



▶ Beating the Odds

Mount Airy Casino Resort hits the jackpot with Emtec, Inc.

It was beginning to look as though Mike Ray had been dealt a “wooden hand” — poker slang for a group of cards that cannot possibly win. Turns out he had an ace in the hole with Emtec, Inc.

A casino-industry veteran, Ray was named CIO of the Mount Airy Casino Resort during the development phase of the \$400 million gaming and resort complex in the heart of Pennsylvania’s Pocono Mountains. He had ultimate responsibility for the design and implementation of a vast technology infrastructure that would require separate data networks for gaming systems, hotel guest rooms, hotel operations, and corporate back-office operations. This meant designing and implementing a central data center, voice over IP capability, wireless connectivity, server virtualization, a storage network, redundant Internet connections, a multi-layer security plan, backup power systems and much more.

And he had less than six months to get it all done.
From scratch.
With no IT staff.

*“You have to understand that nobody was even on board for Mount Airy until April or May of 2007, with an opening date of October. The building was already under construction, but nothing had been laid out as far as our network or IT infrastructure other than some basic wiring,” said Ray.
“We knew we couldn’t do this ourselves.”*

Picking a Winner:

After bringing on Leo Hornbaker as technical services manager in April, Ray turned to an old friend for help. In his former position with Resorts International, Ray had worked on several networking projects with Emtec and Account Manager Cecelia Lupton — although none with the magnitude and compressed time frame of the Mount Airy project.

“Leo’s first task was to start laying out these network designs, and we interviewed a couple of companies to help us with that,” he said. “I had worked with Cecelia and Emtec in the past so I brought them in. It was probably one of the smartest moves I ever made in my life.”

Construction delays during the summer increased the odds against meeting the deadline — Emtec’s technical teams didn’t gain physical access to the complex until August. Nonetheless, the Emtec team, spearheaded by Colwyn Warner, Emtec’s VP of Enterprise Computing completed all phases of the project on time for an October 22, 2007 grand opening.

What’s more, the opening went off without a hitch. Representatives of the Pennsylvania Gaming Control Board said it was the smoothest opening of a gaming facility they had ever experienced. Representatives of Bally Technologies, provider of the slot monitoring system for the casino’s 2,500 slot machines, were so impressed they have expressed interest in working with Emtec on future integration projects.

“I have to give credit to the Emtec team — Cecelia, Al, Glenn, Colwyn, Robert and all the other engineers that worked on the project. They’re the ones, along with Leo, who made this work,” said Ray. “They were working in a difficult construction environment with compressed time frames. I think I made life miserable for them for a while.”

No Time to Waste:

Everyone involved understood from the outset that they couldn’t wait for construction to be completed if they were to meet the deadline. Emtec needed to be a bit creative.

“It was imperative that we get things operational before we could move into the building,” said Ray.

The Emtec team got to work by setting up a functional data center in one of the construction trailers and began staging and configuring gear. They later established a WAN link to an old, abandoned skating rink two miles away to provide temporary office space where key Mount Airy operations such as marketing and human resources could conduct business and new staff members could be trained. With this setup, Emtec was able to create e-mail accounts for all employees, set up file storage and allow Mount Airy to begin taking reservations.

When Emtec was finally able to gain physical access to the building, they simply created another node on the network and began porting gear into what would become the permanent data center. The final cutover was accomplished in less than four hours.

"It amazed me that Emtec had a building two miles down the road on the network, along with some basic functionality in the main building plus supporting about 60 people in the trailers in such a short amount of time. That included not just network equipment, but servers and our SAN setup. That was incredible," said Ray.

Experience Pays Off:

Emtec's previous experience with Caesar's, Bally's, Tropicana and Resorts International was invaluable because gaming facilities present so many unique technology challenges. Security and availability are obvious high priorities, as is the need for a future-proof infrastructure to accommodate rapidly evolving casino technology such as server-based gaming, slot accounting, player tracking, reporting, database marketing, cashless capabilities, loyalty programs and more.

Perhaps most challenging was the need for separate networks, one for gaming systems and another to link all back-office operations such as human resources and accounting with the hospitality operations for the complex's 188 hotel rooms, four restaurants, nightclub, spa and retail stores.

"Technically, you have two customers — the casino entity itself as well as the state agency that's monitoring the casino," said Al Villar, an Emtec Senior Systems Engineer who served as the on-site technical lead/project manager. *"That creates the need for autonomy between the networks. That's critical. They can't in any way, shape or form touch each other or communicate with each other in order to protect the casino and to protect the individuals who are gaming."*

"All the machines on the gaming floor are tied together, and they all report back to the Pennsylvania Gaming Control Board, which monitors all transactions. So we had to make sure everything satisfied the control board's needs and requirements."

Jack of All Trades:

Both the gaming and operations networks were built around Cisco hardware, including Cisco 6500s and 4500s for the core switches, with 4500 and 3750 switches as part of the distribution network. On the gaming floor, entry-level Cisco

500 switches provide slot connectivity and Cisco Terminal Access Controller provides access control to routers and servers.

Emtec also designed a new interconnect methodology between slot machine controllers and the 250 network switches on the gaming floor. This design dramatically simplifies the process of replacing a failed switch to ensure maximum availability. A new switch is simply plugged in — no configuration is required — which eliminates the need for high-level tech support during off hours.

While Emtec did not implement the actual voice over IP (VoIP) system, it did provide the underlying network capability for voice and data convergence. Beyond the Cisco routers and switches, the Emtec team was also responsible for the implementation of a Dell server farm, using VMware to create 30 virtual servers on just three physical servers. In addition, Emtec implemented multiple Dell SANs, IronPort spam filters, Veritas/Symantec data protection technologies, Cisco firewalls and Cisco wireless access points.

Emtec also handled the Microsoft piece of the project, which included building the Active Directory environment and SQL Server farm and implementing MS Exchange.

Furthermore, all systems were built with a high degree of redundancy to ensure availability under any circumstance.

"There is no opportunity for downtime — even scheduled downtime for that matter," said Warner, Emtec's VP of Enterprise Computing. *"Everything from the slot machines to the ATM machines and casino kiosks is designed with redundancy right down to the core switches. Everything — switches, servers, power supplies, firewalls, spam filters and Internet pipes — has every failover technology available."*

The choice of Emtec as a technology partner has proved to be a winning play for Mount Airy Casino Resort. It has been drawing significant crowds since opening day, making plans for future expansion seeming more and more like a safe bet.

"Emtec was charged with coming up with a network design that gave us the flexibility, redundancy and the growth path we needed for the best buck possible," said Ray. *"I really think we achieved that. They had a good team with really sharp people who worked closely with us to get Mount Airy operational."*

"Beyond that, they've stayed on and helped us with some of our basic policies and procedures, and they've tested all of it to make sure were in good shape. I have to say that gives me a warm and fuzzy."

About Emtec: Established in 1964, Emtec, Inc. is a systems integrator that provides IT services and products to the federal, state, local, education and commercial markets. Our market leading value-based management methods, coupled with best-in-class IT technology, consulting and development services, address a wide range of specific client needs, as well as support broader IT transformation initiatives. Emtec's service capabilities span the United States, Canada and countries around the globe.