



The state of Unified Communications at AUT

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- Established in 1895 as Auckland Technical School.
- Gained University Status in 2000.
- 26243 students, 2063 FTE Staff (2011)
- Four main campus in Auckland, NZ:
 - City (Auckland's Central Business District)
 - North Shore (approx. 10km from City)
 - South (approx. 20km from City)
 - Millennium (approx. 15km from City)

- Commissioned Ericsson MD110 PBX.
- Replaced disparate legacy equipment across multiple sites.
- Main operators reduced to one site.
- Voicemail introduced.
- Huge improvement to internal and external communications at a time when few people had access to Email.

History – 2000 to 2003

- AUT granted University status in 2000 and expands rapidly.
- MD110 can only be expanded in large, expensive steps (LIMs) but we need only half a LIM or less at a time.
- New Business School building planned - further adding to demand.
- Some capacity relief by using copper tie cables to service phones from distant LIMs but added complexity.

History – 2003 to 2005

- Trial of Cisco Call Manager.
- Trial of Ericsson MD110 VoIP.
- Moved from ActiveVoice repartee to Teleware for voicemail.
- Decision made to move to Cisco Call Manager in a “big bang” migration, done mid-2005.
- Cisco IP Phones installed alongside existing MD110 phones, users instructed to start using Cisco phones on cutover day.

- At the time of installation the cheapest Power Over Ethernet switches available were Cisco 3500 series.
- Significant extra cost hard to justify over local power adapters.
- Manufacturing fault in our local power adapters.
- Power Over Ethernet now more affordable with 2960 Series switches.

- Cisco Call Managers (later Cisco Unified Communication Manager) upgraded from initial 4.1 to 6.1, then 8.0.
- Now running CUCM 8.6, upgrading to 9.1 April 2014.
- Using physical IBM servers for CUCM, but currently testing Cisco UCS/VMWare for later in 2014.
- Telephony servers kept separate from the rest of our VMWare/storage infrastructure.

- Moved to new Telco for voice calling via SIP Trunking.
- New Provider did not support T38 and recommended we retained ISDN for faxing, alarms and so on.
- Call connectivity issues with other telcos.
- Direct connect when calling SIP customers on same telco.

- Already had licences and infrastructure for Microsoft Exchange 2010 due to previous upgrade from Novell Groupwise.
- Successful pilot within ICT.
- Additional 4x VM running Exchange UM role.
- SIP Trunks on CUCM to Exchange UM. SIP Options Ping and circular distribution.
- Load spread evenly and out of service Exchange UM servers detected quickly.

- Decided not to use Voicemail Preview (speech to text), high CPU use and poor accuracy.
- Enhanced call handling features of our old system replicated with Call Answering Rules.
- Successful internal project with very few problems encountered.
- Hard to say no to cost-wise if you already have Exchange.

- Limited use of Cisco IP Communicator and Third Party SIP softphones within ICT.
- Use outside ICT for call recording.
- Users either love it or hate it!
- Relatively short life of USB Headsets – does not result in cost savings overall.
- Majority of Cisco IP Phones purchased in mid-2005 still giving good service.

- Initially used Cisco 7912 as the standard basic phone, and Cisco 7940 if full hands free speaker phone required.
- Cisco 6921 as current standard basic phone – has two lines and full hands free. Costs less than 7912 did.
- Cisco 6901 phones for public areas. Very low cost so damage or theft not an issue – previously used POTS phones.

- Cisco 2901 running CUBE – AUT to REANNZ SBC.
- DDI block +64-9-921-9XXX
- Main Number +64-9-921-9999
- First off-campus Video calls via our phone system.
- Easy to setup. Only open our firewall to REANNZ SBC.
- All calls presented to REANNZ SBC initially.

- Early adopters have already been using packages like ICQ, Windows Messenger and Skype to communicate.
- Using Lync within ICT for past 2 years.
- Now making Lync available to all staff.
- Not planning on connecting Lync to CUCM at this stage.

- Review Lync after staff have tested.
- Provide Cisco 8945 phones on request for personal video.
- Migrate our telephony servers to Cisco UCS/VMWare.
- Larger review of UC around 2016.

Thankyou

- Thanks to Sam (REANNZ) and Bill (AARNet) for their assistance.
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- Questions