



COMPELLENT SAN NAMED MVP BY MINNESOTA WILD



When you only have two 20 minute intermissions to process sales and bring in revenue for a single day's business, the pressure is on to provide highly available and responsive systems. Such is the case for the NHL's Minnesota Wild, where the concessions sold during a hockey game's two period breaks stack up to a significant percent of the revenue for the night. So while

the Zamboni cleared the ice, the Wild's IT team had become accustomed to its own drill of troubleshooting server crashes under high-pressure circumstances. Today, those scrambles are a thing of the past and the team is on a power play thanks to the Compellent SAN.

In addition to providing voice and data support for the National Hockey League team, the Minnesota Wild IT team serves the 300 vendors that set up exhibits for concerts, hockey games, and other events at four different entertainment facilities in Minnesota. While supporting hundreds of exhibitors at consumer trade shows is challenging enough, it's nothing compared to the pressure the IT team felt when hockey season rolled around in the "State of Hockey." Not wanting to miss a second of the action, the fans that have sold out every game in franchise history maxed out the data needs of concession vendors with intense bursts of business. The Wild's six-month old iSCSI storage solution couldn't keep up. High latency times created failures in the databases and applications, resulting in interruptions to service.

"If any of our systems fail before the game or during intermission, there's a serious loss of revenue," says David Weisbrod, director of IT at the Minnesota Wild. "When 18,000 fans look for refreshments, we need to be able to process those transactions on the back end."

The Minnesota Wild IT team decided it was time to upgrade to a Compellent® Storage Center™ storage area network (SAN) for its scalability, performance and availability. "When I was given the task of finding a solution that would work for us, I wanted it to last. In selecting Compellent, we have a solution that is expandable and allows us to grow as much as we'll ever need," says Weisbrod.

INTELLIGENT SSDS REDUCE LATENCY AND INCREASE PRODUCTIVITY

While support for high-performance Fibre Channel drives proved to be sufficient to support retail point-of-sale systems; the IT team wanted to turbo-charge performance for concession sales. Because of Compellent's flexibility, the IT team was able to test solid state drives by adding just 2 active data drives to their existing Fibre Channel enclosures.



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RESULTS REPORTED BY MINNESOTA WILD

- » Persistent hardware architecture allows Wild to add SSD without investing in new infrastructure
- » Latency reduced from as much as 300 milliseconds on Fibre Channel to as little as 1 millisecond on SSD
- » Two SSDs provide performance equivalent to 32 Fibre Channel drives
- » Ease of use enables small IT shop to efficiently monitor and manage storage
- » High availability and reliability make weekly server crashes a thing of the past
- » Scalability eases growth

OPERATING SYSTEMS

- » Windows Server 2003/2008
- » Linux

KEY APPLICATIONS

- » Microsoft Dynamics GP
- » Microsoft Exchange
- » Microsoft SharePoint
- » PUCKS
- » VMware
- » Exchange 2007
- » Microsoft RMS
- » Documentum

DEFENDING AGAINST RELIABILITY AND RECOVERY ISSUES

Before implementing the Compellent SAN, the Minnesota Wild IT team was challenged by reliability and recovery. Backups have also improved with Compellent. Previously, the Minnesota Wild IT team backed up its mission-critical PUCKS application on a single tape library with dual drives. Backing up just 40 percent of the application took over 60 hours with no verification. In addition, backup data was stored on production storage, so backups impacted production networks and storage when users needed them the most. The Compellent SAN has allowed the IT team to stay out of the penalty box.

“Since the Compellent implementation we’ve had absolutely no issues. We’re now able to replicate data between our two SANs and remove that backup slowdown.”

DAVID WEISBROD
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The ability to introduce SSDs into the Compellent SAN rather than implement a whole new infrastructure saved the company money and made for a smooth upgrade. “It was just a matter of inserting the drives into available slots within the enclosures. You plug them in, and like Compellent they just seem to work,” says Paul Jess, systems technician at the Minnesota Wild.

Since installing the SSDs, performance has increased dramatically for the Minnesota Wild, exceeding the staff’s expectations. “Fibre Channel’s a great performer, and we have a lot of applications that depend on it. But the high transactional load that we see during period breaks resulted in latency of 200 to 300 milliseconds,” says Jess. “SSDs got us down to one millisecond.”

The Minnesota Wild estimated that the two active ZEUS IOPS solid state drives produced about 4500 IOPS combined. The Wild would need nearly 32 Fibre Channel drives to produce similar IOPS, and that number of drives could still not match the one millisecond latency of SSD.

Improved performance has also translated into faster closing times at the end of the night for concession vendors. Prior to SSDs running on Compellent, concession managers would spend more than 90 minutes closing out registers. That time has been reduced to less than 60 minutes, allowing the vendors to save significantly on payroll over the course of the season’s 41 home games.

PERSISTENT ARCHITECTURE ALLOWS TEAM TO GROW AS THEY GO

Compellent’s persistent architecture enables the IT team to provide tools for building a championship team on the ice. For example, the players and coaches rely on the PUCKS video analysis application to compare footage of how a player reacts in a particular game situation with NHL data that is tracked for each player. “If you want to see how a goalie reacts to left-handed shooters in the third period, you can pull together video footage of

that situation and create a DVD for the player or coach,” says Weisbrod.

To provide that level of drill down, PUCKS requires a lot of storage, so video of every NHL game and associated data for this critical-to-be competitive application is stored on the Compellent SAN. “With our PUCKS video coaching system, our data demands are growing exponentially, sometimes without any warning. Being able to grow the system as we needed without artificial limits or rip and replace upgrades is a huge benefit,” says Jess.

EASE OF USE MAKES FOR MORE EFFICIENT STORAGE MANAGEMENT

Compellent’s Thin Provisioning technology, which separates storage allocation from utilization, has also contributed to managing the PUCKS system more easily. “On our previous SAN, once you committed a chunk of storage it was locked in for good. It was difficult, especially as the SAN grew and available capacity decreased, to place volumes,” says Jess. “With Compellent, I can easily reallocate from a single pool of virtual storage, I don’t have to worry about leftover fragments of data here and there consuming disk space,” says Jess.

Despite all of these improvements, the Minnesota Wild IT team doesn’t have dedicated storage architects, so it’s critical that storage can be efficiently managed without the added training overhead. “Being a small IT shop where folks have to fill multiple roles, we don’t have time to worry about provisioning and monitoring,” says Jess.

Previous systems required multiple Web sites to manage a single controller or administrators to predict snapshot space. With Compellent, everything is managed from a single pane of glass. “The overall ease of management in the Compellent is amazing. Compellent’s Enterprise Manager enables us to manage storage with a couple of clicks. You just create the volume and go. It’s been a great win for us in IT at the Minnesota Wild,” says Jess.