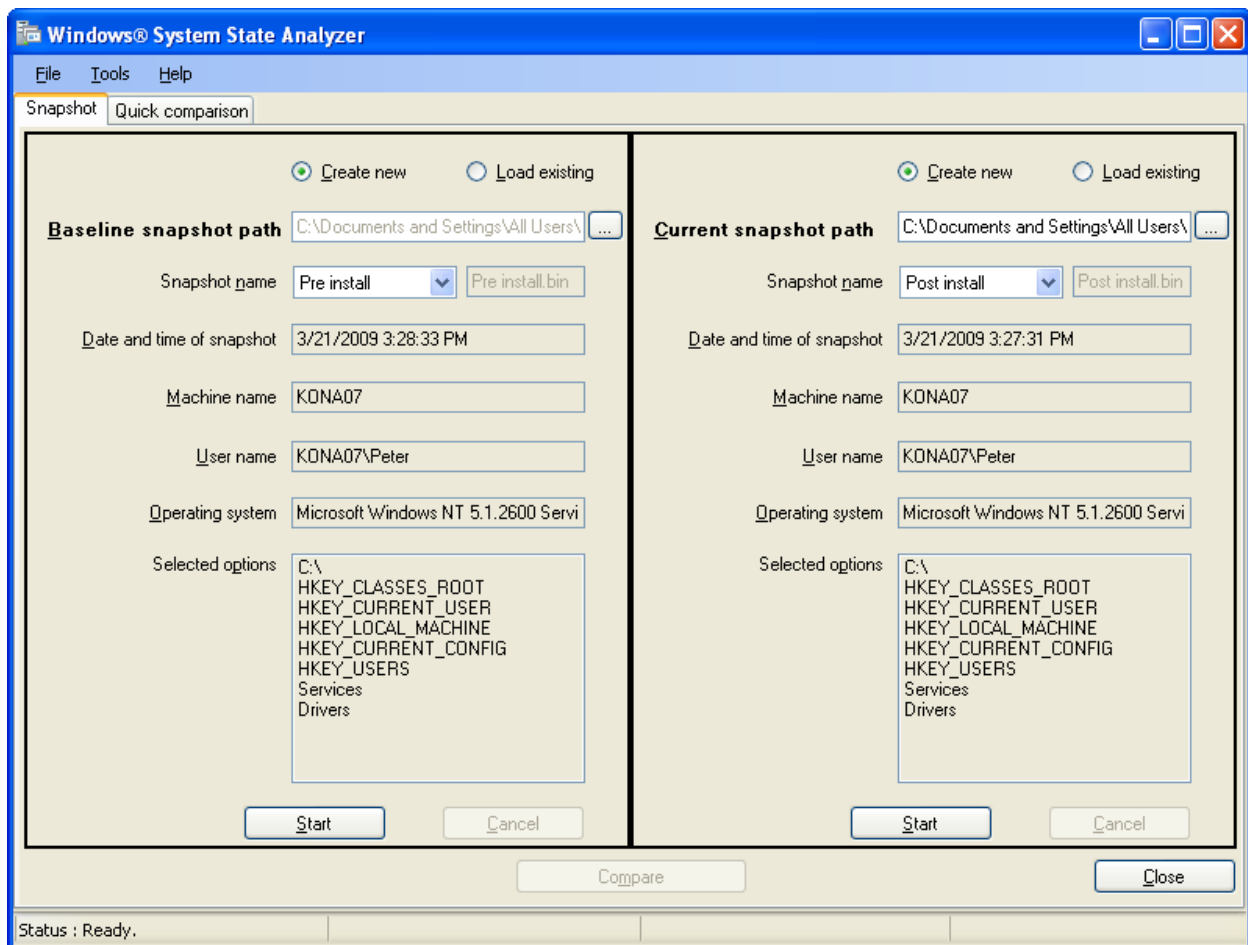


Figure 4. The System State Analyzer provides an easy way to compare the state of a Windows Server 2008 system both before and after application installation.

For new enterprise applications, the System State Analyzer provides the ability to examine the impact of a new application before committing to purchasing that application, and compare that impact to standards established by IT on server configurations. As an added benefit, IT groups can also use this tool to gauge the impact of custom internal applications on their server environment.

The System State Analyzer is also an essential tool in running certain certification tests. By comparing the state both before and after an application installation, IT professionals can determine exactly what has changed during the installation of the application. This accomplishes two things. First, it lets them know if the installation is accomplished in accordance with the Windows Server logo requirements. Second, it enables them to understand precisely how the server configuration has changed.

Among the tests that require the use of the System State Analyzer for comparison purposes are many of the installer/remove tests and a number of the security tests. In these tests, it provides a means of ensuring that installation didn't change the configuration in ways that it wasn't supposed to, and especially in ways that may have opened security holes.

A second tool provided with the Certification Toolkit is Loadgen, a load generator that provides a platform for generating stress on a server and the running application. The primary purpose of Loadgen is to stress a target computer to a desired period of time. For the purposes of the logo certification program, Loadgen is required to be running for a continuous 48 hour period. During this 48 period, the application must be tested through either automated tests or manual tests on the same computer. These tests must exercise the full primary functionality of the application in order to get a complete picture of its behavior on a stressed system.

Loadgen is launched from the command line of the administrative workstation with the following parameters:

```
loadgen.exe -config:LogoStress.xml -NonHCT:1 -NoWTTLog -sut:<MachineName> -  
user:<Domain\User> -pwd:<Password>.
```

The LogoStress.xml file provides configuration information that is used by the tool in order to set up and execute properly.

In addition to the tools provided with the Certification Toolkit, other external Microsoft tools and utilities are required as a part of the certification process, including the App Verifier, Driver Verifier, Windows Defender, and Regedit. In addition, there will almost certainly be tests that are specific to the application itself. In most cases, these tools are readily available and easy to use.

In others, however, enterprise IT groups may use this as an opportunity to devise their own suites of tests in order to fully understand the impact of using the application on their IT infrastructure. Such tests may look closely at the functionality being considered as critical by that enterprise, rather than test the entire range of capabilities. In this manner, IT groups can leverage the Microsoft Windows Server 2008 logo certification program to accomplish their own goals of ensuring the value and compatibility of applications based on their unique business requirements.

## **The Value of Independent Testing for Enterprises**

In the case of some of these tests, an enterprise may have little need or interest in testing and confirming the results of the Windows Server 2008 logo certification process. For example, at least two of the security tests involve signing in using a Smart Card. If an enterprise doesn't use that technology, and has no plans to implement it, there is little need for an IT group to independently test a prospective application in this area.

But independent testing by enterprises and other organizations seeking to purchase specific server applications has two significant advantages. First, it provides the organization with assurance that any prospective application behaves in a manner consistent with the technical and business requirements of that organization. This includes stability, capability, and performance. Such testing has the potential to reduce the amount of specific testing and staging required before an application can be rolled out in the production environment.

Second, running the certification tests within the enterprise lets IT professionals understand the requirements of certification in general, and to use that understanding to evaluate future applications. Because these tests focus on the impact of the application on the underlying server operating system, IT groups can gain more knowledge of the interactions between the two and have a better basis for future maintenance and troubleshooting.

Relying on the Microsoft Windows Server 2008 logo certification program as a baseline for a more complete testing regimen enables enterprise IT groups to accelerate their own testing and focus on areas most critical to their unique needs. The result is quicker evaluation of the application as well as more rapid deployment and trouble-free into the production environment, saving both time and money in the process.