

## The Business Case for Connected Real Estate & Commercial Office Buildings

The core business case for TierOne’s Connected Real Estate framework is the convergence of IT systems and building systems onto a single IP environment.

### The primary goals are:

- Reduce capital expenditures (CAPEX) and operational expenditures (OPEX) for key stakeholders over the lifecycle of the building.
- Allow building owners and operators to develop new revenue streams or business models.
- Retain existing tenants and attract new ones
- Create more flexible and productive workplaces that improve real-time collaboration across the organization and enable new working practices.
- Enhance health, safety and security for a building’s occupants.

Figure 1: Convergence of IT & Building Systems

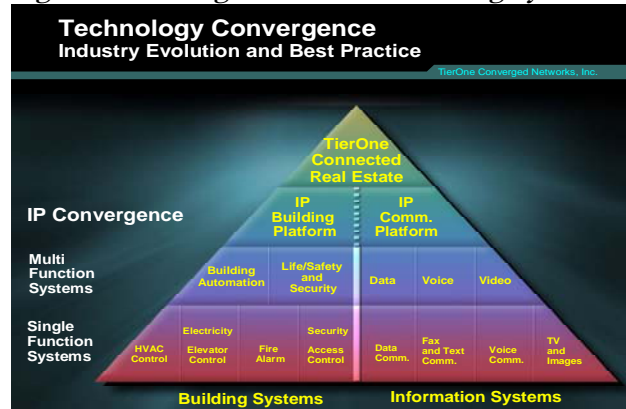


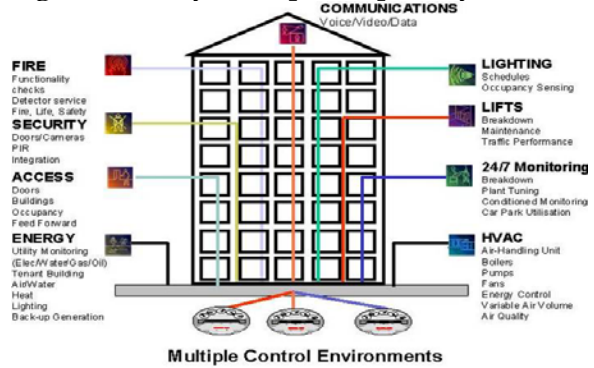
Figure 1 illustrates the convergence of IT and building systems. The right-hand side of the diagram illustrates the migration over time of user systems up to the TierOne’s current AVVID architecture. (Architecture for Voice, Video and Integrated Data) Similarly, the left-hand side of the diagram illustrates the migration of building systems from single, unbundled devices and services to multi-function systems, finally advancing to the point of the emergence of Ethernet-enabled building automation devices that will help realize the future of IP convergence of building systems.

### The Move to a Single IP Building Network

Today, most buildings are installed with multiple proprietary networks for operating the building automation systems and associated devices (i.e.

Heating, Ventilation, and Air Conditioning; Security and Access; Fire and Safety), as well as separate telecom and data networks. They also house separate networks to provide tenant services, such as broadband and voice services. Figure 2 illustrates such a disparate networking environment.

Figure 2: Today–Multiple Proprietary Networks



As a result we see buildings that are complex to operate; have high installation, integration and ongoing maintenance costs; and have limited automation functionality.

The TierOne Connected Real Estate framework promotes the convergence of these numerous networks onto the open standard of IP to streamline processes by providing a single connection for all building and IT systems. This single IP network for communications (voice, video and data) creates unprecedented opportunities for the key stakeholders in the building value chain. This enables the management and delivery of all key operational processes and tenant services in an efficient and centralized manner. Figure 3 illustrates how all key systems can be integrated onto an open standards-based building network which allows for centralized monitoring and control.

Figure 3: Tomorrow – Single IP Network

