

Product Description

Overview

The OmniRural™ fully-outdoor solution comprises a single compact and space-saving cabinet. Employing an environmentally-hardened design, this cabinet demonstrates a series of unique characteristics:

- Extra long autonomy – incorporated standby batteries and solar cell chargers assure uninterrupted operation in case of Mains power absence (from the utility network, or the external power generator)
- Significant survivability in harsh outdoor environments – operation under extreme temperatures (-50°C to +50°C) and humidity (up to 100%)
- IP55 class for maximum resistibility to water and dust, and maintenance-free operation
- Accommodation of smart environmental control systems (such as heat exchangers, heaters, air conditioners, etc.), for managing internal compartment temperature – the systems to be used depend on the characteristics of each PoP location

Highlights

- Energy-efficient, highly autonomous solution
- IP and standards-based architecture, for future-proof investment
- Multi-technology platform allowing a hierarchical network structure, for unparalleled deployment flexibility and independence
- Any backhaul topology (tree, ring, star, or hybrid)
- Scalable network deployment, for low installation & operation costs
- Robustness and reliability based on rigid product design and redundancy option
- Diversity of operating frequencies to cover a wide range of operator licenses:
 - 6 GHz to 38 GHz (PtP)
 - 10.5 GHz, 26 GHz, 28 GHz (PtMP)
 - 2.5 GHz to 2.7 GHz, 3.3 GHz to 3.7 GHz (WiMAX)
- Unified network management system (uni|MS™) providing end-to-end solution management



OmniRural™ Network Architecture

Fig.1 depicts a typical OmniRural™ deployment incorporating the following components:

- Repeater Node⁽¹⁾, extending the reach of the network
- Access Node, terminating the OmniRural™ network at the edge sites and offering broadband connectivity to end users
- Unified Management Suite (uni|MS™), enabling end-to-end element, network and service management

The transport network is the part of OmniRural™ that connects a metro area (i.e. a fiber ring) with a distribution or access area, through interim repeater nodes. The latter are typically configured with PtP backhaul equipment and operate at low radio frequencies to maximize hop length and minimize hop count. The transport network can be configured with up to 2+2 Hot Standby protected PtP links, each supporting backhaul traffic pipes of as high as 720 Mbit/s.

The access network is the part of OmniRural™ that serves users through appropriate terminals. Nodes, providing local access and simultaneously serving as repeaters, accommodate both backhaul and access equipment. Radio hops can now be shorter and hence, higher frequencies can be used.

Regarding the access technology, POTS / ADSL2+ fits local and close-by copper access applications, while WiMAX is preferred for longer distances that range from a few km (NLOS) to up to 20 km (LOS, using outdoor rooftop terminals).

Sparsely distributed households and medium / large villages with increased requirements (more subscribers, higher capacity, nomadicity, etc.) can utilize licensed mobile WiMAX (at 2.5 GHz and 3.5 GHz) as the main access technology.

⁽¹⁾ Repeater Node can also offer local access capabilities.

[Fig. 1]

OmniRural's inherent flexibility allows rapid network deployment to reach the most distant users.

