EMC Corporate IT

EMC Isilon steps up to meet heavy analytics demands of new Hadoop-as-a-Service offering

OVERVIEW

EMC® is a global leader in enabling businesses and service providers to transform their operations and deliver IT as a service. With innovative storage, data protection, and information management solutions and professional services, the $23.2 billion company accelerates the journey to cloud computing, helping customers store, manage, protect, and analyze information in a more agile, trusted, and cost-efficient way.

BUSINESS CHALLENGES

The EMC Global Services organization tracks vast amounts of product and customer information related to installed EMC systems. Wanting to gain increased insight from raw data to address technical issues more proactively, Global Services turned to EMC IT to build a high-performance analytics solution that would capture and process data transmitted from tens of thousands of customer sites.

With EMC expanding into new markets and releasing new products, the company's Big Data assets are growing at 40 percent annually. It was critical to choose a storage platform that would deliver virtually unlimited scalability and high performance to support intensifying analytics demands.

After considering various storage solutions, EMC IT selected EMC Isilon® scale-out storage as the foundation for a new Hadoop-as-a-Service (HDaaS) offering.

SOLUTIONS

An outgrowth of EMC IT's Business Analytics-as-a-Service (BAaaS), the HDaaS offering is deployed on a Pivotal Data Computing Appliance (DCA) with EMC Pivotal HD distribution, and is underpinned by EMC Isilon X-Series storage. EMC IT is offering the service to EMC Global Services with plans to make it available to other EMC business units.

EMC IT deployed nine Isilon X-Series nodes for production, which were replicated to another nine Isilon X-Series nodes at a secondary data center 600 miles away. With 270 terabytes of raw storage capacity, the Isilon infrastructure handles 350,000 new files daily from EMC equipment "phoning home" with information.

Isilon stores a broad range of structured and unstructured data for Global Services, including EMC Security Alerts (ESAs), EMC Technical Alerts (ETAs), product specifications, performance metrics, service requests, and support contracts.

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In addition, EMC IT relies on Isilon software, including EMC Isilon SyncIQ® data replication, EMC Isilon InsightIQ® performance monitoring and reporting, EMC Isilon SnapshotIQ™ point-in-time data protection, EMC Isilon SmartQuotas™ data management, and EMC Isilon SmartConnect™ load balancing.

Because of the mission-critical nature of this BAaaS solution, EMC IT uses a combination of Snaps and Replication features of SnapshotIQ and SyncIQ to protect the data and ensure that their systems meet the service levels.

EMC IT has developed a subscription-based cost model for HDaaS that will incorporate quarterly chargebacks based on storage consumption.

CUSTOMERS GET A BETTER EXPERIENCE

With HDaaS, Global Services creates predictive analytics models based on configuration information, diagnostics, performance figures, and other data generated by EMC systems at customer sites worldwide. The analytics models help Global Services spot trends, such as component and drive failure rates from supplier parts on a certain combination of events and system models and software.

With this insight, the services team can identify other customers with the same configurations and proactively address issues.

EMC IT also provides HDaaS subscribers with Tableau dashboards that display heat maps of global customer sites, system configuration details, and storage consumption. Users can explore the dashboards to quickly identify customers with outdated system software or excessive phone-home calls.

By tracking this information, along with operating data such as performance and capacity utilization, EMC Global Services plans to create "health scores" for customers. This will help EMC more easily prioritize customer sites requiring proactive attention.

"EMC Isilon has shown that it's the right system for Big Data by providing long-term investment protection as we build out new analytics capabilities."

Srinivasa Maguluri
Lead Architect, Cloud Platforms, EMC IT

Chuck Koch, EMC IT senior manager, Big Data adoption development, says, "by continually monitoring systems and being more proactive about updates, we can help customers improve their system health scores. That means their environment is more reliable and effective, which creates a better total customer experience."

SMART SYSTEM MANAGEMENT SAVES TIME

Isilon ensures that HDaaS is supported by strong performance and massive scalability, which is critical as EMC's global customer base continues to grow and analytics become more sophisticated.

In addition, the IT team is pleased with the simplicity of managing Isilon.

Srinivasa Maguluri, lead architect, EMC storage platforms, notes, "Isilon lets you manage all the resources under a single namespace and provides multiprotocol support, which saves us a lot of time. OneFS® takes care of distributing data, and SmartConnect intelligently balances incoming traffic across all nodes. We don't have to constantly tweak the system or worry about exceeding the capacity of a single node."

Because Isilon is natively integrated with the Hadoop Distributed File System (HDFS), there's no need for a separate Hadoop infrastructure. Only one copy of the data is required instead of the three copies in traditional Hadoop configurations. That further simplifies administration, saving time, space, and money.

Isilon software also makes it easy for EMC IT to keep an eye on how the storage system is operating.

"InsightIQ gives us great visibility into storage consumption by array," reports Koch. "We're able to drill down and understand overall performance of the environment, which from a development team perspective is huge."

PLATFORM FOR THE FUTURE—TODAY

While HDaaS is primarily used by Global Services, EMC IT is already exploring additional use cases. For example, select information from HDaaS is now fed into a customer-facing portal where customers can track data like capacity utilization and service requests logged for individual systems.

EMC IT also is piloting HDaaS with EMC service account managers to provide them with detailed intelligence about a customer's system health and service records while onsite. This not only improves customer service but may also open up cross-selling opportunities to swap high-maintenance systems for newer models.

As EMC IT continues to enhance its HDaaS capabilities, particularly with Pivotal solutions, Isilon provides a solid environment for the future.

Maguluri remarks, "Pivotal has qualified Isilon so we know that future Pivotal solutions we choose will run without a problem. Isilon has shown that it's the right system for Big Data by providing long-term investment protection as we build out new analytics capabilities."

CONTACT US

To learn more about how EMC products, services, and solutions can help solve your business and IT challenges, contact your local representative or authorized reseller— or visit us at www.EMC.com/Isilon.

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