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Premium Connectivity Delivered Fast: TerraNova Reduces Fiber Costs by 70% with Comtrend's OpenPON Solution

TERRANOVA™

"Comtrend's solution was a game-changer—**fast, cost-effective, and seamless.** We got premium connectivity, full control, and huge savings, **all in just four weeks.**"

Dylan Billmaier
Chief Technology Officer
TerraNova Equestrian Center

OpenPON: How TerraNova Brought Premium WiFi to Guests—On Time and Under Budget

- **TerraNova**, a premier equestrian center, was expanding its services to include guest lodging—and **needed to deliver high-performance WiFi, fast.**

- With major events approaching, they required a solution that matched their premium brand and could be operational in weeks, not months.

- **Comtrend delivered with OpenPON**—an open, low-cost fiber architecture that eliminates vendor lock-in. Comtrend's ONTs integrated seamlessly with the Ciena MicroPlug OLT, reducing equipment needs and enabling full deployment just four weeks after the initial request. Paired with Comtrend's WiFi 6 Ethernet Gateway, the solution delivered rock-solid, high-speed connectivity.

- **The result? Significant cost savings**, scalable infrastructure, and **zero guest complaints** since launch.

70% Cost Savings

Up and Running in 4 Weeks

Superior WiFi Coverage & Speeds

BACKGROUND

TerraNova Equestrian Center, a premier destination for equestrian enthusiasts, was expanding its services to include guest lodging. With Phase 1 introducing 20 rental RV cabins—each sleeping up to 6 guests—TerraNova needed a fast, cost-effective, and scalable fiber solution to deliver premium internet and entertainment experiences. Time was critical—with major equestrian events on the horizon, the network had to be fully operational in weeks, not months. Cell service in the campground is often spotty, making high-quality WiFi essential for both guests and staff.

THE CHALLENGE:
Competing solutions fell short:

- They were cost-prohibitive, requiring over $100K in hardware plus substantial annual licensing fees

- They relied on large aggregation switches, adding expense, complexity, and cooling requirements—unsuitable for smaller, distributed deployments

- They lacked the scalability and flexibility needed to grow without major infrastructure changes

Phase 1: Required 20 Lodging Sites Equipped with High-Performance Wireless

THE RESULTS & BENEFITS

Comtrend's OpenPON solution delivered.

✅ **Enhanced Guest Experience**
- **Delivered fast, reliable WiFi throughout all lodging areas**—including full coverage inside RV cabins, on decks, and surrounding outdoor spaces
- Enabled live streaming of equestrian events, seamless access to streaming services, and Wi-Fi calling **with zero guest complaints**

600+ Unique Devices Connected   **7** Weeks of Shows   **8.4TB** Data Consumed

✅ **Significant Cost Savings & Rapid Deployment**
- **Reduced costs by 70%** compared to traditional solutions
- **Lowered ongoing licensing fees**, avoiding the burden of legacy systems
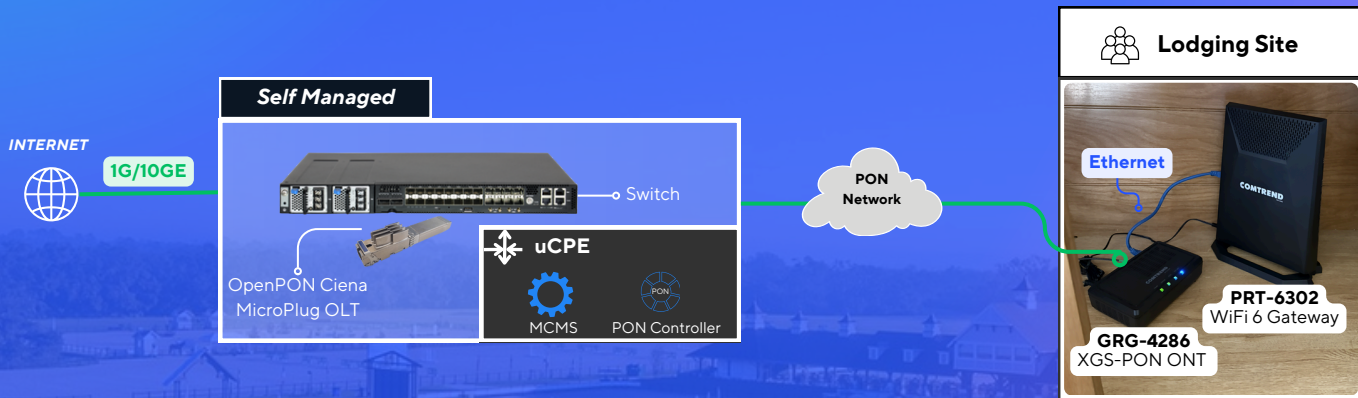- Fully **deployed in just 4 weeks**, meeting aggressive timelines with ease

✅ **Operational Flexibility**
- Remote management and monitoring were simple, enabling easy oversight from Day 1-giving TerraNova full control
- Rapid, plug-and-play setup allowed seamless rollout of units—an essential factor for keeping pace with fast-moving development and event deadlines

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Seamless High-Speed Connectivity for Guests

Will Scale up to 60 Lodging Sites | 1 OLT | 60 ONTs | 60 Gateways | MCMS Management

INTERNET
1G/10GE

Self Managed
Switch
OpenPON Ciena MicroPlug OLT

uCPE
MCMS   PON Controller

PON Network

Lodging Site
Ethernet
PRT-6302 WiFi 6 Gateway
GRG-4286 XGS-PON ONT

SOLUTION ELEMENTS

TerraNova chose Comtrend's OpenPON solution, which provided an optimal balance of affordability, performance, and scalability. The solution included:

* **MCMS Management System** – A user-friendly platform for seamless network management.

* **Ciena OpenPON MicroPlug OLT** – A compact, cost-effective, scalable architecture that delivers 10 Gigabit XGS-PON.

Comtrend XGS-PON ONTs – Reliable fiber-to-the-room connectivity.

Comtrend WiFi 6 Ethernet Gateways – High-performance wireless connectivity for guests.

* Not sold by Comtrend

Network Architecture Diagram

Phase One: Completed
1:20 Sites

Phase Two: Upcoming
1:40 Sites

Central Office

INTERNET

OpenPON Ciena MicroPlug OLT (1:128)

uCPE
MCMS   PON Controller

Lodging Site

Ethernet

PRT-6302
WiFi 6 Gateway

GRG-4286
XGS-PON ONT

XGS-PON Network

10G/10G

RV CAMPGROUND

Pictured: A row of guest RV cabins at TerraNova Equestrian Center—each one equipped with high-speed fiber connectivity to ensure riders and spectators stay connected in comfort.

One of TerraNova's new guest RV cabins, designed for up to six guests and powered by reliable fiber internet—perfect for work, streaming, or unwinding after a day at the arena.
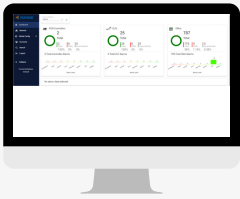
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SOLUTION ELEMENTS- A CLOSER LOOK ⌄

The following products were used in this customer deployment.

MCMS – Network Management System

The MicroClimate Management System (MCMS) provides full visibility and control across your PON network. It combines essential monitoring, diagnostics, and provisioning in a single, intuitive platform.

- Dashboard view with a summary of PON network conditions
- Device monitoring and statistics
- Device provisioning and management
- Logging for diagnostics and troubleshooting

Ciena MicroPlug OLT

The Ciena MicroPlug OLT enables high-density 10G fiber deployments without the bulk or cost of traditional chassis-based systems.

- Supports up to 128 subscribers per OLT
- Compact design: 60% less space, 40% energy savings
- Pairs seamlessly with MCMS for streamlined management
- 10G XGS/10GE-PON optics for scalable, cost-efficient fiber

GRG-4286 – XGS-PON ONT

The GRG-4286 is a high-speed, standards-based ONT designed for 10G residential and business deployments. Fully interoperable with the Ciena MicroPlug OLT.

- 10G XGS-PON
- 10 Gigabit Ethernet LAN
- OMCI, TR-069 Support, HTTP, HTTPS, TELNET, SSH

PRT-6302 – Ethernet WiFi 6 Gateway

The PRT-6302 delivers premium WiFi 6 performance, ideal for video streaming and device-dense environments. Designed for coverage, speed, and manageability.

- WiFi 6 up to AX6000
- 2.5 Gigabit Ethernet WAN
- Ultra High Power TX (up to 1W) for extended coverage
- TR-069 support for remote management

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EXPLORE OUR FULL SOLUTION PORTFOLIO

Our Solutions at a Glance

CPE
(Customer Premise Equipment)

OpenPON
An Open-Architecture Ecosystem for Fiber Delivery

Device Management
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ACS

Broadband Access

Applications

🏠 Residential | 🏢 MDUs | 🏪 Business

DPUs
Coax, Ethernet, Twisted Pair

WiFi Management
WIFI XTEND Plume

Smartphone Failover
QoS, Customer Satisfaction