



Smart Building Benefits A White Paper

Overview

A key competitive element in business today is reliable, integrated communication capabilities. Businesses need immediate and reliable access to telephone, fax and Internet services. The requirement for communications connectivity is vital to all organizations today, regardless of the type of business or the size of the firm.

A major problem facing firms today is the ability to hire and retain the technical talent necessary to design, implement and maintain the technology solutions that businesses need. This problem is particularly acute in smaller business or branch offices.

Smart building technology can help solve these problems for tenants. With advanced communications infrastructure the stage is set to deliver the communications needs of even the most advanced technology user, at a price affordable by all types of tenants. This same network will allow the owner to offer advanced services through selected providers to address tenants' technology needs without requiring in-house technical talent (if such talent can even be found). Tenants in a smart building no longer have to settle for an Internet connection, they can employ an Internet strategy.

Smart building technology creates a distinct advantage over typical office space, providing tenants with a state-of-the-art work environment, including full in-building network access, voice service, and affordable, reliable, high-speed Internet access. Unlike most office space that requires new tenants to design and install their own communications infrastructure, a smart building offers new tenants a rich communications environment without the initial investment of time and capital. Because the communications infrastructure is designed and maintained by the building owner and not the individual tenants, it is reliable, easy to configure as tenants turn over, and adds value to the building both in terms of recurring revenue and resale value. Smart building technology provides value through the communications infrastructure itself, and the shared technology that can be offered to tenants in the building.

Building Communications Infrastructure

The building communications infrastructure includes the backbone (which connects each of the floors together and provides access to the Internet and other outside resources) and the tenant communications infrastructure (which provides connectivity to the tenants' computers, telephones and other communications devices). Together, these components offer full connectivity within the building, and reliable long-distance and high-speed Internet access. The communications infrastructure provides significant benefits to both the building owner and the tenants:

Highly desirable workspace



Providing a complete communications infrastructure becomes a great draw for prospective tenants, as they can have connectivity ready from the day they move in. This avoids the time and expense of running cabling that will be worthless to them if they move out or relocate within the building. Tenants whose business depends on having a fast, reliable communications network, or who need to move into a space quickly will find this building ideal.

Asset value

A well-designed, well-maintained, and well-documented network infrastructure has a useful life of 10 years. However, the useful life of the network cabling in most leased buildings is far shorter, primarily because the network is built in pieces by the tenants as they move in or relocate. Because the building owner does not typically own and manage the network infrastructure, changes are often made without full knowledge of the current configuration, and are almost always done without complete documentation. Old, unused wiring takes up limited space in the walls and risers between floors, and is difficult to remove because it is not known which wires are in use and which are not. If the building is sold, the network backbone provides little or no value to the new owner, and must be redocumented wire by wire, or completely redone from scratch. Because the network backbone and tenant communications infrastructure are controlled and maintained by the building owner, it provides value both by generating ongoing revenue, and in higher resale value if the building is sold. The full 10-year useful life of the network infrastructure is realized.

The cost of the communications infrastructure is recovered within the lease rate. The benefit to the tenants of having a high-speed communications infrastructure and Internet access with no initial capital investment easily justifies the increased rate. The maintenance and monitoring of the communications infrastructure is outsourced to communications specialists so the building managers can focus on their core business.

Control and security

The backbone electronics and cabling infrastructure are controlled by the building owner, ensuring that the electronics are secure and maintained properly, and that valuable riser space is used efficiently. Tenants and service providers cannot access these areas without the full knowledge and approval of the owner. Thus, tenants are prevented from compromising the integrity of the building network, and service providers cannot install unauthorized or undocumented components. Tenants who wish to install and maintain their own network devices can do so within their own space, without adversely affecting other tenants.

Income opportunity

In addition to the income opportunities described in the next section, the owner can generate some income by leasing out unused copper or fiber cables, or riser or rack space to service providers interested in providing services to the tenants. By controlling the whole infrastructure, the owner has say over which service providers can have access. The control of valuable riser and closet space is shifted from the service providers to the building owner.



Reduction in remodeling

Because the tenant space is fully and generously networked, there is less need for minor remodeling in order to install new cabling, or work around existing cabling inadequacies. This reduces costs and hassles for the tenants and the building owner.

Shared Technology Resources

In addition to a high-speed, reliable communications infrastructure, smart building technology makes it possible to offer tenants a host of other technology resources. This includes providing "plug and play" support to tenants for long distance and Internet service, installation and maintenance of tenants' local network devices, and on-line access to services from local businesses. This allows the tenants to have full communications access and support from the time they move in. Because of the design of the communications infrastructure, the building owner is neither committed to nor precluded from offering any of these additional services to tenants. However, there are many benefits to the tenant and the owner of offering some or all of these services:

Tenant attraction and retention

With full "plug and play" service, a smart building becomes highly desirable to prospective tenants, particularly those who want to move into a space and be ready to do business quickly, and those who do not want to be hindered by the tasks of designing, installing, and managing their own communications environment. By combining the usage volume of all the tenants in the building, lower rates may be negotiated for long distance, Internet access, and other technology services. Providing a shared voice system and a building web site that offers services from local businesses can improve communications and foster a sense of community within the building. This technically rich environment will make tenants less likely to want to leave.

Income opportunities

Providing shared technology resources offers many opportunities for the building owner to generate income. If the volume warrants, the owner may combine the communications volume of the whole building and offer tenants lower long distance and Internet access rates than they could get on their own, while providing the building owner with recurring revenue. "Plug and play" network electronics and monitoring for tenants can be included in the lease and generate some profit. The building owner could also take a percentage of the revenue generated from business on the building's web site. All of these opportunities are made available because of the owner's control of the communications infrastructure. Design and maintenance of all of these services are outsourced to specialists to keep the building managers out of the technology business and to allow them to focus on their strengths.

Summary

Smart building technology provides premium, state-of-the-art office space that will attract and retain quality tenants and sustain higher rental rates. High-speed, reliable communications will be available to tenants from the day they move in. The communications infrastructure is



completely controlled by the building owner, providing better services to the tenants and creating a valuable asset for the owner. The infrastructure provides the ability to offer additional services to tenants, including volume discounts for Internet access and long-distance service, network management and monitoring, and on-line access to local services, without committing the owner to offering these services through large capital expenditures. These services can provide a more technically rich and highly desirable environment for tenants, while providing opportunities for additional revenue for the owner.

“A smart building offers its tenants more than a network connection – it offers a network strategy.” (sm)