

What's New in Blades

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Blade Servers are built on a modular infrastructure that can save time and money in various ways. With the ability to share more resources with fewer components, blade computing costs less than traditional rack-mount servers. Built in management allows administrators to perform their jobs quicker and contributes to a lower cost of ownership.

Power and Cooling Enhancements

Enterprise data centers across the globe are running into power and cooling issues as they try to deploy new servers, storage and blades. The increased need for more powerful applications running on denser systems is putting pressure on IT organizations. As next generation more powerful computing systems are deployed, they bring more heat to the data center and push the limits of cooling systems. Next generation blade servers have an answer to this problem.

Newer blades are designed to pool and share energy in order to deliver maximum efficiency. HP BladeSystem makes energy efficiency possible in several ways. The new modular design features newly designed fans, newly architected airflow, and thermal awareness and control. Integrated power distribution can automatically adjust to load on demand. Individual elements working together can conserve every bit of energy and dissipate every BTU of heat.

HP BladeSystem is filled with innovative technology that can adjust cooling and power loads based on changing demands in the system. Each component only uses the amount of power and cooling it needs at that time. Built in sensors monitor and change power, heat and cooling volumes within the system. A real-time dashboard is available to provide insight into the under workings of what's happening at a system level.

Blades were once viewed as difficult to cool, creating hot spots in the datacenter and using

excessive amounts of power. The HP BladeSystem, utilizing Jet-engine-inspired cooling fans, unique airflow architecture and the HP Dynamic Power Saver, has overcome this obstacle.

Advances in Storage, Management and Interconnect

HP c-Class blades have become simpler to manage, have more bandwidth in the backplane, and support the latest and greatest advancements including the HP StorageWorks storage blade. Connectivity to SAN and Ethernet has been greatly improved through the use of the HP Virtual Connect architecture.

The HP StorageWorks storage blade adds a new dimension to the blade server modular infrastructure. By plugging into the HP BladeSystem chassis, a storage blade offers the same efficiencies as normal blade servers including integrated fiber channel connectivity. The elimination of host bus adapters and external cables can have a substantial cost savings compared to a traditional SAN. The storage blade uses an onboard HP Smart Array P400 for performance and storage density and can be managed using the HP's Array Configuration Utility. Data storage of up to 876 GB can be added in minutes using the san blade in an HP c-Class chassis.

The HP c-Class has built intelligence and control directly into the enclosure using the new HP Onboard Administrator. A front panel display gives the ability to check systems status and alerts. Each blade server maintains its own Integrated Lights-Out (ILO) interface allowing for complete out of band management of each blade server. The web based management components provide total resource control from anywhere, anytime.

Server infrastructure such as SAN and LAN are interdependent and rely upon each other in different ways. With the HP Virtual Connect architecture the interdependence has been streamlined by virtualizing the SAN and LAN components. The magic behind Virtual Connect is that it pools and abstracts the physical LAN and SAN connections to servers. Connections between server blades and the LAN and SAN can be modified and changed at the HP c-Class level without disturbing the LAN or SAN administrators. The task of provisioning connectivity to new servers is reduced, productivity is increased and resources gain the ability to be pooled.



The modular design, use of space and management abilities make blades an excellent option for consolidating servers while also laying a foundation for the future.

Time to make the move to Blade Servers

By 2007, blade server shipments are expected to top more than a million units, accounting for about \$2.5 billion in revenue. The modular design, use of space and management abilities make blades an excellent option for consolidating servers while also laying a foundation for the future. An increased demand in high-performance computing to replace legacy systems will be filled by blade servers that can provide greater performance in a smaller space.

Blades also provide an answer to another issue, creating a disaster-recovery or business continuity site. Generally disaster centers are housed in co-located data centers with rented floor space. Blades occupy less real estate thus reducing the cost.

The increasing presence of virtualization in the marketplace makes the move to blade servers even more enticing. The server consolidation ratios in conjunction with the small footprint of blades make the possibility of a “Datacenter in a Rack” a reality. The additional flexibility gained from a virtualized architecture on blades means more power in a smaller space.

Consolidating network, power, cooling and management lowers the overall TCO with built-in control and investment protection. The return on investment can be increased by reducing administrative time spent dealing with hardware and increasing the amount of servers an administrator can handle. Network, power, SAN cabling and cable management are also reduced as well as network and fiber port utilization.