Accelerating virtual desktop delivery

By Tom Baumgartner and Rajeev Sharma

The Dell™ Virtual Integrated System (VIS) Self-Service Creator tool streamlines provisioning and virtual desktop management in heterogeneous environments, helping reduce administrative burden, increase responsiveness, and ensure security and compliance.

Desktop virtualization can bring tremendous efficiency, security, and manageability benefits to organizations. However, because virtual desktop environments are often complex—comprising a heterogeneous mix of mobile computing devices, a wide range of user roles, and a high rate of change—managing large virtualized desktop environments can be tricky. For example, deploying a large desktop virtualization infrastructure can make provisioning virtual desktops a time-consuming process. Limited IT resources can create delays between virtual desktop requests and provisioning and can lead to inefficiencies and virtual machine sprawl. Virtual desktop environments also can be particularly difficult to manage in heterogeneous environments deploying multiple hypervisors.

Dell Virtual Integrated System (VIS) Self-Service Creator helps organizations accelerate, streamline, and automate the provisioning and management of virtual desktop environments. VIS Self-Service Creator is part of the Dell VIS architecture—which is designed to help organizations enhance the efficiencies of their virtualized enterprise environments—and is a key component of the Dell Efficient Data Center strategy.

VIS Self-Service Creator is an automated deployment tool that enables authorized IT users to quickly deploy, monitor, and decommission virtual desktop resources. Plug-in modules support multiple virtual desktop environments including VMware® ESX, Citrix® XenServer®, and Microsoft® Hyper-V™ hypervisors. VIS Self-Service Creator is designed to relieve administrative burden, enhance responsiveness, and ensure security and compliance—even in heterogeneous environments—to allow organizations to realize the benefits of desktop virtualization.

Meeting the challenges of virtual desktop management

Organizations often need to support a broad community of end users with a wide range of workload requirements. For example, a virtual desktop may require many different elements—including connectivity to servers, applications, content such as file shares and messages, and appropriate security, permissions, and compliance—all based on criteria such as identity, role, and business unit. Varying custom image requests requiring different combinations of software and resources can add another layer of complexity and processing.

These complex workloads can be challenging to deploy and manage. Configuring virtual desktops can not only be time-consuming and error-prone, but deployment—especially in heterogeneous environments that include multiple hypervisors, tools, and image-deployment technologies—can be cumbersome. Often, such deployments require the combined efforts of IT staff with different areas...
of expertise. Additionally, life-cycle management of virtual desktop resources may be neglected, leading to virtual machine sprawl, where unused or abandoned virtual machines absorb resources.

This complexity in virtual desktop delivery frequently creates a significant demand on IT resources and can cause unacceptable delays between virtual desktop provisioning requests and fulfillment. Desktop complexity can also create lapses in security and compliance, and inefficient allocation and management of data center resources such as processors and storage.

**Streamlining virtual desktop deployment**

VIS Self-Service Creator automates the provisioning and ongoing management of virtual desktops to help organizations accelerate virtual desktop delivery. In concert with a range of available plug-in modules, VIS Self-Service Creator orchestrates end-to-end service delivery from a single management console—including provisioning, management, and decommissioning of virtual desktop devices.

By consolidating virtual desktop management into a single console, VIS Self-Service Creator enables organizations to help reduce the number of steps required to perform virtual desktop delivery tasks and automate processes that were previously done manually. VIS Self-Service Creator includes a variety of features such as automated workload management, an easy-to-use Web-based interface, support for heterogeneous environments, policy-based automation to streamline provisioning and management of virtual desktop delivery, and delivery of client-specific resources without adding an extra layer of complexity (see Figure 1).

**Automated workloads and workflows**

IT administrators and authorized IT staff can use VIS Self-Service Creator to create both predefined workloads and workflows. **Workloads** are virtual desktop blueprints configured for various end-user roles and requirements; **workflows** capture the sequence of operations required to deliver and manage those workloads. Predefined virtual desktop blueprints convey the amount of resources (processor, memory, storage, and network) being allocated to the virtual desktop and, through an IT-approved catalog, the pool or service tier from which that allocation may come. These blueprints may also consist of establishing connectivity to servers, deploying applications, provisioning content as file shares and messages, and applying the security, permissions, and compliance that are all required for a user and role. Predefined workflows consist of automated sequences for the tasks associated with building,
managing, reclaiming, decommissioning, and archiving each virtual workload.

**Easy-to-use self-service portal**

After creating a set of virtual desktop blueprints and associated policies and workflows, authorized IT users can then use the VIS Self-Service Creator portal to quickly deploy virtual desktops based on these predefined blueprints. For example, a single request to VIS Self-Service Creator can initiate the end-to-end service delivery of a virtual desktop through a single management interface, without using separate element managers. Predefined blueprint policies help ensure that only IT-authorized resources are utilized.

Authorized IT staff can manage existing virtual desktops with VIS Self-Service Creator specifically to view workloads, connect to any virtual desktop, and perform operations such as cycling virtual desktops off and on, reprovisioning them to their initial state, and decommissioning the virtual desktop. In addition, authorized IT users can easily manage the virtual desktop life cycle. For example, when a virtual desktop lease expires, VIS Self-Service Creator enables the virtual desktop to be decommissioned, archived, or reprovisioned automatically. Also, IT users can search for and identify unused or underused virtual desktops and reclaim or decommission them.

**Provisions for heterogeneous environments**

A key feature in VIS Self-Service Creator provides the capability to deploy and manage virtual desktops in heterogeneous environments, so authorized IT users can create workloads and workflows utilizing components in these heterogeneous environments. VIS Self-Service Creator can send virtual desktop delivery services not only across multi-vendor components, including hypervisors, but also across imaging processes such as Microsoft Windows Imaging Format (WIM), Red Hat® Enterprise Linux® Kickstart, and SUSE® AutoYaST (Yet Another Setup Tool) software. Optional plug-ins can further extend multi-vendor options, and the underlying hypervisor technology can be upgraded or swapped out without altering predefined workloads and workflows.

By automating virtual desktop delivery and management functions across multi-vendor components, VIS Self-Service Creator helps organizations reduce the time to provision virtual desktops, manage underlying resources more efficiently, and avoid the need to coordinate among IT staff with different areas of expertise.

**Policy-based automation and resource optimization**

To further streamline virtual desktop automation and facilitate efficient use of underlying hardware resources, VIS Self-Service Creator also supports robust policy-based automation. Organizations can use policy-based automation to create business groups that map a specific set of users to a predefined set of workloads and a predefined allocation of hardware resources. Authorized IT users can use business groups to manage business and IT processes, as well as policies such as resource access, security and compliance standards, process workflows, and approvals. Specific compute resources may be allocated to business groups through resource reservations.

**Supporting the virtual enterprise**

Using Dell VIS Self-Service Creator, organizations can streamline and automate the time-consuming and cumbersome tasks associated with deploying and managing virtual desktops. VIS Self-Service Creator consolidates virtual desktop management into a single interface to help reduce the steps required to perform virtual desktop delivery. Authorized IT users can take advantage of this tool to help relieve overburdened resources, enhance response times and efficiency, and ensure enterprise security and compliance.

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Dell Virtual Integrated System (VIS): dell.com/vis