# virtually boundless storage

breakthrough to virtual

## single virtual storage environment

By consolidating disparate storage into a single virtual storage environment, the Enterprise Virtual Array maximizes storage capacity, manageability and availability.

Information explosion. Platform complexity. Continuous operations. A shortage of IT resources. Budgets that don't keep pace with data growth. You're engaged in a constant struggle to balance today's emergencies with tomorrow's requirements. Within the boundaries of a traditional storage environment, your response to these challenges is, at best, shortsighted.

In most cases, all you can do is continue to purchase more capacity, hire more staff and resign yourself to interruptions in application availability.

There is a better solution: the HP StorageWorks Enterprise Virtual Array, designed specifically for consolidated, enterprise-class open systems environments. The Enterprise Virtual Array gives you a breakthrough in storage technology that literally reinvents enterprise storage and eliminates the boundaries of traditional storage. By automatically and transparently redistributing disparate storage into a single virtual storage environment, the Enterprise Virtual Array maximizes storage capacity, manageability, availability and performance. Each of these benefits contributes to a dramatically reduced total cost of ownership (TCO).

The Enterprise Virtual Array also comes with the proven security, scalability and global support that data centers have come to expect from an industry leader, so you can make the move to virtual storage with absolute confidence.

**storage virtualization makes the most of limited resources by:**

- **maximizing capacity**
  Allows you to utilize more storage capacity for real data; the Enterprise Virtual Array dynamically scales for incremental growth to minimize the purchase of excess capacity

- **maximizing manageability**
  Creates a single, easily managed storage pool for greater utilization via the Enterprise Virtual Array; LiteTouch Management tools increase productivity by a factor of as much as 15 times, so IT staff is free to focus on business initiatives

- **maximizing availability**
  Provides complete redundancy via duplicate components, Vraid data protection, redundant data paths, multipathing software and operating system clustering

- **lowering TCO**
  The Enterprise Virtual Array simplifies management to lower your TCO and allows you to leverage existing storage investments

reinventing storage

Virtualized storage enables physical capacity to appear as a single pool of storage, eliminating stranded capacity to maximize existing resources and amplify the administrator's productivity.

Because the Enterprise Virtual Array offers overall improved performance, you can maintain consistent service levels with no fluctuations in online response times. And the Enterprise Virtual Array makes it possible to dynamically expand capacity without compromising system performance.

With virtualization enabled by HP VersaStor Technology, as embodied in the Enterprise Virtual Array, backups and restores are instantaneous. Existing IT resources can manage ever-growing amounts of mission-critical data. Virtually Capacity-Free Snapshot (Vsnap) eliminates both the backup window and the need to buy excessive storage for replication. Virtually Instantaneous Snapclone provides virtually instantaneous clones of virtual disks to allow for immediate, efficient mirroring of data repositories, seamless data migration and data sharing.

The Enterprise Virtual Array completely reinvents enterprise storage in multi-vendor environments through virtualization, enabling disk-based backup and recovery, and enhancing performance, availability and scalability.

## unique advantages

• **Vraid**
Enables up to twice the typical open-systems capacity utilization; minimizes the purchase of unusable capacity and allows incremental capacity to support growth without planning for downtime

• **Vsnap**
Used by the Enterprise Virtual Array to create pointer-based copies that eliminate the need to purchase additional physical capacity just to store replication copies; enables new backup methodologies and expedited recovery

• **Virtually Instantaneous Snapclone**
Delivers virtually instantaneous replication of data so you can begin data mining or application testing almost immediately; combines the best of snapshot and clone (physical copy) technologies via VersaStor virtualization technology

## evolving business opportunities

As you make plans to take advantage of new business opportunities, count on us to help you re-engineer application development processes so you can accelerate your business velocity. The result? A competitive edge as you move to establish a position in new markets. Here are some of the opportunities driving the Enterprise Virtual Array storage value:

• Data mobility

• Daily consumer updates

• Database updates for
e-commerce or e-business

• Global e-mail

• Remote business resumption

• Global web serving

• Media and entertainment

• Global content caching

# scale without limits

The Enterprise Virtual Array is built from the ground up to enable global storage networking that scales without limits. Since it is designed for storage networking, the Enterprise Virtual Array provides real-time, cost-effective, linear scaling of capacity, transaction performance and throughput performance.

With simplified storage management, disk-based backup and recovery, and ultra-high performance, the Enterprise Virtual Array is the best way to optimize storage area network (SAN) storage. It's a solution that enables you to:

- Scale to tremendous capacity — supports tens of terabytes (TB) per storage system and scales to petabytes (PB) in Universal Network Storage

- Accelerate mission-critical application development

- Ensure 24 x 7 availability of valuable information and customer satisfaction by reducing windows for data backup and restore as well as for dynamic virtual disk expansion

- Improve utilization of capacity, enabling reduced costs and enhanced investment protection

- Maintain and improve existing application service levels

- Exploit replication to its fullest potential

- Support data mining more comprehensively for a true business advantage

- Maximize your IT resources by management of ever-increasing data storage — LiteTouch Management makes it possible to realize as much as a 15-fold improvement in productivity

- Protect your IT infrastructure — compatible with new 2 Gb SAN switches and Host Bus Adapters (HBAs), as well as existing 1 Gb SANs; also coexists with current Modular Array storage products to ensure long-term investment protection

- Simplify and extend your operations with powerful, value-adding HP OpenView storage software

"We need much greater density behind fewer controllers, so we use the Enterprise Virtual Array for consolidation. This gives us the latitude to build very large SANs at a much lower price point. We believe it's a rock-solid product."

— *Greg Cherry, Technical System Leader, Acxiom Corporation*

*The HP StorageWorks
Enterprise Virtual Array*

The Enterprise Virtual Array features:

- 2 Gb auto-sensing, end-to-end fibre channel technology

- Centralized, simplified pool management

- Dynamic virtual disk and pool expansion

- Automatic load balancing and self-tuningperformance

- Vsnap (Virtually Capacity-Free Snapshots)

- Virtually Instantaneous Snapclone

- Vraid, which stripes blocks across large groups of disks

- Web-based management — anywhere, anytime — using a browser-based graphical user interface

- SAN appliance-based setup/control

- Consistent, outstanding performance

- Optimization for Microsoft Windows/Microsoft Windows NT, multi-vendor UNIX and HP OpenVMS operating systems

## enterprise-class services and support

Three-year Enterprise Virtual Array hardware limited warranty[1]

- Standard hardware services
  — 3-year parts exchange
  — 3-year on-site labor, 24 x 7, 4-hour on-site response, continous effort
- Optional hardware services
  — Upgrades to 5-year on-site labor, 24 x 7, and/or same-day 4-hour response (specific upgrade options vary by worldwide geographic locations)
  — Post-warranty on-site maintenance coverage (various options for duration, coverage and response time)
  — Performance consulting via statement of work

## standard software services

- 90-day OpenView Virtual Controller Software (VCS) limited warranty[1]
- Optional software services
  — Warranty uplift options
  — Stand-alone telephone support
  — Installation services

## hardware/software installation and start-up services

- Preinstallation consulting and planning
- Hardware installation, configuration and verification
- Configuration and initialization
- Installation, configuration and verification of VCS and other OpenView software
- Service tools installed, configured and verified
- Customer orientation

## special CarePaq and priority service packages

- Available selectively in various worldwide geographic locations

## professional services

Professional Services architects, plans, designs, implements and manages e-business solutions for targeted markets, including communications, finance, manufacturing, service providers, e-applications, e-commerce and e-infrastructure. Professional Services also provides web hosting and application services that support the virtual enterprise. Based on an understanding of the customer's business needs, Professional Services helps define an e-business vision and then applies experience and expertise to help develop a total e-business strategy.

## proactive remote support services

Proactive Remote Support Services identify problems and solve them quickly. This set of enterprise-wide support solutions enables multiple-system management from a single location. These proactive services include planning and configuration services, installation and start-up services, and a service that automatically reports failures and likely failures. Your staff saves the time spent on repair and fault-management processes.

## contact info for resellers

HP provides industry-leading support to our partners, at any time, through programs like the Compaq Referral Program. The best online resource for our resellers and partners is the Compaq Business Partner Site at http://thenew.hp.com/country/us/eng/support.html.

## helpful urls:

For more detailed information on the HP StorageWorks Enterprise Virtual Array, visit the following site:

- www.compaq.com/products/storageworks/enterprise

## ordering is easy

Simply pick from "general-purpose" or High Performance Technical Computing (HPTC) Enterprise Virtual Array preconfigured models to match your application environment.

- Add your choice of type and quantity of fibre channel disk drives to match your capacity/performance requirements
- Add VCS with or without optional Vsnap
- Add the corollary SAN Management Appliance(s), fibre channel switch(es) and/or HBA(s)
- Add the OpenView Secure Path high-availability multi-pathing software
- Add the OpenView solution kit(s) for your specific SAN operating system(s)
- Add any optional product, professional and/or proactive services offerings
- Specify 50 or 60 Hz power plus the number, type and length of fibre channel cables/Gigabit Interface Converters (GBICs)

That's all it takes to move into the networked universe of virtually boundless storage that will enable your enterprise to rapidly accelerate its business velocity.

**hp** invent ®