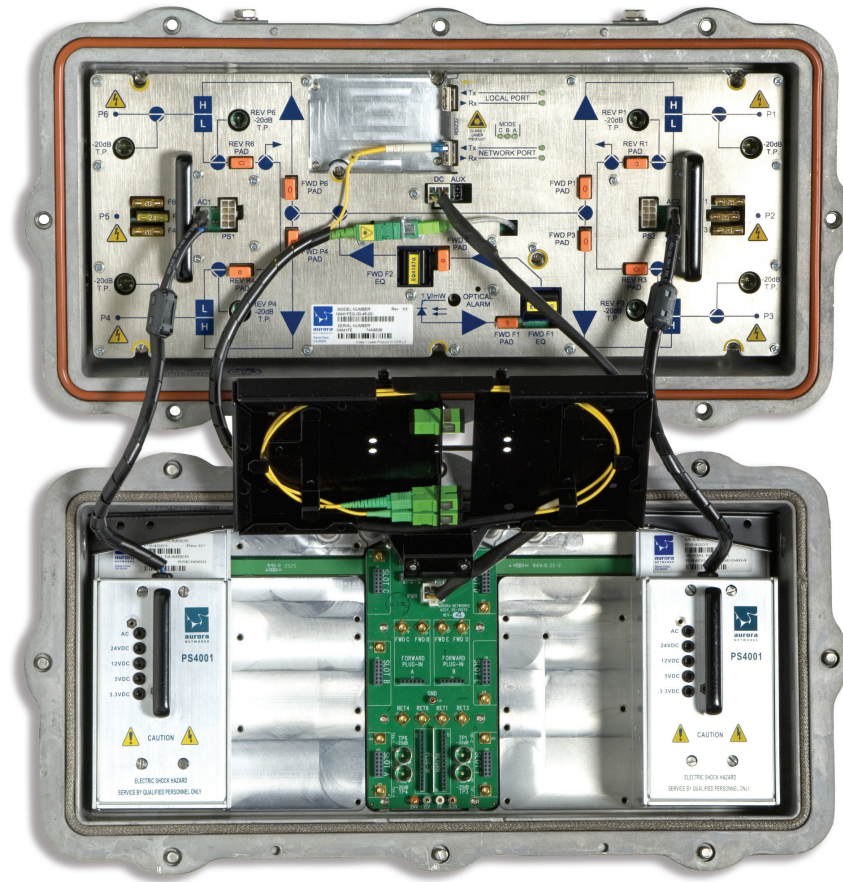# Essential Features Node Upgrade Options

By allowing you to purchase only the features you want and need, Aurora's Essential Features Node Platform is the most flexible, value-driven node in Aurora's growing product portfolio.

Premium Upgrade Option

Provides flexibility to support subscriber growth and the deployment of new services

- Supports six open slots in the node lid for optical switches, transponders, EDFAs, digital transceivers and data services modules

- High output power supply and power boards

- Premium fiber management tray

Essential Features Node with premium option and redundant power supplies

Imagine the Possibilities!

- Node-based Fiber on Demand™
- Node-based PON
- Redundant fiber routing
- Hub functionality, including optical amplification, broadcast and narrowcast combining and splitting

NC4000EG Essential Features Fiber Deep Node Platform

aurora NETWORKS

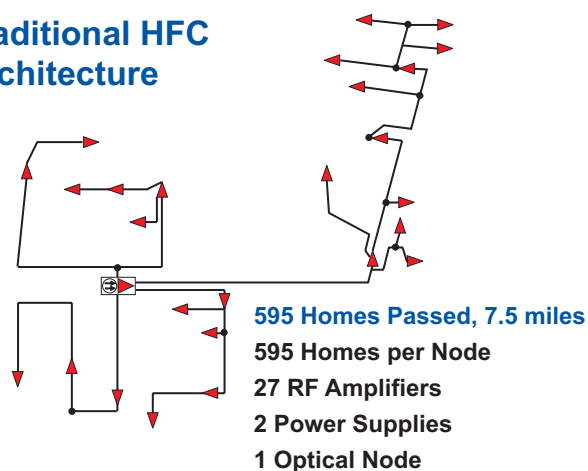*A whole new light, growing brighter!*

Aurora's NC4000EG series "second generation" fiber deep node platform is optimized to provide all of the essential features required by today's state-of-the-art fiber deep (HFC Node+0) architectures that typically serve 50 to 200 homes passed per node. Having deployed high bandwidth systems for tens of thousands of miles of homes passed, Aurora's expert engineers leveraged their extensive experience in system design and network support to develop this powerful node.

Leverage the Essential Features

The Essential Features Node Platform enables fiber deep architecture to be cost-effective and extremely reliable. The platform maintains the industry's highest RF output capability while lowering the cost per subscriber.
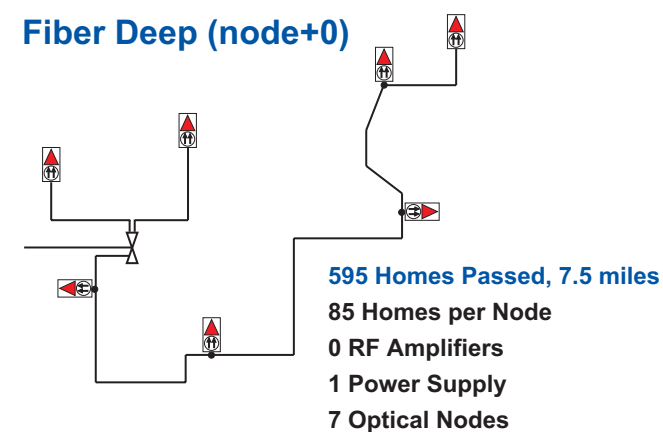
Fiber Deep versus HFC

While both interoperate with existing HFC networks, set-top boxes, cable modems, *etc.*, fiber deep offers these advantages:

- An architectural progression from Node+6 (1992) to Node+3 (1997) to Node+0 (2002)

- No RF amplifiers after the node

- Fiber within a few hundred feet of the customer

- Able to implement targeted FTTH to specific customers on a node-by-node basis

Traditional HFC Architecture

595 Homes Passed, 7.5 miles
595 Homes per Node
27 RF Amplifiers
2 Power Supplies
1 Optical Node

Fiber Deep (node+0)

595 Homes Passed, 7.5 miles
85 Homes per Node
0 RF Amplifiers
1 Power Supply
7 Optical Nodes

- Single integrated module supports all of the essential features of an optical node, including forward and return RF amplifiers, a forward analog receiver, and single or "2-fer" reverse path digital transceivers

- 1x2 segmentation

- Four RF outputs and a wide RF level operating range

- Aurora's patented advanced digital return technology, supporting daisy-chaining or "2-fer" technology

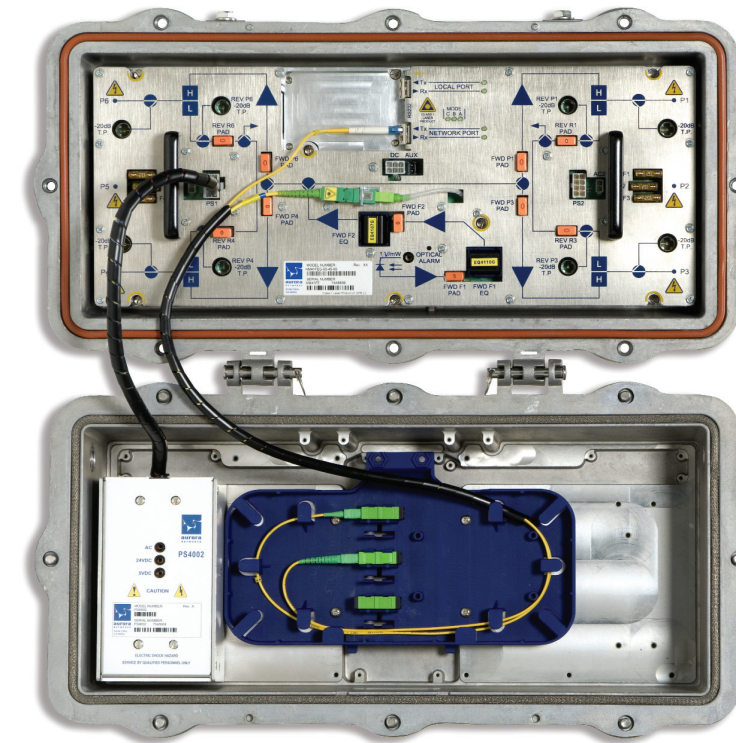- 1310nm, 1550nm, DWDM, *Lc*WDM™ and CWDM optical capabilities

Realize the Benefits of Node+0 Architectures

- Reduce actives per mile by 75% and eliminate RF amplifiers

- Achieve network reliability of 99.999%

- Reduce power bills and maintenance costs by 65%

- Increase narrowcasting bandwidth per home passed

- Expedite troubleshooting by remotely isolating the cause at the node level and attenuating the reverse path

- Fully integrated network monitoring management without the added cost of a status-monitoring transponder

- 15 amp power passing at each RF output port

- Single or redundant power supplies

- Upgrade option supports switches, transponders, EDFAs, digital receivers and data services modules

- Pedestal or strand mounting

- Compatible with all Aurora Networks nodes and plug-in modular products

- NGNA compliant