

CLOUDPAGING WITH VDI

September 2017

BACKGROUND

Virtualized Desktop Infrastructure (VDI) provides organizations with a way to deliver managed desktops, lower desktop support costs and keep critical desktop sessions running out of a secure data-center. However, the wide range of applications users must use to complete tasks must still be managed. Flexibility beyond VDI automated pools is needed to deploy applications to many users without constant changes to VDI desktop templates

Desktop as a Service (DaaS) delivered VDI capabilities from cloud service providers providing deployment flexibility while still maintaining the complexity of application delivery.

Numecent Cloudpaging allow for applications to be delivered to user desktops natively. Cloudpaging simply uses the cloud to deliver a cloudified version of an application from a secure encrypted cloud container. The key benefits are:

- **Lower IT costs:** IT resources and time needed to on board new user applications and updates are lowered significantly
- **Scalability:** Can support high number of users from a single server
- **Improved User Experience:** Applications deploy quicker: 20-100x faster than download
- **Security:** Application is encrypted and compressed before delivery
- **Compliance:** Ensure latest versions of applications which must be used for some customer segments (Medical, Government, Financial) are always available to users
- **Meta-licensing:** Complete session data to manage users which have access to applications

Numecent Cloudpaging can apply not just to physical desktops but also to VDI users. VDI provides the ease of desktop and OS management while Cloudpaging manages effective application delivery and management

VDI BENEFITS AND CHALLENGES FOR APPLICATION DELIVERY

Adding all applications to a VDI deployment user base can add complexity. Each time an application is updated the master pool image must be updated or the application streaming package must be updated. Creating different user pool templates for different user types (e.g. Workstation CAD user, Accounting, Standard Knowledge Worker) can solve this problem to an extent but then adds more pool templates to manage.

As an example, a key application for users using CAD tools is updated, a process like this is followed:

- The VDI template is opened by an administrator
- Application is installed
- Application is validated to be functional by testing
- Master VDI template is applied to a given automated pool (or added to manual pool users)
- Roll out to users:
 - VDI users utilizing a common desktop pool – significant time spent to design the common desktop pool image
 - Persistent VDI users require the app to be reinstalled.
 - Non VDI users also then need to have the latest application manually installed

This process must be repeated among any other VDI templates that also use that application.

There are methods to deploy applications as a packaged Virtual Disk but this involves adding an additional virtual disk and further tools to manage applications. All of this will still differ from VDI users and physical users.

Remote streaming the application can work for some users but this adds complexity of streaming pixels which can work for most users but will be sub-par for extended WAN or mobility users.

Deploying applications in the same manner for both VDI and physical users is needed to limit desktop support burden. VDI templates should focus on core OS and apps that don't change (desktop email, office suites, etc.). Applications from divergent ISV's need update and deployment flexibility.

HOW DOES CLOUDPAGING HELP VDI?

Numecent Cloudpaging can help VDI solutions like VMware Horizon and Citrix Xen by removing the application deployment burden as a VDI administrative task and moving it to IT resources more aligned with application deployments.

Core VDI templates focus on main OS images, security updates, service packs, etc along with key applications like Office suites and email applications that see limited changes over a VDI VM life-cycle.

User VDI sessions can then leverage the latest applications like CAD/CAE, DTP, Financial, Imaging, etc. from Cloudpaging. This allows for flexibility in application updates, additions of new applications, and removing of applications without modifying any VDI templates. This same Cloudpaging deployment methodology for applications can apply to VDI and Physical users that may be on some par WAN or branch office networks.

The Cloudpaging components incorporated with VDI separate the base OS and base apps VM template and applications running via Cloudpaging easing complex deployments where prior best practice may have been multiple templates and multiple pool types.

Cloudpaged applications also provide for limited storage needs in the VM. Since applications are cloudpaged only an initial approximately 10% of the application is transferred to the Cloudpaging Player (local agent) on the users VM. As the user continues to use the application

further instructions are delivered on demand, a page at a time ensuring robust application performance while never installing the application locally.

Applications can be mixed across pool templates, an example would be a business process application can be delivered to engineering, accounting and sales users who will be on different VDI pools. The same deployment process can then be used for physical users who may not have VDI access or for users with physical devices that need offline access (e.g. Notebook users who must work offline). Physical users also benefit from having a limited local cache of the application present at initial deployment with Cloudpaging, lowering initial app start time (vs full app download before Cloudpaging) and lowering storage needs on physical devices. Additional app features are delivered as needed when different application functionality is used.

The process to deliver applications with Cloudpaging is simple:

1. Install the application on a VM or Physical system running Numecent Cloudpaging Studio - this will capture the application, application dependencies, registry settings, etc
2. Run the application within the Cloudpaging Studio to pre-fetch initial start of application UI. Choose as well to cache any functions user may use just by using them in this application session.
3. Package the application and deploy as needed to users. User desktops simply need the Cloudpaging Player which can be added in a base VDI template.

In regards to security, VDI has distinct advantages if deployed properly. Ensuring data stays in the data-center and user sessions are more secure. Using Cloudpaging brings these security benefits to environments where physical users (like offline users) must be supported in addition to VDI users. Cloudpaged applications can be sandboxed to the point where even attempted to extract application data like saving files to local storage will result in no data access outside of the sandboxed application. This provides assurance that both VDI users and the users you still support on physical devices have stringent security constraints.

Cloudpaging can help VDI deployments rein in application deployment while providing the same methodology to support non VDI physical users further helping IT desktop support costs.

CONCLUSION

Numecent Cloudpaging provides application deployment ease on both VDI and physical device users. Cloudpaging removes the application deployment pain point from both VDI and physical user types.

Cloudpaging makes the most efficient use of all elements in the cloud computing ecosystem, utilizing proven technology in production today and supported for the future.