bet365: Ciscos Nexus Case Study

WORLD'S LARGEST ONLINE SPORTS BETTING SITE INCREASES REACH

Cisco Nexus helps bet365 unify data centers and deliver business growth along with superior customer experience

SUMMARY

Challenge
- Drive business growth by extending gaming platform to new mobile devices
- Improve customer service by boosting platform's speed, performance, and resilience

Solution
- End-to-end Cisco Nexus network fabric, providing increased traffic handling and business continuity capabilities across four data centers

Results
- 500 percent growth in betting from mobile devices
- Easier-to-handle traffic spikes from in-play markets and complete in-service upgrades
- Cost-effective approach for 10 Gbps networking and parallel application delivery

CHALLENGE

Based in Stoke-on-Trent , bet365 has grown rapidly from a handful of employees in 2000 to a global provider with 2,100 staff. Today, the www.bet365.com website serves millions of customers worldwide. The company is a specialist for in-play sports betting, where customers can wager while watching live action, such as the next point in a tennis match or the next corner in a football game.

To help ensure continued service, in the event of failure or even catastrophe, bet365 has four separate data centres located at Stoke-on-Trent, Manchester, Heathrow, and London.

Pushing out data in near real time to millions of endpoints on thousands of different sporting events, and handling spikes of traffic in excess of 10 Gbps, requires exceptional networking capabilities in terms of traffic handling, bandwidth, and system resilience. Also, because the online gambling industry is so tightly regulated, these IT operations must comply with varying legal requirements in different countries around the world.

Under the stewardship of Joint Chief Executive Denise Coates, bet365 has responded by investing heavily in developing in-house systems and software capabilities, and continues to commit IT investment of £60 million annually.

To extend its gaming platform to as many mobile devices as possible, the company realized that it first needed to redesign its data center infrastructure. Key requirements included greater speed and resilience, including the ability to replicate data and switch traffic between data centers, to help ensure the delivery of cohesive customer services at all times.

SOLUTION

The company chose the Cisco Nexus® switch as its core networking foundation. The solution includes the full family of Nexus 2000, 5000, and 7000 series switches, providing an end-to-end network fabric with increased traffic-handling and business continuity capabilities.

Helping ensure economical scalability was very important for bet365. "It costs not insignificant sums of money to implement Nexus," says Chris Tolson, chief platform architect at bet365. "But, if you were to try to deliver the same port density with 10 Gigabit Ethernet speeds on cheaper switches, you'd be out of pocket. So it's a more cost-effective solution overall."

Moreover, bet365 was attracted by new technologies enabled by Cisco Nexus switches, such as Overlay Transport Virtualization (OTV), a key pillar within the Cisco CloudVerse framework. Designed to transform management between multiple data centers, OTV significantly improves:

- Scalability, by extending Layer 2 LANs over any network that supports IP
- Simplicity, through single-touch configuration and avoiding the need to redesign existing networks
- Resilience, by preserving existing Layer 3 failure boundaries and providing automated multihoming and built-in loop prevention
- Efficiency, by using equal-cost multi-pathing and optimal multicast replication that fully optimizes available bandwidth

"I'm very happy that OTV has come along when it has," says Tolson, "because it makes things easier to architect when we're looking at higher availability and multi-site delivery of applications."

RESULTS

Cisco Nexus switches have provided bet365 with a platform for delivering superior customer experience and driving profitable business growth, particularly around mobile betting. Customers can now watch live video of sporting events streamed to their smartphones (including iPhones) and shortly to their tablets. This extended coverage includes some 10,000 horse races and 5,000 other live events as part of a new "All Sports" service. Already bet365 has seen a 500 percent increase in betting from hand-held devices.

This expansion of new applications has taken place smoothly and without interruption to customer services. "Ultimately we have an N+1 network design to accommodate failures and patching requirements, but you don't want to be re-booting critical components within your platform if you don't have to," says Tolson. "If you do, you're running at risk while that component is offline. One of the advantages with Nexus is that you can do inline upgrades of the operating system and not incur any outage on the device you're upgrading."

The move to Cisco Nexus switches has provided bet365 with other benefits. The company can much more easily handle bursty traffic loads from customers betting on in-play markets such as the next corner, set, or boundary. "We have ever-more-demanding products coming online," says Tolson, "all wanting to use the latest and fastest servers and computer processing. If you can't deliver lots of 10 Gigabit Ethernet ports, and deliver them cost-effectively, then you've got a problem."

In addition, the company can transition towards parallel application delivery, an approach that involves highly intensive server-to-server communications.

"That's the whole east-to-west networking paradigm," says Tolson, "where your systems are actually talking horizontally between one another and consuming large chunks of bandwidth. Traditionally networks have been designed around a north-south configuration, where all the systems hang off an access layer. They go into a distribution layer, and that distribution layer will generally find the systems that they want to talk to, but ultimately they can go back to the core. This approach becomes very expensive when you've got a big network operating at 10 Gigabits, so having your network scaled horizontally makes sense."

The introduction of OTV has strengthened business continuity by helping enable bet365 to link geographically, dispersed data centers. "The encapsulation protocol OTV is a really useful technology for delivering cloud-based solutions, so if you want to make your network nice and flat, it helps you immensely. For example, by enabling the same VLAN to be run across multiple data centres."

By implementing OTV with First Hop Redundancy Protocols, such as Hot Standby Router Protocol and Virtual Router Redundancy Protocol, bet365 can now route VLANs across multiple locations. This approach is delivering step change improvements in server clustering (Windows Majority Node Set clusters), loadbalancing, and virtual machine mobility. Unlike before, bet365 can perform maintenance on clustered platforms with minimal impact, while satisfying business continuity requirements.

PRODUCT LIST

Routing and Switching
- Cisco Nexus 2000, 5000, and 7000 Series Switches, enabled with Overlay Transport Virtualization technology