



The Intelligent Technology Advantage



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IDIXOpen™ Customer Satisfaction Research

Technology professionals are under constant pressure to trim costs. To do this they need objective product comparisons and realistic cost of ownership information for the various products they are considering. Unfortunately, most cost of ownership studies are far from objective, instead reflecting idealized conditions and construed by obvious vendor bias. The bottom line is that technology customers typically take unnecessary risks when making purchases.

Reports from technology analysts have limited value. The analyst business model depends on retaining a broad mix of competing vendors. Their analysis methods are designed to satisfy all their subscribers without alienating any of them. The goal is to attract and keep vendors, with secondary consideration given to technology consumer needs. How else can you explain the status quo where analysts lack hands-on experience working with the products they are supposedly experts on? Customers understand the absurdity of the situation, but rely on analyst reports anyway because there is nothing better available.

IDIX, Inc conducts primary customer satisfaction research that validates the experiences of corporate IT consumers and publishes the results on the company's web site, www.idix.com. The company's IDIXOpen™ research service is a consumer-facing product information source that reduces the risk inherent in technology acquisitions. In other words, IDIXOpen is much more than a simple product rating system it is a decision support tool for IT professionals.

IDIXOpen research projects use a combination of surveys and interviews to gather opinions, impressions and anecdotal information from IT professionals regarding specific products or similar groups of products. Surveys are formulated by knowledgeable experts and are tested with a small sample and reviewed prior to expanding the research. IDIXOpen survey samples are closely controlled to ensure the quality of the data. Responses are restricted to professional technology administrators with relevant experience.

Subject screening is accomplished through interviews conducted by subject matter experts who speak with IT professionals about their technology applications. In addition to validating that the survey taker has appropriate skills to answer survey questions, interviews tend to generate contextual information that would otherwise be missed by the impersonal, clinical nature of surveys. For this research project interviews were conducted by storage author Marc Farley, former ESG analyst Steve Kenniston and storage marketing specialist Steve Bosak.

Survey takers are guaranteed anonymity and are encouraged to speak candidly and openly in order to make the research results most useful to other IT professionals. IDIX does not compromise the privacy of survey takers by giving their names, employer names or other unique identifying information to vendors or any other parties.



Vendor Description on www.EqualLogic.com

EqualLogic describes its PS Series Storage Subsystems on their web site as “a family of intelligent, iSCSI-based storage arrays.”

“The PS family consists of the PS50E, PS100E, PS100X, PS200E, PS300E, PS800E, PS1200E, PS1600E, and PS2400E. All configurations are completely interoperable and upgradeable with performance and capacity scaling from a single TB to over 100TB - without disruption of application or data availability.”

“Each PS array offers fully-redundant, hot-swappable components including controllers, fan trays, and power supplies. Support for RAID 10 and 50, hot drive sparing, automatic failover and rebuild, and patent-pending proactive media error detection means bottom line: 99.999% data availability or 5 minutes of planned downtime per year.”

“Starting with 300 MB/sec and 60,000 IOPS, and scaling to more than a million IOPS, the PS Series delivers unmatched performance in its class. Automated load balancing seamlessly moves data across all active RAID sets, maximizing performance by intelligently optimizing network connections, cache, and controllers in real time.”

“The PS Series comes standard with a comprehensive set of software features including virtual volume management and space-efficient snapshots for instant backup and restore, volume cloning for rapid server provisioning, and Auto-Replication, multi-path I/O support, and cluster support for comprehensive disaster recovery.”

“The PS50E can be unpacked, racked, and fully configured in less than 20 minutes. Its ease-of-use, performance and seamless scalability make it ideal for Web services, databases, file/print, and e-mail applications.”

“Equipped with (14) 10,000 RPM Western Digital Raptor® disk drives, the PS100X offers more than a TB of high performance storage in a fully-redundant, dual-controller system. The PS100X automatically optimizes array performance without special tuning required, making it a perfect storage system for the intense I/O workloads of enterprise transactional databases. “

“With best-in-class performance of more than 300 MB/sec and 60,000 IOPS, the PS100E, PS200E, and PS300E are full-featured, completely redundant storage arrays that are easy to set up, manage and scale. With capacities including 3.5TB, 5.6TB, and 7.0TB, these storage systems are proven, reliable storage solutions well suited for database, e-mail, file/print, and Web services applications”

“Designed for organizations that require capacity without compromising performance, the PS800E and PS1600E delivers 22.4 TB and 44.8 TB at up to 1,200 MB/sec and 240,000 IOPS. Additionally, the PS1200E and PS2400E deliver 28TB and 56TB at up to 1200 MB/sec and 240,000 IOPS. Like all PS Series arrays, these storage platforms can scale up to 100 TB offering a high-end storage platform for data warehousing, life sciences, large databases, streaming media, and geophysical applications in the mid-sized data center.”



Research at a Glance

- Goal:** Determine the level of customer satisfaction with PS Series storage.
- Timing:** Surveys were conducted during a three month period from mid June to mid-September, 2005.
- Numbers:** 105 customer interviews
- Screening:** Only IT administrators who work with EqualLogic products. People lacking product experience and EqualLogic employees/channel partners were excluded.
- Classification:** Mid-range storage subsystems
- Sub-topics:** Environment, installation, compatibility/interoperability, management, performance, scalability, support, maintenance, overall value.

General Impressions

EqualLogic customers are genuinely excited and pleased with their purchase decision to buy EqualLogic PS Series storage products. In personal interviews with 105 users of EqualLogic products, not a single person rated the product poorly, with over 95% of the respondents rating their PS storage products as excellent or very good.

The customers we interviewed were very happy to take the time to discuss their EqualLogic products with IDIX interviewers. They consistently elaborated on the ease of installation, the excellent stability, the value of no-charge software and the high level of customer service.

EqualLogic customers are also extremely satisfied with the performance of their products. This tends to go against the grain of what many have predicted about the performance of iSCSI-

storage and includes responses from people having experience with Fibre Channel SANs and those having no previous SAN experience (DAS environments). The largest percentage indicated an attach ratio of 5 to 10 servers per each PS series subsystem.

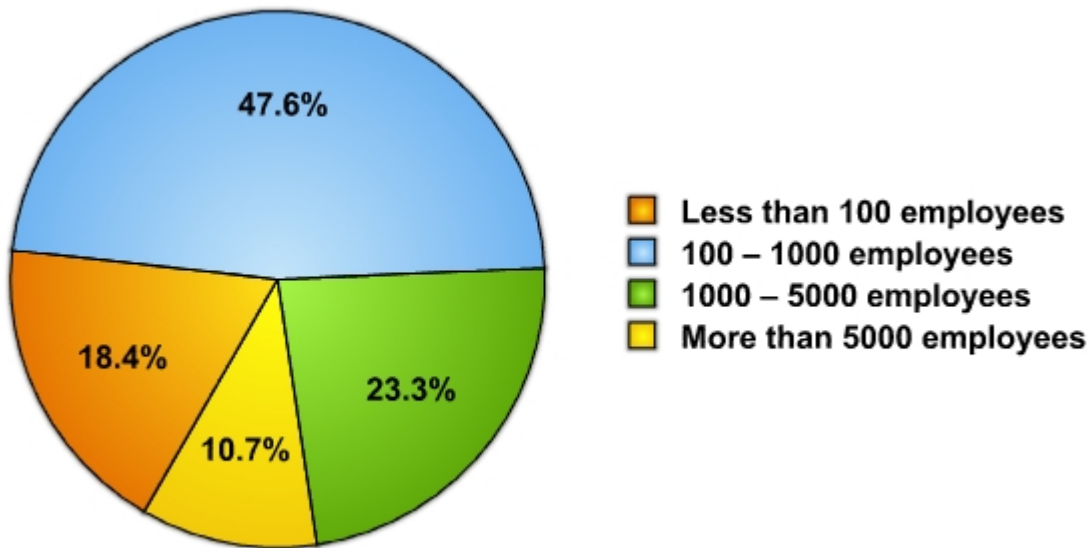
100% of people surveyed said they recommend the product to others. Several commented that their EqualLogic purchase was one of their best decisions, noting concerns about buying such an important product from a relatively unknown vendor. Respondents often cited the high level of competency and knowledge about iSCSI storage exhibited by EqualLogic employees as one of the deciding factors in their purchase decision. Another leading factor in their purchase decisions was the integrated (no charge) disaster recovery and data management software that comes with the product.



Research Results

Company Size

How many people are employed by your company?



Organizations of all sizes are using EqualLogic's PS series products successfully, with close to half of the respondents working in medium sized businesses. EqualLogic customers work across all industry segments with a slightly increased percentage in education.

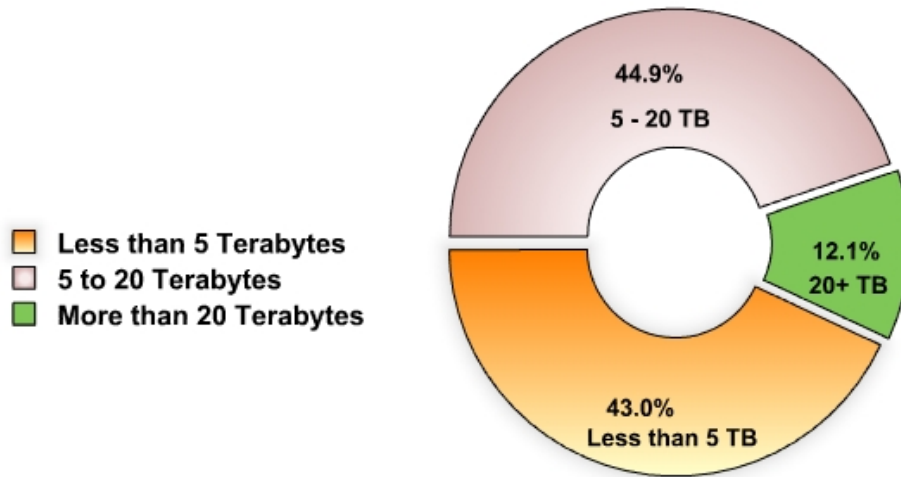
Almost all respondents are storing Windows server data on EqualLogic systems, with a corresponding high incidence of Exchange and SQL Server application data.

A third of the responses indicated they were using EqualLogic storage for Oracle data. A quarter of them are storing Linux data, approximately 15% are running Solaris and 10% have Netware data on their EqualLogic systems. The survey did not ask specifically about VMware, but there were several customers that mentioned in interviews that they were using EqualLogic storage for servers running VMware.

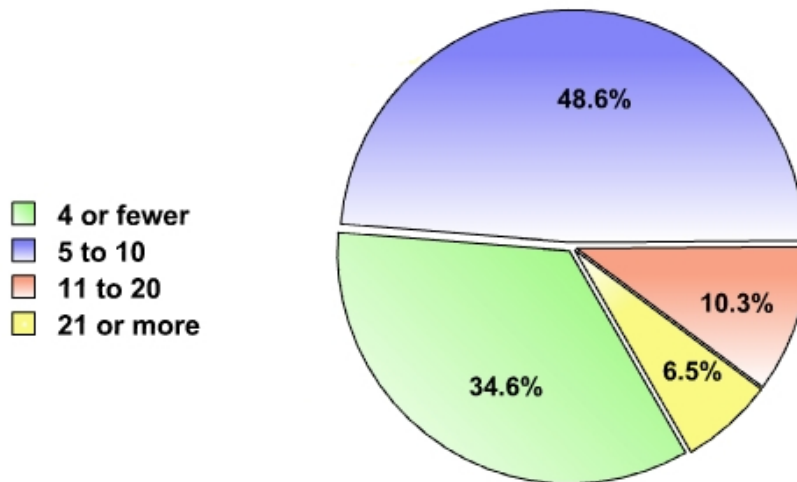


SAN Size:

How much storage do you manage?



What are the average number of servers connected to EqualLogic storage?



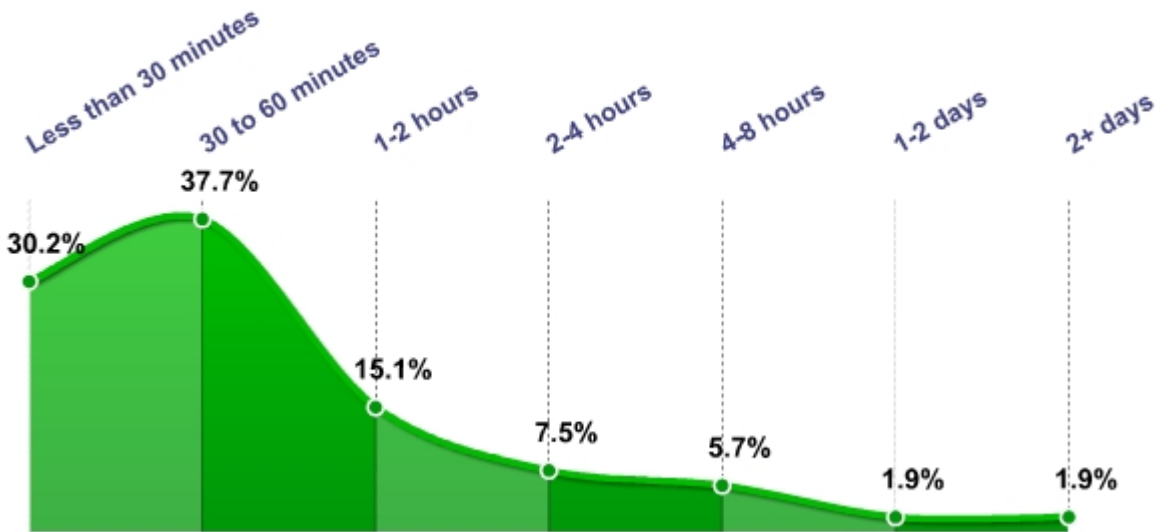
The responses to these questions indicate smaller SANs than one typically finds in Fibre Channel environments. For approximately 70%, this is the first SAN installation in the company.

Based on comments from interviews, we would expect these numbers to change over time as most customers expressed plans to expand their SANs and purchase additional EqualLogic products.



Installation

How long did it take to configure this product?



One of the most surprising results from this study was the experience most customers had with the installation of their EqualLogic products.

Almost 70% of the installations were self-installed – in other words installed by the people we interviewed. Of those, 50% did not need technical support during the process. The chart above indicates the total time to install was less than an hour for 68% of the respondents. Furthermore, 75% indicated that the configuration of servers and adapters for their EqualLogic SANs was extremely easy or very easy and another 20% said it was somewhat easy. These results are especially startling when compared to the experiences most businesses have with Fibre Channel SAN

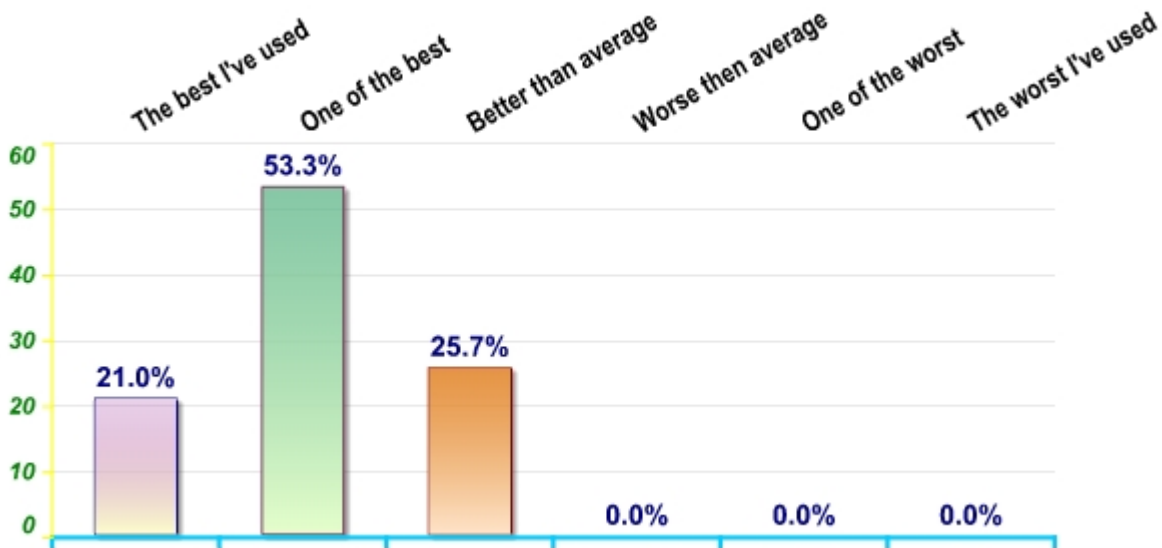
installations, which have often been characterized as relatively complex and difficult. The main reason cited for calling support during installation was help with network adapters and iSCSI driver issues.

The majority of interview comments made about installation were extremely positive. Some people even described their EqualLogic products as being the easiest storage product they have ever installed. This probably reflects the number of new SANs with somewhat smaller capacities than an average Fibre Channel SAN, but there is no denying that the installation experience for EqualLogic's iSCSI products appears to be much friendlier than most other SAN installation experiences.



Management Interface

How would you rate the administration GUI for this product?



All respondents gave positive ratings for EqualLogic's graphical user interface

The scripting capabilities of EqualLogic's products also rate very highly, although 30% of respondents opted out by answering "not applicable" to the question on scripting. This is consistent with the install base, which is

strongly situated in Windows environments where administrators tend to use GUI tools more than the product's command line interface (CLI). 4% of respondents indicated that the product's scripting capabilities were below average. All other responses were either "not applicable" or positive.

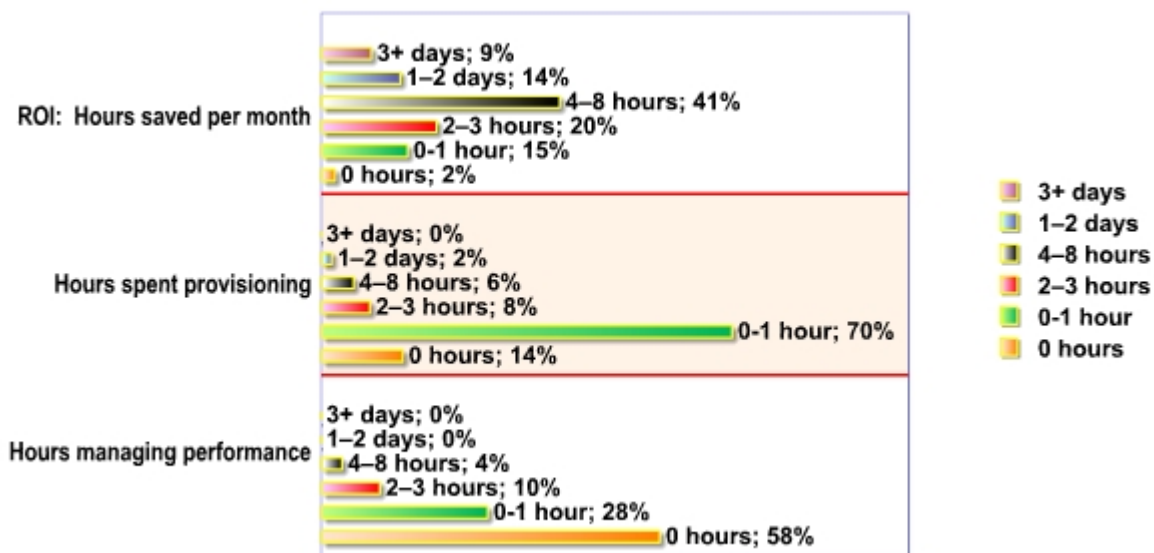


Administration Effort

How much administrator time is saved each month by using EqualLogic storage?

How much time do you spend provisioning EqualLogic storage each month?

How much time do you spend managing the performance of EqualLogic storage?



We asked customers about the amount of administrator time required to manage an EqualLogic system. 23% feel they save the equivalent of at least 1 day per month in administration time. 84% spend less than an hour provisioning storage and 86% spend less than an hour each month managing the system's performance. Again, these results speak very well for EqualLogic and probably indicate

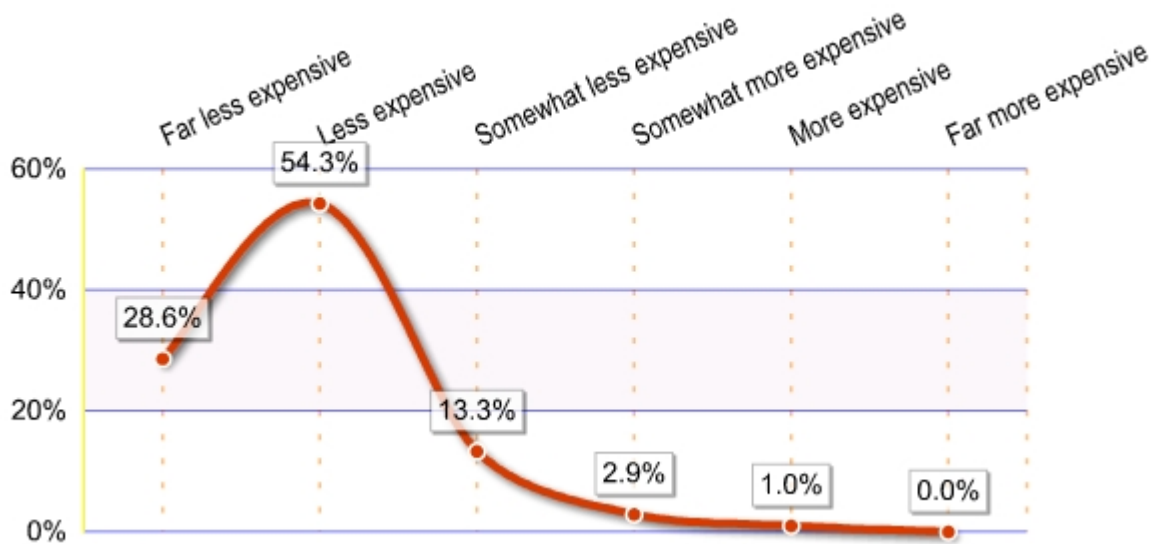
smaller and less complex SAN environments than a typical Fibre Channel SAN.

Interview comments from many survey takers emphasized how little effort was needed to keep their EqualLogic system running well. Some said they mostly left their systems alone after installation with minimal or no administration effort needed.



Cost of Ownership Comparison

Compared to other similar products, would you say the cost of ownership is less or more?



Considering the responses for installation and management effort one would expect a comparison of cost of ownership with other storage products to also be strongly positive, and they are. These numbers indicate not only Fibre Channel SAN equipment, but DAS storage products also.

One of the main contributions to the cost of ownership impressions among EqualLogic's customers is the no-charge integrated data management software that is part of the product package. 81% of EqualLogic's customers are using the product's snapshot facility and another 28% are using remote replication.

In interviews, many administrators discussed their strong satisfaction at being able to

establish meaningful business continuity and disaster recovery operations for their businesses. Some stated they had not been able to afford this type of DR facility with other storage products and software. Some stated that based on their initial experiences they planned on expanding the use of EqualLogic products in their businesses in order to achieve more complete disaster recovery capabilities involving other departments, divisions and locations.

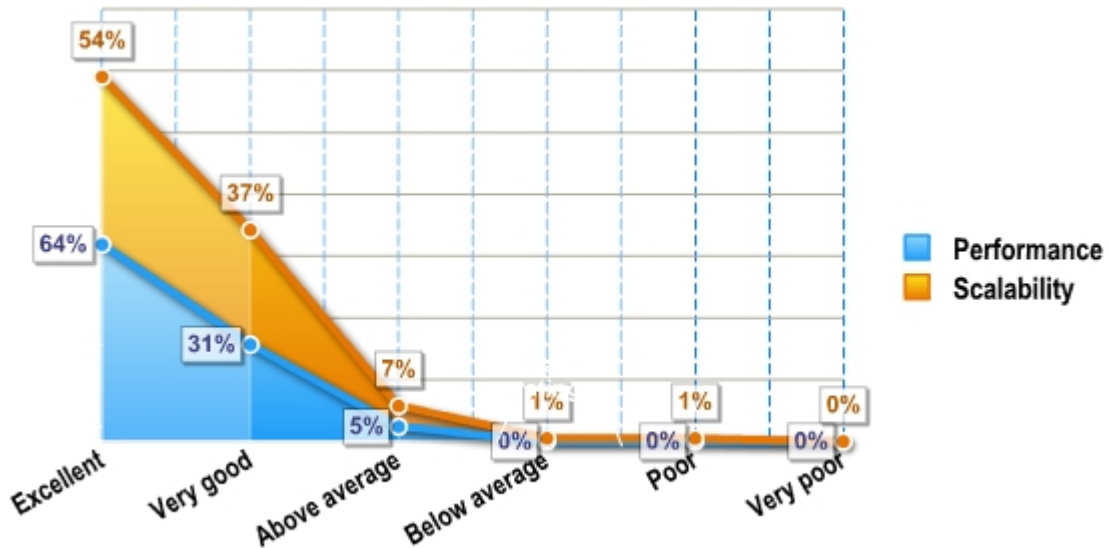
A few respondents commented that the amount of reserve storage capacity needed for snapshots and remote copy functions exceeded their expectations and that they needed to add additional storage capacity in order to run these applications as desired.



Performance and Scalability

How would you rate the overall performance of this product?

How would you rate the overall capacity and scalability of this product compared to other similar products?



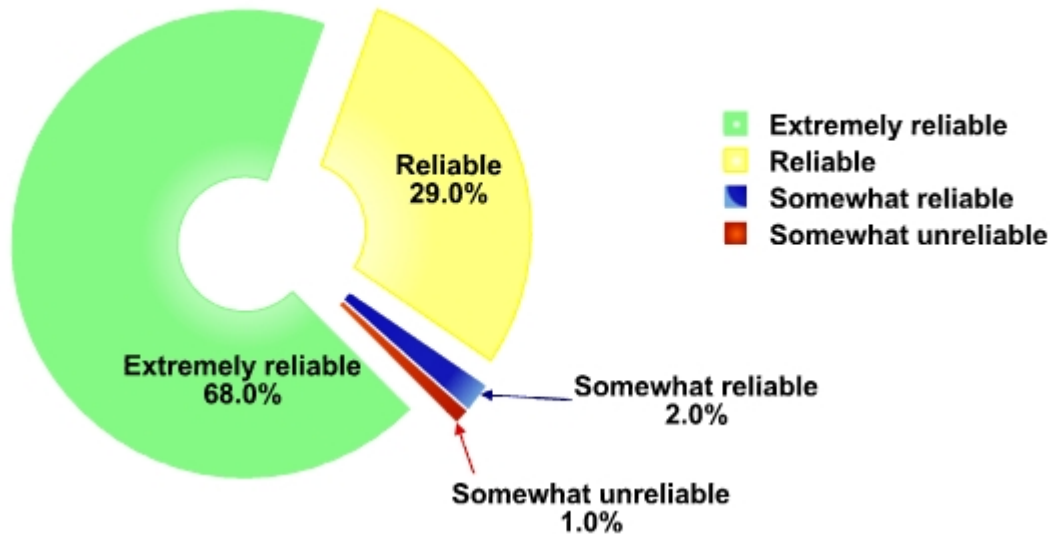
EqualLogic's customers rate the product very well for both performance and scalability. All performance responses were positive. There were two negative responses for scalability.

The strong ratings for performance and scalability were also echoed in many of the customer interviews.



Reliability

How would you rate the overall reliability of this product, compared to other similar products?



Survey respondents rate EqualLogic's products very highly for reliability. There was only one response out of 105 that assigned a negative score to reliability (scored as somewhat unreliable).

Customers that experienced component failures were protected by the redundant design of the system. Comments during interviews expressed satisfaction of how hot swappable components allowed their operations to continue without interruption following a component failure, its removal and replacement.

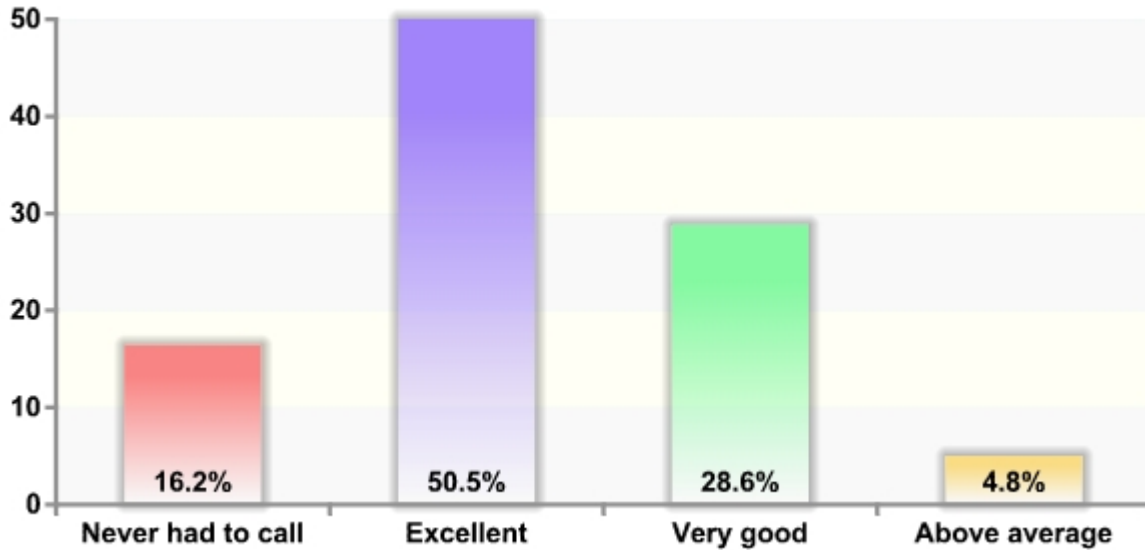
As a new storage product, the early reliability ratings indicate a high level of quality. 74.3% experienced no downtime, 10% had less than 1 hour and another 10% had less than 2 hours of downtime.

A handful of respondents had problems that resulted in slightly longer service outages. Four respondents experienced downtime between three and eight hours and two had a service outage between one and two days.



Customer Service

How would you rate the support personnel you've worked with?



The survey responses were all favorable and interviews revealed a very high opinion of EqualLogic's support personnel. Many indicated that the depth of knowledge about the product, storage topics and iSCSI has made a strong positive impression on them.

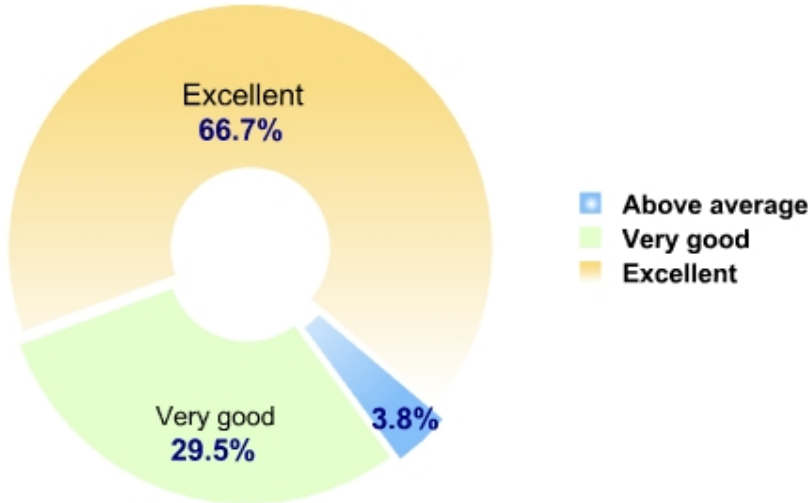
Interviews identified network adapter issues as the most common reason to call EqualLogic's

support department. Customers sometimes had to upgrade device drivers or purchase different adapters to get the performance they wanted. Other networking configuration issues were also identified by a small minority of customers. Interviewees stated that remedies were usually available quickly, although some issues required workarounds awaiting a more permanent engineering solution.

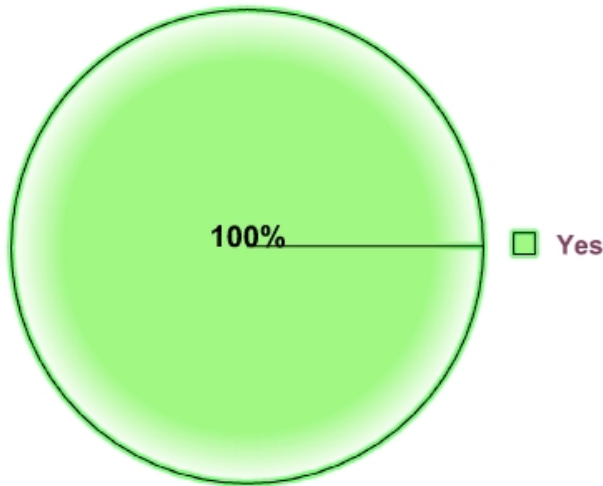


Overall Value and Recommendations

How do you rate the overall value of this product?



Would you recommend this product to others?



These responses summarize the customer experience operating EqualLogic's iSCSI PS Series products.

99% of respondents said they would do business with EqualLogic again.

100 % of responses rated the product positively with the large majority being strongly positive.

100% of EqualLogic customers recommend the product to others.



Interview Comments

IDIX interviews with EqualLogic customers indicated several significant trends that should be interesting to storage buyers. A high percentage of respondents felt very strongly in favor of their EqualLogic products indicating that their products were among the easiest to manage storage products in their experience.

Negative comments were relatively few and far between making it difficult to identify clear trends or problem areas. Server iSCSI adapter installation and iSCSI SAN network

management are both areas that could be improved upon, although it is not clear that either of these things are necessarily EqualLogic's responsibility.

Overall, EqualLogic's products make a strong statement for the utility and cost savings benefits that many have expected from iSCSI for many years. Their customers affirmed this many times over during the interviews we conducted with them. A representative selection quotes follows below.

One of the worlds largest international financial services organization with over \$35 billion in sales: *"This solution is very simple, very scalable and performs like a champ. Our engineering team loves it."*

A large, international financial services company with over 30,000 employees: *"We have both EMC and Network Appliance in our shop and we've chosen EqualLogic for our iSCSI product."*

An Internet marketing company storing their Oracle database data on EqualLogic products: *"The easiest box, by far, I've ever installed. We'll probably end up putting it everywhere"*

An internationally recognized developer of large scale water purification and filtration systems: *"Support is awesome. I've never had a bad call with them. They really know their stuff."*

A Video On Demand equipment manufacturer: *"We use it intensely for backup in conjunction with Veritas and it's been flawless."*

A county government center in the southeastern United States: *"We very much like the system and we've just ordered a second." "Management and setup are easy and the cost of the solution is the best."*

An international developer of Oracle data management software: *"Price performance can't be beat. We recommend it to all our business partners. This solution has solved most of our storage problems in an environment where performance is a must."*

A regional distributor of industrial equipment in the Western United States with offices in nine states: *"We bought 2 EMCs and 2 EqualLogics at the same time. We won't be buying any more EMC. The EqualLogic solution saves us a lot of time and money compared to EMC."*

An electric utility in the Northeastern United States: *"We were looking at EMC, but not thrilled with the price. With EqualLogic everything is included with the purchase price of the system. With EMC it was a line item for every little thing."*



A leading consulting firm with geological, physical and engineering services for the petroleum industry: *“We really love our EqualLogic system. It’s been performing beyond our expectations.”*

One of the oldest and most recognized liberal arts colleges in the United States: *“Absolutely flawless.”*

A 75 year old privately held manufacturing business in the midwest: *“I had it installed before the technician got here to install it and I’ve barely had to do much to it since.”*

A Christian organization operating and managing retirement communities across the United States: *“We host our own disaster recovery solution in a co-location facility and have a couple EqualLogic systems in both sites. Everything we connected has worked: Microsoft, Novell and several Linux distributions.”*

A global consulting and software development company with over 5000 customers worldwide: *“We use it for Windows 2003, SQL Server and Exchange”*
“We’ve had it almost two years and we love it - EqualLogic has a fantastic product”

A point of sale development and services company: *“We had a drive failure and the system failed over to a spare drive just like it was supposed to. The company delivered a replacement and everything just kept working without missing a beat. We were all but sold on Netapp and then EqualLogic came along. We were very leery because they were a startup, but they were considerably less expensive. We took a chance on them which is something we don’t often do, and we’re glad we did.”*

A global seed company with operations on five continents running Oracle: *“With other vendors, there are extra hidden costs that really add up. With EqualLogic all these costs are rolled into the purchase price. I recommend EqualLogic to everybody.”*

One of the largest disk drive vendors in the world with almost 4 Billion dollars in disk drive sales: *“I wish I had about 10 of these; I’d go for some kind of record – it’s so easy”*

A major US manufacturer of commercial and residential heating and air conditioning systems: *“Some of our systems got a whole lot faster than they were before. EqualLogic gives us control of our own storage resources.”*

A regional financial services organization with offices in 13 states: *“EqualLogic has the best product I’ve run across – and its cheaper too”*

A regional bank and mortgage company in the Southeast: *“I like that everything was bundled together – most other vendors make you pay for every thing. I put it in and basically forgot about it for several weeks. Later I had to change a few things and after that I’ve pretty much been able to forget about it ever since.”*

A medical group management services company in the midwest running client applications on Oracle: *“We bought EqualLogic because we want to rubber-stamp our data center in other locations and have these distributed data centers work together for disaster recovery right out of the box. EqualLogic has been the most responsive vendor we’ve had. They show more interest in our success than any other vendor.”*



A major University over 200 years old with an undergraduate student body of over 17,000 students: *"Everything they advertised has worked as advertised"*

A manufacturer of test instruments sold worldwide running SQL Server and Exchange: *"I love 'em, their support is really, really good. The other products we looked at didn't have all the features built in and it was apparent there would be a lot of add-on costs that we wouldn't have with EqualLogic"*

A major metropolitan public library system: *"The only problems we ran into during installation were well-documented issues with Microsoft's iSCSI drivers that there were already solutions for. I know people with Fibre Channel SANs that want to adjust each and every little thing and it takes an enormous amount of time. I'd rather do other things with my time"*

One of the worlds largest and most-watched multinational news organizations: *"The product is quite good, we're pretty happy. Especially now that they seem on their way to alleviating the one problem we've had--downtime during firmware upgrades."*

A private University in the Southeast with over 2000 students: *"Great solution for education, where budgets are tight-- this is a very cost effective storage solution."*

A midwestern manufacturer of electronic measurement and control systems with worldwide distribution: *"I love 'em, their support is really good. The other products we looked at did not have all the features built in. If we had gone with another product it would have cost us a lot more."*

A materials company in in the midwest serving the automotive industry with over \$600 million in sales: *"We were looking at a big Fibre Channel solution and all the proposals were way too high - it was ridiculous. The beautiful thing about EqualLogic is that their software features are all rolled into the firmware. This is incredibly important to us and makes the whole product much more valuable."*

An international Internet marketing services company: *"The easiest box, by far, I've ever installed. We'll probably end up putting it everywhere – its just too easy."*

An international manufacturer of heating and cooling products with over \$4 Billion in sales: *"This is a new approach for us—replacing DAS. We've had some minor problems, but we're very satisfied with EqualLogic. Our EqualLogic SAN is catching on and beginning to grow in the company."*

A county government center in the southeastern United States: *"We very much like the system and we've just ordered a second. It's a well thought out product. This is one of the best administered products I've ever used in 15 years in IT."*

A 150 member law firm in California: *"We just got our third EqualLogic box for a remote site and will replicate to it over a 10MB WAN. The neat thing about EqualLogic is how flexible and expandable it is. They make it so easy."*

An insurance industry claims processing service provider in the midwest: *"We're consolidating email and former DAS servers with the product."*