




Ericsson RXI 820/810

ATM, IP and TDM Connectivity Solution
for the Next Generation Networks

Requirements on Routers for Wireless Networks

- 
- Prioritization of delay-sensitive realtime traffic (voice)
 - Fragmentation of large packets (low speed-links)
 - Header compression for efficiency (small packets / low overhead)
 - Ability to provide network synchronization
 - Automatic configuration of large number of nodes (routers in every base station)
 - Telecom grade performance for uninterrupted cellular operation and low cost of ownership

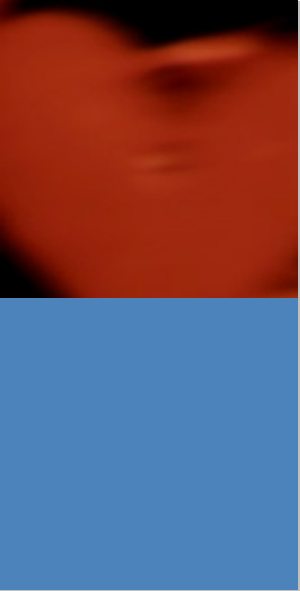
For wirespeed of short voice packets!

RXI 820 Capacity and Performance



- RXI 820 building practice
 - 26+2 slots per subrack
 - 1-3 subracks in typical configuration
 - E1/T1/J1, STM-1/OC-3, F_Eth
 - E3/DS3, G_Eth

RXI 820 Capacity and Performance

- 
- SWIPE
 - 17Gbps non-blocking backplane
 - Termination of 200 E1s/T1s per subrack
 - 2 M voice packets per sec (E1/T1) in full subrack
 - 20 M voice packets per sec (STM-1/OC-3) in full subrack, equaling 400,000 erlangs

RXI 810

- a smaller housing with the same functionality capabilities



- Same platform as RXI 820
 - Same system boards
 - Same interface boards
 - SWIPE
- 8 slots chassis
- Performance
 - Backplane with 622 Mbit per slot (total ~4 Gbps)
 - Wire speed realtime IP on all interfaces
 - (4'800'000 voice packets per second @ 6 x STM1/OC3)

Carrier Class Platform for Next Generation Networks



- Ericsson 3G platform
- Fully distributed HW support of all realtime critical functions
- Outstanding redundancy. No single point of failure
- Exceptional scalability and flexibility - extra processors and special purpose boards can be added in any slot position
- Small foot-print

Synergies:

- Training
- Spare parts
- Management
- Upgrades

- Synergies with other Cello based radio nodes
- RXI 800 family with full reuse of boards

RXI Architectural Principles

Hardware based IP Forwarding Engine directly on interface

- ET-FE1 (8*E1/T1)
- ET-FE4 (2*STM-1 / Sonet-OC3c)
- ET-FET (8*10/100BaseT)
- ET-FEG (1*1000BaseFX)



Redundant Main Processor Cluster for


- Routing protocols
- Multicast traffic
- Tunnel and IPsec termination
- Option/exceptions handling
- O&M

Pooled handling of IP over ATM

- By software on GPB
- In future by FEHW on pooled device

QoS classification
 DS code point compliance
 DS-byte remarking is supported
 QoS buffering
 - Drop before storing
 Random early detection (RED)
 QoS queues implementing
 - Expedited Forwarding
 - Assured Forwarding
 - Best Effort
 QoS scheduling
 - Rate control per class
 Support for statistics collection

3G is Different from Today's Internet

- 
- Multi-service IP networks (streaming, Real time, best effort)
 - 3G networks will have more diverse applications
 - A 3G operator requires more knowledge than a standard ISP
 - Stricter QoS and forwarding latency requirements
 - Faster forwarding and resilience against routing flaps
 - Line speed forwarding for Core routers is a MUST
 - Resilience against Network congestion

3G is Different from Today's Internet

- Higher grade of reliability is a MUST
- Scalability to much larger numbers of subscribers
- STRONG knowledge of 3G standards is REQUIRED from vendors
- Much more care in Network design to accommodate the diverse services
- Ericsson's router product are OPTIMISED for meeting the requirements above.

ERICSSON

