Reference Case : University of Leuven

Description of the project

The Catholic University of the city of Louvain (Katholieke Universiteit Leuven) has opted for an access control solution for all their buildings in which the following key systems were installed:

- IP readers for the perimeters. The idea would be to have the network come to the door and from there, IP readers will be monitored (cards: Mifare Plus and Mifare Classic, to be migrated to DESfire in the future). A SynApp IP Controller manages every 32 to 64 IP readers.
- The IP Readers are connected to the wired network of the KU Leuven (POE) to obtain a cost effective solution.
- Wired readers with centrally positioned controllers for high security zones.
- Aperio door fittings for emergency doors. In this instance the premium version has been selected : heavier fittings and thicker axis for the surplus weight the heavier doors can cause.

Over 800 doors have been equipped with access control. KU Leuven requested a full distributed intelligence up to IP-level. Therefore, Syntegro has given the IP Controller "SynApp" a more powerful engine so in addition to full access control, the software can contain more than 200,000 people. The previous versions were limited to 50,000.

The software has been fully integrated into the existing platforms of KUL. The data is integrated with AD Directory and AIM is used as authentication for users with screens.

The encryption of the cards is done entirely by KUL itself. Under a NDA contract, Syntegro installed this encryption in the readers / system.

Currently +/- 110,000 people are managed by the system.

Added value of this implementation

The Multi-Site possibilities of both the software and hardware are fully utilized in this implementation. Thanks to the SynApp IP Controllers the full intelligence can be utilized per building or part thereof, and this for all the staff in Belgium.
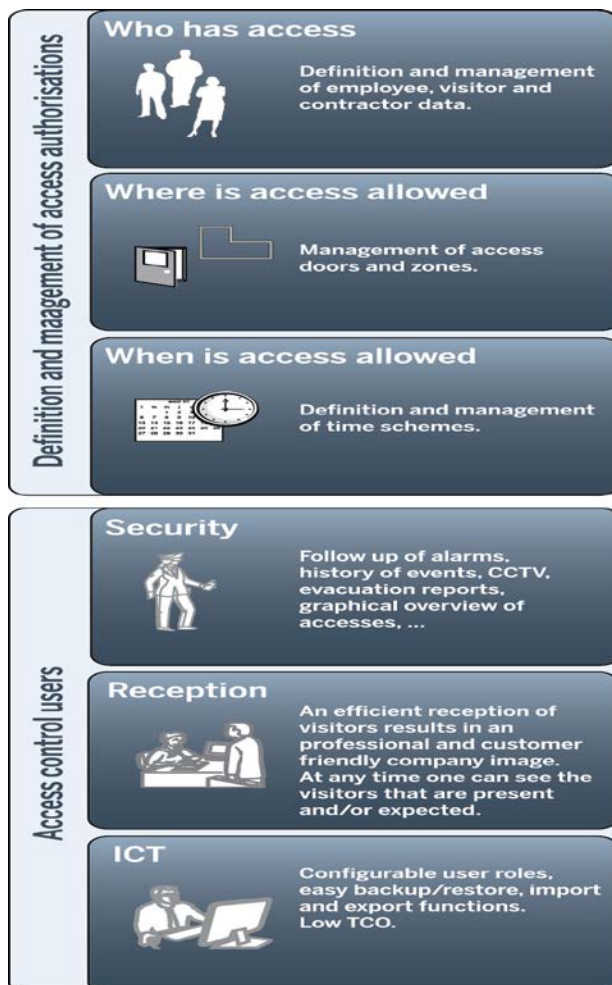
The Server synchronizes all SynApps dynamically. The important thing in this project is the quantum leap in optimizing the communication between Server and SynApps, using fully secure communication (SSL certificates).

Description of the problems and their solution

Access control for most doors (periphery) where a network without single point of failure is used. An additional requirement was for no client software or plug-ins to be installed on the PC's.

Therefore, we opted for the topology "server - SynApp - IP Reader". In case of server failure (or communication breakdown), there is always local intelligence in SynApp, which can be reached in any emergency via the network/web and which has the same user interface as the Server. Action can be taken locally. In case of a local network failure, all IP Readers take autonomous decisions. The SynApp ensures that these readers include all persons who have access.

The Multi-Site aspect was very important as it concerned many buildings across Flanders.

Because the software is also Multi-Site ready, it was decided to place access control at the UZ Gasthuisberg (University Hospital) on a Multi Realm (different database instance). At the hospital, the existing readers were upgraded to DESFire reader technology and all existing controllers (old system) are replaced by Syntegro controllers.

As all buildings have a wired IP-network up to door level, KU Leuven wanted IP-based readers. In addition, the readers should have sufficient buffer memory in case of an off-line situation. The only readers capable of handling these conditions, taking into consideration a good price/quality ratio, were the ID MAX50.10 from Feig Electronic.

This RFID Card Reader with integrated Access Controller for IP-based systems provides ex works offline management of up to 9.000 users. The reader offers AES-encrypted Ethernet data transfer, a real time clock and a configurable event memory.

Feig Electronic was prepared to make some software changes, imposed by Syntegro, in order to have 100% integration with Syntegro's access control software.

After a heavy testing period, KU Leuven was convinced of the proposed solution. As a result, Syntegro included these readers from Feig Electronic in their catalogue, selling them to other customers and resulting in a high level of service and continuity.