FULL SPEED AHEAD FOR INTERNATIONAL SPEEDWAY CORP.

Racing giant accelerates operations with new IT infrastructure.

Jerry Ballenger, Brandon McNulty and David Luke guided International Speedway Corp.'s IT team through a major technology overhaul that modernized its data center and greatly improved the fan experience.

At a Glance

ORGANIZATION: International Speedway Corp.

HEADQUARTERS: Daytona Beach, Fla.

EMPLOYEES: Approximately 1,000

I.T. STAFF: 60 full time

DESCRIPTION: International Speedway Corp. owns and operates 13 motorsports entertainment facilities that host more than 100 motorsports events each year. Its flagship facility is home to auto racing's most prestigious event.

The drivers aren't the only ones pursuing top speeds at the tracks run by International Speedway Corp. The fans are too.

"We have to compete with the living room experience and improve Internet connectivity, provide a better onsite video experience, and leverage social media platforms to engage fans," says Chief Technology Officer Brandon McNulty.

In all, the company owns 13 motorsports facilities, including its flagship track in Daytona Beach, Fla. ISC facilities host some of the best high-performance cars that American racing fans will likely ever see. Now, the company has rolled out an equally turbocharged IT infrastructure to increase operational efficiencies and productivity and boost the fan experience.

The company began by beefing up its network with Cisco Systems networking gear and then modernized its data center with a converged infrastructure that unifies blade servers, storage, virtualization and networking equipment. In the final lap, the IT department replaced aging telephony with a Cisco Unified Communications system that provides expanded voice and video capabilities companywide.

Today, ISC sports a consolidated, energy-efficient, cost-effective systems environment that is easier for employees to use and for IT to manage, McNulty says.

"We commoditized our IT investments, and that frees up the budget for us to concentrate on enhancing the fan experience," he explains. "We want to entice fans to come out and experience the event. We want to create an emotional connection and make them want to come back to buy another ticket next year."

The new infrastructure not only enhances business operations and provides improved disaster recovery, it also reduces the amount of time the IT staff spends maintaining equipment, resulting in big cost savings. That, in turn, lets the IT department focus on new technology projects that help generate revenue, such as attracting more fans to events.

Each year, millions of fans attend ISC's auto and motorcycle races. But ISC leaders realize that they need to add amenities to keep their current fans satisfied and attract new ones.

To that end, company leaders decided to pump funds back into the business and rethink technology services. Because driving up attendance is a chief goal, ISC is investing in fan-friendly technology, such as wireless Internet connectivity and flat-panel video displays, throughout its venues.

Tuning the Engine

When it began its network and data center upgrades in 2012, ISC saw the opportunity to create a future-forward technology foundation. The two projects provided an opportunity to get ahead of the technology curve and create a platform that was stable yet scalable for future growth, McNulty says.

As it began virtualizing servers, the IT team realized that much of ISC's server hardware wasn't meeting increasing processing demands, recalls Jerry Ballenger, senior director of technology engineering and services.

The company turned to CDW for advice but gained a lot more. First, ISC's IT staff met with CDW solution architects at CDW headquarters in Vernon Hills, Ill., to discuss their options. Those architects, along with CDW engineers,

75 minutes The amount of time it now takes International Speedway Corp. to restore its most important business applications

then helped design and install the solutions that give ISC facilities the technological horsepower they have today. "CDW gathered our requirements, identified our needs, educated us on current technologies and helped us think years down the road," Ballenger says.

Early on, Mike Lenz, a Cisco UC solution architect for CDW, visited ISC's Daytona Beach headquarters to advise IT staff on how to prepare for a full Voice over IP migration and ensure high-quality service. "They asked us to provide guidelines to steer their team in the right direction," he explains. "I pointed out things that they needed to fix and suggested equipment — types of servers, voice gateways and switches — that they needed for expansion."

After evaluating the options for retooling the infrastructure, ISC standardized on FlexPod — an integrated technology architecture that weds Cisco UCS B-Series blade servers and Nexus 5000 Series switches, NetApp networked storage and VMware virtualization software into what are essentially data center building blocks.

Following the initial FlexPod installation, ISC engineers migrated applications from the company's old servers to the new environment — a process that took about three months, says David Luke, ISC's director of IT engineering. Today, 300 virtual machines run on 10 blade servers. In all, ISC has virtualized about 75 percent of its servers, Luke says.

Because the converged FlexPod architecture works as an integrated unit, it's easier to manage, Luke continues. If problems arise, support staff from Cisco, NetApp and VMware jump on a conference call with ISC engineers. "In the past, vendors might get into a finger-pointing game. But with FlexPod, they are on the phone at the same time, and we work through the issues together," he explains.

Another benefit of the architecture is that the Nexus switches handle both Ethernet traffic and Fibre Channel storage connectivity. Networking is simplified because the number of necessary switches, network adapters and cabling is reduced, says Dave Persuhn, CDW's principal network engineer, who helped install the equipment.

Several CDW engineers collaborated with ISC IT staffers to deploy the technology. "FlexPod is a validated design and a standard configuration," says CDW Technical Lead Jason Ripkey. "We designed ISC's environment off of the architecture, and also put in some of our own best practices, such as installing the right versions of software."

The technology has dramatically increased staff productivity, letting developers spin up servers in minutes instead of days. It's also let the racing giant establish a more reliable disaster recovery program.

Blazing-fast Wi-Fi

In today's mobile world, people want wireless Internet access everywhere, and racing fans are no exception. This year, International Speedway Corp. will test wireless through a series of proof-of-concept trials to see what best fits its motorsports venues.

Within the next year or two, ISC expects to install Wi-Fi hotspots in select onsite locations, such as premium camping areas or stadium party zones, says Senior Director of Technology Engineering and Services Jerry Ballenger.

Deploying wireless services facilitywide is challenging because many of the ISC venues are huge and dense, says David Luke, director of IT engineering. But that's the point of the tests: to figure out how a broad wireless deployment would be possible.

"We can have 120,000 people in a mile-and-a-half area, so how many access points is that?" he asks. "That's part of the proof of concept."

The IT team, which previously used tape for backup, now backs up to disk twice a day. "We cut recovery time to a fraction," Ballenger notes, adding that what once took days and weeks now can be achieved in four to 12 hours.

The company's main data center in Daytona Beach features a two-node, high-availability NetApp FAS3270 cluster with 200 terabytes of storage. ISC replicates its data to a NetApp FAS3250 with 120TB of storage at a secondary data center in Concord, N.C.

The Need for Speed

While upgrading the data center, ISC increased Internet throughput from 3 megabits per second to 100Mbps at each of its facilities and bolstered the wide area network with Cisco 3945 and 2911 Integrated Service Routers. Each facility now has two routers — one connected to the company's main Internet service provider and another to a second service provider for redundancy, Luke says.

The ISC staff acted on the recommendations of CDW Principal Consulting Engineer Faruk Azam, who used network monitoring tools to assess network performance and evaluate the business continuity and scalability of the design. To boost WAN redundancy, Azam and his colleague, Cisco Network Engineer Marcus Auman, fine-tuned ISC's Border Gateway Protocol implementation, which allows a primary router to failover to a secondary router.

"BGP is like an intelligent traffic cop that knows all of the lanes that are available on the Internet," Azam explains.

"We wanted to get more automation, flexibility and scalability in our data center, and we've done that."

— Jerry Ballenger, Senior Director of Technology Engineering and Services

"It looks at network availability and can detect a failover situation and then switch from Path A to Path B."

For its LAN service, the IT team had previously upgraded the network core with 10-Gigabit Cisco switches. But in the past year, it retooled the devices at the network edge, installing Cisco Catalyst 3850 Series switches at the distribution layer and Cisco Catalyst 2960 and 2960-S Series switches in local wiring closets.

With the network humming, the IT staff then moved on to a VoIP migration. Before VoIP, the company had multiple primary private branch exchange systems, which made daily management tricky and inefficient. What's more, some of these PBX systems were more than 20 years old and starting to fail frequently, Luke says.

So last year, the IT department installed Cisco UC on a virtual server at its main data center. For backup, the IT staff deployed a secondary system at its Kansas City speedway. As a result, says McNulty, "we're seeing tremendous cost savings and stability."

Today, IT staff can manage and troubleshoot the Cisco VoIP system centrally from headquarters. ISC is also saving on long-distance charges because office calls are now routed over IP on its network.

The new phone system provides added communications capabilities for employees, who will be able to hold video conferences using the Cisco Unified IP phones on their desks and check voicemail on their smartphones through a visual voicemail feature or their email client.

Fans in the Driver's Seat

The vast improvements in data processing and network performance resulting from the infrastructure upgrades are already translating into improved customer service for fans, Ballenger continues. Corporate applications run faster, and ISC websites deliver content more quickly.

"It's a much better experience for customers," he says. "If they are buying over the phone or at a ticket window, the service experience is faster. Employees no longer have to say, 'Hold on; the system is updating.'"

The IT staff and ISC don't plan to apply the brakes just yet. Instead, they are focused on advancing the fan experience even further. For starters, engineers have embarked on a Wi-Fi proof-of-concept project and intend to roll out wireless connectivity at Daytona and other venues.

"We wanted to get more automation, flexibility and scalability in our data center, and we've done that," Ballenger says. "Now, we have more time to deliver on our business objectives and improve the fan experience."

Innovating Through IT

International Speedway Corp.'s IT department is not resting on its laurels after upgrading the ISC enterprise infrastructure. In addition to rolling out wireless test pilots over the next several months, the IT staff plans to continue to virtualize as many of its remaining servers as possible.

The company has already migrated its email, Microsoft SQL Server databases, financial applications, customer relationship management software and an inventory control application for its marketing partnerships to virtual machines. In all, that covers about 75 percent of its server environment. Now, the IT team plans to move its remaining Tier 1 applications — including its ticketing system — to a virtualized environment, says Jerry Ballenger, ISC's senior director of technology engineering and services.

In the next year, the IT staff also plans to improve business continuity by turning its backup data center from a cold site to a hot site. The company uses a NetApp FAS2240 storage unit to back up file servers from each of its 13 facilities. "If users lose something and can't find a file, we want to empower them to restore it themselves," Ballenger says.

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