Game-Changing Technologies for a New Paradigm

EMC® Isilon® Focused Approach to Big Data and Advanced Analytics

The combined aftermath of 9/11, the war in Afghanistan and a greater use of Web 2.0 technology across the world have created ever-increasing stores of intelligence, surveillance and reconnaissance (ISR) data—much of it unstructured. No longer can the ISR community perform their mission with slower, capacity-constrained storage and outdated analytic techniques.

Today, the ISR community needs efficient, secure and scalable storage, plus methods for fast, real-time analysis of petabytes of data. Only by incorporating cutting-edge technologies can they get the information they need—on demand and up to date—to successfully protect and defend the United States.

“Historically, we have been platform and sensor-centric, giving only lip-service to the crucial processing and analytic activities which transform information into intelligence,” said M.G. (R.) John M. Custer, Director of Federal Strategic Missions and Programs at EMC. “Developing technologies to sift and analyze mind-numbing amounts of data while interacting with analysts in real time has got to be our priority.”

Unstructured data—everything from video, audio, emails and tweets to digital images and chat transcripts—is growing at an unprecedented rate. Managing, accessing and finding the most important information requires new approaches.

Efficient, Secure, Scalable

The Isilon® Scale-out Storage Platform, powered by EMC Isilon OneFS® platform, is a powerful, yet simple way to manage data and applications, enabling enterprises to expect much more from their storage.

• **Agility and Flexibility:** Every Isilon solution can seamlessly scale on-the-fly enabling you to add hundreds of terabytes of storage or expand performance in minutes.

• **Simple to Manage:** Our modular architecture and intelligent software make deployment and management simple. Once racked, you can have an Isilon cluster online in less than 10 minutes. And every Isilon™ cluster is a single pool of storage with a global namespace, eliminating the need to support multiple volumes and file systems.

• **Value:** Isilon’s high utilization rates—over 80 percent—means you purchase fewer disks for the same amount of usable storage. And Isilon’s pay-as-you-grow modular approach allows you to purchase only what your organization needs today, with the ability to easily expand tomorrow.

The EMC family of technologies—Isilon, Greenplum™, RSA NetWitness™ and VMWare®—offer tools optimized for the specific needs of the ISR community. Together, they provide a new framework of storage, security and real-time analytics necessary to store, access and analyze large amounts of unstructured data in real time.

EMC Cutting-Edge Technology

Isilon Scale-Out Storage Platform is uniquely suited to storing and managing petabytes of both unstructured and structured data in a fast, organized way. Its OneFS operating system combines three layers (RAID, volume management and filesystem) of traditional storage architectures into one unified software layer, creating a single file system that can scale capacity and performance to infinity. The platform is engineered to handle intensive workflows and storage requirements of the diverse ISR community.

Applied to the ISR Community

The U.S. Navy was in need of a scalable, elastic infrastructure for ingesting, analyzing, and disseminating critical mission information. Isilon was quick to place an evaluation system into the command center, managing every phase of the evaluation, support and training. As a result, the Navy selected EMC Isilon as the de facto standard data container.
**EMC Cutting-Edge Technology**

Greenplum, the Big Data division of EMC, provides analysts with the ability to fuse multiple information types into actionable intelligence, uncovering trends and discovering significant rare events. With Greenplum's Massively Parallel database and Enterprise Hadoop, analysts can rapidly ingest, integrate and analyze vast and growing amounts of structured and unstructured data in real time.

<table>
<thead>
<tr>
<th>Industry leading ingest rates starting at over 10 terabytes per hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unified analytics platform for structured and unstructured data</td>
</tr>
<tr>
<td>Performs complex analytics in minutes/seconds instead of days/hours</td>
</tr>
<tr>
<td>Cost effective, Massively Parallel, Big Data processing on commodity hardware</td>
</tr>
</tbody>
</table>

**RSA's suite** of security solutions is aimed at helping our customers solve the trust equation across all enterprise computing domains including the cloud. RSA, The Security Division of EMC, believes that in order to trust, an organization must have both visibility as well as control throughout its enterprise. One such enabling solution is RSA NetWitness which can continuously monitor all network communications across all application protocols and provide network forensics to visually inspect all content and behavior on the network.

Advanced Persistent Threats (APT) are targeted, sophisticated attacks to obtain specific information or control over critical assets. APTs often combine multiple attack methodologies and tools to research, penetrate, and compromise their target. Many organizations have found RSA NetWitness invaluable in protecting themselves against such threats:

“NetWitness provides us with the ability to find and report ‘Indications and Warnings’ of advanced threats which were previously unavailable to us.”
- CSIRT Director, Global Airline

**VMware:** Timely distribution of information can mean the difference between success and failure, but nowhere are the consequences more critical than on the battlefield. Constellations of sensor networks generate mountains of data and whereas data written to disk can become stale almost immediately, VMware® vFabric™ GemFire processes data at incredibly high speed, in-memory, and provides real-time updates within a fraction of a millisecond, all within a virtualized architecture. GemFire’s event-driven architecture monitors battlefield changes and anomalies disseminating truly real-time ISR, logistics and supply chain information to warfighters and Coalition partners. GemFire can then generate alerts in real-time, responding to these events while providing a single continuous view of constantly changing data and enabling superior decision-making through real-time situational awareness.

| On demand elastic scalability and reduced costs — Leverage virtual infrastructure, public and private cloud architectures, and commoditized x86 hardware to scale dynamically and in precise increments. Add more computing capacity as needed, gaining in organizational agility while minimizing RDBMS instances and related license fees. |
| Event-driven, real-time updates — Deliver data to modern applications, anytime and anywhere, with unparalleled speed. |
| Single, consistent view of enterprise-wide data — Provide real-time, synchronized updates across all repositories as soon as changes to data elements occur. Deploy locally or as a global data backbone. |

Produced by: Government Business Council Industry Insights