

INTEL ISP CASE STUDY

Cereus Builds ASP on a Solid Intel® Foundation

Once a curious collection of white boxes, the Cereus Data Center environment is now a powerfully competitive business structure — built with Intel® components.

CASE HIGHLIGHTS

Profiled Organization: Application Service Provider (ASP)

Challenge: Develop and Host Top Quality Applications for ASP Customers

Solution: Create a Data Center environment Standardized on Intel® Products

Benefits: Now their solutions scale to fit customer needs, application performance and availability is unquestioned

Cereus Technology Partners, Inc. is an e-business and business-to-business solutions provider. The company's expertise in business applications, and its technical foundation as an ISP and web application developer, help it create successful networked applications for more than 400 major clients.

Cereus delivers solutions across traditional channels and as an Application Service Provider (ASP). It provides a full range of computing services, using Intel® networking equipment to integrate, host, and manage its clients' business applications and accelerate their e-business transformation.

CHALLENGE: Build the Right Foundation for a World-Class Data Center Environment

Not long ago, the computer room at Cereus Technology Partners housed an intriguing collection of "white box" computers. There were towers and mini-towers, and Intel® processor-based PCs of every shape and kind.

The company's entire computing infrastructure, while still functioning well, lacked standardization. Without a standardized networking infrastructure and the right computing platform, Cereus wasn't ready to reach the next level of competitiveness as an ASP.

Peyton Park, the company's Vice President of Strategic Technologies, was convinced that Cereus had to offer its customers a world-class data center environment. To make that happen, he needed to standardize on one vendor capable of integrating a massive national network infrastructure and supporting it with a highly flexible computing platform. His challenge was to choose a vendor that could meet those demanding requirements.



PROCESS: Searching for One Vendor That Could Do It All

Park and his staff began evaluating competitive networking equipment and server platforms vendors. During the analysis process, they looked for the following characteristics:

- > A highly integrated, standardized networking environment that could react rapidly to his expansion needs.
- > Easy-to-use networking solutions that would ensure reliability and reduce the cost of support.
- > High-bandwidth networking to support high-performance e-business applications.
- > Stable computing platforms capable of running Microsoft NT, Windows 2000 and a variety of different UNIX flavors.
- > Rack-mounted servers with a small footprint and low heat dissipation.
- > A scalable family of computing platforms that could accommodate different types of client needs.

Park and his team evaluated multiple vendors, but only one could provide all the equipment, expertise and support Cereus required. To build a world-class data center environment that would take his clients to the next level of e-business competitiveness, Cereus chose Intel®.

“Only Intel could offer us both a full line of networking equipment and a rack mounted server with this type of scalability. And only Intel could back that all up with the channel support an ASP must have.”

Peyton Park

Vice President of Strategic Technologies
Cereus Technology Partners

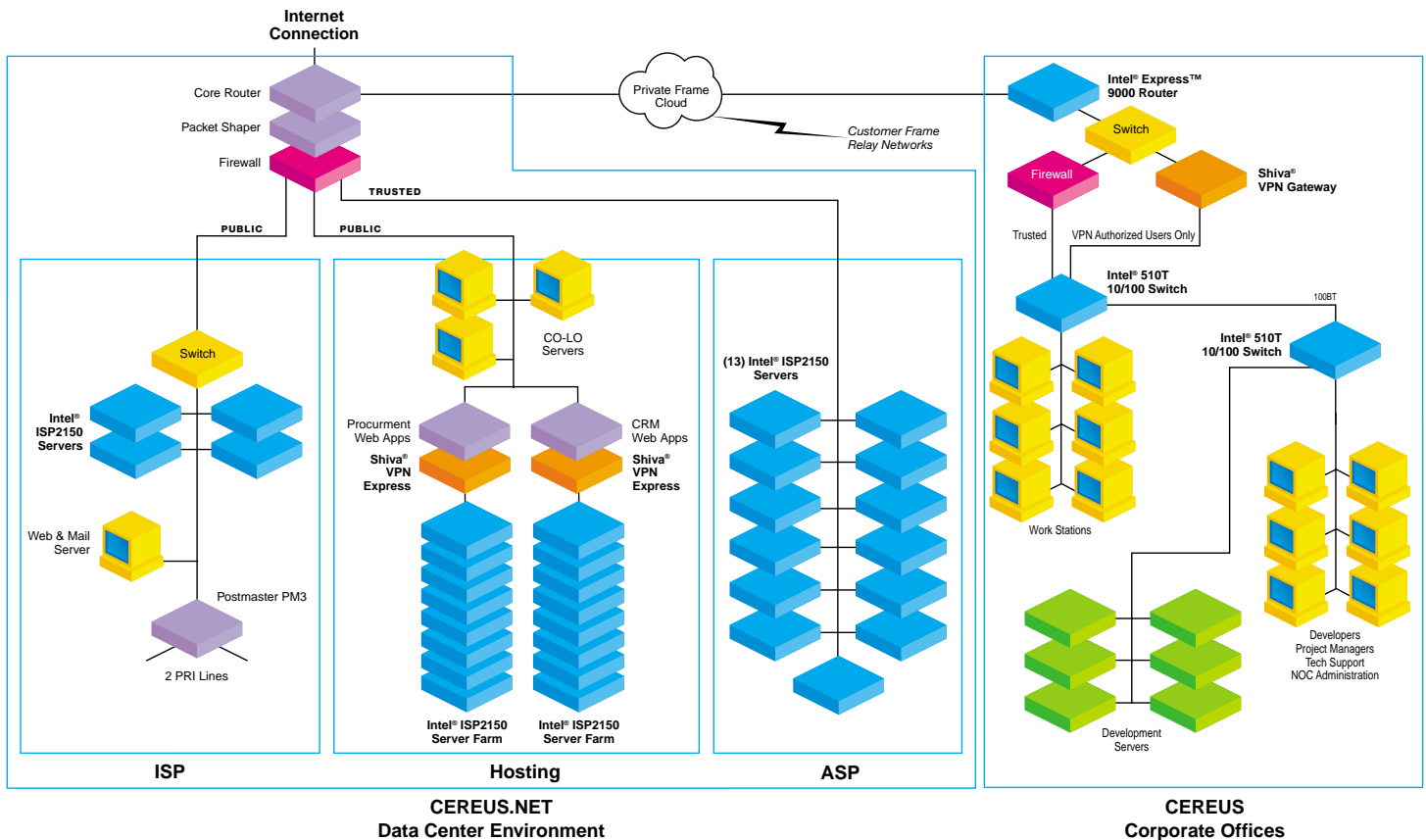


Figure 1 Cereus Technology Network Diagram

Cereus Technology Partners' new regional data center features a server farm of rack-mounted Intel® ISP2150 servers. Customers access Cereus via T1 connections or over public networks using secure Shiva® from Intel® Virtual Private Networks. Internal Cereus workgroups use Intel® 510T switches to manage network bandwidth and allow easy network expansion as the company grows. Work in Progress (WIP) servers host customer applications under development and in the evaluation stage. The remaining servers deploy custom e-procurement, e-business, core financial software, and client relationship applications developed exclusively for Cereus clients.

“Only Intel® could offer us both a full line of networking equipment and a rack mounted server with this type of scalability. And only Intel® could back that all up with the channel support an ASP must have,” Park said. “Flexibility is critical for us, and with the availability of Intel’s new server options, we’ll have even more flexibility.”

As a result, Cereus can now provide world-class hardware, integration and deployment services to its clients. Its business solutions are fast, extremely reliable, yet relatively simple and inexpensive to operate.

SOLUTION: The Right Tools for an Effective ASP

Connections to regional data centers are provided by Intel® 9000-Series Express Routers. Cereus chose the Express because it includes powerful WAN link management tools and yet allows easy configuration to handle variety of customer branch and regional offices. Cereus data centers must efficiently handle IP/IPX traffic while supporting WAN protocols and compression that integrate easily with a variety of customer’s routers.

The mission-critical character of Cereus’ ASP services demands maximum uptime, and depends on effective diagnostic and link recovery tools to keep customer applications up and running.

Managing data center traffic is the Intel® 6000 Series Modular Ethernet Switch — a high performance, high-density Gigabit Ethernet switch ideal for Cereus’ and high traffic data center. With a forwarding rate of up to 47.5M pps, the 6000 provides high performance Layer 2 and Layer 3 switching. Its switching modules are engineered with bus connections to a 40Gbps crossbar-switching matrix for inter-blade traffic to maintain the highest throughput across the network.

Also deployed at data centers are Virtual Private Network (VPN) capabilities provided by Shiva® from Intel® hardware. Basic VPN Gateway hardware resides at Cereus to provide high-speed data encryption and tunneling protocols. Inexpensive VPN Express boxes are installed at regional data centers and can also be deployed at client sites. These VPN services offer customers the security of private networks without expensive leased lines and the added expense of private network management.

Beyond its data centers, Cereus has also chosen Intel® networking equipment for its own Intranet, deploying additional ISP2150 rack servers and the Intel® Express 510T Switch, a scalable workgroup switch that provides 10/100 Mbps connectivity directly to the desktop. Cereus uses the Express 510T to support its administrative staff, software developers, technical support crew and project managers. The company chose this solution because it will allow network administrators to easily scale their network bandwidth and connections as Cereus’ rapid growth continues.

Today, the company’s regional data centers are all built on a common Intel® ISP2150 Internet server platform.



Peyton Park, Cereus Vice President of Strategic Technologies is standing in front of a server farm of rack-mounted Intel ISP2150 servers. A LanRover VPN Express from Shiva is shown at the top to the screen

Engineered specifically for companies experiencing dynamic e-Business service growth, the high density ISP2150 provides powerful performance and high availability, with support for up to two Intel® Pentium® III processors and four RAID-capable, hot-swappable drives.

The thin 2U form factor and 24” chassis length of the ISP2150 effectively uses space within the data center. And as the Cereus customer base expands, multiple new servers can be clustered, load-balanced and brought on line quickly. Unlike proprietary designs, the ISP2150’s open, flexible architecture ensures a wide selection of choices at every level of the solution stack—from hardware components to the most popular operating systems, development tools and applications.

“We like the Intel channel offering. They have an exceptional channel support package that’s simply not available from any other vendor.”

Peyton Park

BENEFITS: Flexibility and Channel Support to Fit Every Customer Need

In discussing their choice of the Intel ISP platform, Park noted, “I’d rather put a dozen clients on a single server. The maintenance and service is a lot easier. But many of our customers dictate an individual server for each of their clients. Intel gave us the ability to scale up and scale down. If we need to host one client per server, we have access to a small server that’s cost-effective, that’s stand-alone and rack mounted. Yet we can still scale up to super servers when we need to and still have uniformity and the ability to share cards and hard drives.”

Another key reason park standardized on Intel was an *All In One* support package that includes service for the re-sell environment.

He said, “We like the Intel channel offering. They have an exceptional channel support package that’s simply not available from any other vendor.”

FUTURE: Growing With Their Customers

With the first data centers in place, Park and his team are now able to guarantee seamless, end-to-end management of clients’ hosted business applications. They have created a network with the fault tolerance, redundancy and resiliency they needed to support their customer’s critical business applications. In May of 2000, their first regional data center environment deployed eighteen servers to test customer applications under development and to deploy hosted applications. Within 12 months, Cereus expects the number to servers to triple as it opens a series of new, regional data center environments, which will be added as customer demand expands.