



TUANZ Telco Day 2007

**Substituting ADSL for Managed
Network Services**

Substituting ADSL for Managed Network Services

- Background - Carter Holt Harvey and Me
- CHH's experiences with DSL
- Our rules of thumb
- Where will we go from here
- Q&A

Background- Graham Harris

- Team Leader, IT Project managers at CHH
 - Replacing all our Next Generation Network with One Office and ADSL
 - Half a dozen other projects
- Previously at a large UK IT consultancy
 - Large Enterprises and Public sector
 - Voice & data, technical & commercial projects
- Closet Communications Geek

Background- Carter Holt Harvey

- We make stuff out of Trees
- We make stuff out of Trees
 - Trees -> pulp -> paper -> corrugated & packaging
 - Trees -> engineered wood products -> retail

Carter Holt Harvey

- Business Philosophy- Be Flexible
- Geography
 - 180+ sites
 - Mostly NZ but also Australia, USA and single plants in several other countries
 - Mix of urban, rural & small population centres
 - Large industrial sites and small finishing & retail

Carter Holt Harvey- IT Establishment

- 150 IT Staff
 - Auckland, Central North Island, South Island
 - Australia
 - USA
- Dedicated Networks / Telecoms team currently 4
- Service Desk, Service Delivery Managers, Project Managers

Carter Holt Harvey- IT Architecture

- Around 4000 desktops & laptops in Australasia
- Mixed Windows and Unix systems, some Citrix
- Standard office and accounting systems plus many manufacturing applications
- Some apps hosted regionally but mostly centralised IT
- Important xTasman link
- A few apps require low latency or a continuous connection between client and server
- A very little IP telephony and some small call centres



CHH – Telecom Relationship

- Telecom and AAPT are Carter Holt Harvey's Preferred Suppliers for Voice and Data Communications
- Carter Holt Harvey has worked closely with Telecom for several years
- Telecom puts substantial effort into managing our service delivery

Data WAN history

- Business Premises
 - Private Office Network to Next Generation Network
 - Business Jetstream for small sites using dedicated Cisco VPN firewall/routers
 - Now Converting NGN to One Office & ADSL
- Roaming/Residential Uses
 - Custom ADSL/Frame VPN for senior execs & on-call IT staff
 - Roaming service using iPass
 - Consumer-grade ADSL using IPsec VPN client and main firewalls

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Why DSL?

- ADSL a fraction of the price
 - Worth the trade off for a lower-grade product
 - We adapt our business to take advantage of it
- Commoditised
 - Automated provisioning vastly cheaper than the 500 steps for a managed leased line
 - Few Truck Rolls

CHH's Experiences of ADSL

- IPNet was customised for Carter Holt Harvey
 - ADSL to employee home, Frame to CHH
 - VPN managed by Telecom
 - centrally billed
- Business Jetstream was a retail product
 - Priced well above consumer products

Security

- ADSL
 - VPN clients
 - SSL clientless VPN
 - Not an issue
- Managed Service
 - ATM & MPLS
 - perfectly good enough for our business
 - Not an issue

Availability

- ADSL
 - Almost everywhere we have requested it
 - Pricing is flat for any location
- Managed Service
 - Everywhere we requested it
 - often a long wait for a price
 - Design rules have sometimes led to “outrageous” costs

Provisioning

- Common, conservative protocol
- Monitor new link for two weeks before relying on it
- Actual cut over at a precisely planned time
- Full testing
- Immediate Back-out plan
- Monitor over 2 more weeks before RQ

Provisioning

- ADSL
 - Fast, relatively reliable
 - We ask Telecom to do as much as possible
 - Pre-configure routers before sending to site
 - Router there when engineer installs ADSL
 - Some engineers will connect up the router
- Managed Service
 - Slow, multiple visits, timing unpredictable
 - Our pilot sites have been difficult
 - Several outages caused, or extended, due to poor coordination

Reliability

- ADSL
 - Service rarely affected
 - Micro-outages don't cause business impact
 - Two routers suddenly lost their settings
 - due to power spikes?
 - we now supply surge suppressors
- Managed Service
 - High when it's left well alone
 - Problems come mostly when it is touched

Recovery

- ADSL
 - Mostly rapid.
 - Get-you-home solution
 - t3g card in a router
 - ship from base
- Managed Service
 - Mostly rapid
 - Can take a while to diagnose problems

Performance

- ADSL
 - Generally good
 - bandwidth is contended
 - one location contends with a local schoolboy
 - One site reverting to Managed
- Managed Service
 - Good once bedded down

Class of Service

- ADSL
 - Not available within Telecom's network
 - Your router can prioritise part of *your* traffic over other parts of *your* traffic
- Managed Service
 - Available with loose SLA
 - Inflexible

Contention

- ADSL
 - Telecom claimed (April 2006) average contention ratio is 33:1
 - at full-speed 3.5Mbps we should get 106Kbps average
 - 2007 UBS is provisioned at 32Kbps per user
- Managed Service
 - Not contended
 - Or is it?

Our Ability to Manage

- ADSL
 - Good, with
 - The right people
 - The right routers
- Managed Service
 - One Office has removed our detailed read access to the edge routers
 - Replaced with read-only SNMP
 - We can't get the traffic data to judge when we should upgrade
 - We can't help Telecom diagnose problems
 - Telecom has mostly delegated this to Alcatel

Service Level Agreement

- ADSL
 - Doesn't have one to speak of
 - ADSL uses *exact same* infrastructure as low speed managed network
 - DSLAMs / ASAMs, ATM core
 - We rely upon peer pressure
- Managed Service
 - Was minimal- "If it breaks, we will fix it"
 - Now improving "If the traffic is too slow, we may fix that too"
 - Performance SLA in Australia is too little
 - Doesn't compensate adequately for downtime

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Rules of Thumb

- Asymmetric- What we put out in sites
 - Workstations and Printers
 - Login Services?
 - Thin Client solutions
 - Printing?
 - Where we Store Files & What about Backup
 - Email
 - What about Scanners & Cameras?

Rules of Thumb

- No QoS support
 - no apps that are very sensitive to latency
- Reliability
 - Most sites can process through brief outages
 - Sometimes works better in theory than practice

More Rules of Thumb

- Location
- Size
 - No more than 30 devices on an ADSL link
- Need for Domain Controller
 - Consume a lot of data transfer allowance
 - Very sensitive to line drops while replicating

More Rules of Thumb

- Urgency
- Duration
- Risk

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Where will we go from Here

- ADSL2+
 - First exchange 28 March 2007
 - Planned for “50% of exchanges in 2007”
 - Much faster downlink- uplink modest
 - Many other capabilities
 - But how many will Telecom deliver?

Where will we go from Here

- G.SHDSL
 - Symmetrical ~2Mbps
 - Already used to deliver One Office
 - Overseas Telcos offer unmanaged
 - Again, service wrap matters

Conclusion

- Carter Holt Harvey evolving use of ADSL
- Balanced Scorecard for ADSL is favourable so far
- We expect DSL to be more important ahead
- We will evolve our service delivery to leverage it