

Trump Towers Sunny Isles Beach, Florida

By Joe Bousquin ■ *Contributing Editor, Broadband Properties*

This month we showcase the Trump Towers triplex in Sunny Isles Beach, Fla., a condominium designed for residents who expect the best of everything, including broadband. Our thanks to Hotwire Communications' chief operating officer Eric Roden and head network engineer Chris Arisso for their assistance in preparing this feature.

The luxury residential and hospitality properties bearing the Trump name are known for their resident-pampering amenities and for the cutting-edge technology infrastructure that enables those amenities. The Trump Towers triplex in Sunny Isles Beach, Fla., is no different from its predecessors. The project's partners, which include the Trump Organization, New York-based Dezer Development and the Miami-based Related Group of Florida, knew they would have to provide enough bandwidth to meet residents' needs today and into the future. This was a challenging proposition because the average buyer at this up-and-coming North Miami address was expected to have four video screens and to demand leading-edge, IP-based technology.

To meet buyers' anticipated demands, the partnership turned to Wynnwood, Pa.-based competitive local exchange carrier (CLEC) Hotwire Communications, an independent fiber optic service provider that focuses on multifamily deployments. Using Motorola equipment, Hotwire rolled out a GPON solution based on Motorola AXS 2200 optical line terminals (OLTs). A single chassis populated with Motorola OLTs can serve more than 2,300 subscribers, which not only enables Hotwire to light all the towers' units but also gives the company a single troubleshooting touch point when support is needed.

"One chassis does everything, and that's really the benefit you're getting with a GPON deployment like this," says Chris Arisso, Hotwire's head network engineer. "You really have just

two pieces of equipment: your chassis coming into the building and the individual ONT [optical network terminal] in each residence. If something goes wrong, chances are it's one of those two things."

Combine that with Motorola's AXSvision element management system (EMS), which includes an advanced graphical user interface, and Hotwire can solve many problems right from its own call center. "It's a fully integrated, full-control EMS, which allows us to see and do a lot more remotely," says Eric Roden, Hotwire's chief operating officer. "Everything's on one



BROADBAND PROPERTIES

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screen, so once you have a customer talking with a technician, you can actually see that customer's individual ONT pop up in real time, right on your monitor. It's true plug-and-play, self-discovery technology, and it works how it's supposed to work."

The single-vendor approach has not only helped cut back the number of truck rolls to the property but also enabled Hotwire to light each unit with a flick of a switch. Even though pulling the fiber backbone through the towers took months, activating the service took only a day.

"The GPON system is basically a one-day type of installation after the fiber infrastructure is put into place," Arisso says. "Because it's a passive technology, there aren't that many pieces to touch. It allows us to build very quickly and continue to be competitive."

Hotwire used Motorola 1400 GT ONTs to feed a triple play of voice, video and data to each unit, with Motorola VIP 1216 set-top boxes supporting IPTV service. Through a bulk arrangement with the developers, Hotwire provides a standard video and data package, included in residents' condominium fees, of 75 television channels and 7 Mbps downstream/1 Mbps upstream Internet access. These basic services are automatically activated when residents move in and upgrades are available for expanded video offerings, faster upstream data speeds and IP-based telephony. The network is capable of supporting Internet speeds up to 100 Mbps.

Other IP-based services are also available to residents. As one would expect in an oceanfront property bearing the Trump name, residents can interact with the buildings' management and concierge through IP-enabled touch screens installed in their units. At the touch of a digital pad, they can communicate with other building residents, reserve meeting rooms, request valet service, schedule service calls or send and receive e-mails.

VITAL STATS

Trump Towers in Sunny Isles Beach, Fla., with three towers of 271 units each, is a premier high-rise condominium development just north of Miami built by a partnership consisting of the Trump Organization, Dezer Development and the Related Group of Florida. Boasting the luxury amenities that are the Trump hallmark, the residences include private elevator foyers, 10- and 11-foot ceilings, floor-to-ceiling windows and views of the Atlantic Ocean and Intracoastal Waterway. Wolf and Sub-Zero appliances are kitchen standards, while Italian cabinetry and granite and marble countertops grace the kitchens and bathrooms. In-building amenities include 24-hour concierge services, a three-story lobby, state-of-the-art fitness center and health spa and access to 250 feet of sugar-white beachfront.

Greenfield or retrofit? Greenfield

Number of units: 813

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

Time to deploy: Fiber long-haul, vertical and horizontal deployments were completed during the construction phase over a period of several months. Implementation of the Motorola AXS 2200 OLT chassis was completed in a single day.

Date services started being delivered: January 2008

TELECOMMUNICATION AMENITIES

TRUMP TOWER 1

PACKAGES AND PRICING

BULK CABLE CHANNELS	INCLUDED	Included in Monthly Master Association fee Over 75 Channels
DIGITAL CABLE PACKAGES*		All Packages include Digital Local Channels and over 50 Sirius Satellite Radio Channels. Digital Converter Box required
DIGITAL PLUS	\$22.99/mo	Over 200 pure digital channels! Over 30 commercial free music channels Ability to add on premiums and get Pay Per View
DIGITAL MOVIE LOVERS	\$32.99/mo	Over 250 pure digital channels! Over 40 commercial free music channels Includes The Movie Channel and 7 Encore channels FREE!
THE WORKS	\$62.99/mo	Every channel we offer - over 300 channels! Includes over 30 Premium Movie Channels! Get Premium Channels in High Definition (with HD subscription)
PREMIUM MOVIE PACKS	First Premium \$14.99/mo Second Premium \$12.99/mo Third Premium \$11.99/mo Fourth Premium \$10.99/mo	Must subscribe to a Digital Cable Package to add Premium 1.  2.  3.  4.  Order The Works to get every Movie Pack!
HDTV PACKAGES		Requires HD Ready TV and HD Converter Box
HD PACK	\$10.00/mo	Up to 75 HD channels!
HD SUPERPACK	\$20.00/mo	Includes NBA HD, NHL HD, HDNet Movies and more!
OTHER PRODUCTS		
DVR	\$12.99/mo*	Pause, rewind and replay live TV! Plus, record your favorite shows and watch them whenever you want! *\$12.99/monthly fee is in addition to your converter box fee and applies per digital converter box.
DIGITAL CONVERTER BOX	\$4.99/mo	
HD CONVERTER BOX	\$6.99/mo	
HIGH-SPEED INTERNET	INCLUDED	Free "HWMAIL.NET" Email Account Expanded Virus Protection and Anti-Spam Abundant Storage Up to 7 Mbps!
PHONE SERVICE	\$29.99/mo	Includes Unlimited Local and Long Distance Calling *FREE for the first year with subscription to Voicemail.
Voicemail	\$5.00/mo	
Advanced Web-based Phone Features	\$1.99/mo*	

Packages and prices subject to change. Taxes, fees, and usage charges additional and apply to free, discounted, and non-documented offers for all Hotwire packages, products, and services. Digital Cable Converter Box required to view Digital Cable service. Subscription to Digital Cable required to receive DVR/HD services. HD SuperPack, Premium Digital Movie Packs, and International programming packages. Some HD channels only available with Digital Movie Lovers or The Works packages. Actual speeds for Standard and Premium Internet service will vary due to a variety of factors. Alaska, Hawaii, and Puerto Rico not included in Unlimited Nationwide calling area. Certain restrictions apply.

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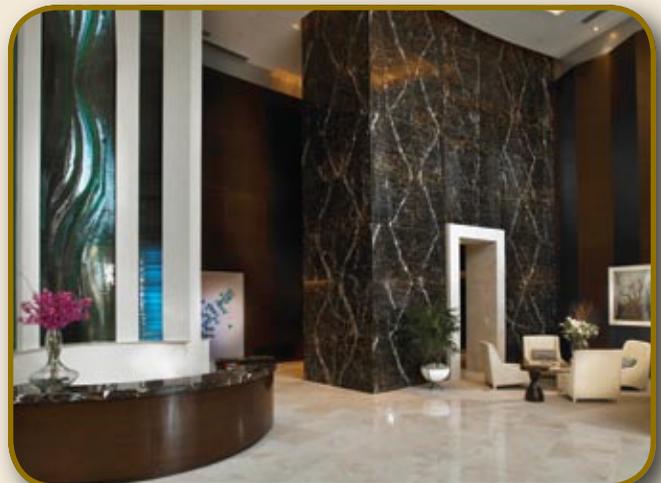
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TECHNOLOGY

How does the fiber get to the property? Fiber enters the property at a Motorola AXS 2200 OLT chassis capable of supporting more than 2,300 subscribers.

How is fiber distributed inside the property? Fiber is brought to each tower through a horizontal subterranean conduit and distributed vertically through the buildings' conduit risers. A splitter on each floor routes fiber to a Motorola 1400 GT ONT in each residence. From the ONT, runs of RG-6 (coaxial cable, for video) and Cat 5e (Ethernet cable, for data) lead to an average of three wall plates per residence.





Why did you choose this distribution architecture? The single point of implementation simplifies servicing and troubleshooting. If something goes wrong, chances are it's either at the chassis or the individual ONT in the unit. Using the AXSvision EMS, we're able to monitor and troubleshoot any issues remotely, drastically reducing our need for physical truck rolls.

What is the FTTH technology? This GPON deployment uses a Motorola AXS 2200 chassis at the point of entry, a Motorola 1400 GT ONT in each unit and Motorola VIP 1216 IP-capable set-top boxes for video delivery.

Where is the ONT located? The Motorola ONT, which is a single-family unit, is placed in a closet inside each residence. From there, RG-6 and Cat 5e cable runs lead to structured-wiring panels in the homes.

How was the technology installed to reduce cost and protect the aesthetic? During construction, fiber was laid in conduit risers throughout the buildings.

Have you provided wireless signals within units, or are residents free to set up their own wireless access points? Residents are free to set up their own wireless networks within their homes.

SERVICES

Does the building have triple play-services? Yes.

Can residents subscribe to IPTV? Yes. Hotwire is using IP protocols delivering multicache technology with MPEG-2 and MPEG-4 streams. Motorola's MPEG-4 HD encoders and IP set-top boxes allow us to offer more than 40 HD channels and 300 VoD channels.

Are there amenities beyond the triple play or IP systems for managing the property? Hotwire deployed and maintains several Wi-Fi hotspots in the common areas, including the pool and beach areas. Other amenities delivered over Hotwire's network include touch panels in the units for concierge services. Residents can make requests to the property manager and receive notices about community events and package deliveries. The system is also capable of providing surveillance services to residents.

Do residents have a choice of service providers? No. Although Hotwire does not have an exclusive service agreement in the Towers, it is the sole provider at present. Standard video and data services (75 channels, 7 Mbps downstream/1 Mbps upstream Internet speeds) are included in residents' condominium fees. Homeowners have the option to upgrade their video and data packages, as well as to choose an IP-based telephony package for an additional monthly fee. See the accompanying rate card for details.

Who provides support? Hotwire provides all support. With the single-point implementation, coupled with the AXSvision EMS system, most problems can be solved remotely.

BUSINESS

Who owns the network? Hotwire owns the network in the building and has a service-level agreement in place with the condominium association.

Was there a door fee? Hotwire paid a confidential fee to the development partnership.

Are services automatically included in the rent or condo fees? Yes.

Who handles billing and collection for premium services? If residents choose to upgrade their services, Hotwire bills them directly.

How are the services marketed and by whom? When they move in, residents receive orientation packages and can choose to upgrade services at that time. By visiting Hotwire's Web site, residents can see all the additional programming, data and telephony packages available in their building.

What has been the return on this implementation, in dollars or otherwise? This implementation has allowed us to meet customers' expectations and demand for leading-edge technology. We've also found that residents at this community, with an average of four video screens per unit, are very technology-aware and expect to be able to do what they want with the various devices in their homes. As more and more devices become data-centric, we're seeing convergence on a daily basis, such as refrigerators with TV sets built in to them or with a coaxial or Ethernet jack in the back.

ONSITE EXPERIENCE/ LESSONS LEARNED

What was the biggest challenge?

Chris Arisso, head network engineer, Hotwire: The biggest challenge was ensuring that the fiber backbone and infrastructure were laid correctly from the beginning. While the single-point implementation has huge advantages in terms of troubleshooting when issues arise, that's all predicated on the network's being set up correctly in the first place.

With three towers coming out of the ground, you've got at least 750 fiber strands. And because we do duplex on a lot of these, you have 1,500 fibers coming into the community. If one of those is wrong, or a split is done incorrectly, you've got to multiply that all the way through from your split count and how much fiber you're actually working with. The details will kill you. You've got to make sure everything is right from the beginning and make sure each point and segment is documented and tested so when it comes time to turn everything on, you know exactly where everything is and you know it's going to work.

What was the biggest success?

Eric Roden, chief operating officer, Hotwire: One-day implementation of the Motorola chassis. Assuming everything has been installed correctly, when you turn it on and it connects to the ONT in an individual unit, you can see the serial number on that piece of equipment and mark it. Now you know exactly where it is and you can always keep that information. Then, because we have AXSvision, we can see everything on one screen. Once you get a customer on the line with a technician, you can actually see that ONT pop up in real time. This is true plug-and-play self-discovery, and it works the way it's supposed to work.

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

Chris Arisso: You've got to choose the right partners. You've got to partner with

someone who's going to go through the implementation with you so you can troubleshoot it together. The last thing you want is a vendor who's going to sell you the equipment and then turn their back on you.

If there's a property owner out there that's trying to do something like this for the first time, if he

doesn't have somebody next to him whose been down this road before, he's not going to be very happy for the first two or three deployments.

Finally, test everything twice, document everything three times and then test it again after you've documented it to make sure it's right. **BBP**

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