



# Boost Efficiency Using Existing Wiring and Indoor Wi-Fi Solutions



“It’s all about delivering an exceptional customer experience for both the property owner and hotel guests. It takes the right technology and partners to meet this expectation, and that’s why we’ve chosen to work with World Cinema and Cambium. By leveraging World Cinema’s world class design, installation, and network management expertise, and harnessing the Positron GAM’s ability to extend gigabit speeds over the existing in-building wiring along with Cambium’s unmatched Wi-Fi 6 performance, efficiency, and reliability, we can create a seamless and satisfying user experience for everyone.”

PIERRE TRUDEAU,  
PRESIDENT & CTO,  
POSITRON ACCESS SYSTEMS

**FOR HOTELS LOOKING TO UPGRADE** their connectivity, rewiring can be an invasive and expensive option. Hotels with existing coaxial cabling or telephone wiring can make use of their current situation by utilizing a solution like Positron Access Systems’ G.hn Access Multiplexer (GAM), leveraging the ITU-T G.hn standard for Gigabit Ethernet over existing wiring and indoor Wi-Fi solutions from Cambium Networks to dazzle their guests.

Affordable Suites Hotels ([www.affordablesuites.com](http://www.affordablesuites.com)) offers guests spacious, full-featured suites for daily, weekly and monthly stays. They are the traveler’s smart choice with plenty of room, an open concept full kitchen and the comforts of home. Just as is the case at home, the Wi-Fi needs to perform. With 27 locations in the Midwest and Southeastern U.S., Affordable Suites is focused on optimizing the resident experience.



What Guests Want	What Hotel Property Owners Want
<ul style="list-style-type: none"> <li>Reliable and secure high-speed connectivity with low latency for video meetings, streaming and gaming</li> <li>Coverage across the property’s entire footprint, including all common areas, to allow for roaming</li> <li>Easy-to-use interface to add new devices or guests</li> </ul>	<ul style="list-style-type: none"> <li>Differentiated, hassle-free offering providing guests advanced Wi-Fi</li> <li>Gigabit Ethernet backbone solution to the guest room without rewiring</li> <li>Deliver a superior value and guest experience</li> <li>Enable a digital strategy for cameras, locks, sensors and more</li> </ul>



## Challenge: Upgrade Wi-Fi in an Existing Hotel Efficiently

**ONE OF THE KEY AMENITIES** in hotels and resorts is reliable, high-speed Wi-Fi access. The Grand Rapids and Warren, Michigan hotel locations needed to improve their existing DOCSIS-based offering. Many guests were experiencing unstable connectivity in their rooms.

Affordable Suites contacted World Cinema Inc. (WCI) to develop a solution to provide faster Wi-Fi access throughout the property and more stable Gigabit Ethernet over the existing coaxial infrastructure. In addition, the solution needed to support seamless roaming for guests and client isolation to ensure secure access.

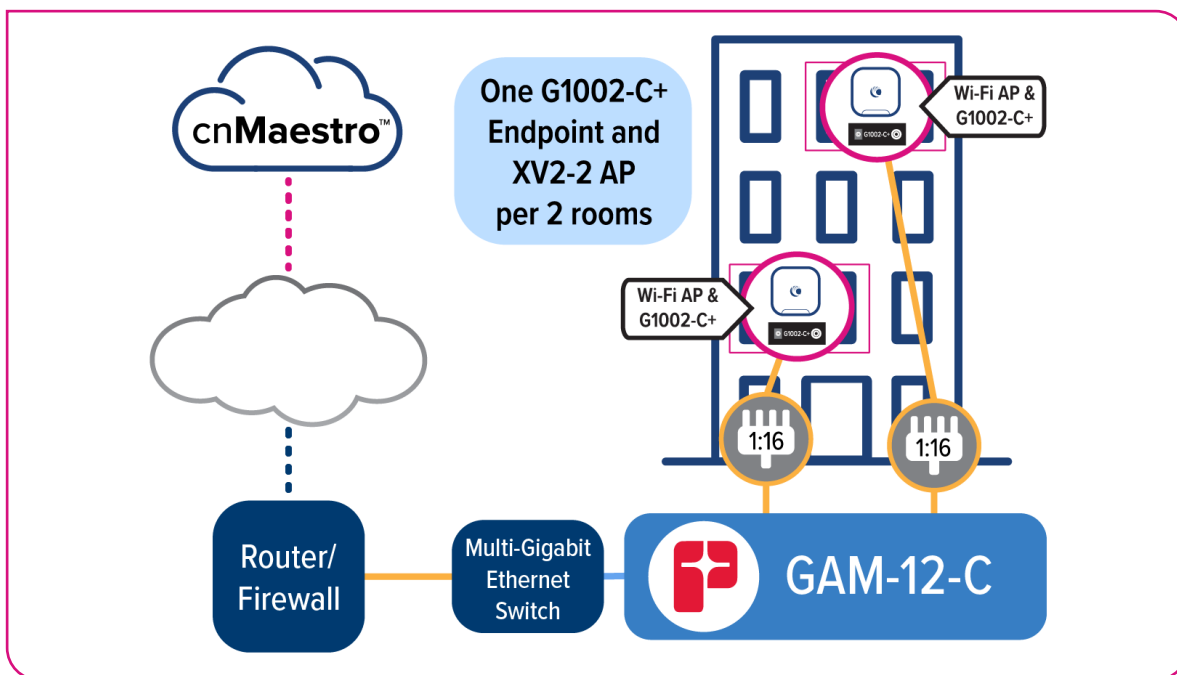
Many hospitality venues are older and would like to use existing coaxial cable wiring for voice, video and data. These buildings are not easily suitable for Fiber to the Door (FTTDoor) deployments where a complete overhaul of the existing infrastructure is impractical. The key to addressing such buildings is the Positron G.hn Access Multiplexer (GAM).

## Solution – Sophisticated Access Made Simple

**AFFORDABLE SUITES WANTED TO MAXIMIZE** performance while leveraging their existing coaxial cable infrastructure. They contacted World Cinema, Inc. to develop a solution for faster Wi-Fi access throughout the property. In addition, they needed to support seamless roaming for guests and client isolation to ensure secure access. “WCI has specific experience in designing and installing solutions in both new construction and existing venues,” says Kyle Beauchamp, Vice President, ImpruviX Division of World Cinema. “Our network design and field technicians know the real-world performance that products deliver. We work closely with manufacturers and can optimize networks to deliver the best performance. We chose the G.hn Access Multiplexer (GAM) from Positron to leverage the existing coaxial cabling and indoor Wi-Fi APs from Cambium Networks.”

“When a property owner is sitting on coax, we can use the infrastructure to bring Gigabit capabilities. It’s an effective way to get them from either Wi-Fi 2 or 3 to Wi-Fi 6 without construction and associated costs.”

*Kyle Beauchamp, Vice President, ImpruviX Division of World Cinema*



To facilitate faster Wi-Fi, the broadband link to the guest room must deliver adequate capacity. That is where the Positron GAM fits in. With its unique ability to deliver up to 1.7 Gbps aggregate bandwidth (upstream plus downstream) to each subscriber with low latency over the existing coax (or telephone pairs), the GAM is the ideal Gigabit Ethernet Backbone for the Cambium APs. In these projects, each GAM G.hn coax port served up 32 guest rooms. This was done using a 1:16 split on a GAM port and then serving every two rooms with a GAM Endpoint device connected to a AP. In such a configuration, the 1.7 Gbps of maximum available bandwidth on each GAM port is used to serve 32 guest rooms.

“Technology is the backbone of the guest experience. By investing in our partnership with World Cinema, Cambium, and Positron, we can have a solid foundation for additional technologies to be supported.” – Chris Rutherford, Chief Operating Officer, stayAPT Suites

Below are the design details for each of the two projects.

Grand Rapids, MI	Warren, MI
<p><b>Property:</b> 12 two-story, garden-style buildings with a total of 96 guest rooms.</p> <p><b>Broadband Connection to the Property:</b> Comcast DOCSIS, 600 Mbps DS and 30 Mbps US.</p> <p><b>Positron GAM Design:</b> One GAM-12-C in the MDF using 1:16 split ratio on each coax port. One G1002-C+ Endpoint used for every two units feeding one Cambium AP with VLAN trunking support and POE+ to power in-room APs.</p>	<p><b>Property:</b> One two-story and two three-story buildings with a total of 80 guest rooms.</p> <p><b>Broadband Connection to the Property:</b> Comcast DOCSIS, 600 Mbps DS and 30 Mbps US.</p> <p><b>Positron GAM Design:</b> One GAM-12-C in the MDF using between 1:9 and 1:16 split ratios on the coax ports. One G1002-C+ Endpoint used for every two units feeding one Cambium AP with VLAN trunking support and POE+ to power in-room APs.</p>
<p><b>Cambium Networks APs:</b> XV2-2 or cnPilot e410 APs deployed with a 2:1 room-to-AP ratio. Roaming and client isolation enabled in all APs.</p> <p><b>Network Management:</b> Cambium cnMaestro™ for the APs. Positron GAM managed remotely in-band on a dedicated VLAN behind router/firewall with VPN to Data Center.</p>	

## Considering Offering Broadband?

Hotel operators don't want or need to be IT professionals. With reliable technology from Cambium Networks and Positron, system integrators like WCI can design solutions that deliver efficiencies from day 1 and can continue to evolve as needed to support security and smart building initiatives. “Hotel property owners need solutions that they can count on to satisfy guests,” says Scott Crawford, Market Manager, Cambium Networks. “WCI and Positron deliver solutions that meet the needs of guests and enable IoT transformation initiatives to further boost efficiency. This enables hotels to focus on their core business while having a sustainable competitive advantage with highly reliable and efficient communications infrastructure.”

“Many hospitality property owners see the possibilities, and others are a little scared to put their foot in the water,” says Blake Bolin, Director of Strategic Market Sales, World Cinema. “Each has to weigh the ROI against the potential problems. If you don't put in the right infrastructure, you could be flooded with calls from guests. Or even if it's the right equipment but not installed properly, you create problems for the property. Those who do it right are going all in from a technological standpoint. In addition to Wi-Fi for guests, it also enables the efficiencies of digital transformation to a smart building. From smart

thermostats and smart door locks to surveillance, you get the added technology benefits that can reduce costs and improve efficiency.”

“World Cinema is a service company that deploys and supports property technology. We focus on the needs of the property owner and the residents.”

*Kyle Beauchamp, Vice President, ImpruviX Division of World Cinema*

#### ABOUT CAMBIUM NETWORKS

[Cambium Networks](#) enables service providers, enterprises, industrial organizations, and governments to deliver exceptional digital experiences and device connectivity with compelling economics. Our ONE Network platform simplifies management of Cambium Networks’ wired and wireless broadband and network edge technologies. Our customers can focus more resources on managing their business rather than the network. We deliver connectivity that just works.

#### ABOUT POSITRON ACCESS SOLUTIONS

[Positron Access](#) carrier grade telecommunications products increase the bandwidth delivered and the distance that it can be delivered to subscribers within the core access network and within residential and multi-tenant buildings using the existing wiring infrastructure. Positron’s GAM enables service providers to deliver full featured non-blocking symmetrical Gigabit services over a building’s existing coaxial or telephone pair wiring, obviating the need for an expensive, disruptive, and time-consuming fiber or CAT5/6 building retrofit.



#### ABOUT WORLD CINEMA, INC.

[World Cinema, Inc.](#) (WCI) is a trusted provider of video, advanced connectivity and professional services to properties and enterprises. With a dedication to customer service, WCI is leading the way in delivering innovative technology solutions that enhance the resident, guest, and staff experience. From managed services to digital transformation, WCI is a single point of contact for all a property’s technology needs.



Founded in 1974, WCI is a privately held company headquartered in Houston, Texas. The company serves over 7,000 properties with nearly 900,000 rooms under management.