

This month, we showcase Post Alexander, a luxury community in the heart of Atlanta's Buckhead area. Packed with choices for residents, the rollout is an example of a multiple-provider model gone right. Our thanks to Post's Steve Sadler, as well as AT&T's Jenny Bridges and Comcast's Chip Powell, for assistance in preparing this article.

ith nearly 20,000 apartments and 55 communities across nine markets nationally, Atlanta-based Post Properties knows a thing or two about what residents want, and for good reason. With a laser-like focus on improving resident satisfaction and retention, Post surveys its residents regularly to find out what they like and dislike about their apartment homes. One of the most consistent gripes Post fields from its residents? Dealing with a less-than-responsive data, voice and entertainment company they feel was forced upon them when they moved into a property served by a single provider.

"It has been that way for years," says Steve Sadler, vice president of strategic business services at Post. "We have tried all kinds of providers - multiple system operators (MSOs), telcos and of course a wide variety of private cable operators (PCOs). At the end of the day, what residents really want is choice. They don't like being told what provider to use."

In 2008, Post began implementing an ambitious strategy: making sure 90 percent of the communities in its sizable portfolio had at least two service provider choices by 2012. To date, it has executed that plan at approximately 40 percent of its properties and has already noticed a change in the tenor of survey responses from residents. "One of the biggest advantages for owners in a choice model is that residents stop placing blame on the leasing office," Sadler says. "Instead,



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they start focusing it on the one party who can actually do something about it: the provider."

Making sure that residents would have options was of the utmost importance when Post began building its latest luxury property in its own backyard, Atlanta's chic Buckhead area. While constructing Post Alexander, a 307-unit greenfield property, Post installed and wired three dedicated 4-inch conduits leading to 16 communications closets throughout the building. Post worked with InfiniSys Electronic Architects, a firm based in Daytona Beach, Fla., that helps owners design their communities' technology infrastructure, to make sure the property was built with choice in mind from the ground up. That meant installing roomy, 42-inch wiring panels inside each unit to ensure that multiple service providers could hook into the network without making additional changes at the property.

"It's critical that you find someone with knowledge of wiring systems to help you design a system that accomplishes your goal of having a networked apartment but at the same time offers the necessary interfaces for your service providers," Sadler says. "We chose InfiniSys because they are the best in the business at designing systems that meet the needs of the owner, as well as those of the service providers."

Currently, residents can choose between triple-play options from AT&T and Comcast, and if Post chooses to contract with a third provider, it has the backbone it needs to add the provider seamlessly.

"We could easily add DIRECTV services to the community through either an MFH-2 or MFH-3 system," Sadler says. "Or we could add an additional Internet provider by installing networking equipment on the existing fiber and copper infrastructure."

At Post Alexander, it's not just residents who have a choice; the owner does, too.

VITAL STATS

Property Description: Post Alexander features one-, two- and three-bedroom apartments with designer kitchens

including wood cabinetry, granite countertops, tile floors and stainless steel appliances. The community offers covered, controlled-access parking; a green roof courtyard; a resortstyle pool with a sundeck; a fitness center; a clubroom with a billiards table: and an Internet café. Post Alexander is located in Atlanta's Buckhead area with easy access to transportation, including MARTA, the Downtown Connector and GA 400.

Greenfield or retrofit? Greenfield.

Number of residential/commercial units: 307 residential units

High-rise/mid-rise/garden style? Urban mid-rise

Percent of units occupied: 93.8 percent. Property is still considered to be in lease-up.

Time to deploy? Construction took approximately 22 months to complete.

Date services started being delivered: First units were occupied in early April 2008.

Comcast and AT&T services, including AT&T Voice and legacy DSL, were available upon movein. AT&T U-verse TV and highspeed Internet became available to the property in June 2008. AT&T U-verse Voice became available in September 2009, adding yet another choice of voice product for residents.

TECHNOLOGY

How does fiber get to the property? AT&T provides Post Alexander with fiber GigE circuits from the local AT&T central office hub. Fiber enters the property via conduits into the building's primary telecommunications room, located in the parking garage, where it hits the main distribution frame (MDF).

Comcast's fiber enters Post Alexander from an existing fiber node on the northeast side of the building. From there, it runs through conduit to the communications room in the parking garage.

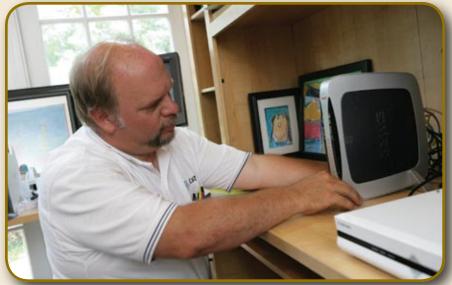
How are signals distributed inside the building? Post Alexander was designed with a 4-inch conduit backbone pathway from the main communications room in the parking garage to each of the 16 communications rooms located on the second and fourth floors of the building.

This pathway provides one 4-inch conduit for AT&T, one 4-inch conduit for Comcast and one 4-inch conduit for a future PCO. The cabling consists of a Comcast-installed coaxial backbone, an owner-installed high-pair-count copper backbone for telephony, and an owner-installed multimode and single-mode fiber backbone for a future PCO. This backbone also includs a pathway to the roof for future satellite dish installation.

PROPERTY OF THE MONTH HIGHLIGHTS: POST ALEXANDER

- Greenfield construction of a 307-unit mid-rise rental property in an upscale Atlanta neighborhood.
- Property designed from the outset to accommodate multiple service providers.
- Currently served by AT&T U-verse and Comcast, with the opportunity to add more providers.
- Providers share communications closets but have dedicated riser conduits and home-run cabling.
- Part of Post Properties' program to implement service provider choices across 90 percent of portfolio.
- Vendors include Alcatel-Lucent, Cisco, 2Wire and Suttle; network designed by InfiniSys Electronic Architects.

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Installing the 2Wire residential gateway in a resident's apartment

In the conduits, AT&T uses copper riser cabling that terminates at standard AT&T demarcation terminals (Cat 5-rated 66-block with prewired connector) in the communications rooms. Comcast uses traditional 750 MHz hard-line coaxial plant with tap locations in each of the communications rooms.

Each apartment unit is located within 150 feet of the on-floor communications rooms. The design allows up to four video drops to each unit from a single RG-6 cable. If a unit has more than four video drops, a second RG-6 cable is pulled to that unit.

In addition to coax, the home-run cabling from the on-floor communications rooms to each unit includes three Cat 5e cables (for telephone, data and IPTV) and one empty microduct for future fiber services.

The 42-inch enclosure in each unit contains a Suttle multipleprovider telecom module to allow for telecom services from multiple vendors. This module can deliver service from the communications rooms as well as from other sources, such as cable modems and Vonage modems. The Cat 5e data and IPTV cables are terminated at an eight-port Suttle data module, allowing for simple patching to a service provider's equipment for distribution. The incoming RG-6 cable is terminated at an eight-port video interface module for patching to splitters supplied by service providers. A surge-protected duplex outlet in each panel powers the service provider electronics.

What types of electronics are used in the network? AT&T deployed fiber-tothe-node technology, delivering a VDSL signal to each living unit via an Alcatel-Lucent 7330 video-ready access device (VRAD). The VRAD is connected to an Alcatel-Lucent 7450 Ethernet service switch in the AT&T central office hub and to the Atlanta video headend office. AT&T is also using Cisco set-top boxes and 2Wire HomePortal 3800 Series residential gateways with integrated VDSL modems.

Comcast has deployed Scientific Atlanta and Cisco electronics throughout the property.

How did you deal with wiring and plug access within the units? The Home-Portal 3800 series residential gateways connect to the existing wiring plugs in Post's structured wiring system. No additional wiring was required; the structured wiring system provides coax and Cat 5 cables to all video outlets in the apartments.

Have you provided wireless signals within units? All AT&T U-verse TV and high-speed Internet customers receive both wireless home networking and access to more than 20,000 AT&T Wi-Fi hot spots as part of their U-verse Internet packages.

Comcast does not provide wireless signals within the units, though residents are free to set up their own wireless networks.

How did you allocate space for the network? Space allocation in the telecom closets was determined by combining the requirements of each provider as well as those who might serve the building at some point in the future. Each provider was given the necessary space to accommodate its equipment and distribution cabling. All closets were designed to be shared by multiple providers.

SERVICES

Does the building have triple-play services? Yes. Both AT&T and Comcast provide voice, video and data services to residents.

Can residents subscribe to IPTV? Yes, residents can subscribe to AT&T U-verse, which is a true IPTV technology.

Are there amenities beyond triple play or IP-based systems for managing the property? All amenity areas – outdoor courtyards, swimming pool, Internet café, fitness center, and community room - feature free wireless access from AT&T for all residents.

Video services are available in the community room, Internet café and fitness center.

Access control systems for the property are IP-based. Control units

Today, Post Alexander is served by AT&T and Comcast; the owner can easily add more service providers to the mix.

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located throughout the property are connected via an IP backbone that allows for easy configuration of door and gate access systems.

The property uses a wireless mesh network to collect meter readings from the apartment units. The data is transmitted each night to the corporate office over the corporate wide area network.

Security cameras located throughout the property are all connected to a digital recording device and splitscreen monitor over an IP network. Each camera can be monitored remotely through a Web interface.

Do residents have a choice of service providers?

Steve Sadler: Today they have a choice of AT&T U-verse service or Comcast. The building's infrastructure was designed to support virtually any provider type in any given combination. As an example, we could easily add DIRECTV services to the community through either an MFH-2 or MFH-3 system. Or we could add another Internet provider by installing networking equipment on the existing fiber and copper infrastructure.

Who provides support? If residents have an issue or a technical challenge, whom do they call? Each provider is responsible for supporting its own services.

BUSINESS

Who owns the network? Does the property owner have "skin in the game"? Who paid for what? Post Alexander owns and controls the property infrastructure – all the fiber, copper, conduits and telecom rooms throughout the property.

Each provider is responsible for its own distribution systems and electronics that connect to the telecom closets throughout the property.

Each provider is responsible for keeping all Post-owned infrastructure in good working order and for making any necessary repairs to that infrastructure while delivering services to residents.

Are services automatically included in the rent? If not, what was the initial take Meter readings are collected each day from the apartment units and transmitted to the corporate office over the corporate WAN.

rate? All services on this property are subscriber-based, with residents choosing what they want.

Steve Sadler: As we have gone through the lease-up process, we are running a combined 75 percent take rate on video services, about 90 percent on data services and just under 10 percent on landline phone services. We are unable to measure the take rate of Comcast Digital Voice or other VoIP services. Our only measurable service at this time is landline voice service, which continues to fall out of favor with apartment residents. Increasingly, they prefer to use cell phones as their primary means of voice communications.

Who handles billing and collection? Each provider bills and collects for its own

How are the services marketed, and by whom? If there is a bulk agreement, who markets that? Services are jointly marketed by AT&T, Comcast and the on-site staff.

Post's marketing agreements with AT&T and Comcast are nonexclusive and allow for equal marketing of all services. Marketing efforts include distribution of printed material to residents, Web site exposure and occasional on-site events such as pool parties or other social events.

What has the return been on this implementation, in dollars or otherwise?

Steve Sadler: We measure return both financially and through resident satisfaction, retention and higher lease conversions. Often, the latter factors are difficult to measure from a pure ROI perspective. However, we find that offering residents a choice of high-end technology services, rather than a single provider, tends to promote much higher levels of overall satisfaction with their living experiences. Surveys have shown that residents who are highly satisfied are far more likely to renew their leases than to move. Lease renewals eliminate or greatly reduce our "turn costs," which helps offset the up-front costs of infrastructure. As Post Alexander is still in lease-up, it's a little too early to tell whether our investment has in fact paid off in resident retention and satisfaction.

ON-SITE EXPERIENCE/ LESSONS LEARNED

What was the biggest challenge?

Steve Sadler: There are two primary challenges. The first is getting the development and construction team on board relative to the need and value of a quality network infrastructure. Fiber and Cat 5 don't have quite the same "bling" factor as granite countertops and hardwood floors. Nonetheless, network wiring is key to a 21st-century apartment community. The second challenge is getting service providers on board to make sure they utilize the network to its fullest advantage. Often, providers' standard installation practices can run contrary to the intended purpose of a structured wiring system.

Both MSOs and telcos tend to establish their installation practices based on a one-size-fits-all model. For them, that size is typically a singlefamily home model. Their techs and installation manuals are geared toward bringing copper or fiber to the side of the house, establishing a point of demarcation, and then connecting the TV and/or computer to "their" network with a dedicated connection back to the demarcation point.

The challenge is that these installations don't generally account for a local area network type of design. As an example, when an MSO installs a cable modem, it installs the modem

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at the same location as the computer. This is fine if there is no structured wiring inside the walls. But when structured wiring is present, this type of installation makes networking other computers difficult - you end up having to modify the wiring system in order to backfeed the connection to the structured wiring panel.

In our case, most of our apartments have structured wiring, which means the modem should go in the communications panel, facilitating easy network connections throughout the apartment. Having to backfeed into that panel can often void the warranty we have on our wiring systems and create a trouble ticket for the next resident.

Similarly, telcos often want to modify the wiring in order to install their VDSL filters. They also install their gateway devices at the TV or computer and, again, try to backfeed to the structured wiring panel. These types of installation challenges should be simple to correct, but the majority of field techs are trained to complete an installation in one way; it produces a myopic view in how they look at any implementation.

In a structured wiring system, the network components are designed to be installed inside the structured wiring panel so that all devices can connect to the Internet or other outside service connections. This offers residents the ability to network any additional devices - printers, VoIP adapters, gaming modules or Wi-Fi routers - with a simple patch-cable installation, which is what they want: to be able to plug whatever device they're using into the wall and have it work.

Making sure you coordinate your expectations with your service providers and their technicians up front is critical.

What was the biggest success? Steve Sadler: Realizing that the decision



A typical outlet in a Post Alexander apartment has RJ-45 ports for phone, IPTV and data, along with a single coaxial port to support traditional coax-delivered video.

to install a quality structured-wiring system and bring multiple providers onto the property was the right thing to do. We find that residents enjoy having a choice and being able to determine their own technological destiny, rather than having someone else make that determination for

What would you say to owners who want to deploy a similar network? What issues should they consider before they get started?

Steve Sadler: Failing to install at least a minimal network is not an option. In today's world, you simply can't ignore the technology factor of a community. Most important, get help in making the right decision. Spending a few bucks on the front end on some sage advice is critical.

Often, developers are hesitant to spend money on things they can't see (such as wiring behind the wall), so even if they agree to install structured wiring, it is often bare-bones.

Although you have to be very cost-conscious, it's critical to find someone knowledgable about wiring systems to help you design a system that accomplishes your goal of having a networked apartment and at the same time offers the necessary interfaces for the service providers that you will be using.

An example is picking the right size wiring panel for the apartment. You need to make sure the panel is large enough to accommodate providers' gateway equipment, such as cable modems, embedded multimedia terminal adapters and wireless gateways.

Second, the interconnection points within that panel need to accommodate providers' installation practices so you don't have them butchering your wiring and potentially voiding your warranty from the installer or the manufacturer.

The number of connections in the apartment is really a matter of budget and preference. The critical parts are the wiring panel and the home runs to the telecom closet and insuring that they are sized appropriately.

We consulted with InfiniSys Electronic Architects on this project for that very reason. They are the best in the business at designing systems that meet the needs of the owner, as well as those of the service providers.

What is the property manager's perspective on this installation? Has it been a success? What has been the response from residents?

Steve Sadler: The advanced technology is definitely a benefit to our residents. Residents who understand the technology behind what we've done are impressed by the building's capabilities. On the whole, residents and prospects really like the fact that they have a choice of providers. Many have also been extremely impressed by the new AT&T U-verse product that is available here. BBP



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