

Virtualization

DATASHEET

Introduction

Application virtualization is a method that improves portability, manageability and compatibility of applications by encapsulating them from the underlying operating system on which they are executed. A fully virtualized application is not installed in the traditional sense, although it is still executed as if it is. The application is fooled at runtime into believing that it is directly interfacing with the original operating system and all the resources managed by it, when in reality it is not.

Benefits of Application Virtualization

- Protects the operating system and other applications from poorly written or buggy code.
- Uses fewer resources than a separate virtual machine.
- Protects the IP of the software vendor.
- Allows incompatible applications to be run side-by-side, at the same time and with minimal regression testing against one another.
- Maintains a standard configuration in the underlying operating system across multiple computers in an organization, regardless of the applications being used, thereby keeping costs down.
- Implements the security principle of least privilege by removing the requirement for end-users to have Administrator privileges in order to run applications.
- Simplifies operating system migrations.
- Accelerates application deployment, through on-demand application streaming.
- Reduces/minimizes support

Different Virtualization Approaches

Isolated Virtualization

Traditional application virtualization isolates an application and the files and settings it needs to run, so that it does not interact with the underlying operating system, other applications and, in some cases, hardware. The virtualized application can reside on the desktop in a 'bubble' or it can be streamed down from a server to a remote user on just about any device or to the local drive.

StreamFlow from Endeavors Technologies was the first product to adopt this approach to virtualization and maintains the earliest patents (1996/7) in this space. StreamFlow was designed to stream and virtualize games to an operating system in an isolated environment, preventing conflicts and system crashes. Nearly all other streaming solutions achieve virtualization in this way. The main disadvantage of this approach is the interaction the applications have with the operating system and other applications that reside locally. With each application being isolated from the OS, the application is unable to utilise many of the local resources of the machine or even interact with other applications. Modern applications are designed to interact (often as suites of software), MS Visio with MS Office, Sage with Excel. If this interaction is taken away by isolating the applications, productivity issues arise and end user adoption diminishes.

This approach, however, does maintain the benefits outlined above where the desktop machines are tightly controlled and all the applications are deployed in this manner. The approach falls down when the workforce is highly dynamic, flexible and mobile and where interaction with local resources (such as file system and printers) and local applications is seen as key to productivity.

Integrated Virtualization

AppExpress from Endeavors Technologies Inc was designed specifically to overcome the problem of interaction. By effectively 'bursting the bubble' the application is streamed and virtualized in a fully integrated way. To the end user it appears as if the application has been locally installed. The application will interact with all local or networked resources and interact, as designed, with all other applications whether they are streamed, virtualized or locally installed. Endeavors Technologies has several patents pending associated with this technology.

The main issue that arises from this approach is the conflicts between different programs. As the 'bubble' is removed so too is the protection against potential conflicts although they are minimised through traditional testing techniques.

The main issue software vendors have with this approach is the protection of their intellectual property. Unless the technology used to distribute the application contains elements of digital rights management (DRM) or access verification then the software is just as open to piracy as traditional media distribution methods. AppExpress applied limited DRM to protect software vendors IP.

Configurable Virtualization

Configurable virtualization could be described as the utopia of application virtualization technologies. By combining the isolated technologies in StreamFlow and the integrated technologies of AppExpress, Endeavors Technologies has launched the world's first software technology with configurable virtualization - Application Jukebox.

This therefore provides the best of both worlds. An application can be virtualized as isolated or integrated or as a combination of the two. In real terms this means an application could be virtualized and integrated with the local OS, providing all the interaction benefits you would expect. Additionally certain aspects of the application could be isolated such as conflicting resources or intellectual property of the software vendor, e.g. fonts. Conversely, an application could be virtualized isolated but certain aspects could be integrated like desktop links and file associations.

With configurable virtualization all the objections software vendors, enterprises and end users may have to adoption are removed. This is unique in the market and can ONLY be achieved using Application Jukebox.

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