CloudByte™

CLOUDBYTE ENABLES CLOUD SERVICE PROVIDER TO OUT-INNOVATE RIVALS

BENEFITS

Agility to out-innovate competitors by creating storage services tailored to current market conditions—a competitive differentiator

Providing real-time performance data and tuning on the fly increases customer satisfaction and justifies increased storage expenditures

Lower CapEx and OpEx both increases margin and enables cost parity with even larger competitors

CHALLENGE

Netmagic Solutions' existing services provided both shared and dedicated storage to customers. As the services were based on legacy storage, they were not able to address the following challenges:

- **High complexity:** To meet the needs of a wide range of customers, Netmagic had to implement and operate multiple storage platforms tied to multiple hosting platforms. The environment was overall highly complex and difficult to maintain.

- **Reduced economy of scale:** Due to the need for so many discrete storage configurations, Netmagic could not fully take advantage of any economies of scale. Different layers—from server to network to storage—plus different storage vendors, protocols, and capabilities made the entire storage environment difficult and expensive to manage.

- **Performance SLAs:** Outside of their premium dedicated storage offering, Netmagic was finding it difficult to guarantee storage performance. Yet customers were increasingly expecting consistent performance for storage operations.

- **End-to-end security:** Shared storage introduced potential security issues that could not be addressed at the server or networking levels.

NETMAGIC BUILDS GAME-CHANGING STORAGE OFFERINGS

Replacing multiple storage silos with a unified storage environment, Netmagic built a game-changing storage offering—Netmagic Tiered Secure Storage (NTSS)—based on CloudByte. NTSS is India's first Storage as a Service that provides predictable and metered storage performance. NTSS enables customers' mission-critical applications to be surely and safely moved to a cloud environment. The service is not only available to public cloud customers but also to customers with single-tenant environments such as dedicated servers or private clouds.

NTSS provides enterprise-grade storage performance at 1/50th the cost of dedicated storage.

netmagic™
When IT is mission critical

an NTT Communications Company

Netmagic (www.netmagicsolutions.com), a subsidiary of NTT, is a leading managed service provider with worldwide operations delivered from datacenters in India.

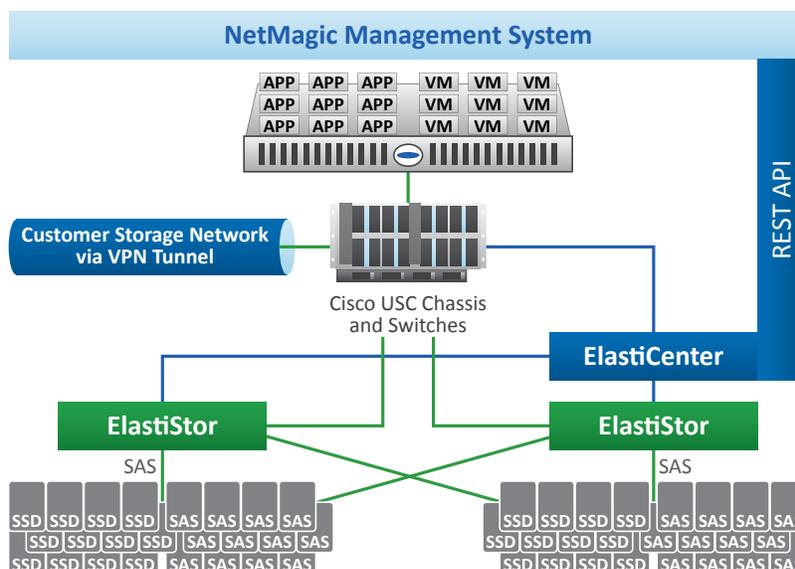Netmagic is now at the cutting edge of innovation across multiple perspectives:

- **Storage as a Service (SaaS):** There are only a handful of service providers globally that provide storage services with performance controls. By providing the capability to change performance levels on the fly, Netmagic leap-frogged the pack with NTSS.

- **Mission-critical applications:** By providing enterprise-grade storage with Quality of Service (QoS) performance guarantees, customers' mission-critical applications can—for the first time—be run in a cloud environment with NTSS.

- **Unlimited elasticity and scalability:** Customers have the flexibility to start with disk-drive level of performance at 50 IOPS and conveniently and non-disruptively scale up to an all-flash level of 6,000 IOPS.

- **Pay per usage:** With NTSS' granular performance and capacity controls, Netmagic can now easily provide pay-per-usage models in response to customer demand.

- **End-to-end security:** By leveraging network security techniques along with storage isolation by application as well as by customer, NTSS provides true end-to-end security.

Netmagic also has broadened its customer base by adding functionality required by different segments:

- **Entry customers and applications:** Customers that require committed levels of performance for applications, even for modest quantities of data, can work with NTSS with confidence that they can scale easily and non-disruptively.

- **Enterprise customers:** Enterprise customers that historically only had the option of dedicated hosting due to their volume of data now gain unparalleled flexibility. They are able to specify the exact performance in IOPS needed for each application or virtual machine yet still only pay for what they use. The net cost is around 1/50th the cost of dedicated storage.

SOLUTION ARCHITECTURE

Running on commodity hardware, CloudByte storage software products are the foundation for the Netmagic Tiered Secure Storage (NTSS) services. CloudByte's ElastiCenter™ storage management software is seamlessly integrated into Netmagic's environment via the REST API. Storage hardware is industry-standard interconnected via SAS into CloudByte ElastiStor™ storage nodes. Customer network and data traffic is secured via VPN tunnels managed by Cisco UCS networking boxes. The solution is depicted in the diagram below.

CloudByte enables us to out-compete anyone with the power and flexibility of our storage services as well as our price performance.

— Shriranga Mulay
Senior Vice President
IT Engineering
Netmagic

Netmagic's flexible, secure storage cloud

With CloudByte, we're now at the cutting-edge of innovation from a Storage-as-a-Service standpoint.

— Karan Kirpalani
Associate Vice President
Products and Services
Netmagic

New, innovative storage features that Netmagic can now offer its customers include:

- **Dynamic storage performance:** CloudByte enables storage performance to be precisely defined for each application or VM.

- **Performance tuning on-the-fly:** The performance requirements for each CloudByte Tenant Storage Machine (TSM) can be instantly changed to a new guaranteed level and the impact immediately viewed and understood.

- **End-to-end security:** Customer storage networks (such as iSCSI and NFS) can be encapsulated in a VSAN, creating a secured storage tunnel. Further, each customer's data is isolated from other customers via the CloudByte Tenant Storage Machine (TSM) architecture.

- **High-availability flexibility:** By making high availability an option based on Tenant Storage Machine, customers can now select the right level of protection by data type rather than overprotecting (and overpaying) for storage.

- **Multiprotocol support:** CIFS, NFS, and iSCSI are supported on a single physical infrastructure, therefore maximizing customer flexibility and minimizing cost.

- **Dedicated storage option:** The solution optionally enables storage to be dedicated to a customer for both increased flexibility and security.

PUTTING IT ALL TOGETHER

CloudByte storage software products enables innovation in functionality, in customer satisfaction, and in competitive advantage. Highlights:

- Netmagic can now provide storage performance based on the customer's specification and each application's usage patterns. This enables Netmagic to take advantage of changing industry trends and market conditions—a powerful competitive differentiator.

- The ability to instantly assess real-time performance data and tune storage performance on the fly increases customer responsiveness and justifies storage expenditures based on the resulting immediate performance gains.

- Netmagic's unified storage architecture removes complexity in terms of protocols, replication technologies, and hardware platforms. Being based on commodity hardware, Netmagic can leverage the latest hardware's functionality and cost advantages months to years before competitors who rely on legacy hardware can respond. As a result, this architecture reduces CapEx and OpEx costs to ensure overall parity with industry leaders.

ABOUT CLOUDBYTE

Targeted to the needs of service providers—public and private—CloudByte's patent-pending storage software products uniquely deliver dynamically selectable performance for each and every application or tenant. By providing unified block, file, and direct-attached storage, CloudByte eliminates inefficient and costly storage silos. CloudByte provides scale-out growth from a single site to distributed cloud environments without disruption.

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