**Technical spotlight**

**HP True Graphics**

**Breakthrough video and graphics presentation for HP Thin Clients**

HP True Graphics\(^1\) for HP Thin Clients offloads rich multimedia content to your HP Thin Client GPU HW decoder, delivering high frame rate images while boosting the efficiency of your HP Thin Client.

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1. **User accesses rich content through Citrix® connection on HP Thin Client**

2. **Server GPU or CPU encodes content in H.264**

3. **H.264 stream is sent to the HP Thin Client**

4. **HP Thin Client with AMD® chipset offloads H.264 to the GPU HW decoder**

Figure 1. HP True Graphics technology process and H.264 data flow with an HP Thin Client.

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**Without HP True Graphics**

**Challenging for rich graphics and video presentation in the cloud**

Smooth streaming and high-quality presentation of HD video and 3D graphics are significant hurdles users face today in remote cloud computing environments. IT and end-users often experience poor graphics, slow frame rates, lag, heavy client and server CPU burden and codec mismatches. Rich content remote redirection requires a strong server, a high bandwidth network to transmit the data, and an extremely powerful endpoint device to render the content. Current software solutions that attempt a resolve are extremely client CPU intensive and require high-performance endpoint devices. Today’s high-performance endpoint devices, like PC’s and workstations, aren’t as secure and reliable as the thin client in VDI and cloud computing environments.

**The thin client demand**

The industry solution has typically been multimedia offloading and server side rendering, yet each solution gives thin client users just enough capability for average quality video and graphics in a limited number of file formats. With increased industry adoption of H.264 as a popular format, the demand has grown stronger than ever for a more flexible, cost-effective and efficient solution.

**H.264 industry happenings**

**H.264**

The industry’s most common video format for recording, compression and distribution of video and graphics content is H.264. Today’s modern GPUs offer H.264 accelerated decoding and encoding capabilities, which allow rich content to be displayed on most modern endpoint devices, like tablets and smartphones, without consuming massive amounts of CPU. HP True Graphics harnesses H.264 video and graphics content and redirects it to the GPU’s HW decoder for smooth streaming and enhanced presentation on HP Thin Clients.

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**With HP True Graphics**

**An enhanced multimedia experience**

HP True Graphics\(^1\) now gives HP Thin Client users the ability to view and manipulate heavy multimedia content, like HD video and 3D\(^2\) graphics, in high-quality definition with reduced lag, fast frame rates and real-time keyboard and mouse interactivity. HP True Graphics leverages Citrix® SuperCodec and seamlessly decodes the H.264 content for an enhanced user experience.

**Key benefits**

- Smooth HD video playback
- Enhanced 3D graphics presentation
- Real-time mouse and keyboard interactivity
- Increased frame rates for streaming
- Seamless multitasking
- Reduced IT maintenance and codec updates
- Low equipment burden and CPU utilization

HP True Graphics provides up to 2x the average frame rate and as low as 1/3\(^\text{rd}\) of typical thin client CPU utilization and a single, simplified codec-based scheme.\(^2\) The technology drastically reduces high client CPU usage that often can’t keep up with today’s heavy content demands. The result – a more responsive end-user experience and a more efficient IT environment.

**Citrix®, AMD and HP True Graphics**

**A new solution for HP Thin Clients**

Citrix virtualization with SuperCodec and HDX 3D Pro offers an optimal redirection solution that leverages server GPUs to encode an entire compute screen into an H.264 stream. This stream is directed to the HP Thin Client with AMD hardware accelerated decoding capabilities. These two solutions allow select HP Thin Clients to optimally handle H.264 content when HP True Graphics is installed. Note: HDX 3D Pro is not required to use HP True Graphics.
HP Thin Client support

HP True Graphics requires an HP Thin Client with an HP ThinPro 5.0 or higher operating system (combo OS with HP Smart Zero Core begins at v5.0), AMD processing technology, and a Citrix virtual desktop infrastructure running a XenServer ecosystem—must be XenApp or XenDesktop v7.0 or higher. HP True Graphics is preinstalled on the OS starting with HP ThinPro 5.2. HP True Graphics will be available on HP ThinPro 5.0 or higher as an add-on through Easy Update for HP ThinPro or via HP Device Manager in early 2015.

Easy setup

HP True Graphics improves graphics and video presentation on select HP Thin Clients where installed. Its flexible and simple architecture allows for easy deployments in many customer environments, regardless of firewalls, gateways or network topology.

HP True Graphics setup and deployment:

1. Use Citrix XenDesktop or XenApp 7 or greater on your server, and verify SuperCodec is enabled (enabled by default) to encode all content into H.264.
2. Install Citrix Receiver 13.1.1 with HP True Graphics on your HP Thin Client running ThinPro 5.0 or higher.
3. Connect to a Citrix Desktop and enjoy the enhanced HP True Graphics experience.

HP True Graphics is already pre-configured and ready to use. Upon installment, the end user can start benefiting from HP True Graphics immediately.

Learn more at hp.com/TrueGraphics

Legal disclaimers

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2. 3D content required to view 3D images. 3D capable display required to take full advantage of 3D.