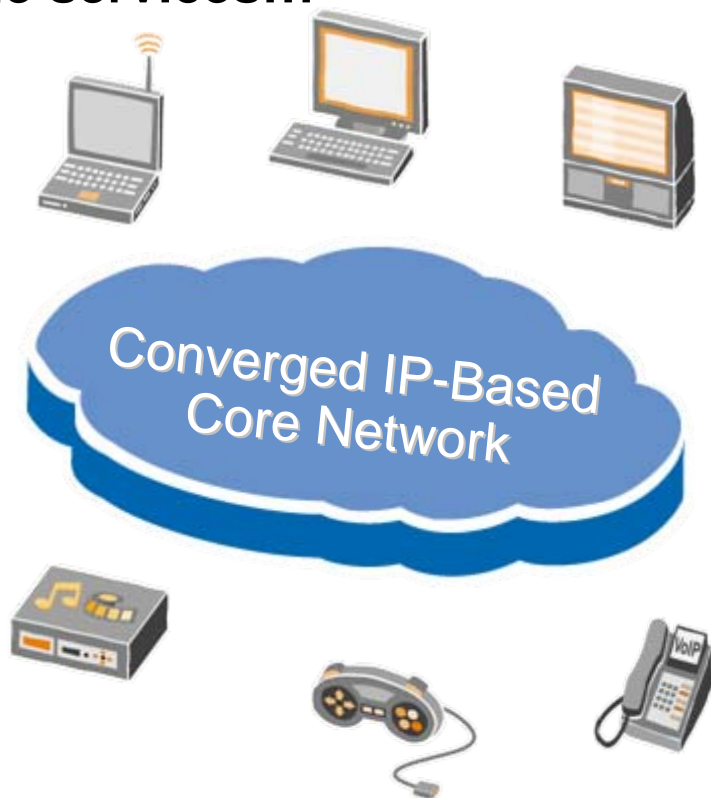


***Mundos convergentes: migración a infraestructura
NGN IP para ofrecer nuevos servicios y generar
nuevos flujos de ingreso***

Cable Operator Evolution

Cable Operators started on the edge of the network, providing the services...



- Today, cable operators need to support diverse services such as high-speed internet access, digital voice, on-demand programming, and multiplay bundles
- To grow their service offerings and reduce infrastructure costs, they are finding they need to converge their voice, video, and data networks onto a multipurpose, consolidated IP-based core transport network

...but as time went on, they started moving into the core, and began offering more than just cable television...

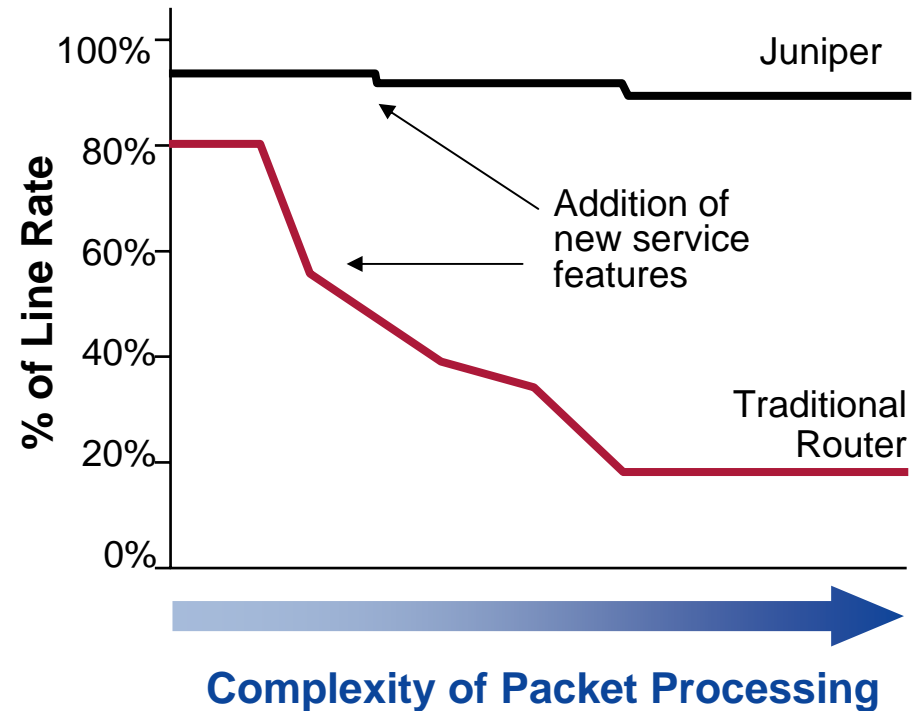
Superior Performance at Needed Scale

Forwarding

Routing

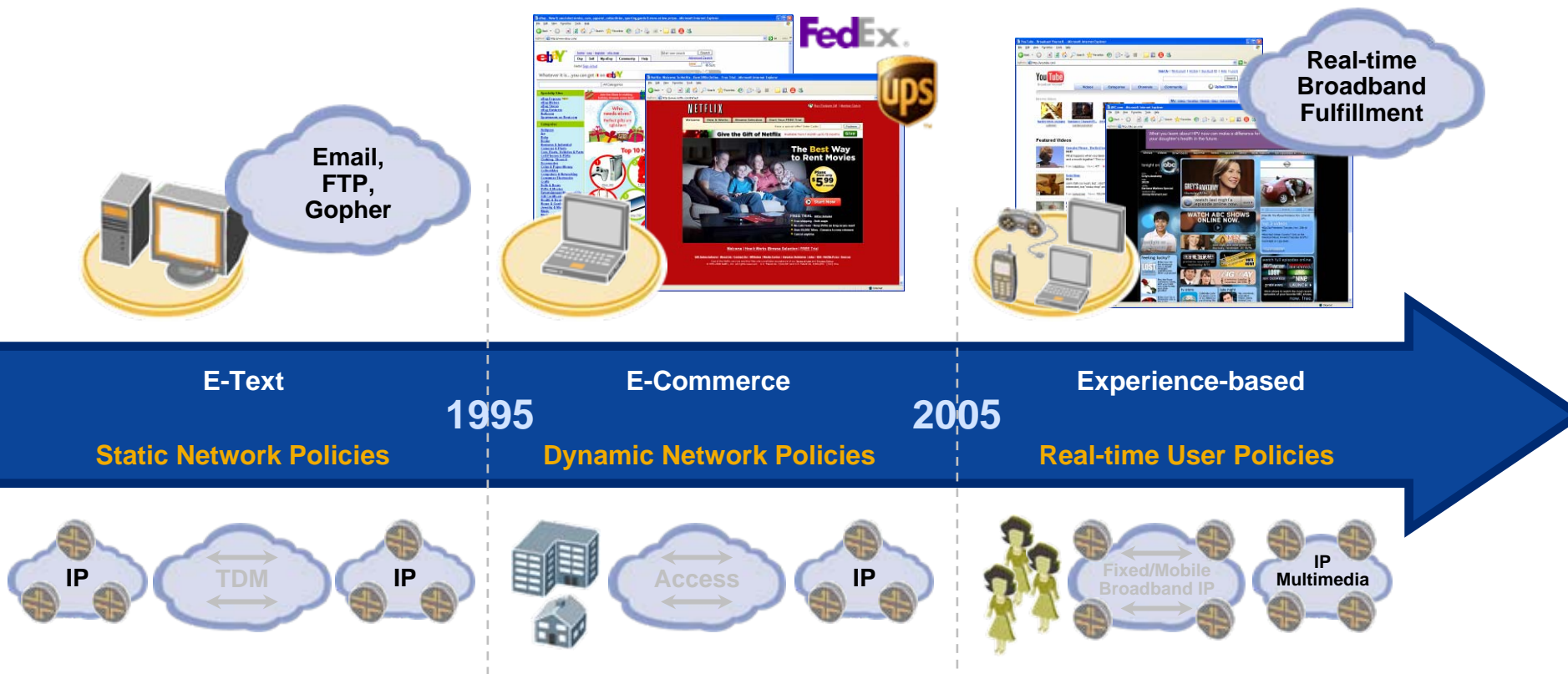
Services

Juniper Networks
Router Architecture



Dedicated Forwarding, Routing and Services resources provide predictable high performance at scale, with multiple services concurrently enabled

Experience-Based Services Require Next Generation Policy Management



With more interactive and dynamic services, policy and control becomes increasingly important to ensure consistent, quality services

Juniper Networks: Where We Started

We got our start in IP core routing...

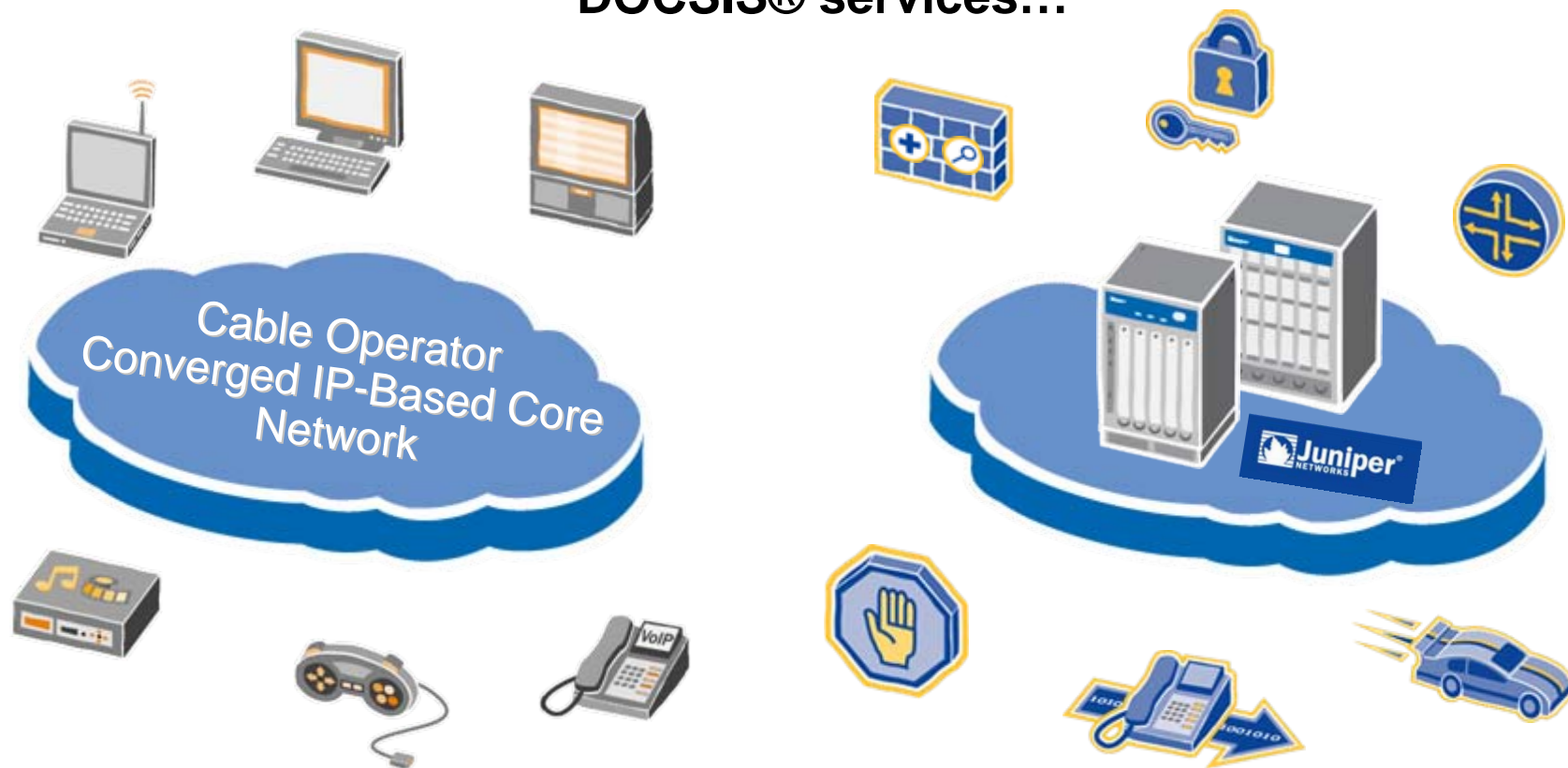
- Today, Juniper is the premier vendor of intelligent and secure packet processing
- We address the challenges of innovative businesses who view their network as critical to success
- We offer high-performance network infrastructure (foundational IP routing, layered security and application acceleration)
- We have a proven record of meeting challenging and dynamic application environments



...but as time went on, we extended from the core, and expanded to doing more than just routing...

Now These Two Worlds Are Converging...

MSOs are looking to capture innovation and efficiencies from the networking world at the edge, such as bringing together IP and DOCSIS® services...



...And Juniper is working to deliver solutions at the cable edge to meet the needs of these Next Generation Networks

Juniper Already Works with MSOs

- Core Routing
- Peering
- Metro Aggregation
- Regional Core

Juniper provides IP routing and security equipment to support cable Multiplay and also provides equipment to support commercial service offerings



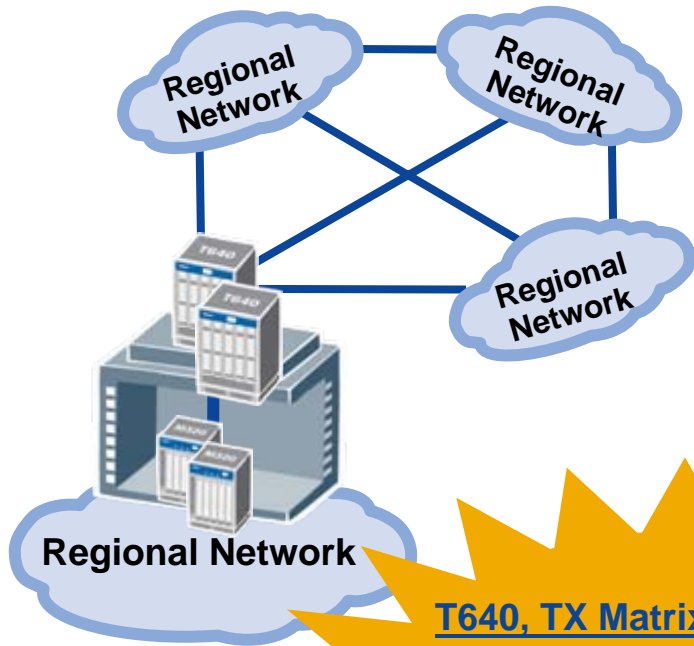
Security Products

- Secure voice, video, data, and wireless services without sacrificing performance or service quality
- Secure remote vendor access solution for MSO system support
- Site-to-site VPNs for MSO Business Services customers

Routing Platforms

- Reliable high performance at scale
- Granular QoS provides service-rich features for multi-media apps
- High Availability design
- Advanced security capabilities
- Rich feature set including MPLS for traffic engineering
- Comprehensive L2/L3 VPN support
- IPv4 \leftrightarrow IPv6 unicast/multicast support
- Proven performance and reliability within the MSO network over years of deployments
- Simplified network management with JUNOS end-to-end

Juniper in the Cable Core:



- Superior capacity for growth of traffic
- Superior performance throughput with services and security
- Industry-leading feature set – ability to handle diverse traffic types and then engineer that traffic
- Ability to encapsulate many of the diverse services (ATM, SONET, Ethernet) MSOs must support from their various metros
- Efficient delivery and distribution of live and VOD traffic across the core

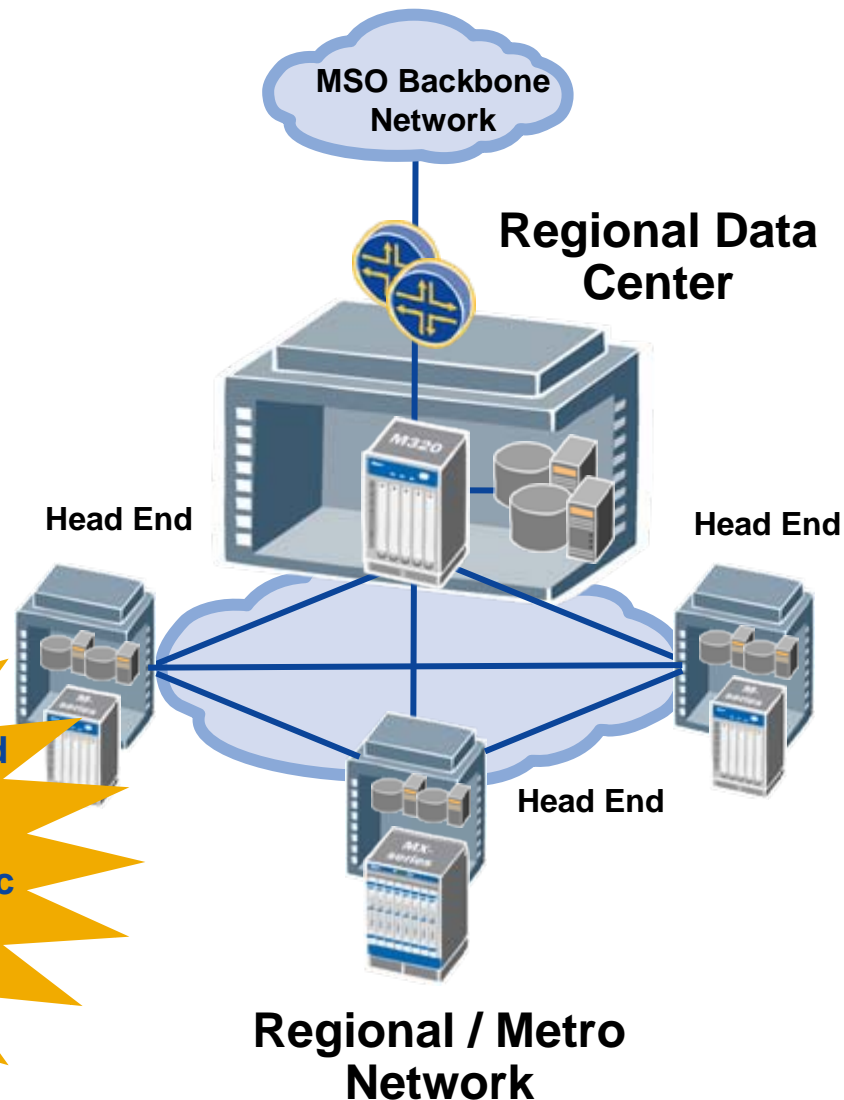
T640, TX Matrix, and T1600:

- Leverage production-hardened JUNOS software
- Flexible in-service upgrade paths
 - Industry-leading density
 - Service-aware T1600 offers 1.6 Tbps of throughput in a single half-rack chassis

Juniper in the Regional / Metro Network:

- Ability to deliver M120, and M320:
 - Multiservice edge routers deliver any L2/ L3 service to any customer
 - Single JUNOS image across all platforms for low OPEX and consistent services
 - Policy-based control via SRC
 - IP/MPLS services that scale with proven stability in the world's largest networks

- Ability to traffic these traffic
 - Mean time to approach
 - Operational synchron
- MX-series:
 - High port density plus distributed architecture and on-board processing
 - Superior QoS, regardless of traffic conditions
 - Service flexibility: leverages the JUNOS operating system



Securing the MSO Infrastructure

NS 5000 Series:

- High-capacity, purpose-built, high-performance firewall / VPN security systems
- Switch fabric for data exchange and separate multibus channel for control information
- NetScreen Security Manager for superior manageability

- Juniper security appliances protect data services clusters at each regional data center
- Appliances also protect IP voice infrastructure

- Traffic passing through VoIP gateways

Signaling traffic passing through

ISG 2000:

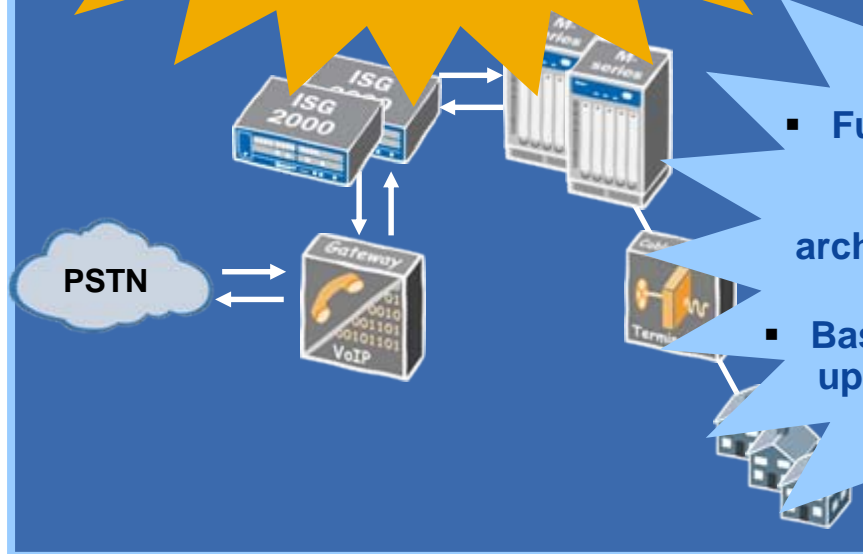
- Fully integrated FW / VPN / IDP system with multi-gigabit performance, a modular architecture, and rich virtualization capabilities.

- Base FW / VPN system allows for up to four I/O modules and three security modules for IDP integration

JunOS allows

management

protection

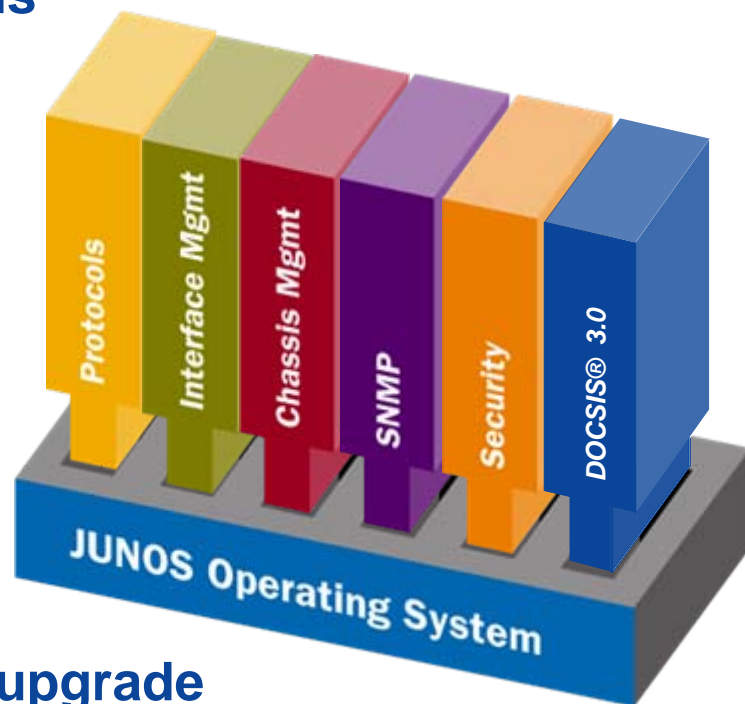


Benefits of Common JUNOS Operating System

 JUNOS™

Unparalleled Software, Resiliency,
Performance, Security and Scale

- **Common principle across ALL platforms**
 - Ensures feature consistency
 - Ensures service velocity
- **Over 10 years of development**
- **Strong foundation for services--
additional service modules include:**
 - Deep Packet Inspection (DPI)
 - Intrusion Detection and Prevention (IDP)
 - Commercial Services
 - Subscriber Management
- **Modularity: superior resilience, simple upgrade**
- **Full suite of production-hardened, best-in-class routing protocols**



Juniper Products Give MSOs More Options in Architecting their Networks

- **Multi-service edge**



Multi-service Edge Router

- **Cable edge**



Ethernet Services Edge Router

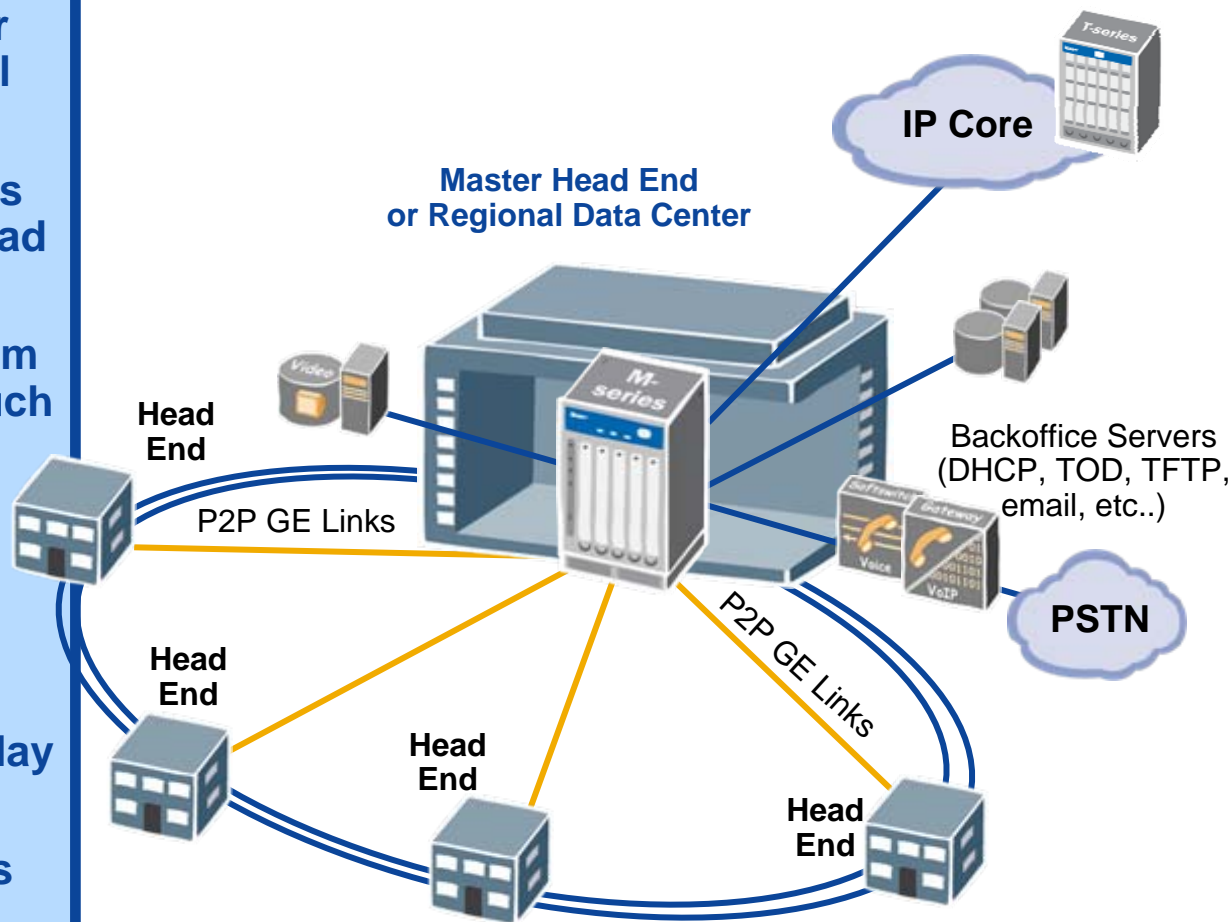
- **Next-gen edge**



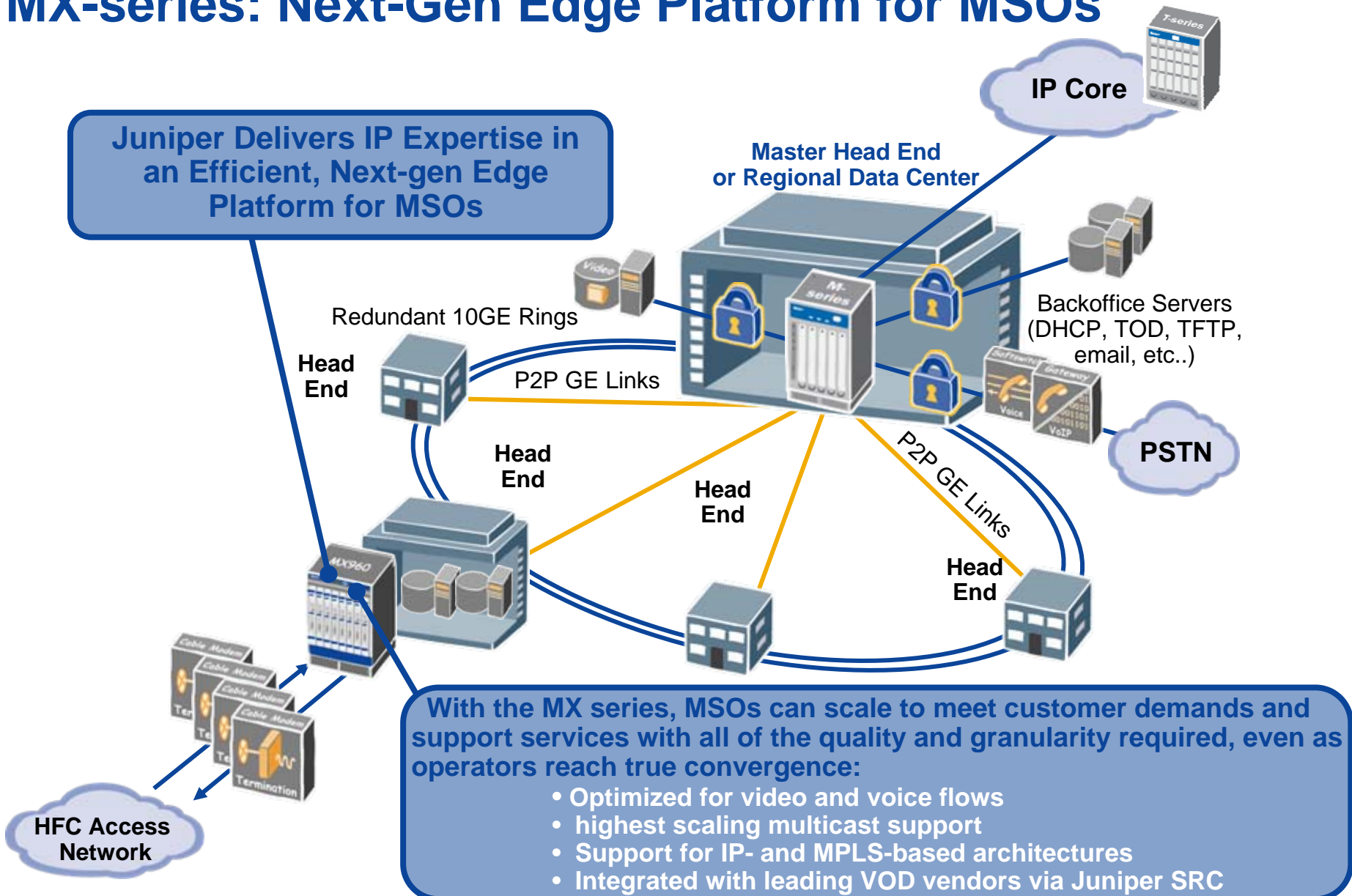
Modular CMTS Full-service Cable Edge Router

M120: Supporting the Multi-service Edge

- Well-suited for use in smaller master head ends or regional data centers
- Complements M320 platforms deployed in larger master head ends
- Ideal for use in small / medium core network applications such as Internet peering, route reflecting, and data center applications
- Allows MSOs to begin test-marketing Ethernet services without disrupting revenues from their existing Frame Relay and ATM services
- Designed to support services beyond Ethernet on the downstream side



MX-series: Next-Gen Edge Platform for MSOs



MX-series Ethernet Services Edge Router

For MSOs:

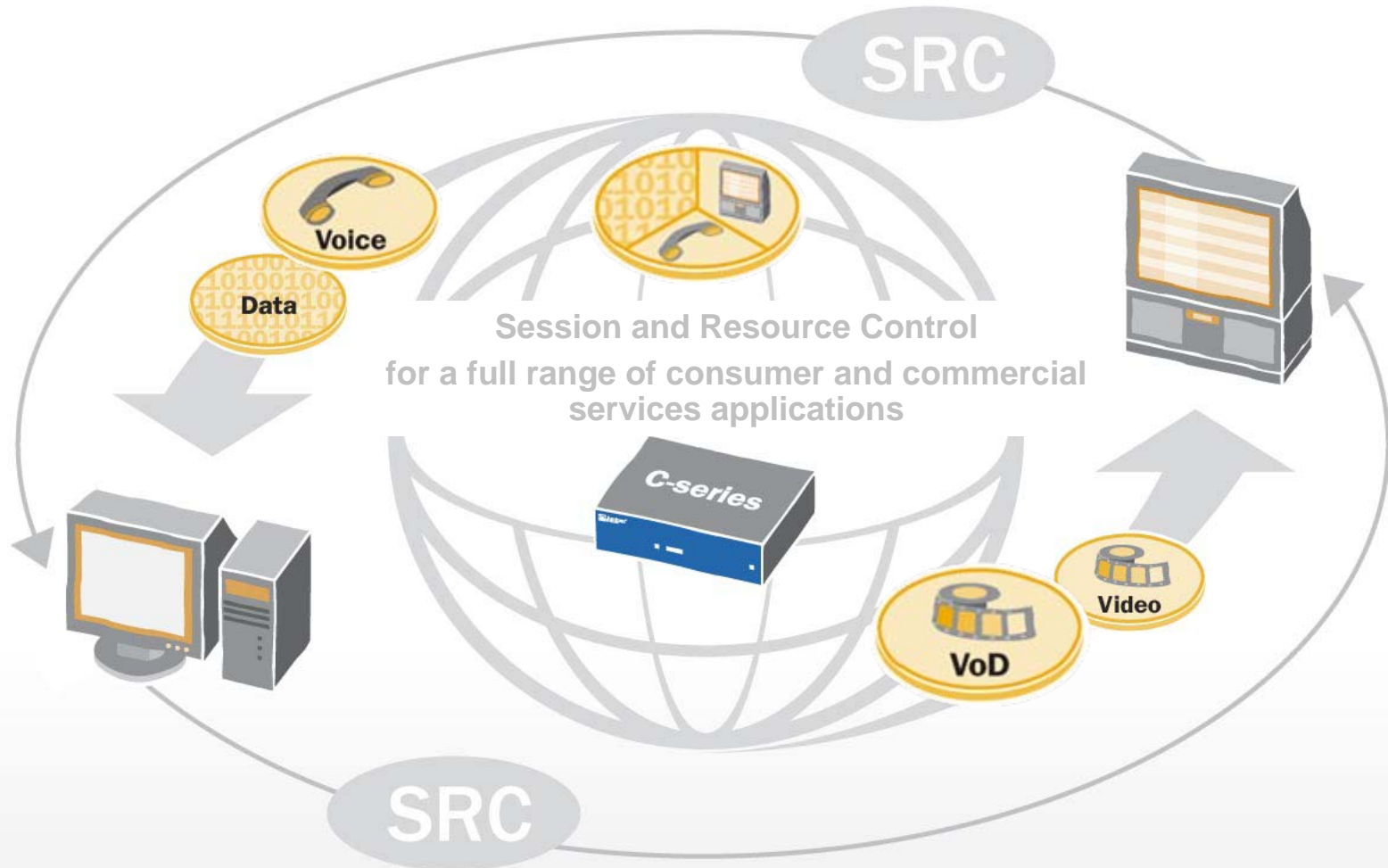
- Density for Multiplay IP services
- Modularity of platforms for investment protection
- Secure remote vendor access solution for MSO system support
- Site-to-site VPNs for MSO Business Services customers
- All the benefits that come with JUNOS



For Broadband Cable Operators:

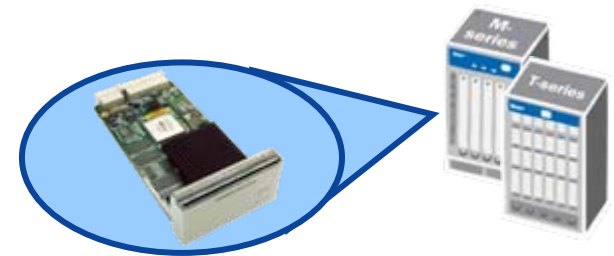
- Collapses L2 and L3 into a single box for greater simplicity, lower cost
- Extends characteristics of Juniper's best-in-class routing platforms into their Metro Ethernet switching architectures
 - Ability to provision capacity and QoS dynamically
 - Efficiently support apps like multicast video distribution
- Supports the physical convergence of services today
- Lowered OPEX and capacity planning costs tomorrow
- VPN service portfolio for Commercial Services and physical convergence of cable triple play

Tying it All Together with Juniper Policy and Control



Tying it All Together with Juniper Policy and Control

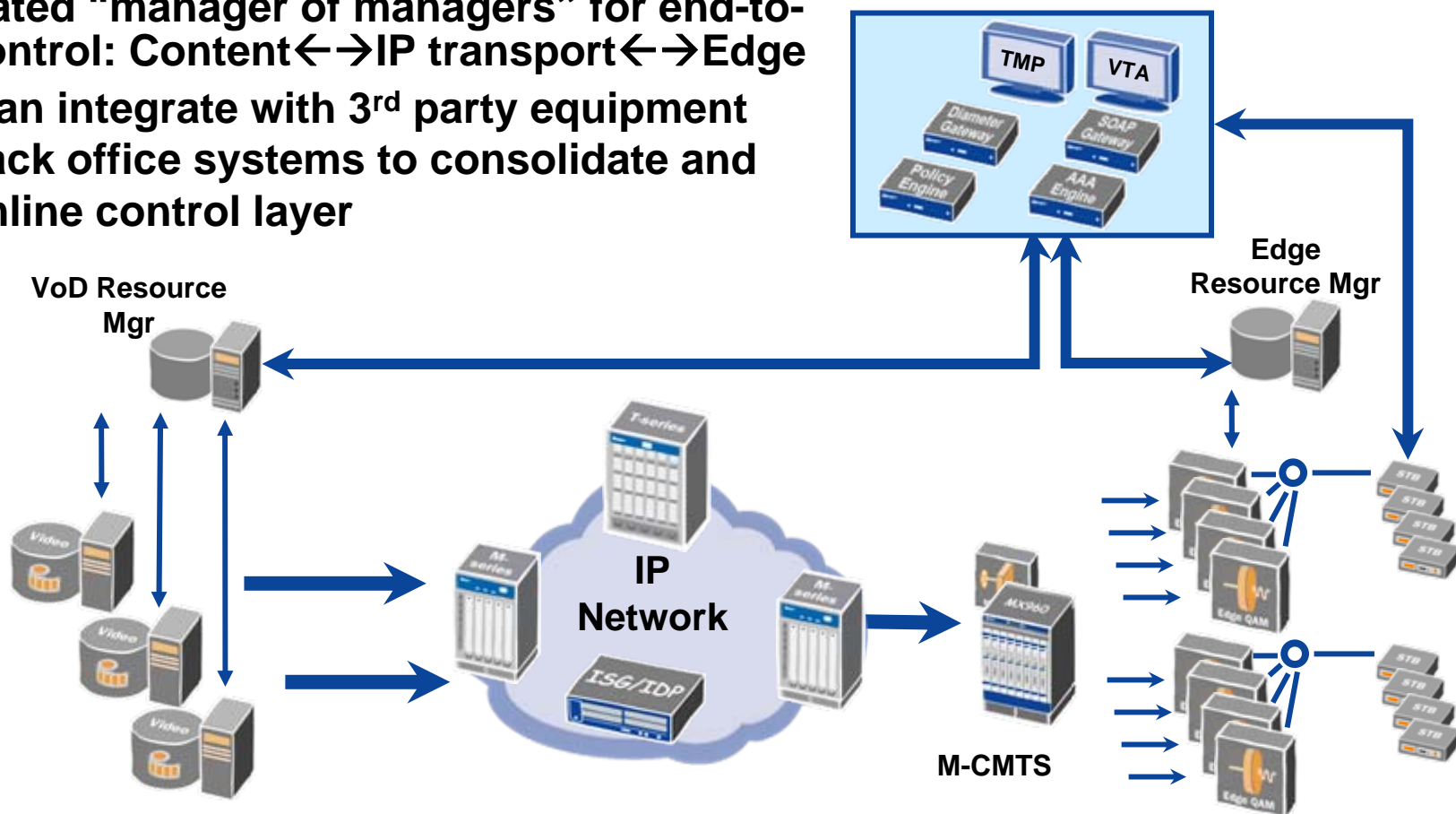
- Real-time policy and control is a key component of next-generation networks
- Juniper has built on its leadership in policy management to deliver a new portfolio of products that truly raise the bar
- The Session and Resource Control (SRC) Portfolio—including SDX-300, Steel-Belted Radius Service Provider Edition platform, SRC module family, and high performance C-series controllers—enables changes in network behavior based on real-time requests from users and applications
- Juniper’s unique combination of hardware and software addresses the operational and performance issues of next-generation networks and services
- New OSCP participants show the continued value of Juniper’s Open approach



Maximizing Network and Business Potential

Resource and Session Management in NG Video Networks

- Integrated “manager of managers” for end-to-end control: Content ↔ IP transport ↔ Edge
- SRC can integrate with 3rd party equipment and back office systems to consolidate and streamline control layer

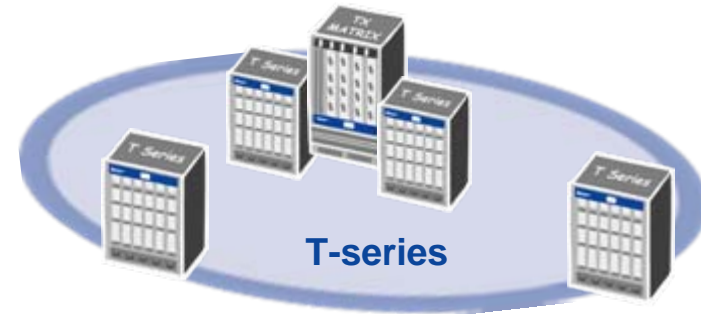


Juniper is Enabling Service Convergence in Today's MSO Networks

Delivering Maximum Value to Cable Operators

- Juniper already supports cable in many key applications
- Carrier Ethernet solution built with operators' needs in mind
- New core and multi-service edge platforms and interfaces to meet MSO requirements
- As always – Juniper offers unparalleled software resiliency, performance, security, and scale with JUNOS
- Open, standards-based development in conjunction with partners instead of proprietary, end-to-end solutions
- Juniper is open and easy to work with in building further solutions to support our customers' ultimate goals

Multi-Terabit Legacy & Ethernet Core Routing



MX-series

High-Density Ethernet Edge Services



Multi-Gigabit Legacy & Ethernet Edge Services

Juniper *your* Net™