

SEARCHING FOR A COMPETITIVE EDGE

Dell OEM helps Google upgrade the hardware platform of the Google Search Appliance to 11th-generation Dell servers, delivering three times the performance of the previous generation



Finding corporate documents should be as easy as finding information on the Internet. The global success of the Google Search Appliance suggests that more and more companies are coming to that realization. Still, there is significant room for growth in the market for enterprise search technology.

SOLUTION

• OEM



CUSTOMER PROFILE

COUNTRY: United States

INDUSTRY: Technology

FOUNDED: 1998

NUMBER OF EMPLOYEES: 19,786

WEB ADDRESS: www.google.com

CHALLENGE

Retain a competitive edge in the growing market for enterprise search engine technology by upgrading the hardware platform for the Google Search Appliance to achieve higher performance and by streamlining production, branding, distribution, and support to control costs.

SOLUTION

The Dell OEM group helps Google integrate 11th-generation Dell™ PowerEdge™ servers into the latest Google Search Appliance products while also handling product manufacturing, shipping, and support.

BENEFITS

Go to Market Faster

- Achieved a competitive edge by rapidly launching a new search appliance and migrating an existing product to the latest Dell hardware
- Simplified the processes of designing, branding, configuring, shipping, and supporting the Google Search Appliance around the world

Run Your Operations Better

- Produced a new enterprise product that can search three times more documents than an existing product
- Minimized customer downtime from days to minutes and reduced the costs for product replacements by using reliable, easily serviceable hardware
- Sustained competitive product pricing and remained focused on software innovation by outsourcing processes

Grow Your Business Smarter

- Reached new global markets with regulatory help from the Dell OEM group
- Prepared to scale enterprise appliance business without scaling costs

The Dell logo, consisting of the word "DELL" in a stylized, white, sans-serif font, set against a black circular background with a white border.



THE GOOGLE SEARCH APPLIANCE

Launched in 2002, the Google Search Appliance was created to help organizations of all sizes find internal information as easily as if they were searching the Internet through Google.com. Since 2007, Google has worked with the Dell OEM group to integrate Dell™ PowerEdge™ servers into the Google Search Appliance product line. By working with Dell OEM, Google has been able to deliver strong product performance and reliability while creating a customized appliance with a distinctive look. Today, Google has more than 25,000 enterprise search customers worldwide—more than any other enterprise search vendor.

“BY WORKING WITH DELL, WE HAVE SIGNIFICANTLY REDUCED THE TIME, RESOURCES, AND COSTS REQUIRED FOR MANAGING HARDWARE DESIGN, BRANDING, SOFTWARE INSTALLATION, SUPPLY CHAIN LOGISTICS, WORLDWIDE DISTRIBUTION, AND REPLACEMENT SERVICE. WE CAN KEEP OUR STAFF SMALL AND CONCENTRATE ON ENHANCING OUR SEARCH TECHNOLOGY.”

Frank Kull, head of enterprise manufacturing, Google

To remain a leader in this growing field, Google needs to use hardware that can provide outstanding performance. Dell PowerEdge servers have met that criterion for several years. Yet with the exponential growth of electronic information within corporations, Google wanted to update its hardware platform so the Google Search Appliance could continue to deliver results rapidly even as the volume of search material expands. “Searching millions of documents and 220 file formats in a matter of seconds is a very compute-intensive process,” says Cyrus Mistry, enterprise product manager at Google. “We need to use the very highest-performance hardware platform for the Google Search Appliance so our customers can find what they need as soon as they need it.”

While the Google team wanted to update the hardware platform to increase performance, they did not want to sacrifice any of the reliability of

Dell PowerEdge servers. “Customers quickly come to rely on the Google Search Appliance as a way to optimize worker productivity,” says Frank Kull, head of enterprise manufacturing at Google. “Dell hardware helps to ensure availability of the search engine for users, and provides us with a reliable hardware platform that can help us avoid appliance returns. We wanted to be sure that the upgraded hardware platform could deliver the same level of reliability that we’ve become accustomed to.”

By continuing to work with the Dell OEM group, Google can stay focused on its innovative software. “We don’t want to spend our time buying and testing server components, installing software, shipping out products, or providing hardware support,” says Mistry. “Dell OEM is an end-to-end service provider that handles the time- and labor-intensive tasks involved

with producing the Google Search Appliance so we can concentrate on our core business—producing our search engine software.”

NEW DELL SERVERS BOOST PERFORMANCE FOR GOOGLE APPLIANCES

With help from the Dell OEM group, the Google team updated the Google Search Appliance product line with 11th-generation Dell servers as soon as they were available. Equipped with the Intel® Xeon® processor 5500 series, the 11th-generation Dell servers can deliver significantly improved processing performance and increased memory throughput compared with previous-generation servers. Google selected the Dell PowerEdge R710 server for the existing Google GB-7007 product, which searches up to 10 million documents, and a new GB-9009 search appliance, which searches

“DELL HELPED US ENSURE RAPID INTEGRATION OF THE 11TH-GENERATION DELL POWEREDGE SERVERS INTO GOOGLE SEARCH APPLIANCE PRODUCTS....POTENTIAL CUSTOMERS COULD CLEARLY SEE OUR DEDICATION TO USING CUTTING-EDGE TECHNOLOGY FOR OUR APPLIANCES.”

Cyrus Mistry, enterprise product manager, Google

HOW IT WORKS

HARDWARE

- Dell™ PowerEdge™ R710 servers with the Intel® Xeon® processor 5500 series
- Dell PowerVault™ MD1000 storage array

SOFTWARE

- Google Search Engine

SERVICES

- Dell OEM Group
 - Dell OEM Custom Branding
 - Dell Server Software Integration

up to 30 million documents. The GB-9009 also includes a Dell PowerVault™ MD1000 storage array to provide additional storage capacity for the document index.

By moving to the latest-generation Dell server, Google can continue to provide the best processing performance available for its appliances. “With the Intel Xeon processor 5500 series, the Dell PowerEdge R710 server provides the processing performance and memory bandwidth to search documents more quickly, provide results faster, and support higher query load volumes,” says Mistry.

By working closely with the Dell OEM group, the Google team was able to achieve a smooth migration to the PowerEdge R710. “Dell helped us ensure rapid integration of the 11th-generation Dell PowerEdge servers into Google Search Appliance products,” says Mistry. “The Dell team provided early test units so we could optimize our software for maximum performance and reliability before shipping any appliances. We were very proud to be the first Dell partner to integrate 11th-generation servers into a product line. Potential customers could clearly see our dedication to using cutting-edge technology for our appliances.”

DELL RELIABILITY, SUPPORT, AND APPLIANCE-INSPIRED DESIGN HELP REDUCE DOWNTIME

The new Dell PowerEdge servers continue to provide the quality and reliability that Google and its customers require. “We need to minimize downtime in every way possible,” says Kull. “Dell combines rigorous component testing with strong engineering support to help us deliver a high-quality, reliable product, whether we are shipping to a Fortune 500 company or a small

business. The manufacturing process controls at Dell have helped to reduce hardware-related returns by approximately four times compared with our previous hardware vendor.”

Using reliable hardware has helped minimize the need for replacement service. But if problems do arise, Dell can send out new units quickly. Google now relies on Dell to provide all in-field hardware support. “Dell can typically deliver a replacement appliance within two days. It might take up to three weeks with other vendors,” says Mistry. “That fast replacement means that our customers can continue to be productive with little interruption.”

The appliance-inspired design of the Dell hardware also helps to simplify in-field service at the customer site. “If a component fails, the customer has the option of repairing the server on-site instead of sending it in for a replacement,” says Mistry. “The design of the Dell PowerEdge R710 server and the PowerVault MD1000 array makes it simple for customers to replace a hard drive quickly. We tested that ease of use in-house: I replaced a hard drive in about 15 seconds without having to interrupt live searches in progress. Providing that ease of maintenance helps our customers avoid downtime and enables us to minimize the cost of hardware returns.”

DELL OEM PROVIDES AN END-TO-END SOLUTION

The Google team is very pleased with the new Dell hardware platform, but they are quick to note that Dell is much more than a hardware vendor. “In addition to delivering quality hardware, the Dell OEM group provides a strong, dedicated account team, a solid distribution model, and a flexible supply chain,” says Kull.

“The Dell team has helped us with everything from engineering to logistics. Other vendors just can’t offer that depth of assistance.”

The Dell OEM group helps Google simplify the selection of standard hardware models and offers the flexibility to provide custom configurations when necessary. “We present the Dell engineering team with a list of our technical requirements, and they help us determine the best hardware for each appliance model,” says Kull.

The Google team also takes advantage of Dell OEM Custom Branding to produce an easily recognizable appliance. “Dell has helped us implement some very unique branding that makes the Google Search Appliance truly stand out in a data center,” says Mistry. “We designed a bright yellow bezel with multiple holes, and of course, the Google logo. The Dell team delivered the look we wanted within our budget.”

The Dell OEM group also has proven to be a valuable logistics partner that has helped accelerate the shipping process around the world. “It is a tremendous benefit to have a worldwide OEM partner,” says Mistry. “As soon as we began working with Dell, we were able to reach new geographic areas quickly and with very little effort on our part. Dell handles all of the regulatory requirements and ships directly to customers, wherever they are. Today our international sales are robust, thanks in large part to Dell.”

To help plan for the future, the Dell OEM group shares the Dell server road map with the Google team so they can adopt new technologies or capabilities as soon as they are released. “Having access to the Dell server road map helps us

“WITH THE INTEL XEON PROCESSOR 5500 SERIES, THE DELL POWEREDGE R710 SERVER PROVIDES THE PROCESSING PERFORMANCE AND MEMORY BANDWIDTH TO SEARCH DOCUMENTS MORE QUICKLY, PROVIDE RESULTS FASTER, AND SUPPORT HIGHER QUERY LOAD VOLUMES.”

Cyrus Mistry, enterprise product manager, Google

tremendously with product planning,” says Kull. “We can make sure we are offering our customers the latest, greatest technology, and we can achieve seamless transitions from one platform to the next.”

GOOGLE CONTROLS COSTS AND BOLSTERS COMPETITIVE POSITION WITH DELL OEM

Having Dell as an OEM partner has helped Google cut ongoing costs on multiple fronts. “The 11th-generation Dell PowerEdge servers provide a strong price/performance ratio,” says Kull. “With the Dell PowerEdge R710 server, we can give our customers the search performance they need while keeping our product prices competitive.”

By turning over production and distribution to Dell, the Google team also can avoid the costs of holding appliances in inventory. “The Dell assemble-to-order model has helped us virtually eliminate inventory-carrying costs,” says Kull. “Their rapid production throughput and flexible customization process allows us to turn around orders quickly without the need to hold a lot of finished goods in stock.”

At the same time, outsourcing production and support processes helps Google stay lean and focused on innovation. “By working with Dell, we have significantly reduced the time, resources, and costs

required for managing hardware design, branding, software installation, supply chain logistics, worldwide distribution, and replacement service,” says Kull. “We can keep our staff small and concentrate on enhancing our search technology.”

GOOGLE IS READY TO SCALE

As the market for in-house search technology grows, the Dell OEM group can help Google scale its enterprise business easily, without significantly increasing costs. “We believe the enterprise market will continue to grow rapidly as more companies see the productivity gains that can be achieved by deploying search technology in-house,” says Mistry. “By working with Dell, we’re in a strong position to capitalize on that potential. We can deliver familiar and effective Google searches in a reliable, high-performance appliance, and we can quickly increase production, shipping, and support for global customers without having to make major changes or investments in our own enterprise. With Dell, we have a strong partner that can help us retain a competitive edge in a growing market.”

For more information on this case study or to read additional case studies, go to DELL.COM/CaseStudies.



SIMPLIFY YOUR TOTAL SOLUTION AT DELL.COM/Simplify

October 2009. © 2009 Dell, Inc. Dell is a trademark of Dell Inc. Intel, the Intel logo, and Intel Xeon are registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks and names or their products. This case study is for informational purposes only. DELL MAKES NO WARRANTIES, EXPRESS OR IMPLIED, IN THIS CASE STUDY.

