



# Choosing ADC KRONE was no gamble for Venetian Macau Hotel Casino

ADC KRONE structured cabling solution underpins core systems of surveillance, video, voice and data

### CHALLENGE

In August of 2007 the US\$1.8 billion Venetian Resort Hotel and Casino, Macau, opened its doors. The resort is the world's second largest building. The IT team was asked to build a network that could provide a more interactive player experience than ever before. The network would need to support four core systems, including: surveillance; video; voice; and data.

### STRATEGY

After proving itself in the Las Vegas resort's infrastructure, ADC KRONE's TrueNet® solution had become the structured cabling solution of choice for the company. The Venetian Macau chose ADC KRONE's TrueNet Cat 6 cable and connectivity and HighBand® 25 Cat 6 termination blocks to make moves, adds and changes both easy and reliable.

### RESULTS

A data speed of 100Mbps is delivered to each data outlet via ADC KRONE's OM3 fibre connectivity, which runs 10 Gigabit connections throughout the facility. "In the nine years of using ADC KRONE we have never had to re-punch a single connection and that speaks for itself," says Steve Vollmer.

CASE STUDY



#### STATS:

##### Venetian Las Vegas

- Opened April 1999
- 4,000 suites
- 11,000m<sup>2</sup> gaming space
- Two years to complete

##### Venetian Macau

- US\$1.8 billion to build
- Opened August 2007
- World's second-largest building
- 3,000 suites
- 100,000m<sup>2</sup> convention space
- 140,000m<sup>2</sup> retail space
- 51,000m<sup>2</sup> of gaming space
- Additional US\$10 billion to be invested by 2010.

#### VENICE COMES TO LAS VEGAS

Known as the 'City of Light', Venice, Italy shares that nickname with several other cities around the world including Las Vegas, USA. The spirits of the two cities came together in 1999 when

the Venetian Resort Hotel Casino opened in Las Vegas. Owned by the Las Vegas Sands Corporation, the Venetian promises to dazzle the senses and create lasting memories.

The complex includes Grand Canal-style shops, a gaming floor, numerous restaurants and entertainment facilities as well as luxurious hotel suites. Yet the Venetian's old world façade hides a state-of-the-art technology infrastructure.

#### ADC KRONE BECOMES TECHNOLOGY PROVIDER OF CHOICE

The Venetian's technology team is responsible for the resort's entire central nervous system. Chief Technology Officer Steve Vollmer and his team support the video, voice and data services necessary to run the resort's vast range of information, gaming and entertainment possibilities.

"Go ahead and try to break it. It's rock solid," says Steve Vollmer of the Venetian's communications network. When ADC KRONE engineers took him at his word, they found it impossible to detect a single error on the entire network.

CASE STUDY



“Issues with configuration, duplex, redundant protocols, signal quality and passive infrastructure are commonplace in most networks, but not this one,” says Tim Takala, technical director, ADC KRONE. “Suffice to say that the Venetian is an example of how to do things right!”

The Venetian chose ADC KRONE after exhaustive third party testing of various vendor products in 1997. ADC KRONE provides the structured cabling solution for the network’s passive components (actively, HP ProCurve™ switching equipment was chosen). Starting with HighBand® Cat 6 outlet technology, the Venetian then migrated both their fibre and copper infrastructure standards to ADC KRONE structured cabling.

Since then, the Venetian has chosen ADC KRONE equipment for all expansions and upgrades. It was, therefore, no surprise that when the Venetian Resort Hotel Casino expanded to Macau, ADC KRONE was again chosen as the network cabling solution provider.

#### ITALY MEETS ASIA, LAS VEGAS STYLE

As a popular Asian tourist destination, Macau’s gaming industry has now outpaced the Las Vegas strip in terms of revenue. A successful Asian gaming centre since the 1800s, Macau mainly caters to the vast and ever-expanding Chinese market.

In August of 2007 the US\$1.8 billion Venetian Resort Hotel and Casino, Macau, opened its doors. The resort is the world’s second largest building, with 3,000 accommodation suites, 100,000m<sup>2</sup> of convention space, 140,000m<sup>2</sup> of retail and 51,000m<sup>2</sup> of gaming floor. The Las Vegas Sands Corporation plans to invest a further US\$10 billion in the project by 2010.

#### CORE SYSTEMS REQUIRE A ROBUST INFRASTRUCTURE

In building the resort’s communication network, Steve Vollmer reveals he and his team were asked to perform a mammoth task.

“We were asked to build a network that could provide a more interactive player experience than ever before,” says Steve. “The network would

need to support four core systems, each with its own discrete function that would place huge loads on the infrastructure.”

The four core systems include: surveillance; video; voice; and data.

Surveillance is arguably one of the most important functions of a casino. Digital Video Recorders track all activities in public areas. The system is sophisticated enough to identify blacklisted players attempting to enter the facility. The network is strongly secured and requires the highest level of availability.

The resort’s video systems are used for broadcast and interactive devices, including the televisions within the hotel suites.

Voice and data services are integral to the Venetian’s effective day-to-day operations. In the hotel alone, nine ports in each suite service three phones, a fax machine (that doubles as a printer/copier), a mini bar and three televisions.



Sliding Fibre Trays with FiberGuide® Cable Management in the Server Room of The Venetian. (Macau Hotel)

CASE STUDY





HighBand® 25 Inside The Venetian's Server Room

### STAGGERING SPEEDS AND DYNAMIC CONFIGURATIONS

Speeds achieved in the 3,000 suites are at 100Mbps to each data outlet. That's a staggering one Terabit of data throughput dedicated for the hotel guests alone. It's no wonder the core of the Venetian network is based around ADC KRONE OM3 fibre connectivity running 10 Gigabit connections throughout the facility.

It is the casino floor that demands the most from the network. The 51,000m<sup>2</sup> floor (the equivalent of 9 football fields) is raised to allow maximum flexibility and speed of movement.

Gaming floors are dynamic environments, with pits, slots and tables moving to new configurations frequently. All these elements must be connected to the network, creating an incredibly complicated regime of moves, adds and changes. ADC KRONE's TrueNet® Cat 6 cable and connectivity and HighBand® 25 Cat 6 termination blocks make these moves, adds and changes both easy and reliable.

"Where ADC KRONE excels is connectivity. In the nine years of using ADC KRONE we have never had to re-punch a single connection and that speaks for itself," says Steve Vollmer.

Because the gaming equipment has migrated to Ethernet-based technology, all gaming locations can now be connected to the network. This means that full statistics from all tables can now be communicated to a central control via the internal network. This greatly enhances the casino's overall performance and security.

### FUTURE PLANS

The Venetian is trialing wireless gambling in controlled areas within the facility. However, there are no immediate plans to implement wireless gambling.



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