

Isilon IQ - Here They Come

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Abstract: ESG is aware of major innovations in storage networking happening on many different levels. Isilon IQ is one of the most compelling next generation network attached storage (NAS) systems in the market today. Isilon has done more than just invent some cool technology, put it on a server, add disks drives and called it a product - they have a well thought out clustered storage solution that has been crafted for digital content and reference data that ESG considers the easiest storage system that we have ever worked with. And the easier a system is to use, the lower the total cost of ownership.

Isilon IQ

ESG considers Isilon IQ a new class of clustered network attached storage (NAS) systems that combines excellent scalability, performance, reliability, and unprecedented ease of use. Isilon figured out that delivering a product to customers is not a science project but a major endeavor that requires strategic planning of the entire solution and not just some cool technology advantages. Isilon took the time and energy to consider what markets they were going after and what the entire experience of using Isilon IQ should be like.

Ease of use is extremely important for any company in order to keep administration costs down. Isilon is focused on data-intensive markets and applications that store digital content and reference data. Both of these data types drive the growth of storage so rapidly –into the tens, hundreds of terabytes and even into petabytes of stored data -- that ease of use is mandatory. Isilon developed Isilon IQ so that customers with little or no technical staff could install and support it with the minimum amount of human resource.

Storage networking should be easy and ESG is hard pressed to find any other product that is easier than Isilon IQ. At the heart of Isilon IQ is OneFS -- a single, grow-able distributed file system that creates a virtual pool of storage that allows users to access any file through a single drive letter. And adding capacity is practically effortless. How easy is it to add capacity to an Isilon IQ cluster? ESG performed this task ourselves and the following was our experience of the process:

- We added an Isilon IQ node to the network,
- The management console automatically discovered the node and asked us if we wanted to add it to the Isilon IQ cluster,
- Once we said yes, data was redistributed automatically throughout the Isilon IQ cluster while the system was online and completely transparent to the users.

Adding capacity (which also adds more host ports, processors and cache memory) by installing a new node into the Isilon IQ cluster takes less time than setting up a DVD player (which by the way I couldn't do myself and enlisted the help of my sister-in-law who bought the same DVD player).

What about troubleshooting application performance? This is not an issue with Isilon IQ because it aggregates all of its resources including host ports, processors, cache memory and disk drives across the entire cluster. This creates near linear scalable performance. Customers do not have to do deep, complex performance analysis (like you have to do with your "last generation" storage).

Isilon IQ has also been designed to deal with hardware failures. Like most storage networking solutions it supports RAID. It also supports a feature Isilon calls FlexProtect. If a single node goes down, Isilon IQ will recover with no data loss. At worst, the system may slow down a bit depending on the application and the number of users that are using it.

Isilon IQ can also survive a dual-node failure, which statistically is a very unlikely event, with its built-in mirroring capability. Isilon IQ will create multiple copies of the data on other nodes supporting from two to eight mirrored copies, and with FlexProtect, you can select the specific directories, subdirectories, or files that you want mirrored. Additionally, Isilon IQ has an optional SyncIQ replication software package that provides policy-driven, file level, fast replication over IP WAN and LAN networks.

The most recent addition to the Isilon IQ reliability family is FlexProtect-AP—a set of advanced data protection technologies geared for very large clusters and single file systems. A relatively common failure in a storage system is disk drives crashing. That is why RAID is so important because it prevents the loss of data if a drive fails in a RAID group. The set of drives in a RAID group will continue to read and write data but with degraded performance until the bad drive is replaced. Once a new drive is integrated into the RAID group a rebuild process begins. The RAID rebuild process can take from hours to over a day in many storage systems. The Isilon FlexProtect-AP performs a RAID rebuild of a 250 GB ATA drive in as little as an hour, which is faster than Fibre Channel drives and can be up to 24 times faster than other systems offering dense SATA drives.

Why is this a big deal? Isilon understands that its customers are using Isilon IQ to store digital content and reference data, which have extremely high storage growth rates and therefore requires lots of disk drives. And with any storage system, as you add more drives, you statistically increase the chance of drive failure. FlexProtect-AP's fast rebuild times equate to greater data protection and higher availability. Isilon smartly keeps adding innovative functionality that is well-suited for its market and the needs of its customers

Business IQ

Having a great product that has unique value is half the battle. ESG is also impressed with the success that Isilon is experiencing with a growing number of customer implementations. Among Isilon's customers are ABC, LexisNexis, Sports Illustrated, Corbis, NBC Sports, and Paramount. Isilon is not only selling one or two products into these companies but getting strategic deals that are important to revenue generating applications for these customers. It was interesting watching the 2004 Summer Olympics this year knowing that the replays of different events were stored on Isilon IQ clusters.

Isilon's SmartPartner program is the next step in its growth phase adding more than 20 resellers, distributors, and integrators that sell into North America and Asia. ESG is confident that Isilon will be successful with this new program because it offers its resellers a product that provides compelling competitive advantages in a clearly defined market. And Isilon has become very good at selling its products winning strategic deals against large storage vendors.

The Bottom Line

Isilon has taken cool technology and crafted a unique and well thought out product that is easy to use from every angle - management, adding capacity, performance, scalability, and reliability. Customers who "get it" understand that the total cost of ownership for Isilon IQ is extremely compelling because it is so easy to manage. Reducing cost and complexity is what it is all about - and if you reduce complexity then you reduce cost. ESG will put a stake in the ground - Isilon IQ is the easiest storage system we have ever worked with. And Isilon keeps adding functionality that is useful and fits the needs of their markets resulting in an excellent solution for reference data and digital content. More importantly, ESG has spoken to several Isilon customers that are using Isilon IQ and they are telling us the same thing. It is also important that Isilon has savvy people running its business that are going after markets that they have clear competitive advantages over other vendors. Isilon is winning, securing its beachheads, going after the next one, then the next one, and so on. Hey EMC, do you remember what NetApp did to you in the NAS space? Hey NetApp, remember what you did to EMC in the NAS space? Guys, here comes Isilon.

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