

Gaming Company Virtualizes for ‘World’s Most Demanding Users’



Executive Summary

Customer Name: Epic Games
Industry: Gaming
Location: Cary, North Carolina
Number of Employees: 255

Challenge:

- Scale IT infrastructure to support accelerating growth, with minimal impact to business
- Build environment robust enough to satisfy extremely demanding users / customers
- Keep IT costs contained by finding platform that could be centrally managed with limited staff

Solution:

- Refresh hardware from one- and two-rack physical servers to virtualized blades
- Cisco Unified Computing System (UCS) offers maximum flexibility and ability to manage both blade and rack-mount servers from one central management console
- Cisco Nexus 5000 and 2000 Series Switches update network to 10GbE to enhance performance

Results:

- Reduced time to provision new servers from two to three days to minutes, improving operational efficiency
- Managed to keep staffing levels down, while doubling size of hardware infrastructure
- Decreased operational costs, including power and cooling, as well as time to bring new apps to market

With Cisco UCS, Epic Games harnesses virtualized blades to remain agile even with month-to-month growth.

Challenge

Established in 1991, Epic Games is a gaming company with an additional capability. It produces best-selling video game titles including the billion-dollar *Gears of War* franchise for Xbox 360 and the award-winning *Infinity Blade* series for the iPad, iPod touch, and iPhone. The foundation of Epic’s business, however, is a game development platform that the company builds called the Unreal Engine, which is used by thousands of game developers worldwide.

Since launching the *Gears of War* franchise, Epic’s year-to-year growth exceeded all expectations. With resources stretched to the limit, no one had time to design an IT architecture flexible and scalable enough to keep up with this growth. “When I arrived in 2009,” says Mark Nilsson, director of IT at Epic Games, “I found a hodgepodge of band-aids on top of band-aids, and the chaos that results from throwing servers at problems without an overall strategy in mind.”

Nilsson’s challenge was exacerbated by the fact that the stakes for Epic were so high. Game developers are passionate about what they do, and are famous for pushing technology to the limits, and having extremely high expectations of vendors. “We provide engine code for gaming companies all over the world,” says Nilsson. “They have no tolerance for delays or errors. When they need to access our servers to download patches and updates, they need to do it on their terms, on demand, in real time. Otherwise, their development cycles suffer, ship dates slip, and they lose money.”

Epic itself needs a high-performance data center and network for development of its own titles. Advances in the technology required to create a wildly popular game such as *Gears of War 3* made it important to revamp the network infrastructure from a 1-gigabit to 10-gigabit Ethernet framework and redesign the server farm used to compile code.

“In my career, I’ve done business with just about every tech manufacturer. Cisco sets the absolute gold standard for support. We’re very pleased.”

– Mark Nilsson
Director of IT
Epic Games

Still, his top priority was improving the scalability of the IT environment to promote a more agile business. “Because our company is growing at such a rapid pace, we have to be able to adjust our compute power, storage, and server capacity however our business dictates,” says Nilsson. He knew virtualization was the only solution.

Solution

After evaluating blade servers from various vendors, Nilsson chose the Cisco Unified Computing System™ (UCS®). “Cisco UCS offered us the uptime we needed, would help us stay flexible as our business grew, and would be easy to manage centrally,” says Nilsson, who has a “very lean” data center staff of just six IT professionals.

Epic first replaced its existing one- and two-rack servers with four Cisco® UCS Chassis, populated with B200 M2 server blades. Epic then configured two chassis full of blades (16 in all) for virtualization, creating 140 virtual machines to support its day-to-day business and development operations. The two other UCS chassis form the foundation of Epic’s build farm, where developers compile code for both games and the Unreal Engine. These two chassis replaced 30 tower servers.

“We took a bit of a gamble, because Cisco was so new to the server market,” says Nilsson. “But we’d done enough business with Cisco to feel comfortable with its ability to support the new platform.” Happy with the first four Cisco blade servers, Nilsson then purchased Cisco UCS C210 M2 Rack-Mount Servers for Perforce, Epic’s content management system. For the network backbone, Nilsson implemented Cisco Nexus® 5000 and 2000 Series Switches to support 10-gigabit Ethernet connectivity. More recently, Nilsson’s installed another Cisco UCS B230 chassis in Epic’s Warsaw studio.

The virtualized UCS servers also run large SQL databases that manage game play statistics. Nilsson has dedicated two smaller virtual servers to SharePoint, and three to Microsoft Exchange. All servers supporting website content use the Linux operating system running MySQL as back-end databases.

Results

Now, 18 months later, Nilsson can quickly scale the infrastructure to adapt to business needs. “Our environment is very demanding, and blades often run close to 100 percent CPU utilization,” says Nilsson. “For the *Gears of War 3* launch, we boosted both our web presence and online forums for the growing number of fans and users. With Cisco UCS, we’re able to spin up new virtual machines on demand.” Under the old environment, Nilsson’s team would need two to three days to get a new physical server provisioned. “Today, I can get a new virtual machine up in minutes.”

In addition to speedy, consistent, no-touch provisioning, Epic Games also benefits from a sharp decrease in operational costs with Cisco UCS. “If I had to rack, stack, and cable every machine we’ve added on UCS over the past year, in addition to more staff, I’d spend more on power and cooling, and would require a much larger overall data center footprint,” says Nilsson.

That his team can centrally manage the UCS-based architecture has proved advantageous as well. “If I tried scaling like this using traditional hardware, I’d need two or three times the people for the hardware alone,” he says. “But the smaller footprint of Cisco UCS and our ability to centrally manage the environment means we can do more with less.”

Product List

Data Center Solutions

- Cisco Unified Computing System (UCS)
 - Cisco UCS B230 M1 and B200 M2 Blade Servers
 - Cisco UCS 5108 Blade Server Chassis
 - Cisco UCS C210 M2 Rack-Mount Servers
 - Cisco UCS 6140XP 40-Port Fabric Interconnects

Routing and Switching

- Cisco Nexus 5000 Series Switches
- Cisco Nexus 2248 Fabric Extenders

Applications

- Microsoft Exchange and SharePoint
- MySQL
- Perforce
- Red Hat Enterprise Linux
- VMware

Next Steps

Epic Games plans to continue virtualizing as much of its IT infrastructure as is possible without compromising performance. Due to the superb quality of Cisco support, Nilsson anticipates that Cisco will be an important technology partner for a long time to come. "In my career, I've done business with just about every tech manufacturer," he says. "Cisco sets the absolute gold standard for support. We're very pleased."

For More Information

- To find out more about Cisco Unified Data Center, visit: www.cisco.com/go/unifieddatacenter.
- To find out more about Cisco Unified Computing, visit: www.cisco.com/go/ucs.
- To find out more about Cisco Nexus Switches, visit: www.cisco.com/go/nexus.

This customer story is based on information provided by Epic Games and describes how that particular organization benefits from the deployment of Cisco products. Many factors may have contributed to the results and benefits described; Cisco does not guarantee comparable results elsewhere.

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