

Connectivity Powered by Dynamic Relationships: World Cinema Partners With Positron Access Solutions

Using Positron's G.hn and World Cinema's RF expertise enables property managers to offer lightning-quick, cost-effective, dependable gigabit internet speeds to MDU tenants.

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Experienced in upgrading and optimizing outdated network wiring, World Cinema utilizes G.hn by Positron Access Solutions to improve connectivity sustainably in multifamily communities. The partnership allows for the in-depth analysis of cabling specifics and electrical as-built drawings of active properties to design a custom wiring solution to accommodate, rather than replace, each property's unique, pre-existing infrastructure.

Utilizing Positron's G.hn and the RF expertise of World Cinema enables property management companies to offer lightning-quick, cost-effective, dependable gigabit internet speeds to their tenants in multiple-dwelling-unit (MDU) properties. By leveraging existing telephone and coaxial wiring, property management companies can improve their service levels without needing any building retrofit, which can be expensive and disruptive. In this way, property management companies can expand the values they deliver with an impressive ROI and minimal capital outlay.

The transformative nature of G.hn applications will make communitywide Wi-Fi an industry standard in MDU environments. The broad installation of intelligent building systems including cameras, sensors, environmental controls and asset-tracking systems are becoming essential amenities for an improved resident experience. Residents will come to view

community Wi-Fi systems as a building asset, similar to how they view roofs, common-area access controls, and driveways and parking lots today. Owners who do not keep up with these developments will see their communities' quality and capitalized value suffer.

ENVIRONMENTAL AND ECONOMIC BENEFITS

The G.hn application extends the lifetime usability of legacy wires, including standard telephone wiring, coaxial cable, overhead power lines and plastic optic fiber. In addition to providing future-proof technology, the G.hn application is a financially sound investment to improve existing structures and accommodate the growing need for reliable connectivity.

The benefits of G.hn are tenfold, from both economic and environmental standpoints. Instead of removing and replacing outdated coax or telco paired wiring systems, the World Cinema and Positron teams can build upon existing structures and advance connectivity through G.hn application implementation. Reuse of wiring reduces the number of truck rolls, eliminates the need to manufacture and ship fiber (typically from Asia) and does not require decommissioning and recycling the existing wiring. This saves energy and eliminates unnecessary gas emissions that amplify the greenhouse effect.



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Some benefits of a multiwire standard include lower equipment development costs and deployment costs for service providers. In addition, because the World Cinema solution is uniquely designed to work upon existing wiring solutions, a high return is achieved with reusing existing coax. Building upon the existing system eliminates the need for the major construction projects typically required for removing structured cabling and associated infrastructure.

G.HN'S ADVANTAGES

The G.hn system is designed to improve propertywide connectivity. Designed for minimal interference, G.hn is a full-spectrum solution for high-density multifamily housing.

Through this process, the G.hn application can optimize the spectrum of coaxial cabling to achieve superior bandwidth to DOCSIS 3.1 in upstream and downstream directions. With G.hn, multifamily properties can deliver advanced connectivity services, including 4K IPTV and VoIP, with minimal interference, as the program does not use any spectrum that overlaps with CATV content.

For instance, G.hn access points and quadrature amplitude modulation (QAM) can exist simultaneously without interference. Properties currently using a QAM infrastructure for CATV will still benefit from adding G.hn. A QAM system's downfall is more significant power consumption,

whereas G.hn is eco-friendly and provides higher speed links for larger systems, such as televisions and set-top boxes. This is beneficial to the multifamily communities World Cinema works with. Providing lower costs and environmentally friendly solutions compatible with existing wiring is a priority to ensure a better, more straightforward structure. In addition, G.hn connectivity advancements are designed to allocate dynamic bandwidth per subscriber, establishing the solution as a necessity to future-proof growing communities.

SOUND BROWNFIELD PROCESS

World Cinema has developed a proven process to ensure successful and sustainable deployment in existing (brownfield) properties:

- **In-Depth Site Surveys:** The World Cinema site survey begins with carefully analyzing each property's unique needs. Built from the ground up, the solution accommodates each property's unique blueprints and connectivity requirements. Site surveys are critical to ensure systems are updated in the most economical way for each property's connectivity requirements.
- **Minimal Interruption:** The deployment process is aligned to complement, rather than disrupt, established occupancy turn processes. With little to no downtime, the installation enables propertywide connectivity, allowing

residents to immediately connect to the internet without reauthorizing as they move about the property.

- **Continued Support:** World Cinema and Positron provide subscribers with an extensive support team dedicated to each property's continued development and operation, designing customized, future-proof solutions to ensure the network is both a sustainable and buildable foundation for upcoming technologies, such as Web 3.0, Wi-Fi 7 and 5G. The answer is a cost-effective, long-term technology partnership. Likewise, G.hn technology is designed to be adapted and improved upon to grow in tandem with each property, working together to accommodate any future needs that may arise. In addition, the partnership provides subscribers with instant support and remote system management from the World Cinema Service Center, a 24/7/365, multi-tiered support system located in Houston, Texas. As consumer reliance on connectivity grows, continuous customer service is increasingly essential for multifamily communities.

LESSONS LEARNED

The installation of the GAM solution by the WCI team highlighted the importance of a careful pre-deployment site survey, which is applicable to coaxial and telephone wiring reuse with G.hn.

MULTIFAMILY BROADBAND

For MDUs where the telephone wiring will be reused, the continuity of pairs currently used for VDSL2 or even telephone service (POTS), does not require any additional validation because G.hn is permissive and will operate without further pair qualification or grooming. For unused pairs, performing a continuity test using the same tools and techniques used for the last 20 years for xDSL is essential. Bad pairs can then be identified and repaired as needed.

When reusing coaxial cabling, understanding how each room or apartment is connected is essential. Most MDUs are cabled with “home run” coaxial cabling to a familiar location (MDF, IDF or outdoors near the building), where taps or splitters can be installed in a point-to-multipoint mode to reduce the connectivity cost of each subscriber. Unlike CATV and DOCSIS, G.hn does not require coaxial amplifiers and fine-tuning with attenuating taps.

If cohabitation with CATV is needed, the G.hn signal shall be injected downstream of the CATV/DOCSIS amplifier with a simple 2:1 combiner device. Otherwise, if migrating to IPTV or streaming, these amplifiers and attenuating taps shall be removed as they are no longer helpful.

For some properties, a comprehensive site survey is not always an option. For instance, a property of about 450 doors no longer had up-to-date coaxial cabling diagrams. In this case, rather than spending days “toning out” each coaxial drop with specialized equipment to document the coaxial infrastructure, Positron recommends installing the GAM devices in each wiring closet, pre-installing the G.hn endpoint devices in each room or apartment, and recording a serial number of each instrument against the room or apartment number. Using the endpoint auto-detection feature for each coaxial port of the GAM,

it is simple and efficient to use this information to document which door is served by each coaxial segment fully.

Positron learned that G.hn is robust and forgiving regarding less-than-stellar existing wiring. It’s possible to plan fiber extension by reusing the existing wiring in a building without too much concern about potential complexity, cost or performance issues. ❖

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