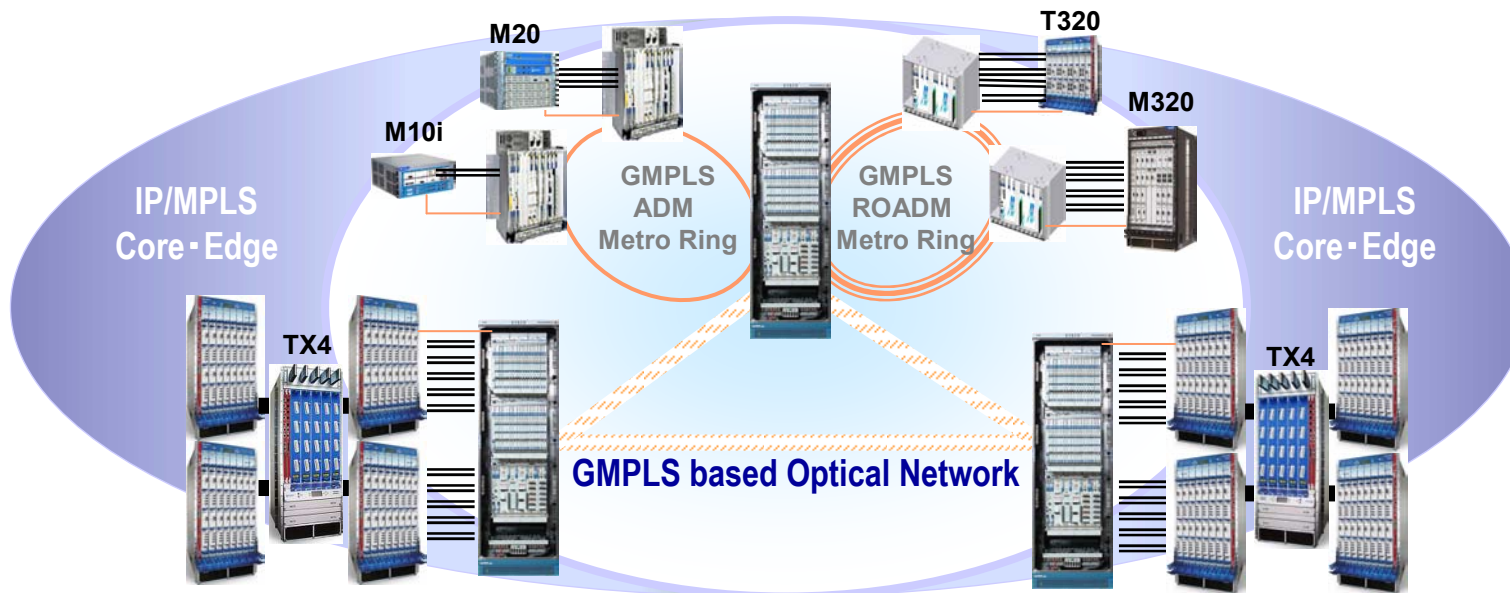




IP + Optical

NEC

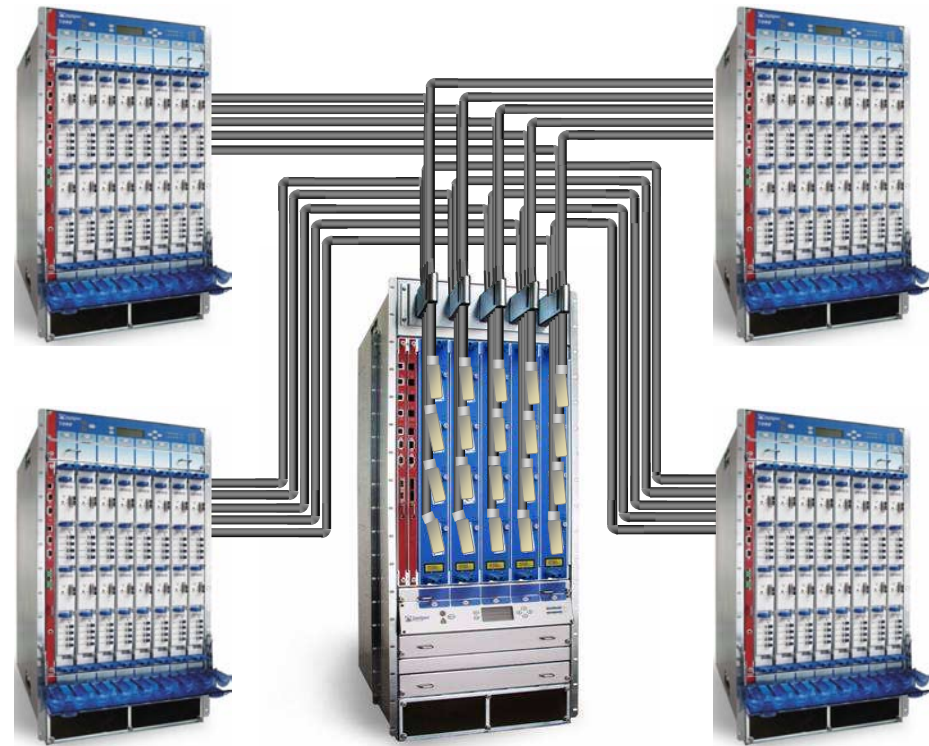
Multi-layer solution



GMPLS Compatible Platforms

TX Matrix™ - Resilient Architecture

- **Fully Redundant architecture**
 - No single point of failure
 - Passive mid-plane design
- **Full Component Redundancy**
 - (5) Fabrics: (4) provide full non-blocking switching
 - Dual power, cooling, RE's, CB's, CIP's
- **Fully redundant interconnects**
 - 5 optical data paths between each T640 and TX
 - Separate, redundant UTP control paths between each

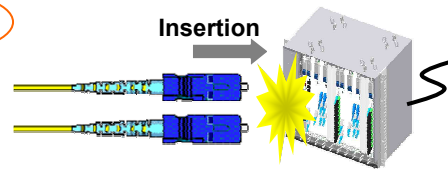
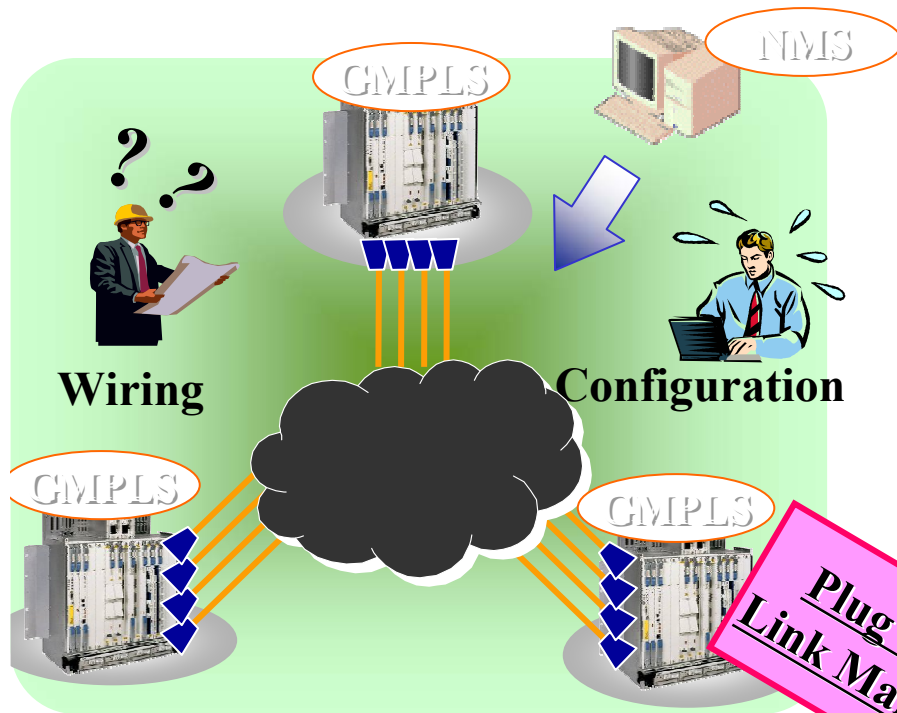


TX Matrix System

TX Matrix - Full Featured

- **Supports (4) T640 Routing Nodes today**
 - 2.5 terabits of capacity....scales well beyond
- **(128) 10Gbps ports, (512) 2.5Gbps ports**
- **Same FPC's and PICs – Investment Protection**
- **The “Juniper way”**
 - All M/T leverage same architecture & JUNOS SW, Single OS = service velocity, operational efficiency
- **JUNOS + TX Matrix = Full Featured at FCS**
 - GMPLS, IPv6 multicast, Point to multi-point LSP's, L2/L3 VPNS, much more

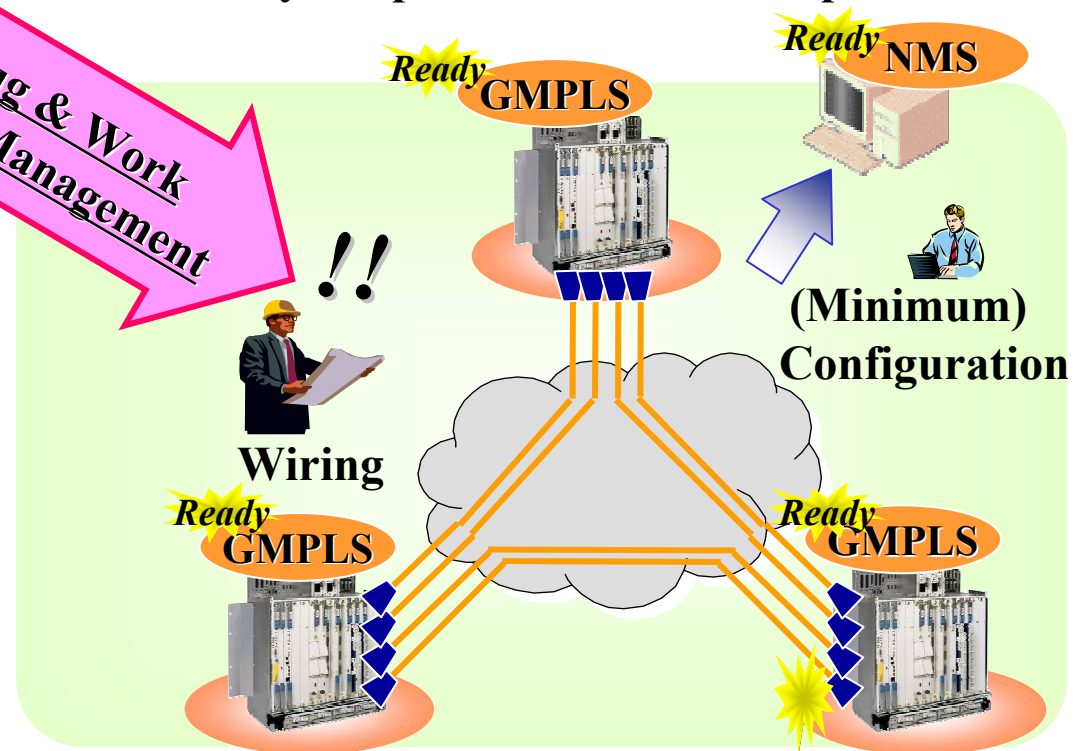
Plug & Work GMPLS Operation



Plug & Work

- C/D-plane dynamic neighbor discovery
- Link auto-configuration
 - Detect miss-connection
 - Negotiate parameters for data-links
- Ready to optical links for NW operation

Plug & Work Link Management



Complicated Installation

- Fiber miss-connection
- GMPLS miss-configuration
- NMS/EMS manual topology-configuration

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