

Real Time Communications in AARNet – an update

Australia's academic and research Network

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→ AARNet

- Provides the R&D Network and Commodity to Australian Universities and Research Organisations.
- Not for profit, owned by the Australian Universities and Research Organisations.
- Dual 10Gbps (AARNet3)
- Services (a short list)
 - Multicast
 - IPV6
 - And QoS – YES we provide QoS.
 - After all we are an advanced research network ;-)

→ AARNet QoS

- Rate limited pipes are provided, over subscription results in packets being marked with DSCP=0.
- Four types:
 - Best Effort
 - Scavenger
 - Video
 - Controlled for H.323 and SIP
 - Uncontrolled for Access Grids
 - VoIP

→ VIDEO

- AARNet provides the same sort of services as Internet2 does as in the Commons.
 - Codian MCU (40 ports)
 - Radvision MCU (MCU60 with MVP3)
 - Telephone conferencing
- For the past several years it is free.
- Predominately H.323 but now also supporting SIP.
- Gatekeepers predominately CISCO and Radvision. Now all migrating to GnuGK
- Complication is the dialplan is the same as used for ENUM???
- Complication is that the GDS does not

→ VoIP

- **AARNet provides a commodity Telephone “toll bypass” Service to avoid Carrier charges.**
- Operated since 2000, some 10,000 calls per day.
- Predominately H.323 but now also moving to support SIP.
- SIP server is based on SER but looking to use Slipper by IAGU and Avaya SIP Server.
- Working hard on a SIP-H.323 Gateway
- Dialplan problem just got a bit more complicated, but Australia is definitely committed to using real E.164 numbers.
- Commodity telephone service is successful primarily due to VoIPMonitor – AARNet invention! It actively monitors network performance and tell the Gatekeepers where to allow calls over VoIP or to trigger alternate routing via PSTN.

→ A few words about ENUM

- Australian Trial running since June 2005 (Governed by ACMA and AusRegistry)
- AARNet is a Tier 2 Registrar and provides this service to its members and associates
 - Two commercial Registrars provide the service to the public
- In stage 1 a dedicated number range is used 05900xxxxx (→x.x.x.x.x.0.0.9.5.1.6.e164.arpa)
- ~ 40 ENUMs registered so far (by AARNet)
- Developed our own Admin-system
- EPP development on the way
 - (possible collaboration with one other Registrar)

→ IP Telephony (PABX replacement)

- Is very popular in Australian Universities and Research Organisation.
- Some of the biggest Universities are totally committed:
 - ANU
 - Deakin
 - Swinburne
 - ACU
 - And many more.
- Many very satisfied users and IT Managers.
- Built on stable and well understood VoIP backbone.

→ IP Telephony (PABX replacement)

- AARNet community understands the difference between VoIP and IP Telephony (PABX replacement).
 - VoIP is about the WAN
 - IP Telephony is about Telephones on desks

They have different business cases and different characteristics, eg Emergency Services (911) is an IP Telephone issue.

IP Telephony is built on a VoIP service!

Now a new type of service, lets call it “roaming IP Telephone”. Covers the PC based phone. These do not have as great a 911 issue.

→ SIP

- Is a strategic direction for AARNet
- AARNet providing leadership to Australia to implement SIP
- Some early adaptors finding some very interesting outcomes:
 - Makes it easy to integrate PABX, H.323, IP Telephones, and “roaming IP Telephones”.
 - Presence and Instant Messaging a big hit, used primarily prior to establishing a telephone or video connection.

→ SIP – and “eduPhone”

- AARNet is developing a new Service for the Research Community. A “roaming IP Telephone service – the aim is to provide a better service than Skype.
- Everyone in the community can get a SIP Account from AARNet.
- Integration with the VoIP and VIDEO Service users can make and receive telephone calls and participate in collaboration using the AARNet Video infrastructure.

→ where/how to put **eduPhone**
AARNet **SIP** & H.323 network

