AMD has an extensive history of leadership in the thin client market, offering solutions for original equipment manufacturers (OEMs) that provide reduced operating costs and power consumption, higher durability and increased longevity over personal computers. AMD embedded thin client solutions have evolved as market needs have changed, and today address the primary concerns of thin client OEMs by helping provide faster, high-definition video and graphics overlays, an enhanced Internet experience, widely scalable platform performance, and industry-leading display support. By employing AMD Embedded Accelerated Processing Units (APUs) that incorporate a graphics processing unit (GPU) and a central processing unit (CPU) onto one die, thin client OEMs have the added benefit of improved data transfer rates, and realize space savings on the motherboard, allowing for the creation of smaller, more powerful devices.

Because they employ embedded operating systems but no internal hard drives, thin clients are typically low-cost, reliable devices offering a smaller footprint and improved longevity – often up to 10 years – over their full-functioning PC counterparts. Thin clients rely on more powerful devices such as servers to conduct computing tasks. With increasing processing power and the ability to perform some tasks locally, new-generation thin clients help decrease the burden on the server while boasting a variety of attributes such as durability in varying environments, low power consumption, and improved security from external threats.

AMM THIN CLIENT SOLUTIONS

AMD Embedded Solutions provide thin client solution designers the flexibility to create scalable, x86-based, low-cost and feature-rich products, while driving energy conservation into their systems. And they do it all without compromising application performance or compatibility, graphics performance or features.

In addition to traditional benefits, including lower power consumption, lower maintenance costs and longevity, thin clients built around AMD Embedded G-Series and R-Series APUs offer graphics quality not found in most thin client solutions. The enhanced Internet experience afforded through AMD Embedded APUs includes high-definition video display with high quality, and discrete-level GPUs. AMD Embedded G-Series APUs offer low-power, compact solutions, while AMD Embedded R-Series APUs offer high-end graphics performance.

AMD APU-based thin clients provide the following benefits for OEMs and end-users:

- **High-definition, high quality video display** - Hardware-assisted, high-definition video decode for H.264, VC-1, MPEG-2, MPEG-4 Part 2, and DivX. Multiple video streams supported include Decode HD + SD on select APU models, SD + SD on all models, plus additional SD streams in the CPU. AMD Radeon Dual Graphics technology can combine the processing power of AMD R-Series APUs and AMD Radeon Embedded 6000 Series GPUs to more than double graphics performance compared to using discrete graphics alone.

- **Discrete-level GPU performance** - Features the latest DirectX 11 and OpenGL 4.2 graphics with 80 shader processors; easily handles graphics overlays on top of HD video, including videos found on sites such as YouTube and Hulu.

- **Scalability** - Models range from 4.5W single-core (AMD G-Series APU) to 35W quad-core APUs (AMD R-Series APU). Because each APU family is all in the same ball grid array (BGA) package, AMD offers the option for OEMs to use a one-board design for the entire range.
AMD APU-based thin clients provide the following benefits for OEMs and end-users (cont.):

> **Industry-leading display support** - Offers high-resolution on two independent displays and a variety of display formats, including DisplayPort 1.2, HDMI™, DVI, LVDS 18-bit2, and VGA.

> **Key embedded features** - Small form factor designs for smaller footprints and thermal as low as 4.5W with a single CPU core and 6.4W for dual CPU cores.

> **Longevity** - Offers high-resolution on two independent displays and a variety of display formats, including DisplayPort 1.2, HDMI™, DVI, LVDS 18-bit3, and VGA.

> **Broad software support** - Compatible with VMware and Citrix; supports Windows® XPe, Windows 7, Windows Embedded Standard 7, Windows Embedded Compact 7, Linux®, Android, and others.

For board and system level solutions based on this technology please visit [http://www.amd.com/embedded/catalog](http://www.amd.com/embedded/catalog) and select Thin-Client

For more information on the AMD Embedded Family of APUs please visit [http://www.amd.com/embedded](http://www.amd.com/embedded)

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1. AMD does not necessarily provide a license to the intellectual property relating to H.264, MPEG and other related technology.
2. AMD Radeon™ Dual Graphics technology combines the processing power of select AMD APUs and select AMD Radeon GPUs and can support displays connected to either the APU or the discrete GPU. Windows Vista® OR Windows® 7 operating system required. EMB-19
3. 24-bit LVDS available through an external chip.

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