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NGN core/edge Switching and Routing

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Agenda

- ◆ drivers
- ◆ market potential
- ◆ network evolution
- ◆ network edge - ip/mpls side, challenges and proposition
- ◆ product highlights
- ◆ network and service management

New Content and Applications Drivers for Demand and Traffic

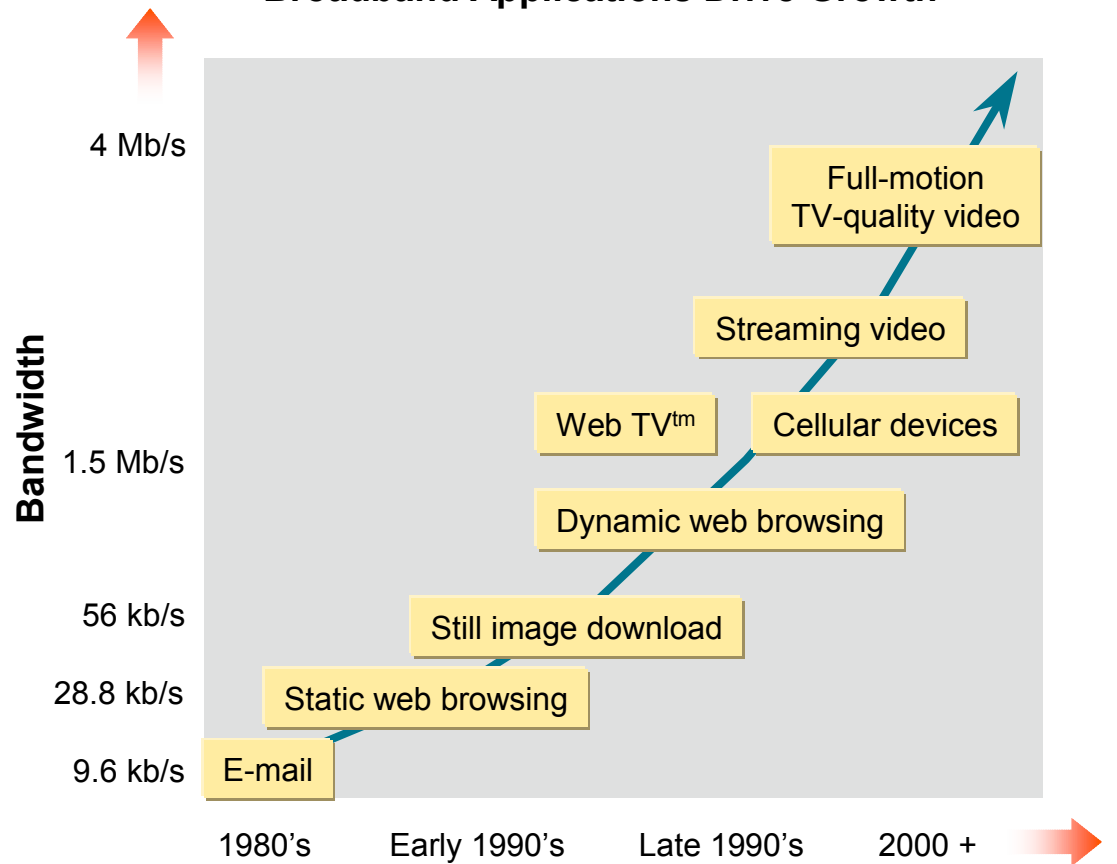


A neurosurgeon in London diagnosing a patient in New Delhi -- in real time.



Loan calculator sponsored by Essex Credit Corporation

Broadband Applications Drive Growth

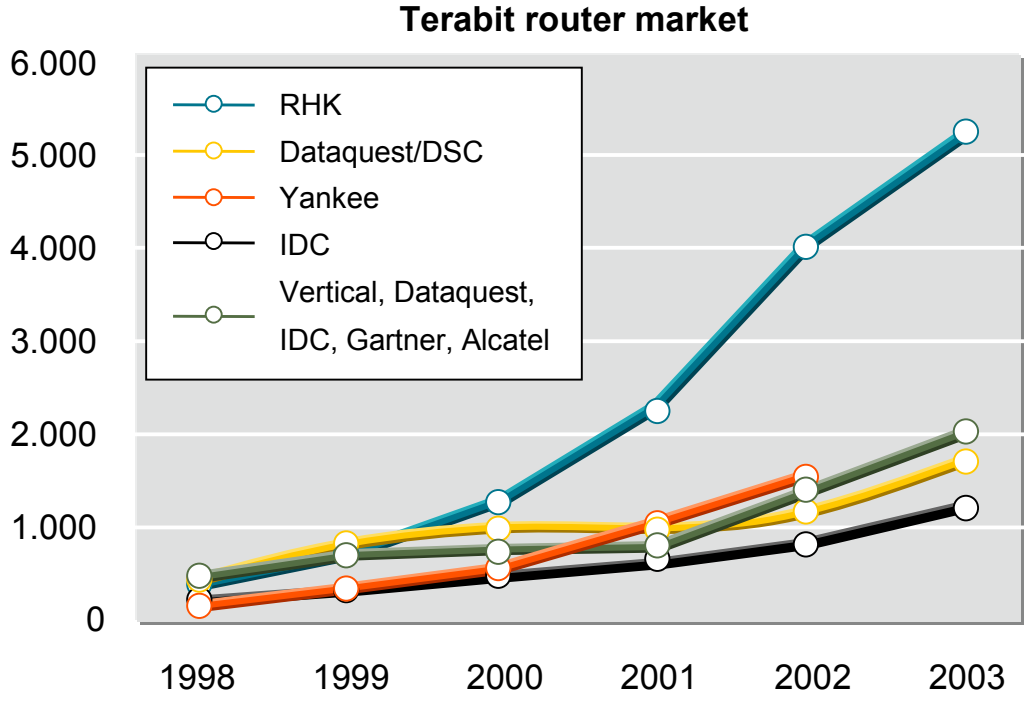


And there are killer applications we don't yet know about!



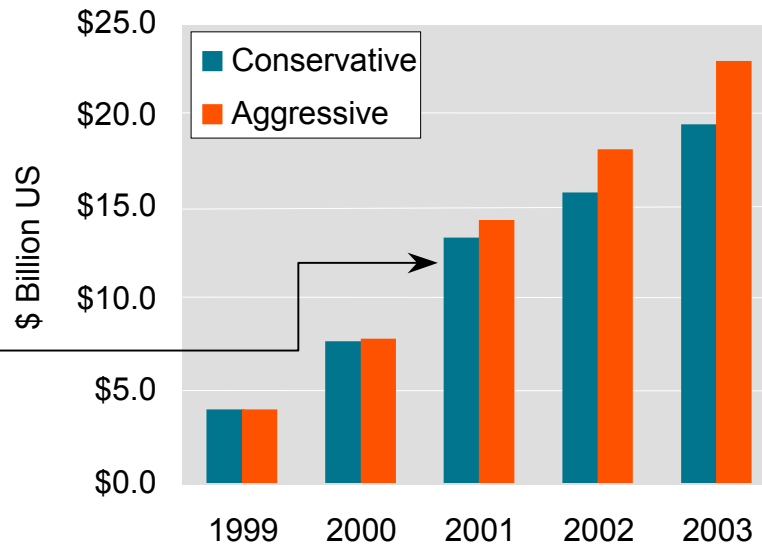
Terabit Routing

A Billion \$US Market Space



Market Opportunity ESR - Revenue Forecast*

\$13 B
2001 opportunity

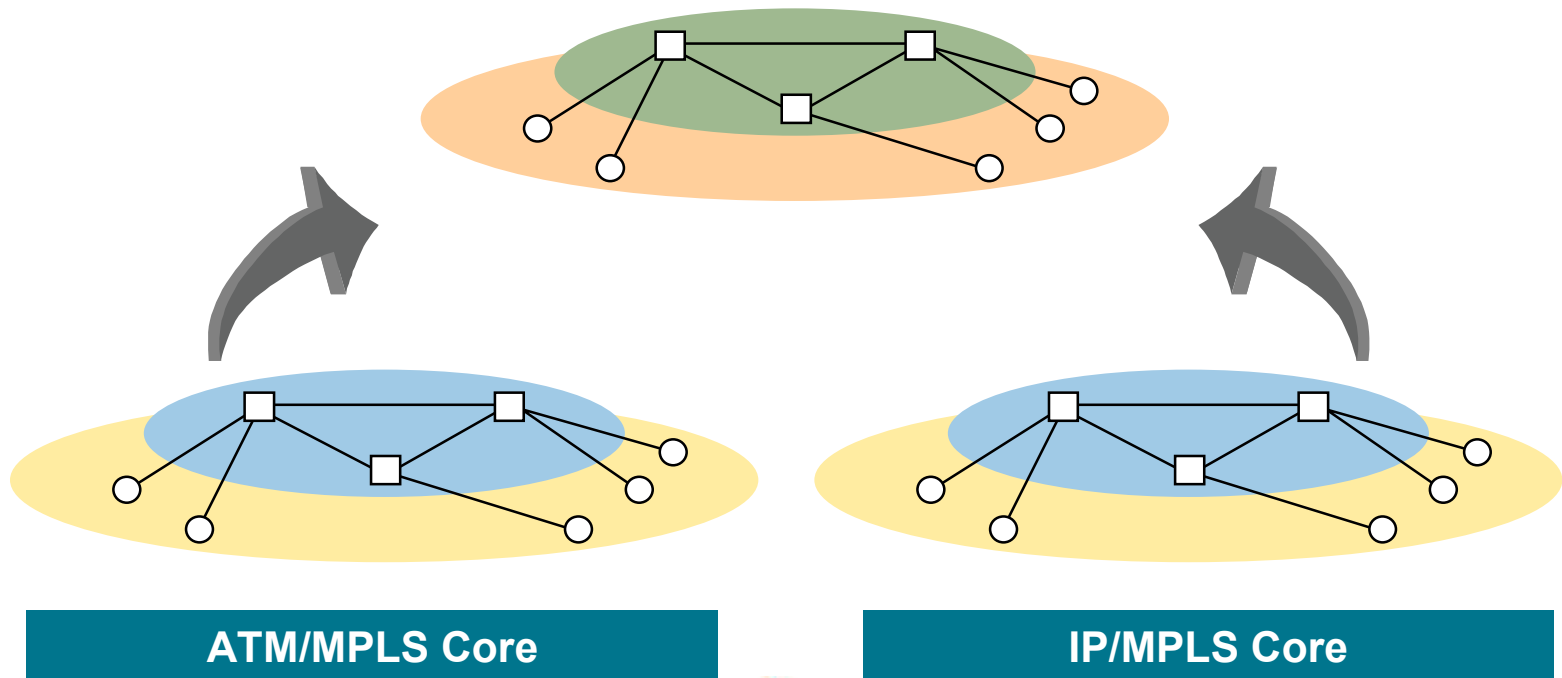


	1999	2000	2001	2002	2003
Conservative	\$3.8	\$7.5	\$13.2	\$15.6	\$19.3
Aggressive	\$3.8	\$7.7	\$14.1	\$18.0	\$22.8

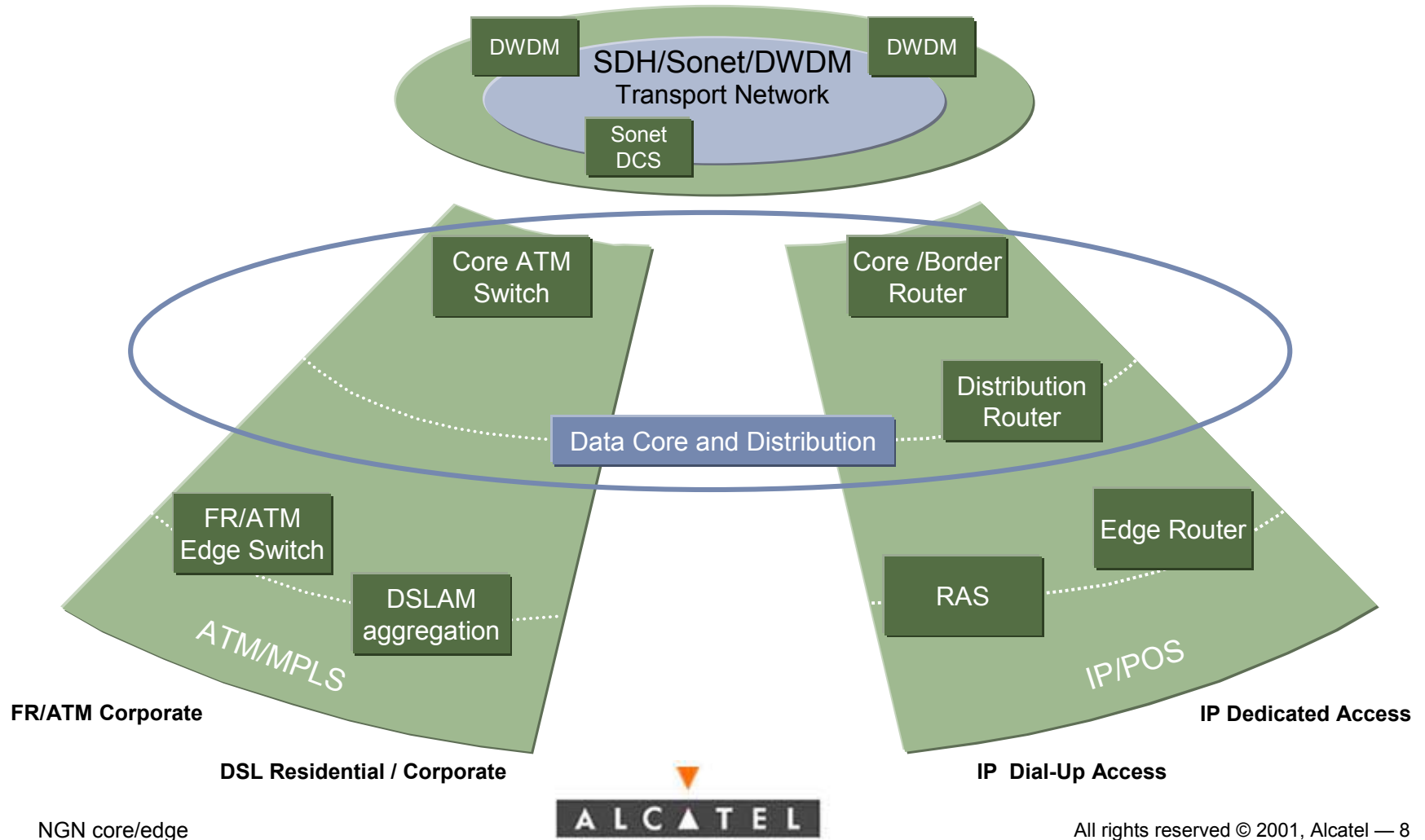
The Alcatel Dual Core Evolution

- ◆ The way to the full optical core depends on the customer's environment

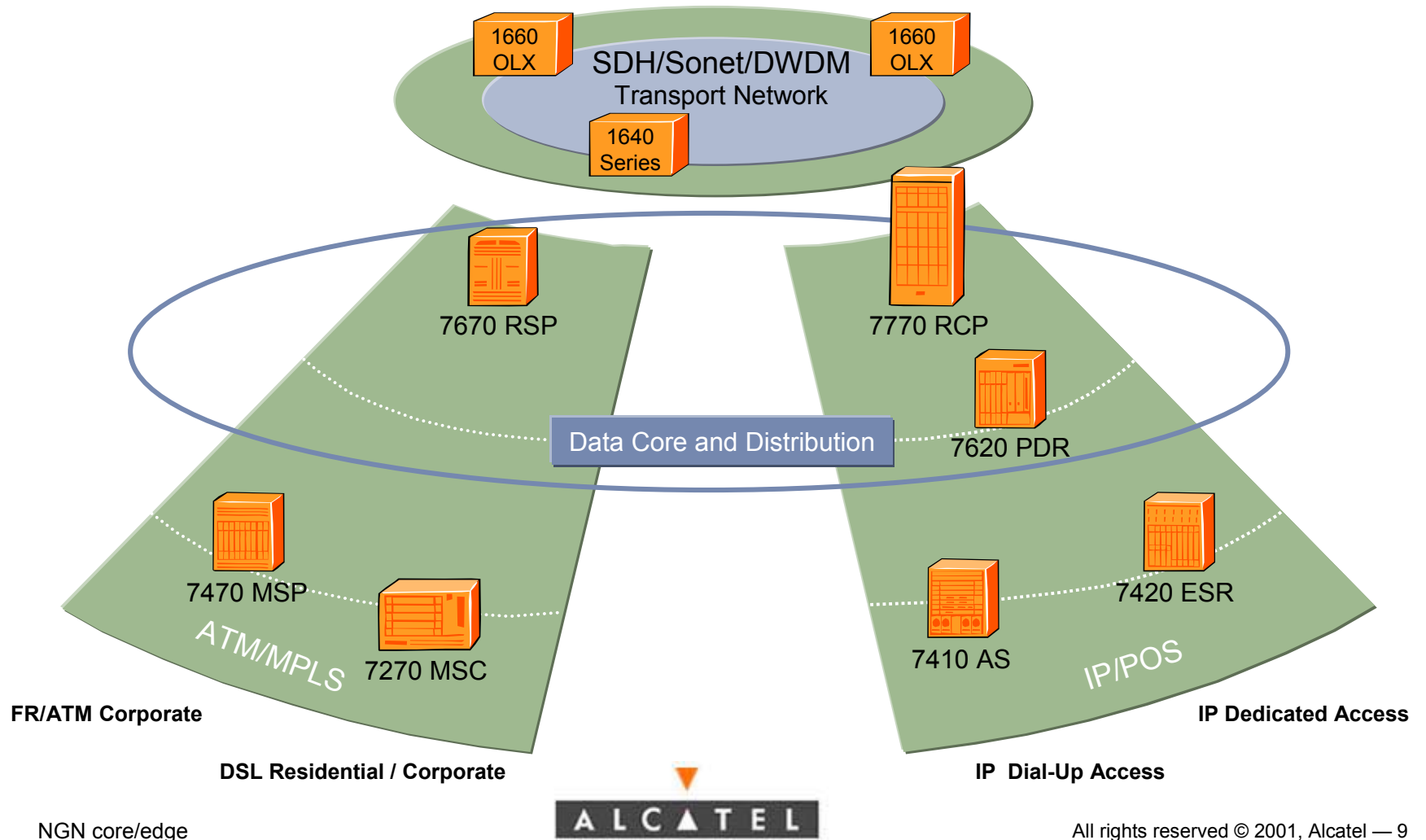
Fully Integrated Optical IP Transport Network



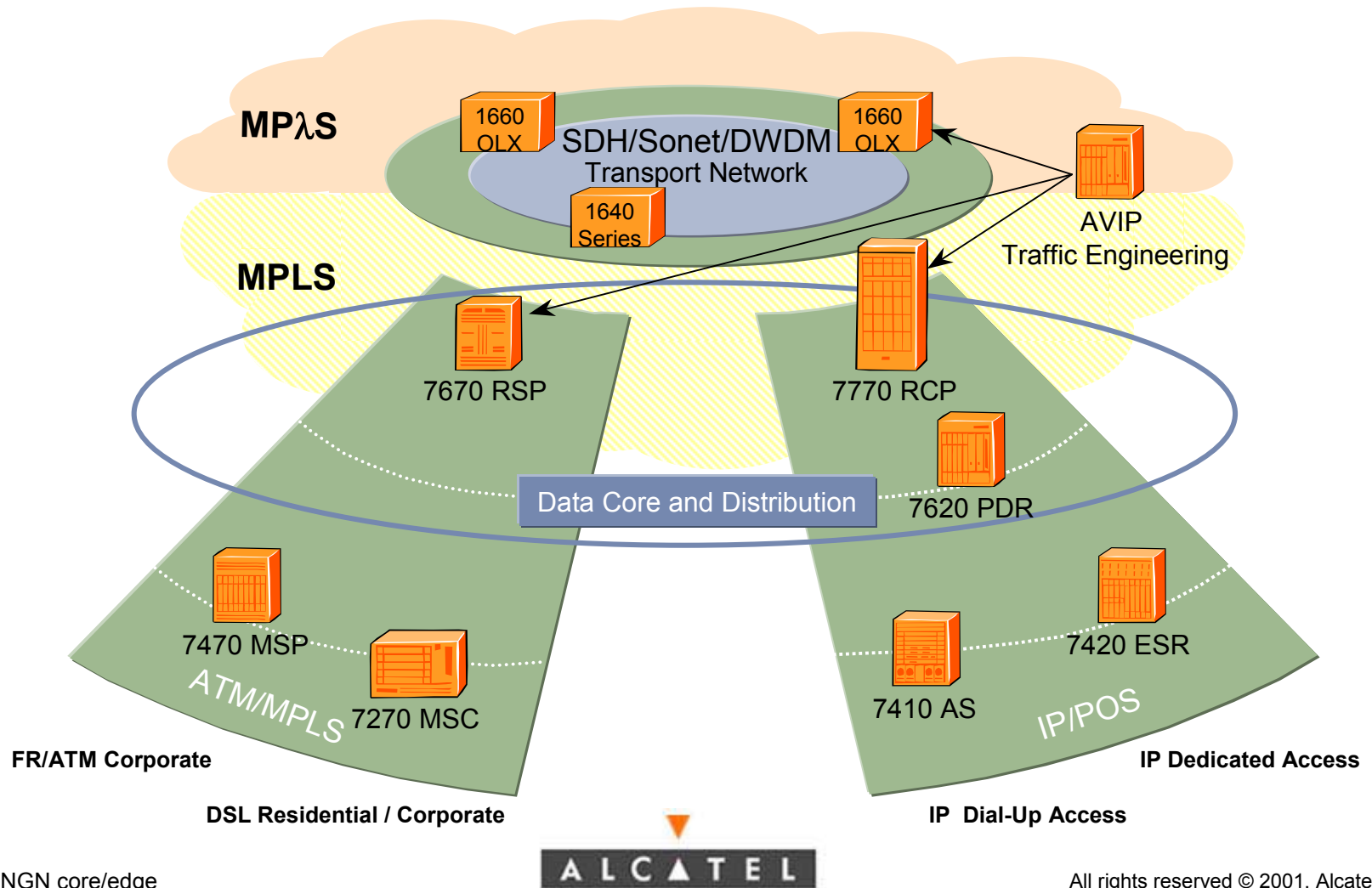
Network Transport Components



Network Transport Elements

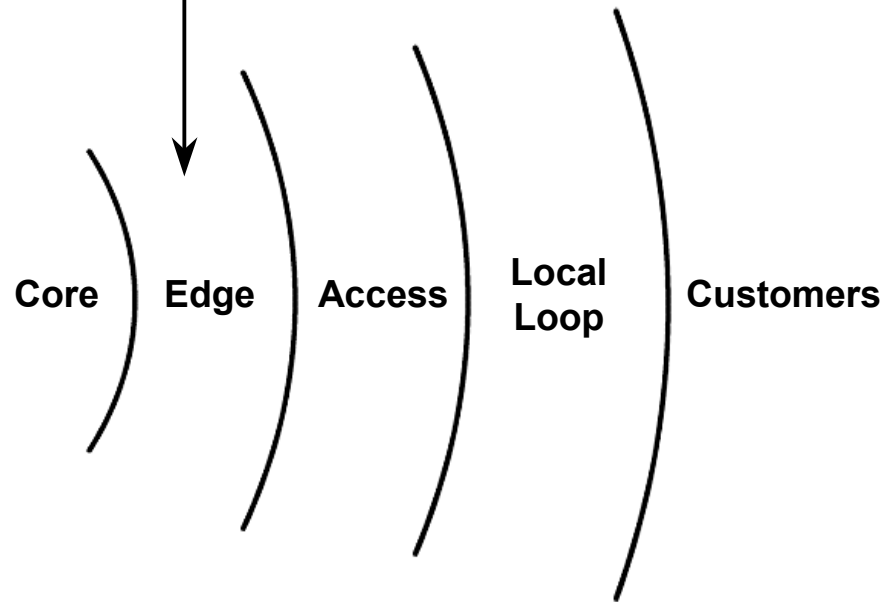


Next Step - MPLS Guided Core networks



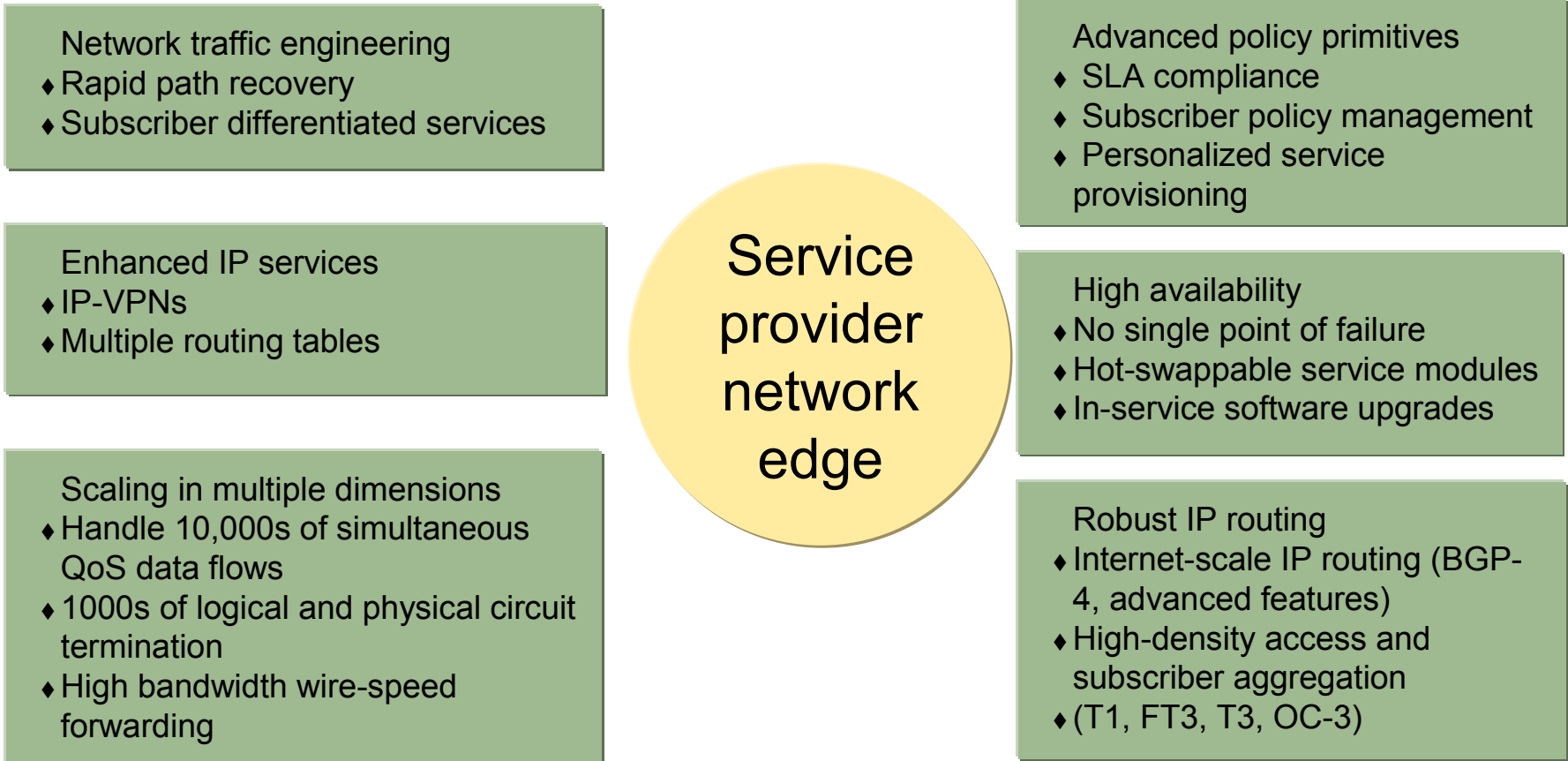
Characteristics of the Service Provider's "Edge"

- ◆ **Intelligence** - defining, provisioning and management of advanced, differentiated services
- ◆ **Performance** - wire-speed delivery point for advanced network services
- ◆ **Scalability & Density** - on-demand aggregation of customer circuits and sessions in the least space
- ◆ **Non stop networking** - Carrier grade reliability



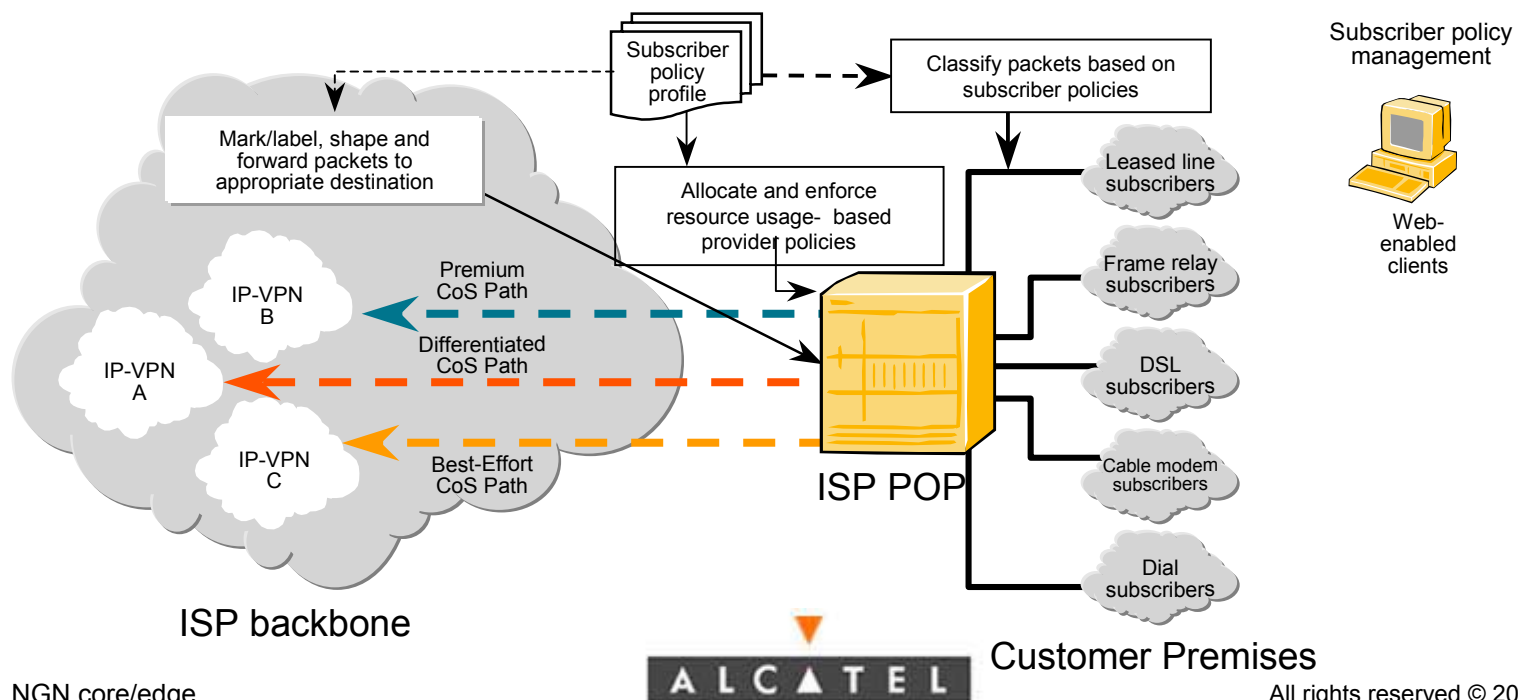
“The ideal system is a cost-effective, single-box solution which can maximize density and provide a full set of services, all at wire speed.” - RHK

Next Generation Edge Requirements



Network Edge — Service Challenges

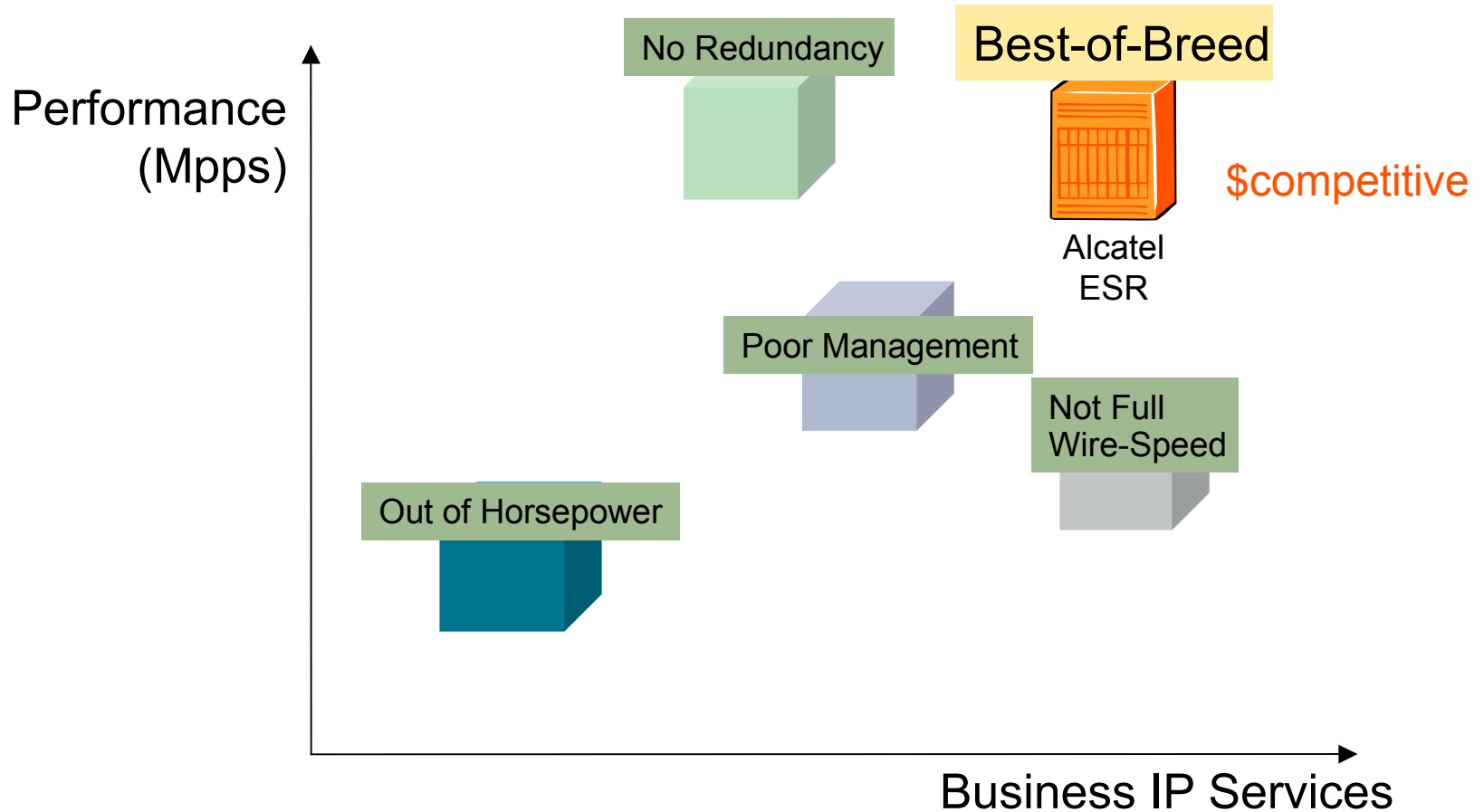
- ◆ Scalable wire-speed QoS and IP VPNs
 - ◆ traffic policing, metering/shaping, and policy enforcement
 - ◆ must perform both marking and honoring
 - ◆ flexibility/adaptability to support new protocols and services
 - ◆ initiate/terminate VPNs



Solutions and Value Propositions

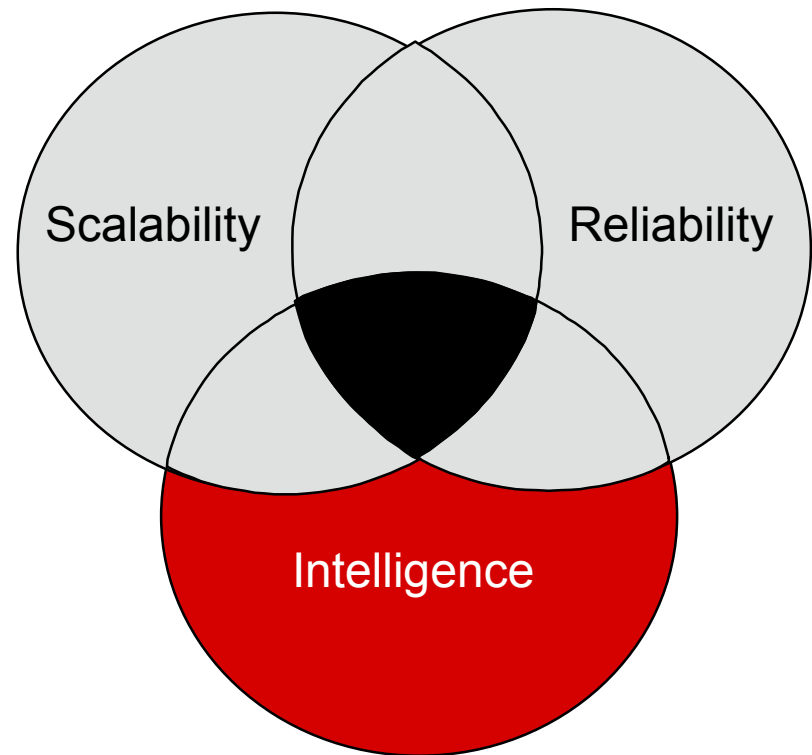
- ◆ Reduce capital and operational costs
 - ◆ single platform providing aggregation with integrated services
 - ◆ over 4500 T1s in a 7-foot rack with \$500 (list) per T1 price per port
 - ◆ linear expansion to accommodate service growth
- ◆ Enable new revenue generating IP services
 - ◆ IP VPNs
- ◆ Investment protection
 - ◆ network processors are flexible and adaptable providing support for evolving standards and new services
 - ◆ independent scaling of control and data plane to handle exponential bandwidth growth
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What can you get



Product Highlights: Intelligence

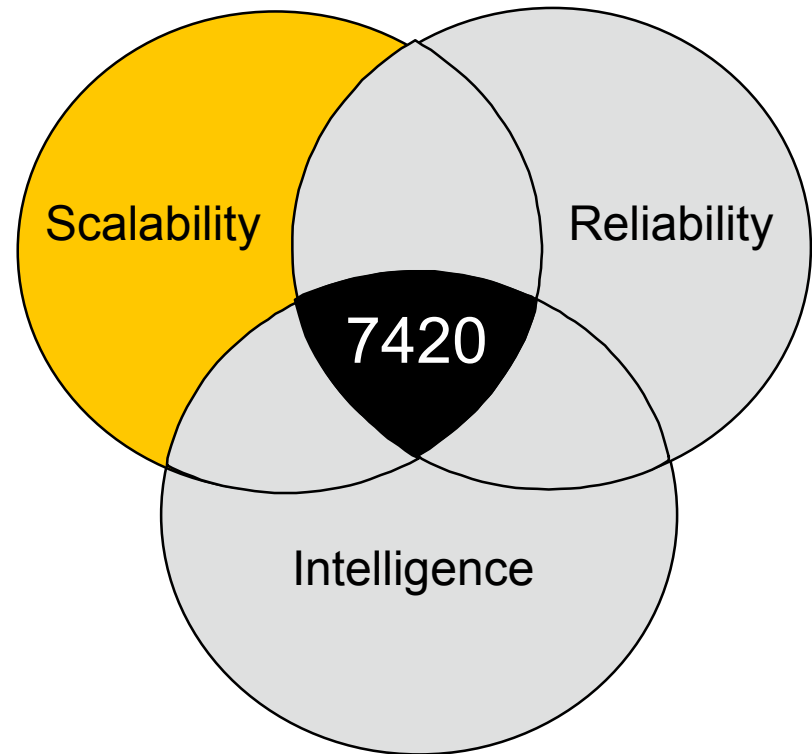
- ◆ Wire-speed OC-12 QoS integrated with MPLS and IP VPNs
- ◆ <50 microseconds latency while performing packet filtering
- ◆ Deep packet marking and honoring at wire-speed for tailored services
 - ◆ by circuit, SA, DA, destination/source TCP port, and ToS
- ◆ Network processors — flexible and adaptable platform providing support for evolving standards and new services



@ wire-speed

Product Highlights: Scalability

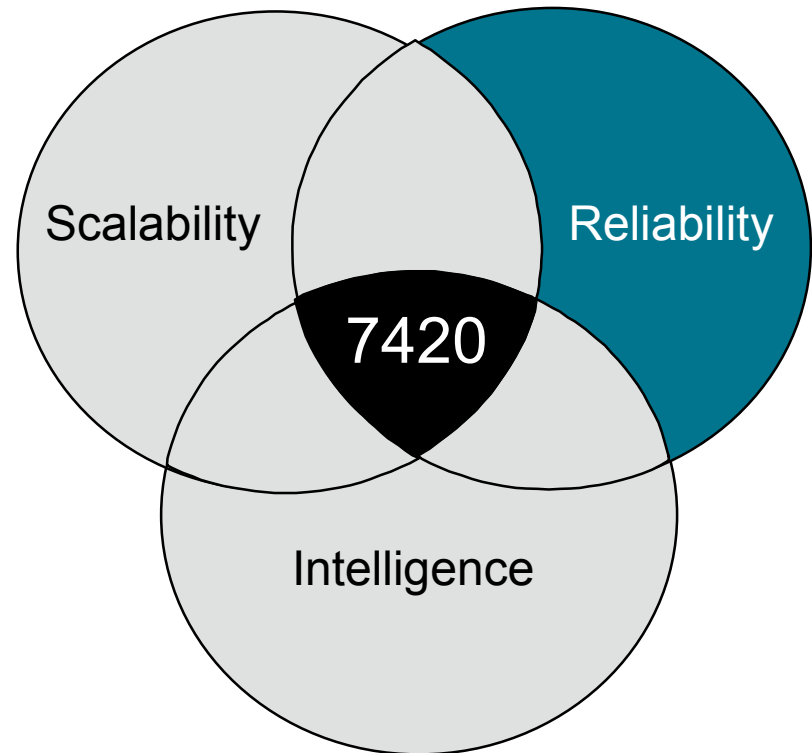
- ◆ Three chassis per 7 foot rack
 - ◆ meets all standard carrier power and emission requirements
- ◆ 18 Mpps aggregate forwarding rate
- ◆ 40 Gb/s capacity
 - ◆ scalable to 80 Gb/s
- ◆ >1,500 T1 per chassis, with fully redundant uplinks
 - ◆ \$500 per T1 port (list)
- ◆ >4500 T1 per 7-foot rack



@ wire-speed

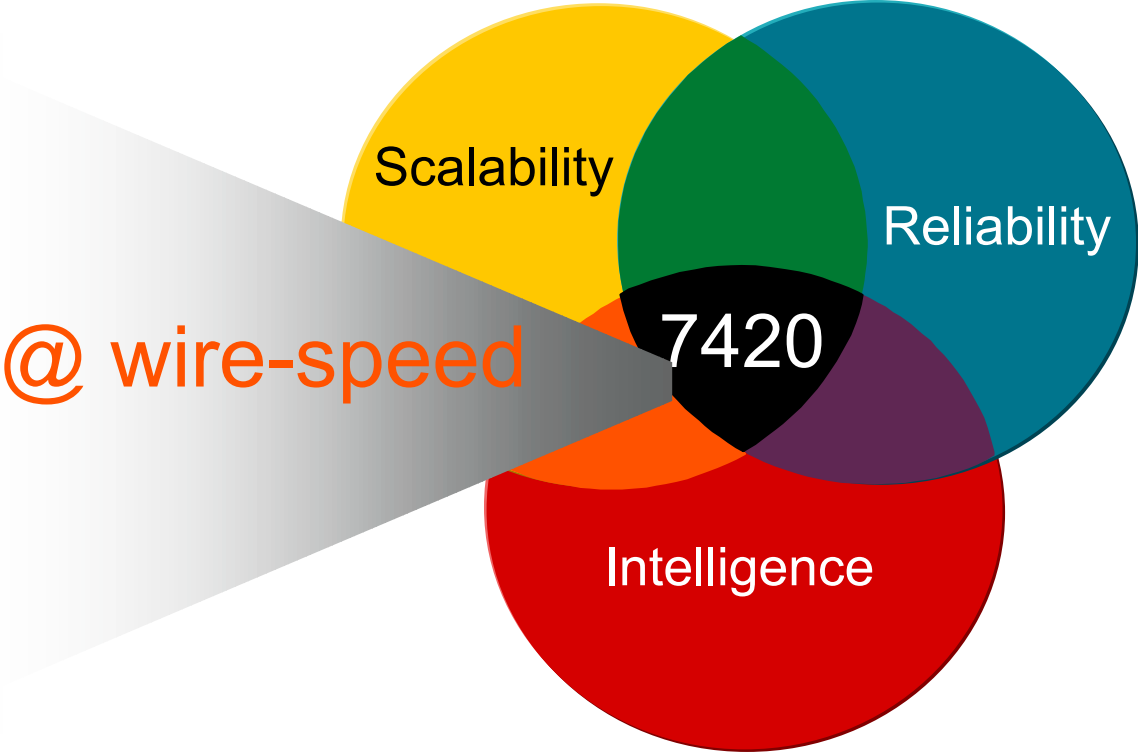
Product Highlights: Reliability

- ◆ Nonstop networking:
Carrier grade edge IP router
 - ◆ NEBS Level 3
 - ◆ 1+1 and 1+N link redundancy
 - ◆ hot swap
 - ◆ control, fabric, power and fan redundancy options

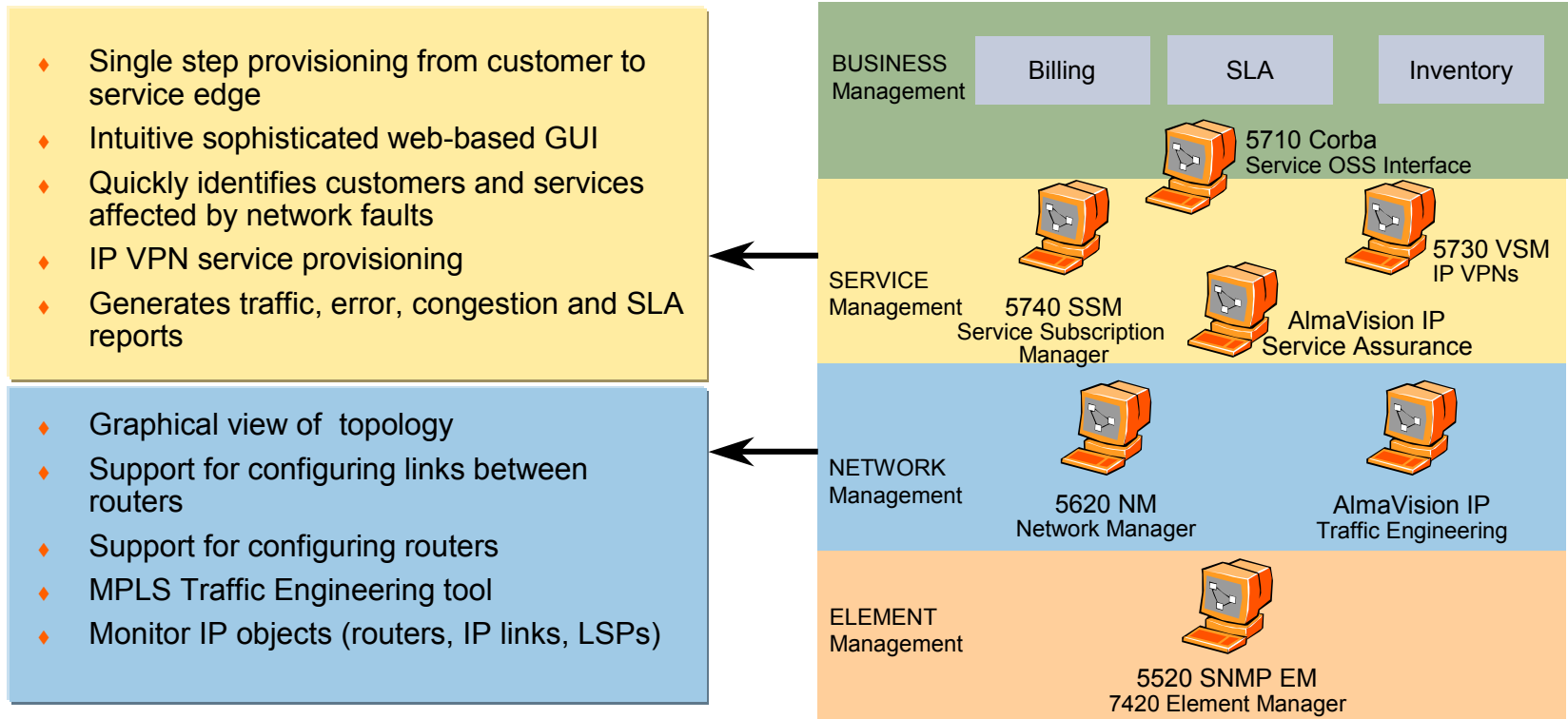


@ wire-speed

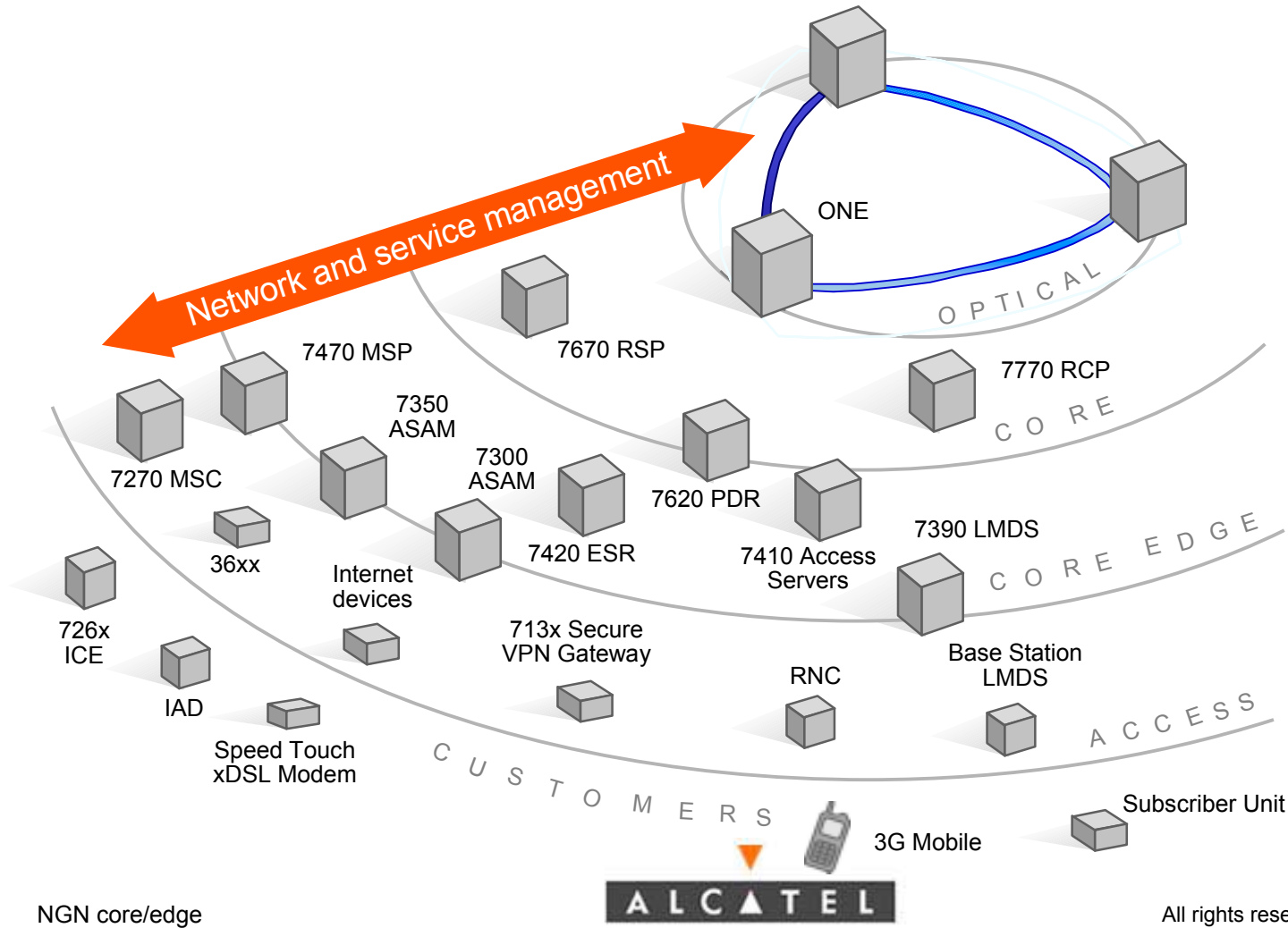
ALCATEL 7420 ESR - Redefining Wire-Speed Performance



Network and Service Management



Stable & Supportable End-to-End Solutions



Alcatel solutions

- xDSL
- 3G mobile
- LMDS
- Data center
- MAN
- Pop solutions



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