ABB Cylon® Smart Building Solutions for HVAC Control

HVAC Control

Heating, ventilation and air conditioning (HVAC) systems have a significant impact on both comfort and costs in any building. In the Mid-Size building they represent about 50% of total energy cost. Modern buildings require smart HVAC systems that create comfortable, healthy and safe environments for the occupants, while minimizing energy consumption and increasing sustainability.

HVAC Control

Overview - Motivation & Key Elements

Space temperature and air quality are significant factors in occupant comfort and furthermore account for 50% of total energy cost in the mid-sized office building. HVAC control that optimizes internal environmental conditions and energy usage.

Scalability and Integration

- ABB Cylon ensures your building systems are operational only when needed versus expectation with HVAC and lighting scheduling and the application of intelligent sensor feedback
- ABB Cylon Smart building solutions provides simple integration through an open protocol solution sup-porting: BACnet/IP, BACnet MS/TP, Modbus TCP and Modbus RTU. This can be used to integrate other systems like Access Control, Fire Alarm System, IP Television & Audio Video Systems and Park Guidance Systems

Improving Operational Efficiency

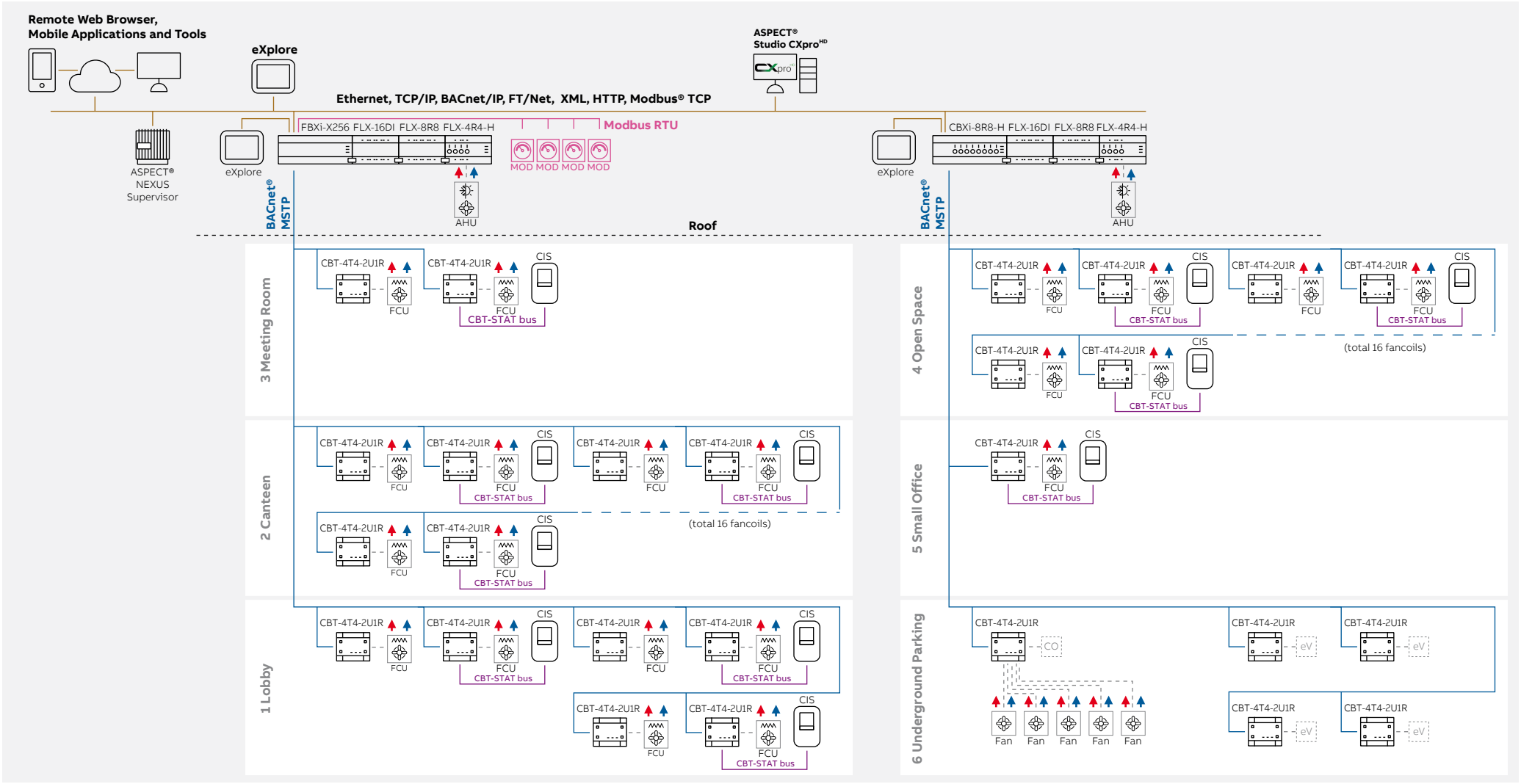
- Facility managers can monitor equipment performance, track anomalies of operation outside of set-points and acceptable parameters, and react to resolve any issues quickly, thus reducing downtime and ensuring consistent levels of occupant comfort
- Early alerts enabling service teams to be on site quicker with the correct tools and equipment to take appropriate action and provide first time fix

Optimizing Revenues

- ABB Cylon Smart building solution will ensure building systems are operational only when needed, thus reducing operational costs
- ABB Cylon Smart building solutions help to resolve issues quickly with monitoring and control providing alerts in real-time enable building managers to monitor equipment performance, track anomalies of operation outside of setpoints and scheduling, and react to resolve any issues quickly, reducing downtime

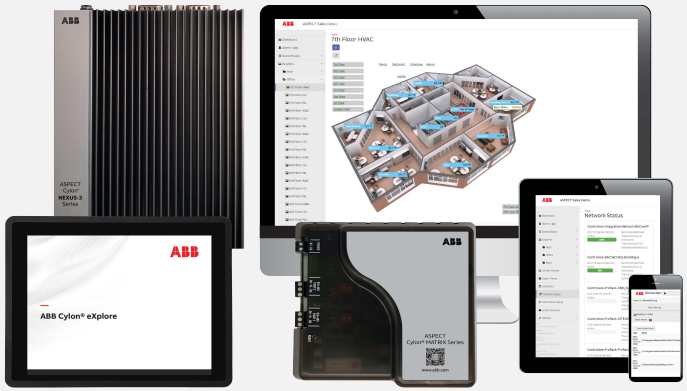
HVAC Control

Reference Architecture

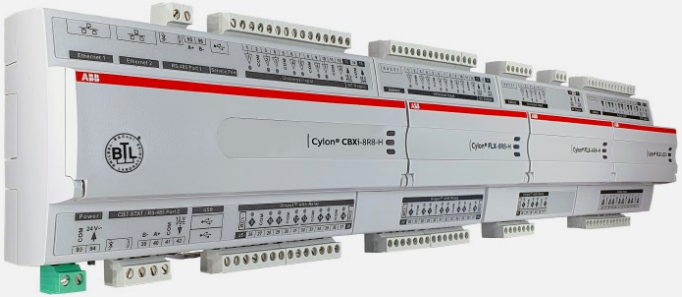


HVAC Control

ASPECT®
ASPECT® is an award-winning scalable building energy management and control solution designed to allow users seamless access to their building data through standard building protocols (BACnet, Modbus, Ethernet, etc.) and common IT technologies, available on a wide array of computers and smart devices, both iOS, and Android.
ASPECT® provides all the tools to gain intelligence into buildings' performance with the ability to rapidly react to any situation that may adversely affect energy costs and business performance. eXplore touchscreen display provides users an intuitive experience to view system status, override setpoints and schedules, and much more.



BACnet
BACnet MS/TP is a data communication protocol mainly used in the building automation and HVAC industry (heating, ventilation and air-conditioning).
The protocol allows equipment such as air conditioning machines, pumps and ventilation devices to communicate with a PLC.
This creates buildings with a high degree of automation.



HVAC-Control
Bill of Materials

The bill of material for the HVAC Control equipment in the reference architecture is summarized in the following table:

	Plantroom	Lobby (1)	Canteen (2)	Meeting Room (3)	Open Space (4)	Small Office (5)	Underground Parking (6)
Nexus	1						
Explore	2	1					
CBXi-8R8-H	2						
FLX-16DI	2						
FLX-8R8	2						
FLX-4R4	2						
CBT-4T4-2U-1R		6	16	2	16	1	5
CIS-TH		2	6	1	6	1	

Talk to our Experts!

We are the partner that can power and digitalize your future.

Together we can ensure you reach efficiency providing scalable automation and energy control of any size commercial or industrial building, thanks to ABB Cylon® Smart Building Solutions .