

IMPLEMENTATION

This regulation proposes the buildings to have central control and monitoring system (CCMS) that monitor, control and record the functions of building systems.

There are number of similar terms which is used to refer CCMS such as Building Management System (BMS), Building Automation System (BAS), Building Control System (BCS), Building Energy Management System (BEMS) based on its range of monitoring and control technologies.

The CCMS can be used to monitor and control wide range of building services such as HVAC, lightings, power systems, life safety systems, plumbing systems, vertical transportation etc. At a minimum for this regulation compliance, the system must control and monitor HVAC systems (chiller plant, air handling units, fan coil units, chilled water pumps, cooling tower, VAV etc.) for its efficient operation and capability to record and track the real-time energy and water usage of a building as explained below.

Control of HVAC system

The automatic control and monitoring of HVAC system helps to maintain a comfortable environment and perform economically under a wide range of operating conditions.

The CCMS shall be capable to automatically calculate the cooling demand from supply/return temperature and flow rate of chilled water to decide the number of chillers, pumps and cooling towers to turn on or off in appropriate sequence to maintain equal running hours.

Similarly, the CCMS shall be integrated with all other HVAC sub-systems such as Air handling units, VAV, FCU, Energy recovery, Ventilation fans etc. The strategy for a complete HVAC system must take into account the interaction between subsystems.

The control of HVAC systems is structured into several logical layers of the traditional HVAC control architecture as shown in fig. 503.05(1).

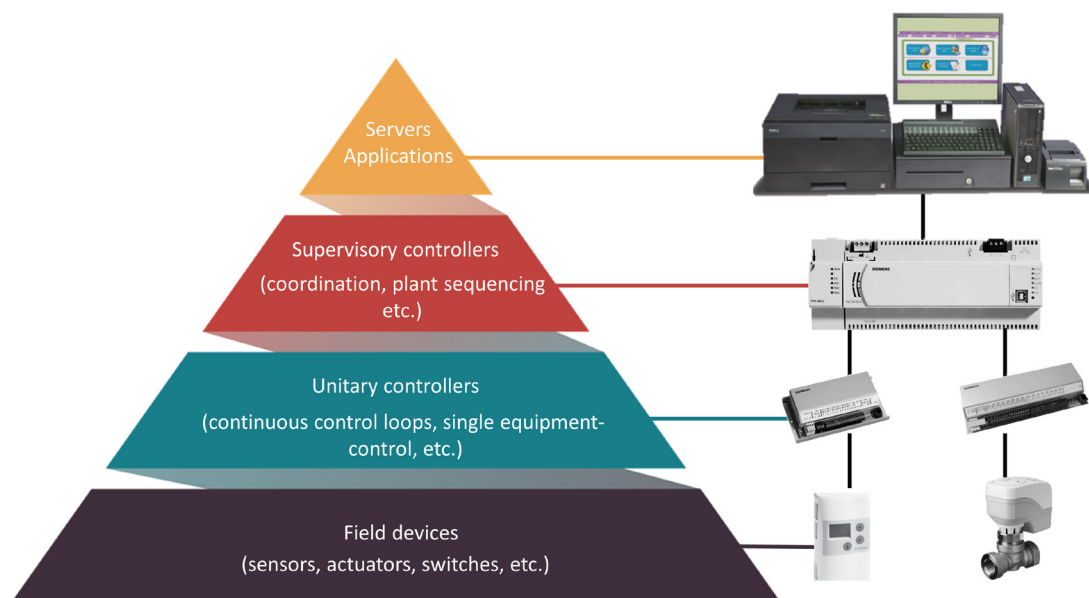


Fig. 503.05(1): Hierarchical Layers of HVAC Control Architecture

For detailed control strategies of each subsystems project team can refer to latest edition of CIBSE Guide H –Building Control System, Chapter 6 Control strategies for buildings.