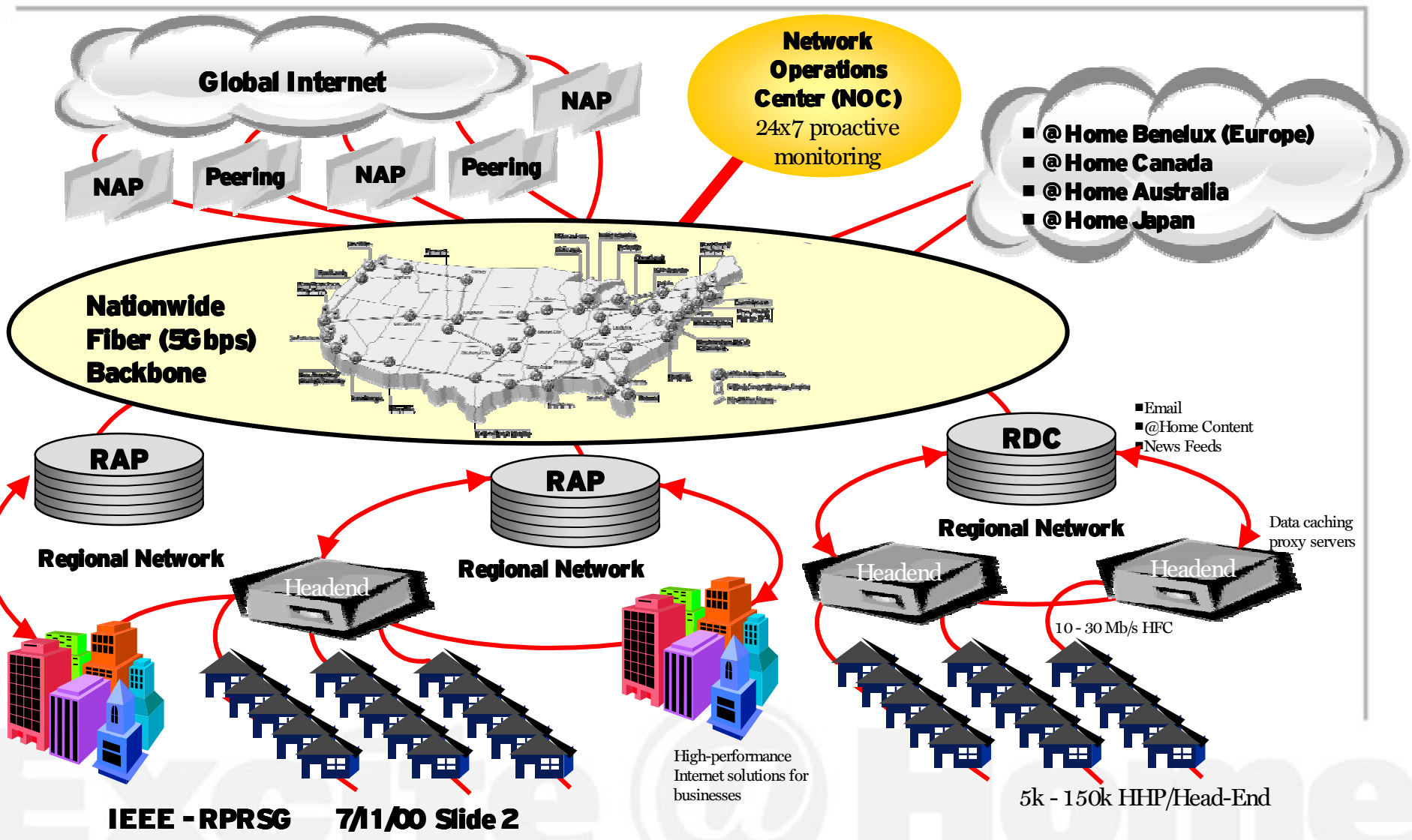
Excite@ Home View of Resilient Packet Rings

Bruce B. Johnson

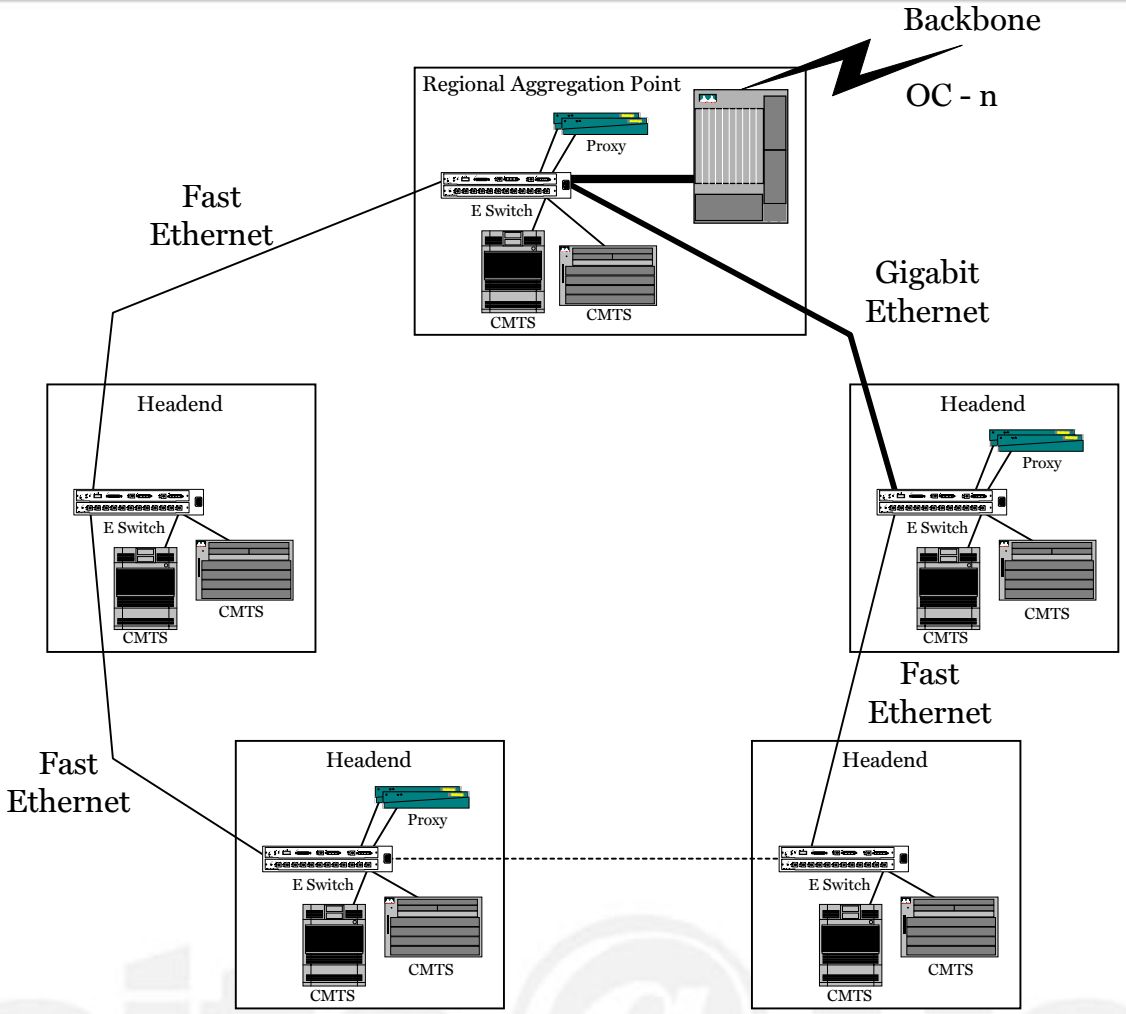
Senior Network Design Engineer

bbj@excitehome.net

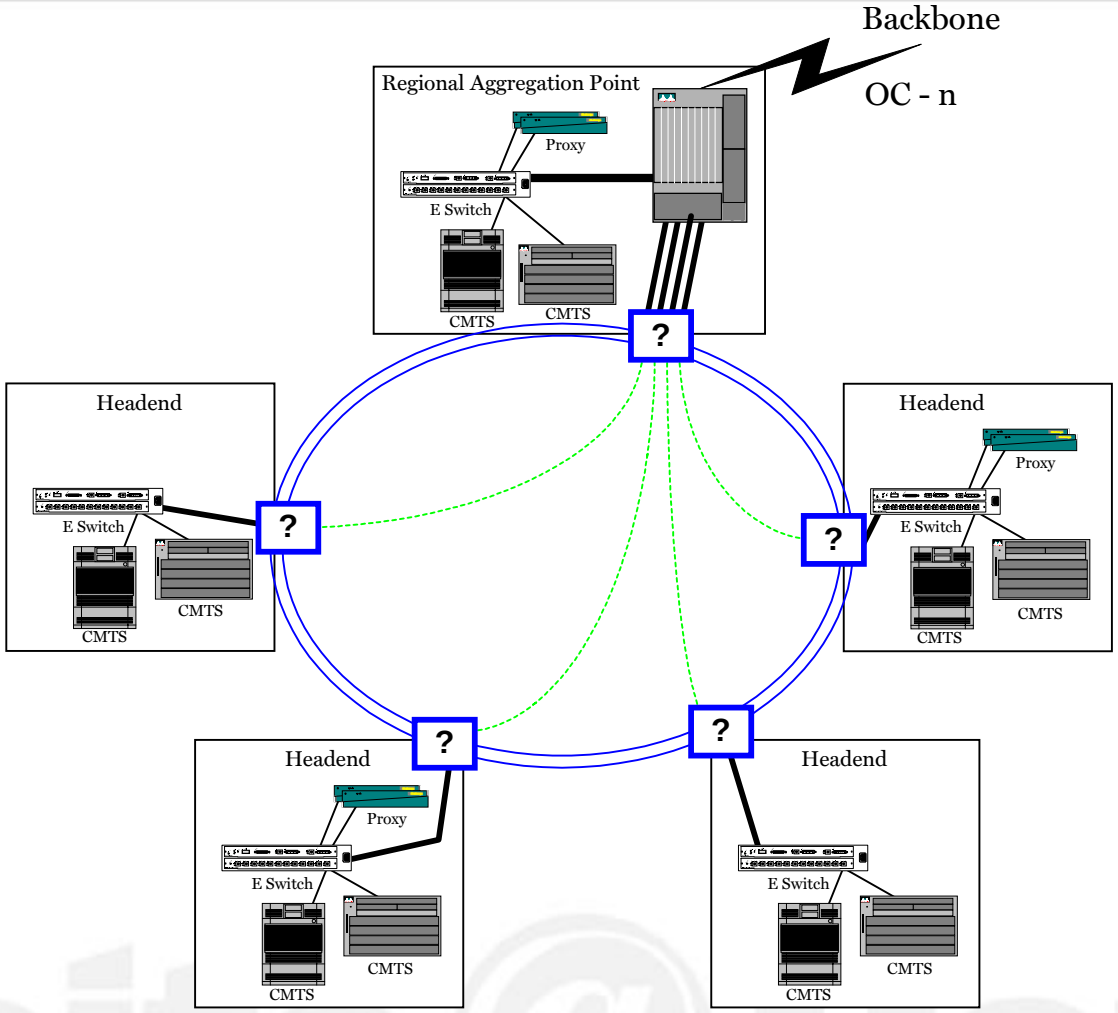
@Home Network Architecture



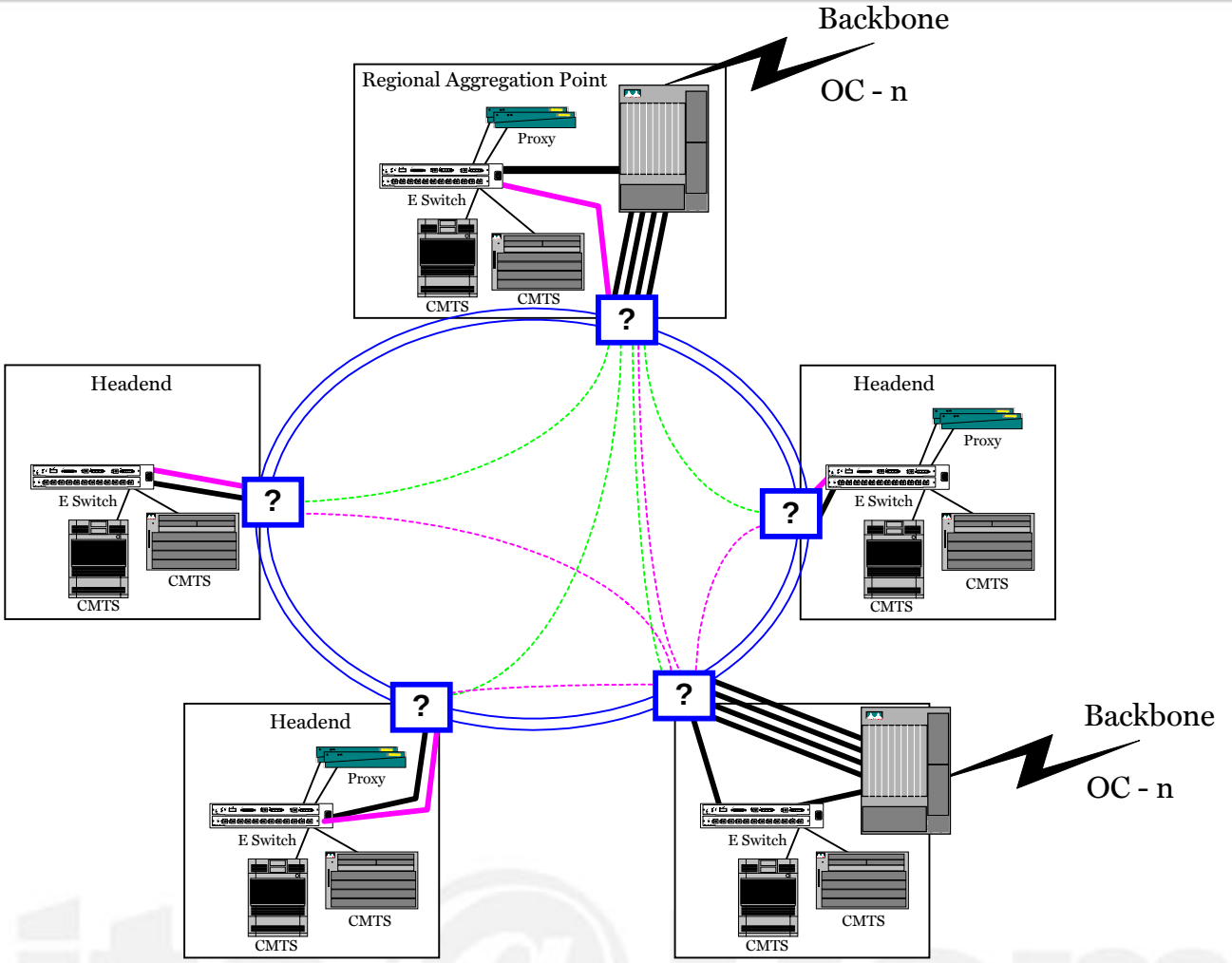
Current Regional Architecture



Desired Architecture



Desired Architecture (2)



Requirements that may influence the standard

- Low price of admission (to the ring)
- Small size
- Path protection with "fast" recovery (sub second)
- "Dumb" (ie. transparent) pipes are better
  - L1, maybe L2, not L3
- Scales to 10+ Gbps aggregate (protected)
- Capability of redundant ingress/egress points (and server locations)
- Up to 2,000 Km ring circumference
- Up to 80 Km between nodes
- Up to 30 nodes per ring

Implementation Requirements

- 19" rack mount
- Small size- 8RU
- 110v. AC or -48v. DC power options
- Drop 50Mbps to 2Gbps per node
- Handoff at node is ethernet (100Mb, Gb)
- Tributary connections are multimode (low cost)
- Ring allows ITU-T G.692 gridded optics
- SNMP management
- NEBS option

Interesting Features, but...

- QoS support
  - Can use external router
  - need (simple) policing in/out of ring
- Multicast
- Integrated (optional) router

Summary & Conclusions

- Keep it simple
- Use existing, commonplace standards where possible
- Don't try to solve all the world's problems
- Evolve the standard so compliant products can be produced ASAP