

Hospital-grade EPON equipment upgrade selection guide



AI Overview

Selecting hospital-grade EPON equipment requires balancing high reliability, redundancy, and compliance with healthcare operational standards while ensuring sufficient bandwidth and scalability. Key Considerations for Hospital EPON

Deployment 1. Network Architecture and Components A hospital EPON network consists of three main components: the OLT (Optical Line Terminal) at the central office, ONU/ONT (Optical Network Unit/Terminal) at endpoints, and the ODN (Optical Distribution Network) with passive splitters. The OLT manages bandwidth allocation, scheduling, and network management, while ONUs provide connectivity to patient rooms, offices, and critical medical equipment. Passive splitters reduce active equipment needs, improving reliability and lowering operational costs.

2. OLT Selection Criteria
Port Count and Scalability: Small to medium hospitals may use 4–8 port fixed OLTs supporting 1:32 split ratios for 50–200 endpoints. Large hospitals should consider modular OLTs with 16+ PON cards and 10G uplinks for future expansion.

Redundancy: Dual power supplies and dual management modules are essential to maintain 24/7 uptime in critical care areas.

Management Capabilities: Support for CLI, SNMP, and web-based management, along with Layer 3 routing (static, OSPF, DHCP), ensures integration with hospital IT systems.

Compliance: Ensure OLTs meet IEEE 802.3ah/av standards for EPON and 10G-EPON compatibility.

3. ONU/ONT Selection Criteria
Deployment Scenario:

SFU (Single Family Unit): Residential-style patient rooms, 1–4 Ethernet ports.

HGU (Home Gateway Unit): Built-in routing and WiFi for patient and staff devices.

MDU (Multi-Dwelling Unit): Apartments or office wings, multiple Ethernet ports.

SBU (Small Business Unit): Enterprise-grade voice, data, and WiFi for hospital administration.

Port Types and C...

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