Infrastructure Testing

Migration of Applications to the Cloud

- Rob van Steenbergen

The last few years I have been doing infrastructure testing, switching between the role of a tester, coordinator and test manager. My last projects were almost all about infrastructure migrations to the cloud. This means virtualization of servers, client PC's and applications.

The Windows platform is upgraded, and also applications are virtualized. "Migration to the cloud", is what they say. This article explains in short about the virtualization of applications and gives some tips that could be of help when you find yourself in a similar project.

The technology:

Application streaming
With this technology, the application is not completely started, but only the stuff that is needed from it. As you use for example more functionality, data or change some settings, these parts of an application are loaded on demand. Creating a streaming application is often called 'packaging'. Basically a streamed application cannot communicate with the OS you are using and contains its own registry and all needed files, including system files it needs.

Thin client, PC or laptop
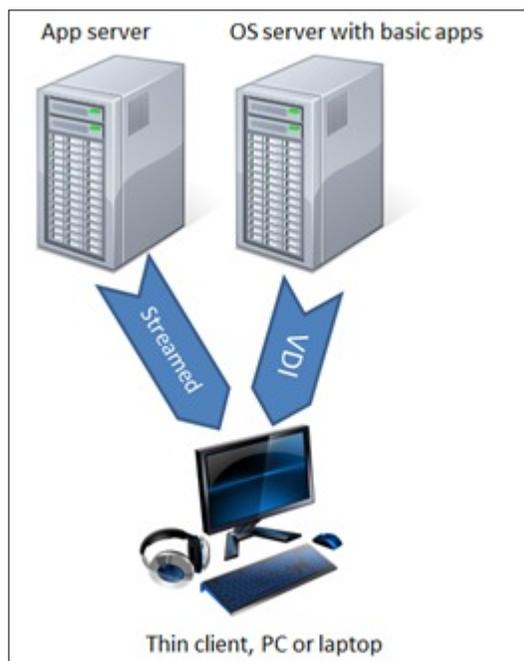
Virtual Desktop Infrastructure (VDI)
This means that the OS itself is virtualized and the application is installed on this virtualized OS. It is running on the OS. So when it is started it starts completely, the same way as it would start on a regular PC. The application can access all the needed files from the OS, such as registry settings and system files.

Installed OS or VDI
Within a virtual desktop environment, there are more combinations possible
● Basic OS on PC's with VDI run from that PC and streamed applications
--- Mostly you will see this with thin clients (very small PC's with limited capability)
● Full installed PC's with OS on the PC itself including basic applications installed, such as MS office

--- This would be for organizations or departments that need local computer performance. This is for example needed for graphical software (Photo and video editing).

● Or a combination of full installed PC with VDI running also.

--- Laptops that still have to work offline with a minimum set of applications installed and all applications available when the PC is connected to a network.

Some advantages of streamed applications

- A user can work on any PC in the company (and even at home), without the system installing the software first or uninstalling the software of a previous logged in user. The OS stays clean of remaining uninstalled applications debris.
- Administration of licenses becomes easier, because the applications are in one system (centralized)
- Because the application cannot communicate with the OS this solves security risks
- If users had administrator rights with a regular PC, this is not needed anymore by virtualization. Administrator rights for users are used a lot as a solution to work with certain software, but is a big security risk.
- Version control is made easier. With installing on PC's there is always the issue of having different versions of software on different computers in an organization.
- OS independent, for example: you could run a Linux application in a Windows Environment

Categories of Applications

A company could have more than 100 applications and a challenge comes with that for creating a test plan. A way to structure your test plan is to divide the applications into categories, so you can focus on categories of applications and create your planning and strategy this way.

Unsupported Applications

Be aware of applications that are not supported by the manufacturer for virtualization. If this kind of application is considered not be important for a company, then the decision should be made not to virtualize. For these applications an alternative has to be found. An organization could take the risk and try to virtualize it anyway. Not supported does not always mean it is not working. If asked to test unsupported applications, test them as soon as possible. The chances that applications fail are high and finding an alternative can take a while. So this is a risk you want to get out of the project as soon as possible.

This article continues in the next edition of Testing Circus.

Rob van Steenbergen is an independent software test consultant from the Netherlands. He has over 15 years of experience in software testing with several organizations. Currently Rob is working for Rabobank international. The domains he has experience in are banking, software houses, government, embedded software, infrastructure and public transport. Besides projects with clients, he is involved with a Dutch test magazine as an editor, runs a website about test events (www.testevents.com), has his own blog about testing and writes articles for national and international magazines, such as the Testing Circus.

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