Marina Bay Sands Integrated Resort

Marina Bay Sands Integrated Resort (MBSIR) is one of the world's most challenging construction projects and the most expensive stand-alone integrated resort property ever built. The £4 billion development will change the face of Singapore's tourism industry. To secure this impressive site, Marina Bay Sands chose the CEM AC2000 SE (Standard Edition) security management system. The powerful and fully integrated access control system will allow visitors, staff and tourists to feel secure while enjoying the atmosphere of the newly built resort. The CEM AC2000 SE system was installed by CEM Approved Resellers, Certis Cisco.

Marina Bay Sands...

MBSIR is one of the most remarkable leisure destinations ever created. Located along the Marina Bay waterfront in Singapore, the MBSIR includes 2500 rooms, two theatres, a nightclub, a Las Vegas style casino and a museum which will be showcasing international exhibitions. The hotel which is made up of three

CASE SUMMARY

Location:
  Marina Bay Waterfront, Singapore

System:
 CEM:
  AC2000 SE
  S610e IP Card Readers
  S610f Fingerprint Readers
  DIU 230 (PoE+ Door Interface Unit)

fifty-five story towers boasts a spectacular landscaped roof garden with swimming pool.

Resort security...

The £4 billion project required a high end security system and opted for the CEM AC2000 SE system. AC2000 SE offers a flexible and versatile solution, providing a powerful and fully integrated access control, alarm processing and photo badging system. AC2000 SE is continuously developed to meet the most difficult of security needs, providing a highly stable solution for installations where security is of paramount importance. AC2000 SE is relied upon to secure access to important areas such as the casino vault and specialised security departments used to survey the casino floor. AC2000 SE utilized CEM's advanced range of hardware products including intelligent IP card readers. The CEM S610e and S610f fingerprint readers have been installed in high security areas with 3rd party readers installed at less secure areas.

CEM IP card readers...

MBSIR had over 500 S610e access control readers. The S610e reader supports all card technologies and has a large graphical LCD which is used to display a number of messages to cardholders depending on their privileges e.g. 'Access Denied', 'Wrong Time Zone', 'Card Expired'. The reader, which has on-board Ethernet connection, communicates directly with the AC2000 host server removing the need for an intelligent control pane in the system design. With an internal database the S610e gives full off-line card validation and decision making at the point of entry, even when host communication is not available.

The project also used over 100 S610f fingerprint readers to control access to restricted areas where an additional biometric layer of security is required e.g. entrance into casino vault. The LCD will display predefined messages such as 'Place Finger' and 'Bad Biometric'.

Cost savings with PoE+ DIU 230...

PoE+ technology was used throughout Marina Bay Sands. Where a high level of security is required and cabling must be kept to a minimum, the CEM DIU 230 (PoE+ Door Interface Unit) offers the ideal solution. It is the first controller in the industry to reliably supply power and communications to a complete door set via one Cat 5e/ 6 cable. The key benefit of the DIU 230 PoE+ is that it eliminates the need for both a mains connection and a local power supply to the door; therefore there are no door supplies anywhere within the resort.

Fully integrated...

The MBSIR project required integration with a number of external systems. CEM was required to integrate with the Central Control and Monitoring System, (CCMS) the Key Management System, the CCTV system and the HR system amongst others.

BacNet protocol was used for HLI (High Level Interface) to the CCMS system. The HLI allowed CEM to send water leak state to the CCMS. If a water leak is detected the CEM system would send alarms to the CCMS. This was an important issue due to the fact that the hotel has a roof top pool therefore any water leaks could result in serious consequences.

The security team at MBSIR requested an XML interface from the HR system to the CEM access control system in order to populate basic staff information. It was important for the MBSIR security team to be able to efficiently manage employee details. The interface fields can be used for collecting uniforms, fast food

access and ID badging. The CEM Visual Imaging Pass Production System (VIPPS) allows users to produce permanent and temporary ID badges. Security staff can enrol users and capture fingerprint templates using a user friendly ID badging application.

The Key Management System increases security around significant areas of the resort. CEM Systems developed an interface to automatically transmit card data from the AC2000 system to this Management System. A file which contains the full list of key safe users is sent to the key system and the necessary user records are created.

The AC2000 SE system at MBSIR was also integrated with the CCTV System. The AC2000 external interface enables the administrator to specify that when a particular alarm occurs on a CEM device, a message/command is sent to the 3rd party. For every alarm of interest the following data is sent by AC2000 to the CCTV system; the alarm name e.g. 'Door Forced', the location of the alarm e.g. Door A, Main Entrance and the date/ time at which the alarm occurred.

Future...

CEM Systems have provided MBSIR with a future proof and fully integrated security solution that has been designed to grow along with the resort.