Intelligent Desktop Virtualization

No Compromises: Intelligent Desktop Virtualization

Intelligent desktop virtualization (IDV) is the next logical step in desktop management. It enhances and expands the use of virtualization technologies to create a better future that eases the growing tension between IT professionals and end users.

IDV relies on three key tenets to create a tension-free future where IT and end users are satisfied with their desktop computing environment:

1. Manage centrally, execute locally
2. Deliver layered images intelligently
3. Use device-native management

Manage Centrally, Execute Locally

More control, less management complexity. By managing centrally, IT retains control over OS and application updates for the desktop infrastructure. This alleviates concerns about access to or control over the computing platforms used in the corporate environment. Centralized management of a layered, synchronized, deduplicated image also simplifies IT control.

Better user experience. Executing locally offers better performance and responsiveness because computation is done closest to the user where it can fully utilize the client’s capabilities. For example, with local computation peripheral use is simplified so the user can exploit the latest advances in online collaboration.

Better economics. Local compute offers better economics than centralized execution because you don’t need as many data center resources—redundant, high-performance servers, storage, and networking, and the associated power and cooling—to handle desktop computing. In cases where server-hosted VDI is necessary, you can increase server VM density by offloading compute-intensive tasks to the local client. Testing with Citrix XenDesktop® has shown that even simple media redirection boosts VM density by 43 percent.

Deliver Layered Images Intelligently

Layered images. The most basic image layers are user data and settings, applications, and operating system. Each layer is stored and managed separately in the data center, though the image looks and behaves like a normal environment for end users.
Intelligent Clients

Intelligent clients make local execution possible. They provide the flexibility to support mobile computing, compute-intensive applications, rich media, offline work, and local peripherals. They also do not require added build-out in the data center. With an intelligent client, you can run multiple virtual desktops on one client device. In fact, the only way to enable full productivity for mobile workers in a VDI scenario is to use intelligent clients because they can run workloads while disconnected from the corporate network.

Client Hypervisors Help Deliver IDV

Sophisticated options open up when device management is delivered as part of a client hypervisor. By using a bare-metal or type-1 hypervisor on an intelligent client, IT can gain additional control over client hardware and perform certain management functions regardless of OS state.

A client hypervisor could also enable IT to transform an intelligent client into an instant-on browser and VoIP-only platform. Taking advantage of device-native management and client hypervisors delivers on the IDV promise of operational excellence and unparalleled flexibility.

Always up-to-date. The OS and application layers are always up-to-date because they are sourced from the golden image every time a device is booted. This approach makes it easy to add, remove, and update individual components within each layer, as opposed to the whole image, saving valuable IT management time and effort.

Saved space. Layered images take advantage of deduplication technology, so you only store and manage one copy of the OS and applications. Unique content such as user data and settings can also be deduplicated.

Deliver to multiple devices. Separating an image into layers makes it easier to deliver an image or its layers to multiple computing platforms. Layered images are tailored to the computing device and are created on the fly to provide a relevant user experience.

Intelligent two-way sync. Two-way sync between a centrallystored golden image and dynamically created images simplifies managing virtual images:

- It avoids “image drift”—everyone always has the golden image because the local and centralized copies are kept in sync.
- It minimizes network storage requirements and optimizes network bandwidth usage through deduplication technology.
- It enables efficient disaster recovery. Users can access an up-to-date image from any device, execute locally, and stay productive regardless of circumstances.

Use Device-Native Management

All devices, even mobile devices like smartphones and tablets, require a management layer below the OS that facilitates remote provisioning, device security, and firmware maintenance. IDV involves the device in its own management by taking advantage of available capabilities independent of the operating system.

PCs powered by Intel® Core™ vPro™ processors have many device-native management options, including hardware-assisted security, remote outofband management, and built-in virtualization, making them ideal clients for IDV.

For More Information

Everything on Intel business PCs supports IDV: they are the best performing, manageable, and secure devices available. With IDV, both IT and end users win: IT has less management complexity, and users get an optimum computing experience. To learn more about how Intel business PCs support IDV and the evolution of desktop management, visit www.intel.com/vpro.