



Snug 2009
SCATS on ADSL



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With acknowledgements of contributions from NZTA

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Background

- NSCC computer servers outsourced
 - Old server room issues
 - Future space requirements
 - Current NSCC SCATS links
 - Telecommunications
 - Threat – no more analogue lines
 - Security of equipment
-
- **Moving server requires some homework**



SCATS SERVER

Oh that computer!



SCATS connections

**Oh those
we thought they
were just
telephone lines!**



Opportunities

- technology review
- current SCATS communications
- some analogue multi-drop units
- ADSL services
- efficiencies of access through IP address
- bundling of services
- live video camera feed



Solution Requirements

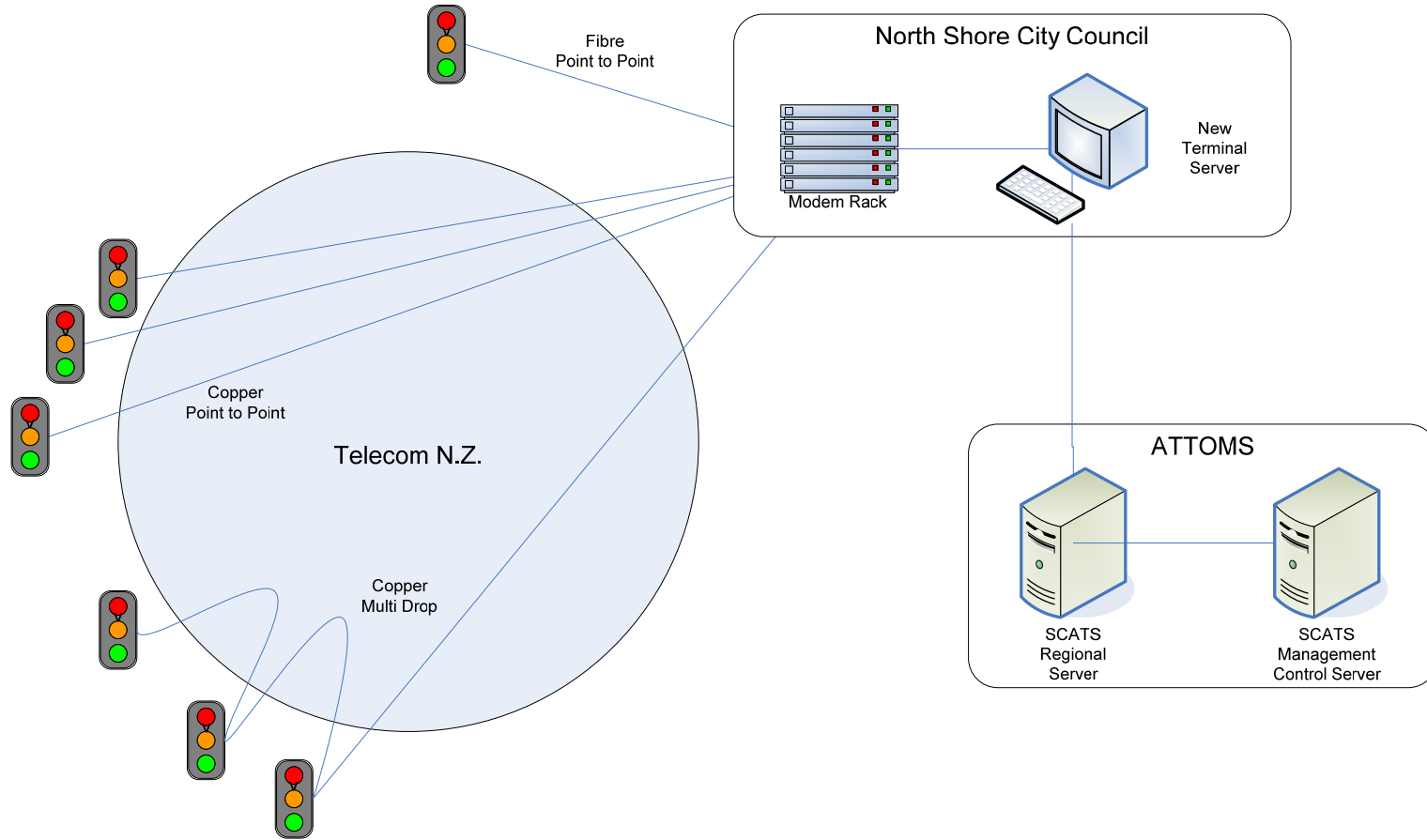
- equipment removal
- telemetry support all controllers types
- to maintain **SCATS performance**
 - speed
 - latency
 - network availability

comparable or better than existing analogue leased lines

- cost
- support - maintenance
- scalable to accommodate future growth
- future proofed.



Existing setup



Options considered

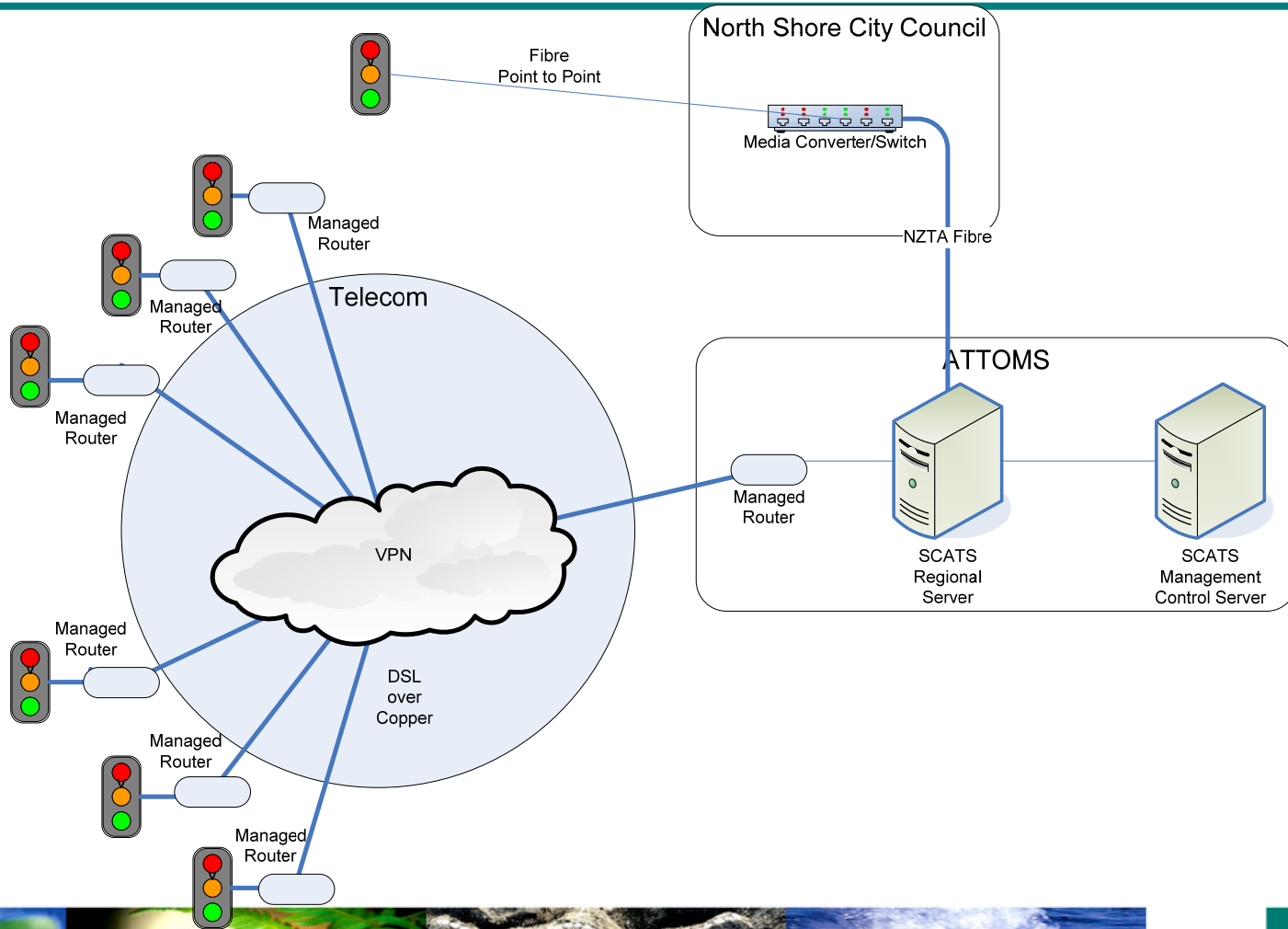
- A1 Leased line circuits – move regional server only
- A2 Leased line circuits – relocate all data circuits to ATTOMS
- B Wireless WAN
- C1 WAN generic managed ADSL
- C2 WAN generic unmanaged ADSL
- C3 WAN – RTA proprietary ADSL

Preferred option C1

Managed ADSL: security of service, economies of scale



Option C1 ADSL managed service



Other Factors

- **Future proofing**
 - Threat of end-of-life of leased analogue lines
 - Live video feed
 - Other IP applications??
- **Cost comparison**
 - Migration and installation
 - Ongoing operations
- **Unbundled Bitstream Access**
 - Telecom ---- Gen-i.....wholesale package
 - Telecommunications Act in Dec 2006 enabled competition
Fusioncustomised solutions



Trial

- New SCATS regional server at ATTOMS
- Run in parallel with NSCC regional server
- Prepare signal boxes for migration by installing DSL routers and serial converters
- Two trial sites run in parallel
- Enabled testing
- Testing has shown acceptable performance criteria
- Move to next phase roll-out of 30 sites



Trial products

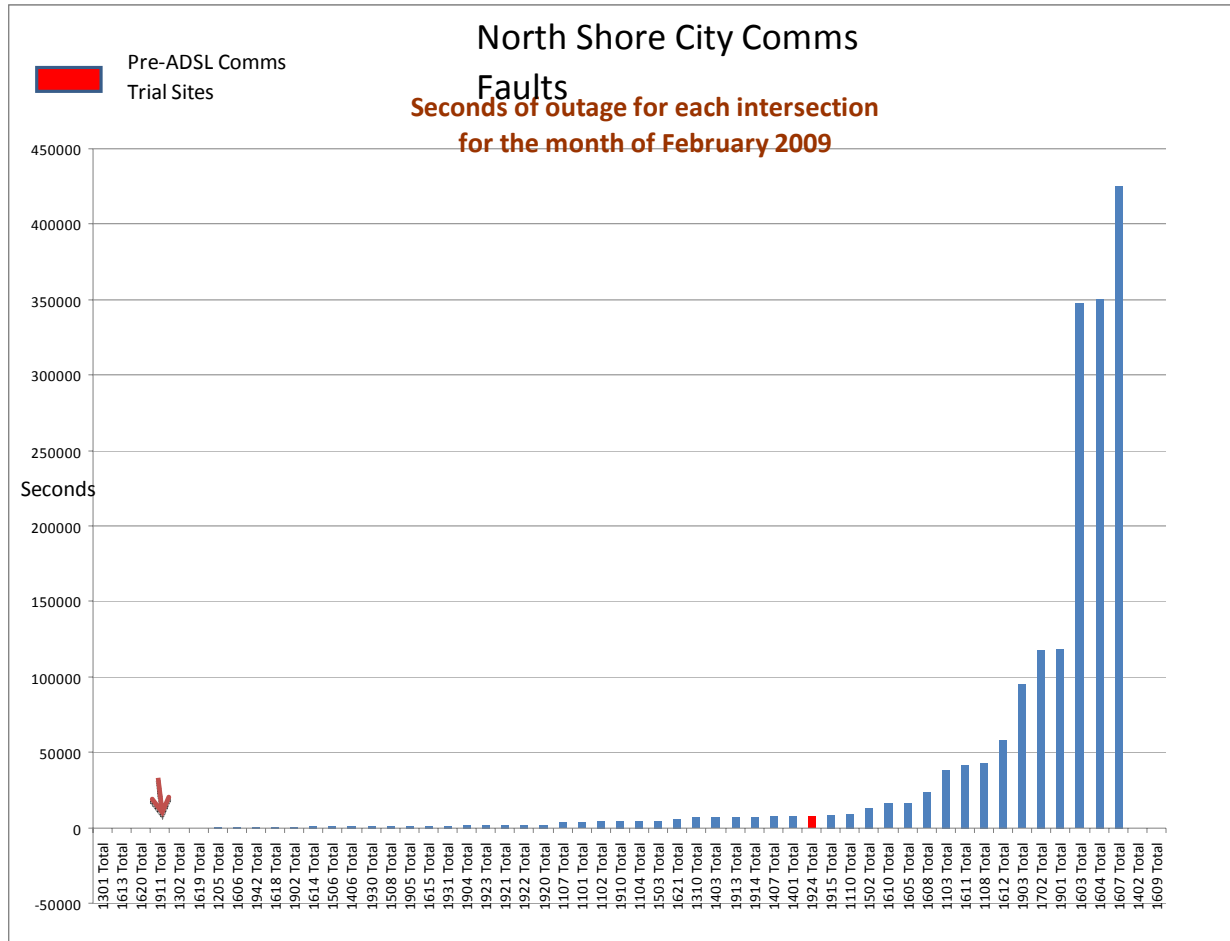
- Two trial products
 - 15 sites with Telecoms service provider Gen-I
 - 15 sites with Fusion networks;
 - Gen-i 2Mb pipe
 - Fusion 500Mb pipe
 - Costs – once off \$1200-1900 per site
monthly approx \$190 per site
 - Performance criteria service delivery times and responsiveness



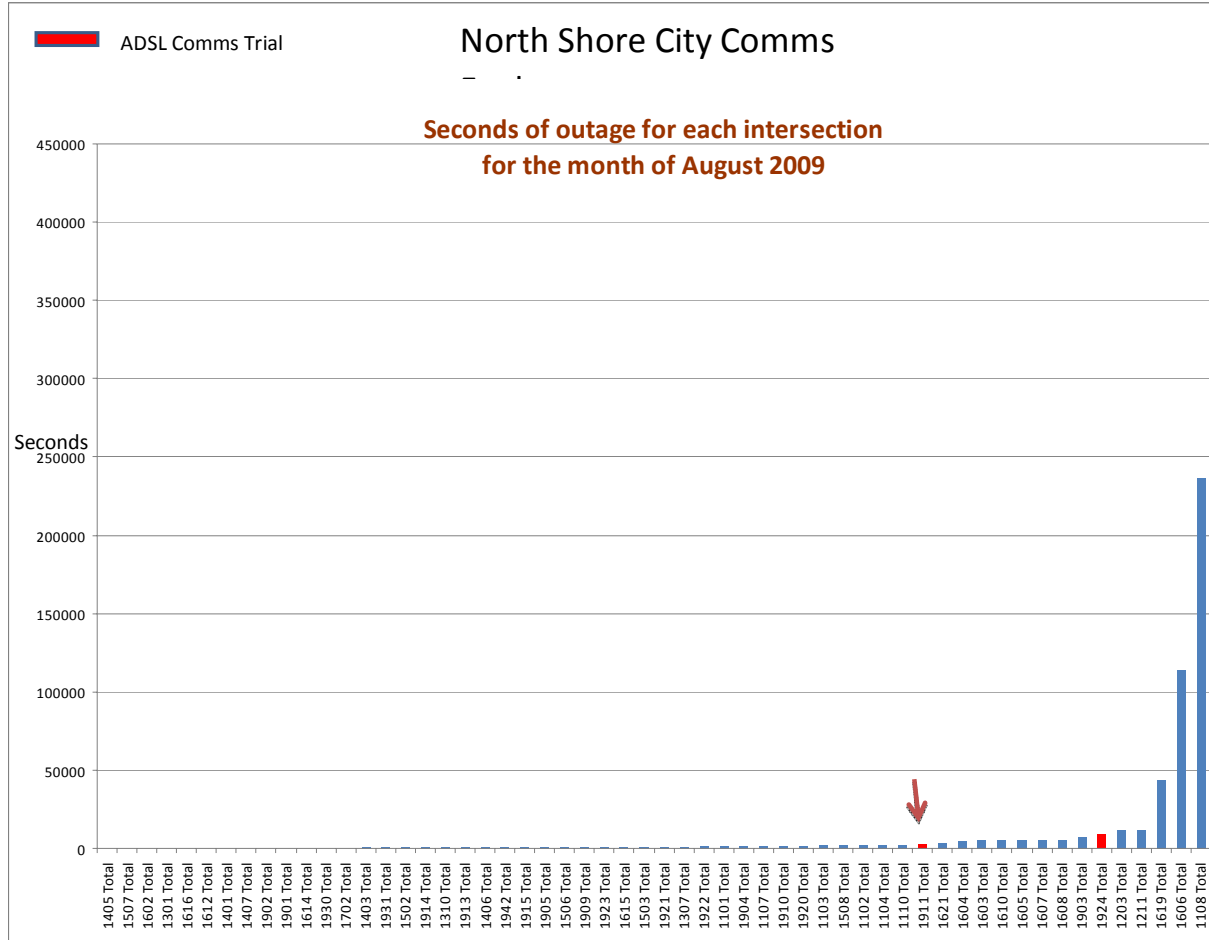
Moxa serial device server



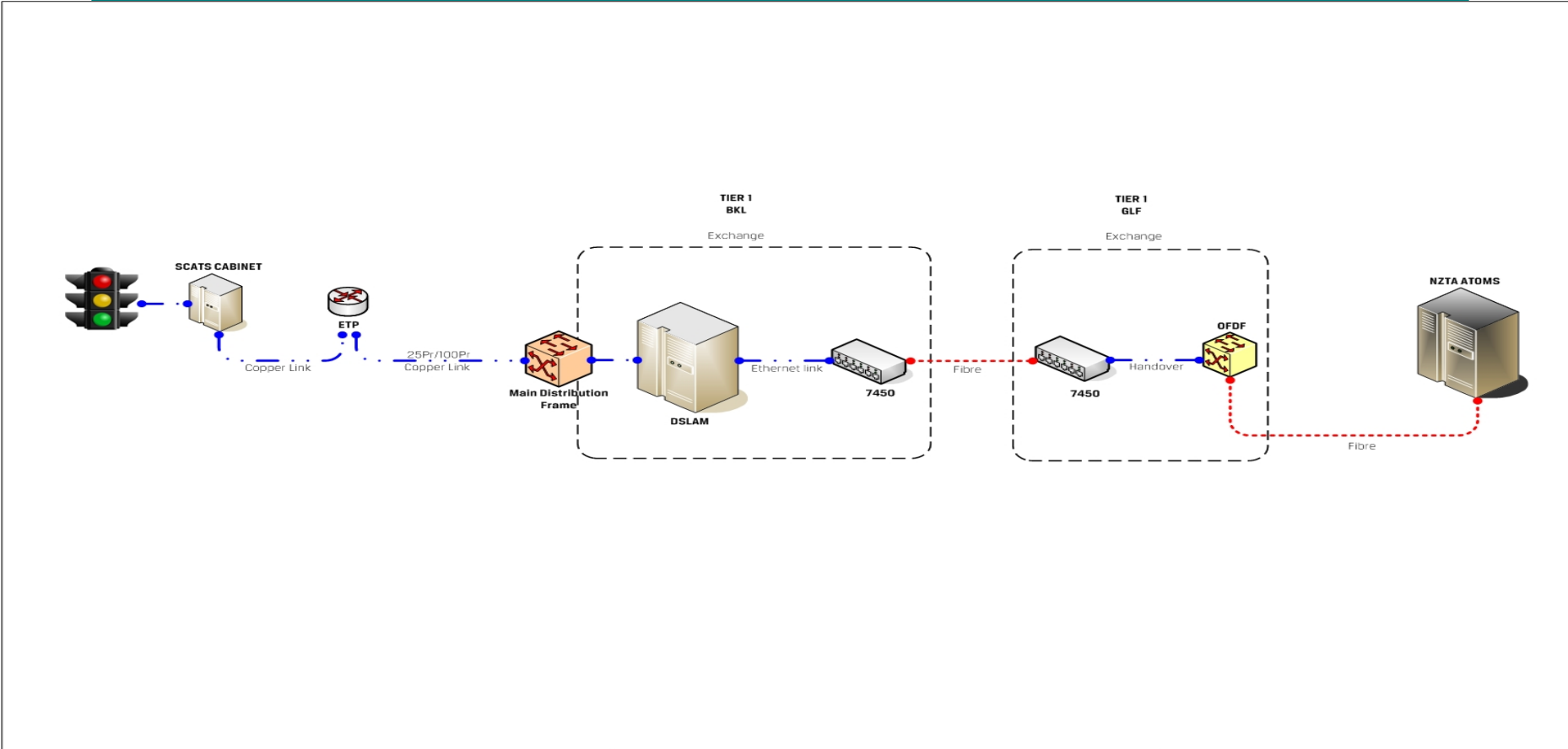
Testing



Testing



Fusion schematic



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Ongoing work

- Cut over and monitor approx 70 signals
- Complete migration by end of June 2010
- Trial camera video feed
- Cost comparison
- Product comparison
- Reliability
- Relinquish Telecom leased analogue lines
- Decommission NSCC server
- Document lessons learnt



Questions?

- And a note of thanks to contributors to the presentation

