



The Veritas Renaissance — Setting Its Sights on Utility Computing

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Management Summary

Information technology is in a phase of transition. **The predominant model of distributed computing will eventually give way to an architecture that unites various, heterogeneous IT components under a common framework for management and delivery of services.** It will take the best of distributed computing (open, modular, networked) and add centralized management, fast and precise provisioning, greater accountability, and automation. Sometimes referred to as utility computing, adaptive infrastructure, on-demand or just-in-time computing, this next-generation architecture has become the new rallying point for several reasons:

- It is far more economical,
- It supports business processes more effectively, and
- It can be done – though it's not easy and will take time to evolve.

The software vendor Veritas recently stood up and declared its intention to deliver *utility computing*. This represents a big step up from Veritas' roots as the "data availability company". **It is also a shrewd move that puts it in contention to be one of only a few vendors that can enable utility computing with a full suite of management software.** While this will be a significant, long-term journey, Veritas arguably has the scale, momentum, and resources to accomplish it. Starting from strong positions in enterprise backup and restore (*NetBackup* and *Backup Exec*), volume management (*Volume Manager*), server clustering (*Cluster Server*), replication (*Volume Replicator*), and storage management (*SANPoint Control*, *Storage Reporter*), it recently expanded into server provisioning (*OpForce*) and application performance management (with pending *Precise* acquisition). Its future roadmap calls for expanding features and platform support as well as *integration* among Veritas' various software products, which will be critical for delivering on the utility concept.

From an enterprise perspective, this announcement carries a message about Veritas' ability to be a progressive, long-term partner for IT infrastructure. The transition to utility computing will be a disruptive event in the industry – the kind of shift that tends to shake the establishment and create a new set of winners and losers. **There will be those who get it and make the leap and those who, well, don't.** Enterprises want to know that the vendors they choose can solve today's problems, of course, but also that they will be around and can help them evolve toward a brighter future. After all, the only constant in the IT industry is change.

The Veritas renaissance around utility computing suggests that it wants to be a serious, long-term player. Read on for a closer look at its vision of the future and how it plans to get there.

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Reaching for the Ideal – Utility Computing

Veritas' vision centers on utility computing. Utility computing is not a single product, nor is it another phrase for outsourcing.¹ It is more like a concept and ideal for computing – the way things ought to be and, for many believers, the way things will be. **Functionally, it is similar to a public utility, like water or electricity.** Customers “turn it on” and receive the service in an on-demand, pay-per-unit manner.

In the case of computing, customers specify the resources required (processing, storage, and networking) as well as qualities of service (performance, reliability, and cost). Then, the computing utility automatically and transparently delivers and accounts for the needed resources. It just flows! The result is high resource utilization, greatly simplified management, and a superior cost of ownership. It also means better support for the business processes that depend on computing (which is about everything, nowadays). This is a far cry from the hard-to-manage point systems and silos of computing that dot the landscape of enterprises today, breeding complexity and bleeding cost.

Though vendors may offer different perspectives and emphases, utility computing is generally associated with a set of attributes:

- **Virtualized** – Computing resources are pooled and abstracted for simpler management and better utilization,
- **Open and heterogeneous** – Standards and broad interoperability allow multiple vendors and even legacy equipment to be incorporated into an infrastructure. Customers benefit from choice and competition and avoid vendor lock-in,

- **Unified and centrally managed** – The many, heterogeneous components that comprise the utility are integrated and centrally coordinated and managed, dramatically reducing operating costs,
- **Dynamic provisioning** – Resources are dynamically and precisely allocated to meet changing business requirements, and
- **Automated** – The utility monitors and manages itself and takes action based on user-defined policies.

An IT infrastructure that combined all of these attributes *in full* would be a true computing utility. **However, the real world is not quite this ideal yet, and the path forward – for Veritas and the industry in general – will be incremental and evolutionary.**

Veritas' Path Forward

At its recent VISION Conference, Veritas revealed its plans to deliver utility computing in open systems environments (i.e. Windows, Unix, Linux). Administering a utility is like running a business – it involves many different, interrelated processes. **The key is smart software that ties everything together and makes it behave as a single, dynamic entity, which is exactly where Veritas has set its sights.** Starting from strong positions in backup and recovery, server clustering, volume management, and storage management, Veritas is aggressively building out its feature sets as well as expanding into server provisioning and application performance management.

Storage

Veritas's storage management portfolio includes *SANPoint Control* for SAN management, plus three storage resource management (SRM) solutions: *Storage Reporter*, *StorageCentral*, and *SiteStor* (the latter two are from the pending Precise acquisition). *SANPoint Control* performs discovery of end-to-end, heterogeneous SAN resources, topology mapping, monitoring, reporting, alerts, and storage provisioning. Veritas will add greater capa-

¹ In essence, utility computing describes an architecture, not a delivery mechanism. The utility itself can reside within the four walls of an enterprise, in the data center of a service provider, or both.

bilities for array, switch, and HBA configuration, capacity management, and policy-based automation. The SRM solutions currently offer file scanning, usage reporting², duplicate file discovery, and quota management (StorageCentral). All four products will be integrated over time into a single product called *Storage Manager*, which will offer expanded capabilities for SAN management, classic SRM, and quota management. **In short, Veritas intends to create a broad, integrated solution for open, end-to-end, centralized storage management.**³

Veritas starts with a market leadership position in backup and restore with its *NetBackup* and *Backup Exec* products. Later in 2003, it will add an option for automatic file synchronization and backup for desktop and laptop PCs called *Project Shadow*. To simplify administration, this feature will leverage existing file servers and backup processes. Veritas will also expand capabilities around disk-based backup, which provides faster backup and recovery times than tape. Features will include incremental backups to disk and the ability to select from multiple disk-based options to achieve a particular recovery objective (i.e., quality of service). Furthermore, Veritas will incorporate archiving and lifecycle data management that will automatically migrate data between storage tiers with different price/performance and durability characteristics.⁴ It will allow enterprises to optimize overall storage costs, improve application performance, and meet business and regulatory requirements for data retention. Support starts with *Microsoft Exchange* and *NTFS* this year.

² See *The Accounting Pendulum Swings at Storage (or, Why the Taxman Cometh?)* in **The Clipper Group Explorer** dated October 31, 2002, at www.clipper.com/research/TCG2002043.pdf.

³ See *Storage Is Not Just a Box Anymore – Managing the Data Path* in **The Clipper Group Explorer** dated April 7, 2003, at www.clipper.com/research/TCG2003013.pdf.

⁴ For an in-depth discussion, see *Tiered Storage Classes Save Money – Getting The Most Out Of Your Storage Infrastructure* in **The Clipper Group Explorer** dated August 29, 2002, at www.clipper.com/research/TCG2002030.pdf.

Veritas also has a market leadership position in host-based volume management/storage virtualization with *Volume Manager*. Its next step is to extend this capability into the SAN where it will run on intelligent switches from Cisco⁵ (2H 2003 availability) and Brocade⁶ (1H 2004). Called *SAN Volume Manager*, this new approach will centralize management and provisioning across all attached (and supported) heterogeneous servers and storage arrays.⁷ Veritas will also offer an out-of-band version with centralized management that uses host-based agents.

Servers

On the server side, Veritas will enhance its *Cluster Server* and *Replicator* products, which provide redundancy, remoteness, and fail-over for high availability. It will integrate the local, metro-area and wide-area clustering options into a single solution for greater simplicity and deployment flexibility. This solution will also be able to take advantage of third-party remote replication tools and support up to four remote hops. Further enhancements are slated for later phases.

From its Jareva acquisition, Veritas will soon offer software for server provisioning called *OpForce*. This product will automatically register “bare” servers in a standby pool. Upon request, OpForce will download a build image to one or more standby servers, configure it, and dynamically allocate it to the appropriate pool of production servers. **In this way, it simplifies management by dynamically provisioning computer resources.** Later this year, *Traffic Director*, an IP load balancer

⁵ See *Cisco's Big Jump Into Storage Networking – The MDS 9000 Family Of Switches* in **The Clipper Group Navigator** dated January 28, 2003, at www.clipper.com/research/TCG2003002.pdf.

⁶ See *Brocade Buys Rhapsody – Storage Intelligence Is Moving Into The Network* in **The Clipper Group Captain's Log** dated November 21, 2002, at www.clipper.com/research/TCG2002047.pdf.

⁷ For more details, see *Intelligent Storage Networks – Creating A More Cost-Effective Storage Infrastructure* in **The Clipper Group Explorer** dated February 22, 2002, at www.clipper.com/research/TCG2002006.pdf.

for horizontally-scaled Web servers, will integrate with OpForce to automatically trigger provisioning when user-defined throughput thresholds are reached.

Application Performance

Veritas is also expanding into application performance management by acquiring Precise. The Precise *i*³ solution monitors performance from the perspective of service levels to the end user. If there is a problem, it can automatically locate where in the data path the bottleneck is and provide advice for how to fix it.

Furthermore, Veritas will integrate its various software solutions under a common interface called *Service Manager* that defines, delivers, reports, and accounts for IT resources as services, in a utility-like manner. This product, which is already in beta for storage services, will coordinate the various Veritas software solutions (and eventually third-party) to meet user-defined service levels. **Service Manager will be the capstone solution that delivers utility computing at the highest level – where IT interfaces with business processes.**

In short, Veritas is expanding its functionality across the board and, perhaps more importantly, integrating its products to deliver on utility computing. Since this is a holistic, end-to-end concept, the “ultimate” solution should reflect that. **Integration is what ties everything together and makes 1 + 1 = 3.** As Veritas executes on its roadmap, it would not be surprising to see it expand its portfolio even further in adjoining areas, at a later time. Meanwhile, it is hitting on several hot trends, including intelligent storage networking, lifecycle data management, disk-based backup, dynamic resource provisioning, end-to-end storage management, and policy-based automation.

While Veritas is not alone in targeting utility computing, it is unique in that it has no hardware ambitions or vested interests. **It is a pure-play software vendor, so its stated heterogeneous approach has an added degree of credibility.** While others also espouse heterogeneity, there is a per-

ceived conflict of interest when vendors like IBM, Sun, and HP offer open management software, on one hand, and their own server and storage lines, on the other.

Conclusion

At the end of the day, the utility computing is about delivering the right service levels to the right constituents in the most economical manner. Veritas has set forth a blueprint for how it wants to achieve it. **The proof will be in the pudding, of course, but it appears Veritas has the vision and resources to get there.**

The subtext here is that Veritas wants to be a serious, major software vendor in the long run, not just being satisfied with its established markets in backup, clustering, etc. It sees utility computing as both the end and the means. As storage and server hardware becomes less differentiated with time, value will increasingly shift to the software “glue” that ties together and enhances the infrastructure, enabling it to act as a dynamic, unified entity.

Knowing that technology is evolving fairly quickly toward utility computing, it is important for enterprises to see the big picture. A vendor decision is more than an isolated event to satisfy an immediate need. It is also the foundation on which you will dynamically build your future computing utility (yes, you *will* get there someday). **Decisions made today about products, architecture, and vendors will help or hinder this transition.**

So Veritas’ utility ambitions should offer a measure of assurance. It’s moving in a good direction and is positioned to help bring your data center into the future, as it unfolds. **The Veritas renaissance may just be beginning.**



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