Realtime Routers for Wireless Networks from Ericsson

Global IPv6 Summit

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The power of mobility - application examples

- **Information services**
  - classic
  - location based and telemetry
- **Message and mail**
  - voice, text, image and video
  - video postcards
- **E-commerce**
- **Enterprise processes**
- **Groupware**
  - networked games
  - shared screens
  - chat groups
- **Interactive multimedia**
- **…**

Drivers for IP in mobile networks

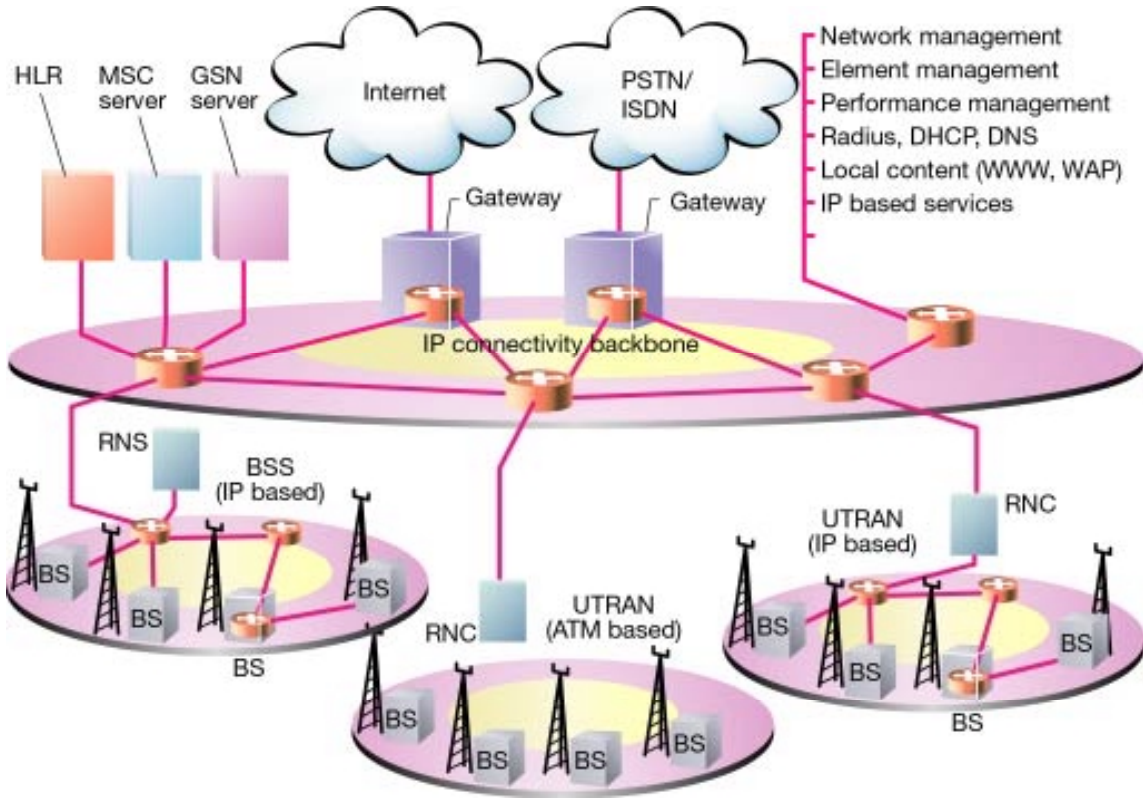
- **New revenues from IP based applications**
  - Changing traffic pattern, growth from non-voice services
  - Service flexibility
- **Cost reduction from using IP based transport**
  - Opportunity to improve transmission efficiency
  - Savings through more automated O&M
  - Savings through single network structure/technology
  - Price reductions and technology advances at a higher pace

Realtime IP in Wireless Networks

Radio Access Networks put <u>tougher</u> requirements !

- **Prioritization of delay-sensitive traffic (voice)**
- **Careful handling of small packets**
- **Careful handling of low-speed links**
- **Ability to provide synchronization (for radio interfaces)**
- **Telecom grade performance (for uninterrupted cellular operation)**
- **Automatic configuration (routers in every base station)**

Needs to be done @ wirespeed for very short packets!

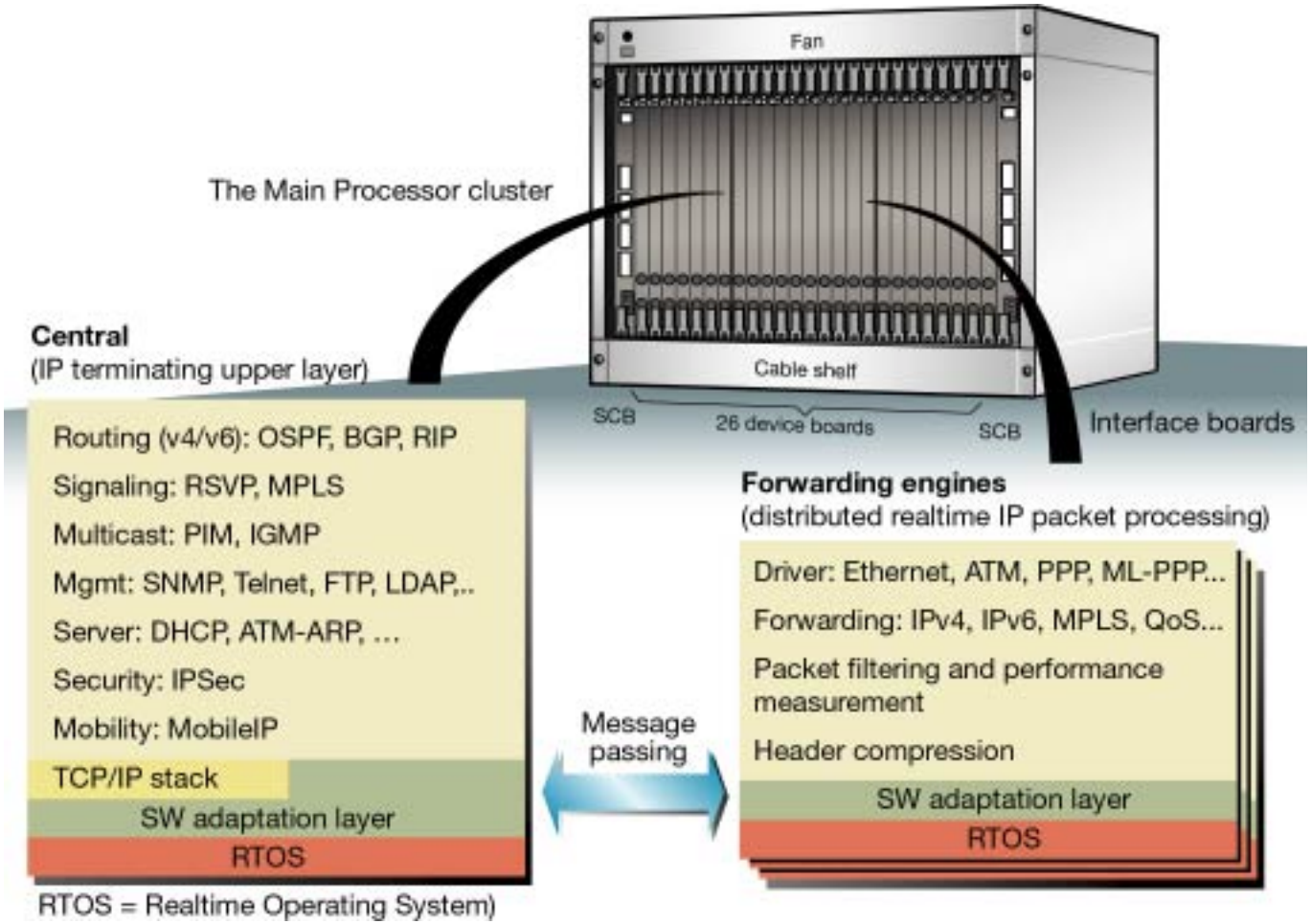


Embedded and Stand-alone Ericsson RXI Realtime Routers Family

- **Product Offering: Provide dual stack IPv4/IPv6 routers with real-time performance (as opposed to “best effort” only) and fulfillment of mobile requirements to mobile nodes and systems in time for GPRS (now) and 3G deployments (end 2001 onwards)**
- **Strategy: One HW platform, one SW platform and one O&M solution.**

SWIPE – Software for Wireless IP from Ericsson

- Addressing the requirements for wireless
- Consistent IP software suite in all nodes
- Benefits:
  - Node interoperability
  - Homogenous QoS
  - Unified O&M
  - Network-wide SW upgrades
  - Fast TTM



RXI 820 capacity and performance

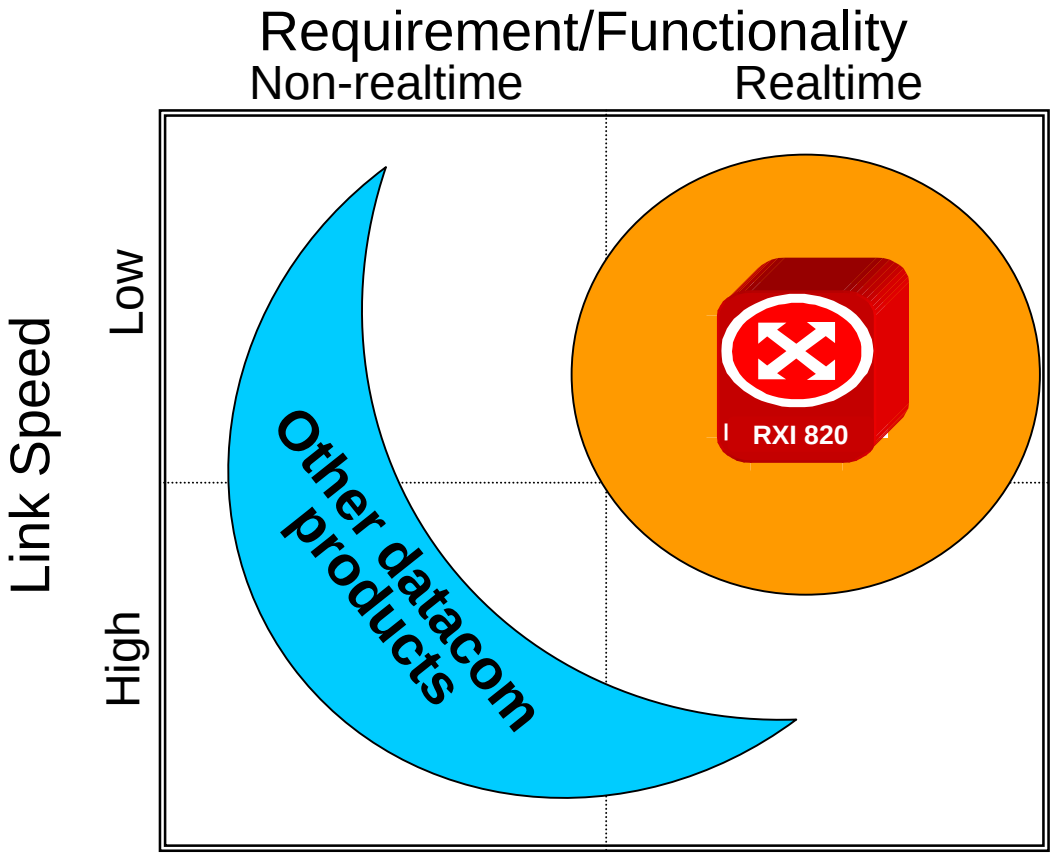
- RXI 820 building practice
  - 26+2 slots per subrack
  - 1-3 subracks in typical configuration
  - E1/T1/J1, STM-1/OC-3, 8*10/100BaseT
  - E3/DS3, 1*1000BaseFX
- Termination of 200 E1s/T1s per subrack
- 2 M voice packets per sec (E1/T1) in full subrack
- 20 M voice packets per sec (STM-1/OC-3) in full subrack, equaling 400.000 erlangs

RXI 810 Cell Site Router

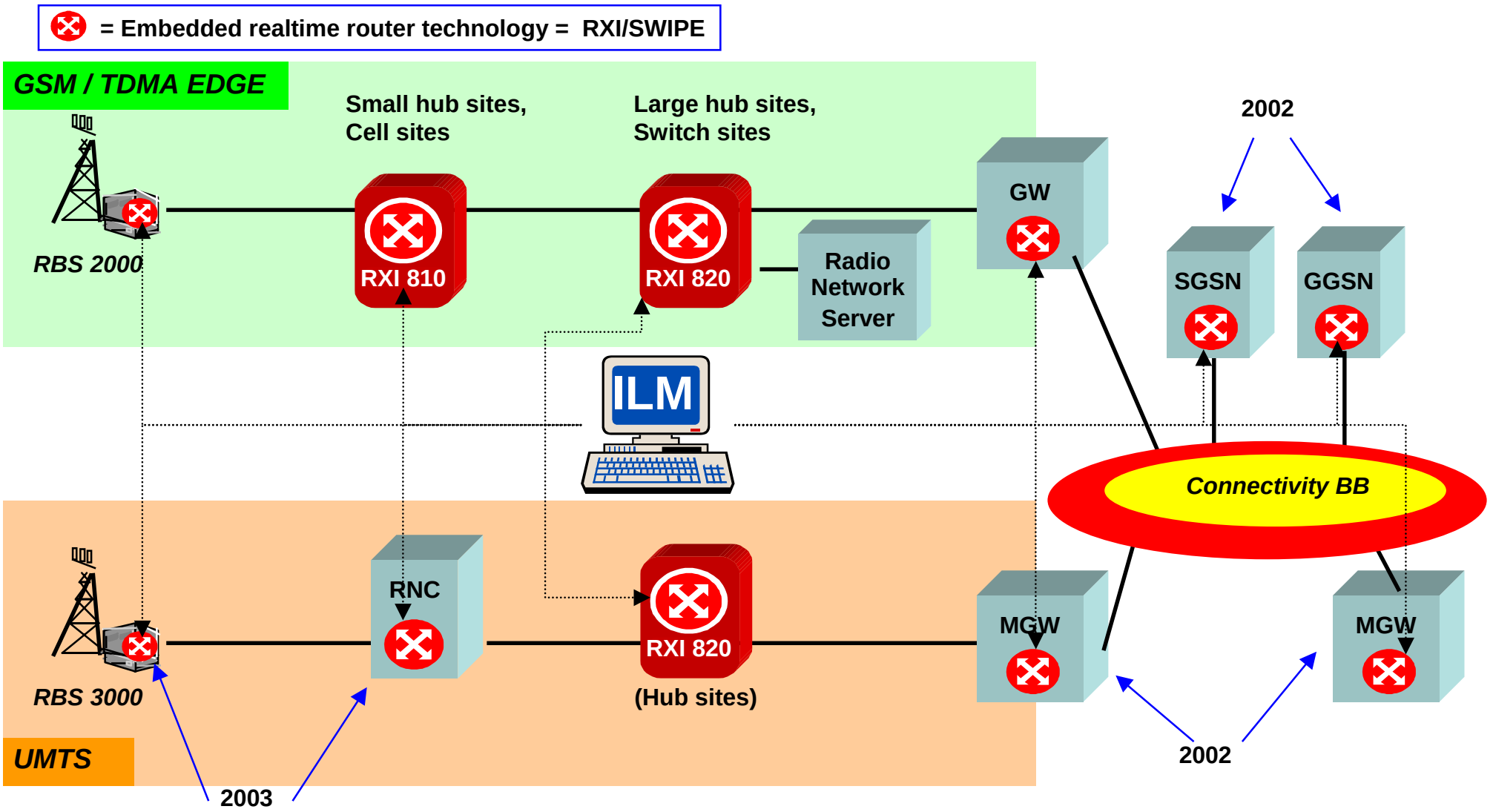
- Same platform as RXI 820
  - - Same system boards
  - - Same interface boards
  - - SWIPE
- 8 slots chassi
  - - Power and fan included
  - - One SCB with Timing Unit
  - - One GPB routing processor
  - - 6 slots free for interfaces
  - - Optional use of redundant GPB

- 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)

Positioning of RXI 820 realtime router for wireless networks



RXI, SWIPE & ILM - At the centre of Ericsson's wireless IP strategy



Summary

- Future mobile networks will be based on IPv6
- Half of the world's internet users will connect through mobile networks
- Voice and data in wireless networks put a new set of requirements on IP routers
- Ericsson Realtime Routers RXI 820 and RXI 810 are optimized to deliver realtime services in a wireless environment
- RXI 810 / RXI 820 will be deployed during 2001