



AARNet Copyright 2008	
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➡	▪ AARNet's Video Journey ▪ Telepresence – the current landscape ▪ Desktop technologies ▪ Codec and protocol developments ▪ Summary and further reading

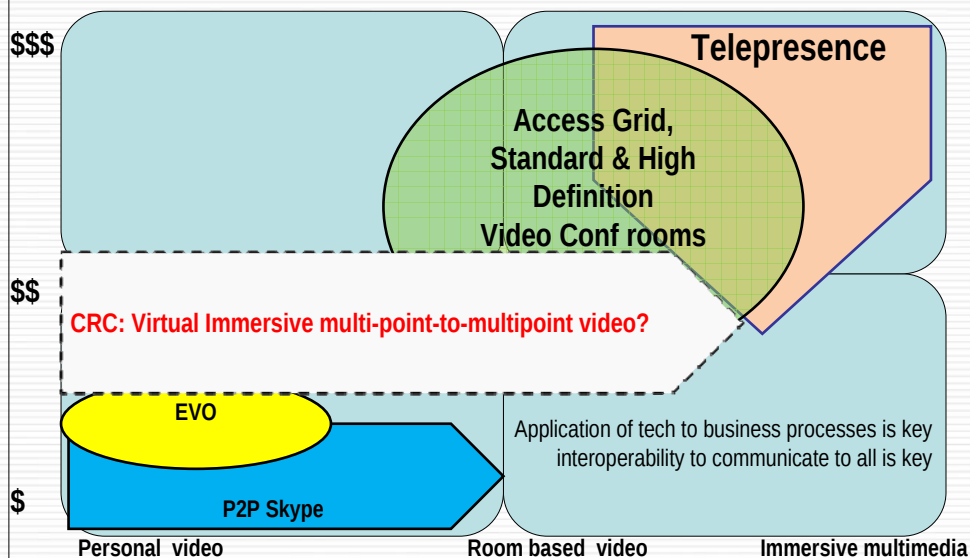
AARNet's Video Journey – a retrospective

- Technology development focus
- Poor vendor relations
- Single MCU and complex booking form
- SIP & ENUM focus, little direct relevance to application
- No position or research into peer-to-peer video apps
- A mix and match of SIP and H323 clients
- No end user support

AARNet's Video Journey – today's picture

- Two MCU's (SD, HD) deployed on AARNet3 architecture
 - 60 video ports - 40/20 split SD/HD, also 60 audio ports
- Real time and post conference streaming (launching this week)
- Successful short term project groups
 - MCU review group (completed, BoF on Thursday afternoon)
 - New groups underway or in planning (desktop video, ISDN outdial)
- Excellent vendor relationships (Sony, Polycom, Tandberg @ QN)
- Peer to peer research funded for position/next steps
- Dedicated video customer support service (NVCS)
 - See Maggie's presentation (following this one)

The video landscape - technologies



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Telepresence Options

- Full Telepresence Suite Option
 - Generally three large monitors and content display
- Instant Telepresence Suite Option
 - Single large integrated panel
- Personal telepresence
 - Desktop based HD endpoint with integrated display
- Following slides only some of the solutions available
 - Tandberg, Polycom and Cisco – others in errata

Tandberg Telepresence Product Review

- Immersive experience – Tandberg Experia
- Based on multiple MXP6000 codecs, 4x 50" Plasmas
- Includes room fit-out and furnishings



Polycom Telepresence Product Review

Polycom RPX Series

- RealPresence
(or Rear projection?)
- Max 28 seat RPX HD400
- Max 18 seat RPX HD200



Polycom TPX HD 306M

- 6 participants – Uses 60" plasmas
- Optional content furniture pop-outs
- Recently released @ InfoComm08
dual screen 204M & single 102M



Cisco Telepresence Product Review

- TP 3200
- Max 18 participants
- 3x 65" plasmas – full 1080p
- Integrated lighting shroud
- TP 3000
- Same as 3000 system –
but in 6 chair configuration
- Whole room solution – single unit



Instant/Personal Telepresence Products



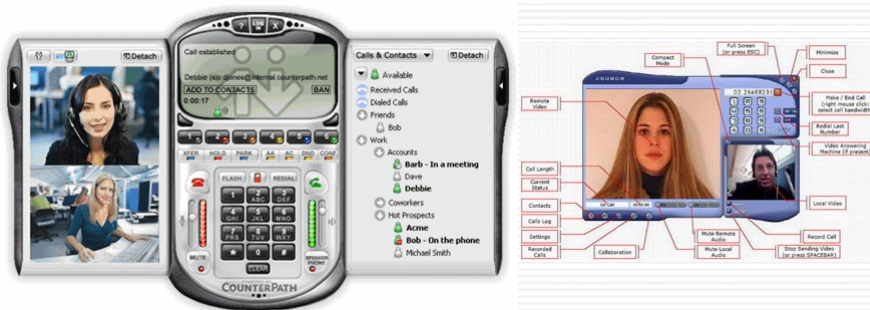
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Desktop VC clients

- Ekiga (ex GnomeMeeting - Linux)
<http://ekiga.org>
- Mirial Softphone HD (PC)
<http://www.mirial.com>
- Bria Communicator (PC)
<http://www.counterpath.com>
- Polycom PVX (PC)
<http://www.polycom.com>
- EyeBeam (Mac/PC)
<http://www.counterpath.com>
- Tandberg MOVI (PC)
<http://www.tandberg.com>
- XMeeting (Mac)
<http://xmeeting.sourceforge.net>
- Radvision Scopia Desktop (PC)
<http://www.radvision.com>

Desktop video clients in action

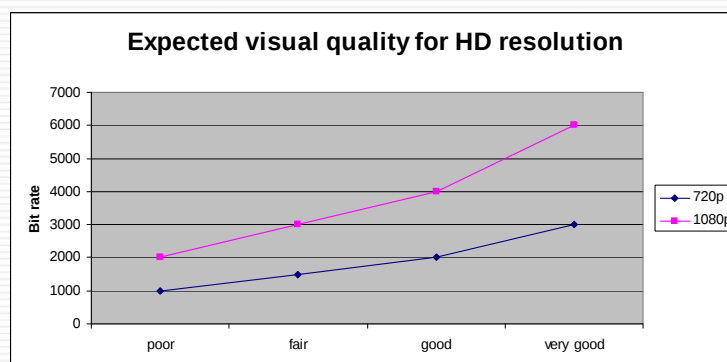


- Eyebeam (SIP – PC/MAC) and Mirial HD (H.323/SIP – PC) bringing presence and collaborative features to the desktop

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H.264 – the latest and greatest



- H.264/AVC (Advanced Video Coding)
- H.264/SVC (Scalable Video Coding) – the new generation
- Also - multiple stream decompression codecs - eg Octoshape

Beyond H.264 and H.323/SIP

- Microsoft's developments:
 - VC-1: informal name of SMPTE 421M video standard
 - Used in HD-DVD, Blu-ray Discs, Windows Media Video 9
- On2 Technologies (TrueMotion technologies)
 - Initially developed VP6 - selected for Flash 8 video encoding
 - VP7 now current and is used in Skype P2P video calls
- Emerging Protocols: XMPP+ extensions - Jingle
 - Defines a way for XMPP clients to exchange rich media
 - Jingle audio is well defined (used in Google talk) - video a WIP

Other desktop developments to watch



- "[Quanta](#), the OEM behind the OLPC and MacBook, just announced its move into home-based HD video conferencing.... A 1,280 x 720 pixel / 30fps, multi-point-capable set-top box that plugs directly into your HDTV and home Internet connection" Source: Engadget

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Summary

- Telepresence the 'next generation' of VC
- TP Technology not new – bandwidth now accessible
- 'Locking down' the assets or the fixed experience
- Don't believe the spec sheet hype
- Desktop and mobile conferencing uptrend
- New codec developments bringing VC closer
- AARNet well placed to deliver not only bandwidth, but also impartial advice and best of breed support services

Further reading

- <http://www.engadget.com/tag/videoconferencing>
- <http://www.humanproductivitylab.com>
- <http://www.telepresenceoptions.com>
- <http://videoconference.edublogs.org>
- <http://www.collabora.co.uk>
- <http://www.wainhouse.com>
- <http://www.vtctalk.com>

Telepresence 'smoke and mirrors'

- Expect to see more of these images in the headlines...



- Pepper's ghost illusion was invented and debuted by Professor John Henry Pepper and engineer Henry Dircks circa 1860



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- **National Video Conferencing Service**
- NVCS Enhancements
- Quality Assurance Program - enabling the outbound
- NVCS Architecture
- Video Conferencing Events Management
- OzeConferences and Roadshow2008

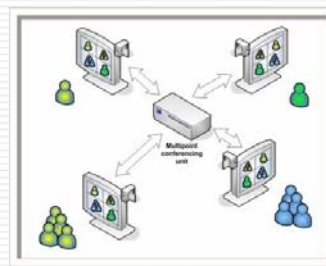
National Video Conferencing Service

AARNet offer a value added service to our customers that includes access to

- ✓ A dedicated tech support team
- ✓ Independent Consulting services
- ✓ Audio & Video Conference bridge services, with streaming support
- ✓ Online booking System (for the audio/video conference service)
- ✓ H.323/IP video conferencing rooms at AARNet offices
- ✓ Streaming and Content Delivery platforms
- ✓ Video conference management
- ✓ Project groups support
- ✓ Community support
- ✓ Important news from national and international workshops and conferences

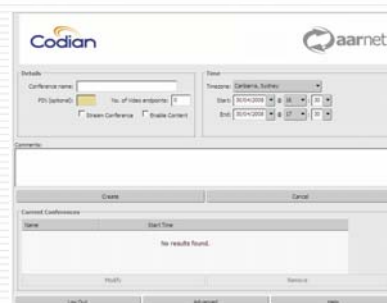
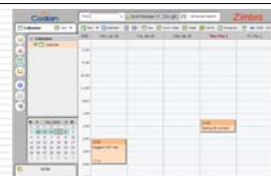
Available now - Bridging Services

- ✓ Simple '**teleconference calls**' (audio conferencing via PSTN direct in-dial, ISDN gateway or mixing ISDN/IP calls)
- ✓ Support for **H.323/IP videoconferencing** [standard definition & high definition (to 720p @ 30fps)]
- ✓ Support for **H.320/ISDN videoconferencing** via an ISDN Gateway
 - ✓ Currently supports dial in only
 - ✓ project underway looking at ISDN outbound dial



Available now – Online booking system

- ✓ Introduced web-based 'CMP' system for conference booking
 - ✓ <http://www.nvcs.edu.au> – Guide page for registration, FAQs
 - ✓ <http://cmp.nvcs.edu.au> – Main booking site for login/actioning
- ✓ All *.edu.au addresses have availability to register and use, others on request (depends on eligibility)
- ✓ Support services for AARNet bridges, and external MCUs



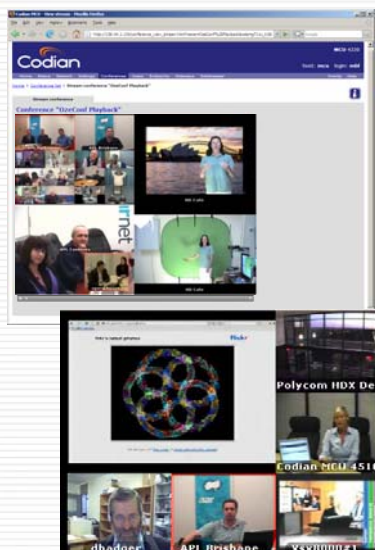
Available now - Recording

- ✓ Recording of video conferences (MPEG format)
- ✓ Currently AARNet have been using a Codian IPVCR that is integrated with CMP booking system (available for all users)
- ✓ Recordings stored for retrieval by requesting user (time limited)
- ✓ Working on developing authentication against CMP username/password for automatic control of recordings by subdomain



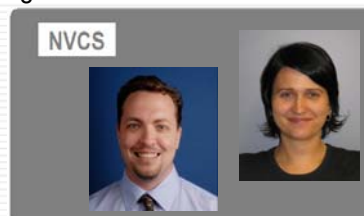
Available now - Streaming & Content Delivery

- ✓ **Real Time Streaming** out of audio and video for participants who wish to view the conference from a web browser (Windows Media Player and Quicktime)
- ✓ **H.239 (People and Content/DualVideo)** for presenting content such as PowerPoint slides to others in the conference call
- ✓ **Input of real time desktop screen sharing sessions using VNC** (Virtual Network Computing)



Available now - Dedicated Support

- ✓ Dedicated web page, blog and wiki
- ✓ Ad-hoc support available for getting started and basic technical difficulties, further consultation/support available through user-pays model
- ✓ Actively trialing a number of video conferencing products, feedback to sector, esp for HD products.
- ✓ Providing useful technical information to vendors and customers to improve quality, usability.



HOW OFTEN YOU LOOKS LIKE THAT ?

Our priority is ...
... to take the stress out of
video and audio conferences...



- **CALL US !**
We'll give you a hand...



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NVCS Service Enhancements

✓ **Promotion** – visiting Universities to present NVCS capability plan, marketing materials and one-on-one consultations.

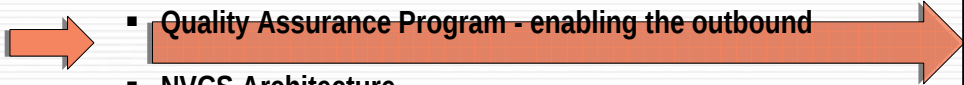
✓ **Mobile Rack** - deploy secure, mobile rack with AV conferencing equipment for demos at road shows and other events.

✓ **Recording** – CMP integrated conference recording

✓ **Content on demand** - streaming media automatically transcoded from conference



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Quality Assurance Program

Aims

- Automate CMP booked VC sessions with known good endpoint configurations
- Allows QA sites to be registered in MCU for dial out service
- Further CAVE engagement to document frequently collaborating institutions to have open access to set up calls between each other

How it works

Schedule time for tests with NVCS to test

- Access to/from bridging services and system capabilities
- Quality of Audio, Video and Data sharing
- Environmental aspects – room lighting, size & audio etc.
- QA test renewal date flagged by booking system to account for changes
- Sites should inform of changes to hardware/software, configuration, etc as this may impact on usability, QA becomes good test process.

LIVING WITH QA IN PLACE

**JUST RELAX
AND WAIT FOR
AUTOMATIC
CALL ***

***DON'T FORGET TO SWITCH ON
THE SYSTEM ☺**

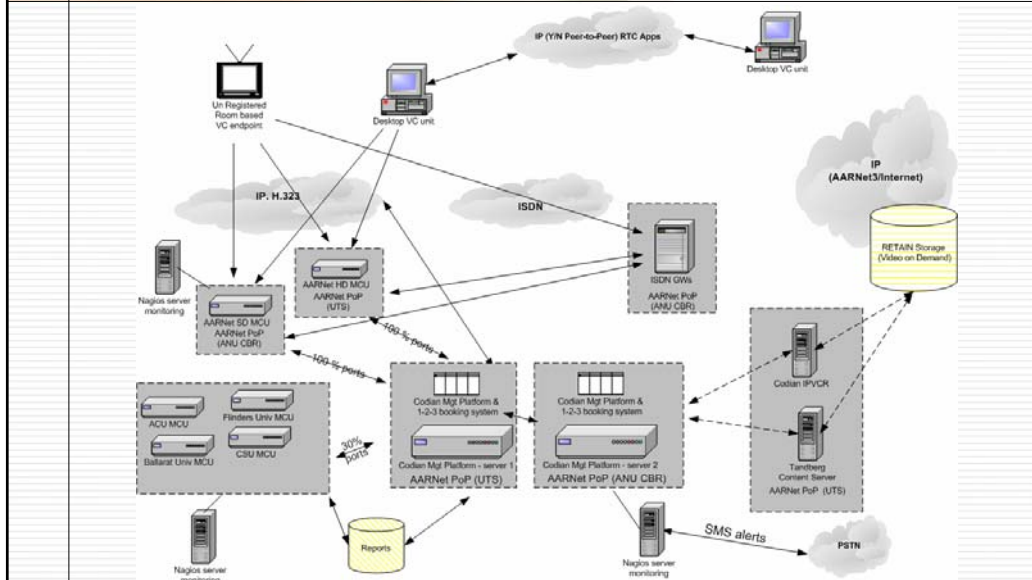


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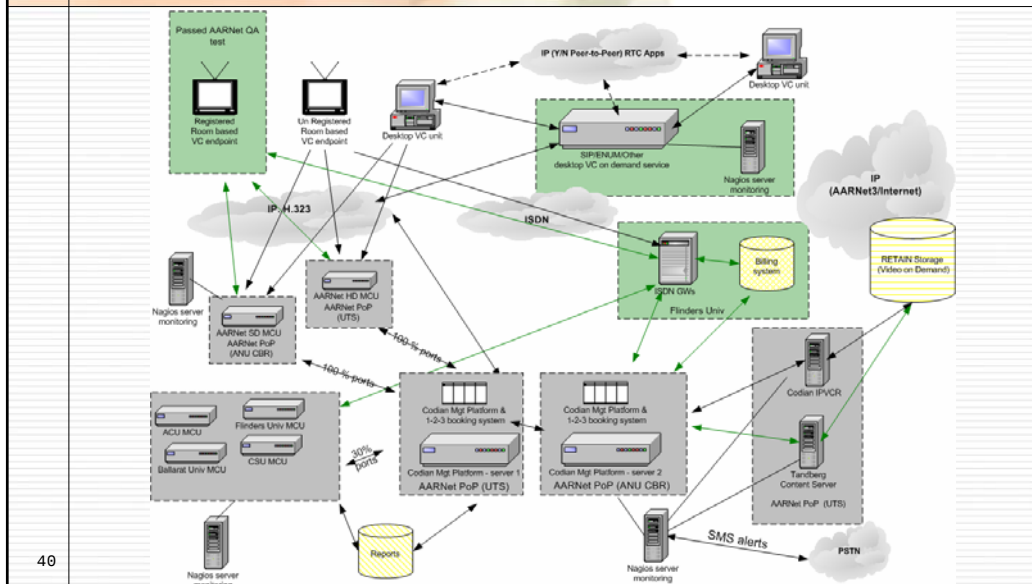
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Service – current architecture



Short to mid term future architecture



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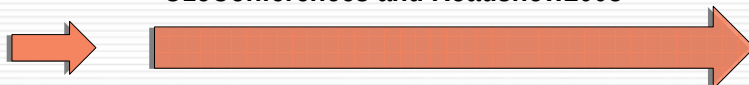
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Video Conferencing Events Management

- ✓ Providing information about facilities available within a sector
- ✓ Multi-site testing and rooms booking
- ✓ Conference bridging and monitoring
- ✓ Providing recording, live streaming and playback
- ✓ Mobile Rack available to use at remote locations

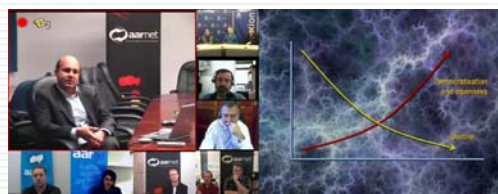
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The Ozeconference Story

- ✓ OzeConferences came about as a forum to encourage uptake of RTC Video/VoIP
- ✓ Allows 'guest speakers' to feature a topic of interest to the sector and present online
- ✓ Web streamed live as well as recorded for later playback
- ✓ Step change has occurred in event mgmt and expanded to cover a wider range of topics



"Internet Industry Association Update" presented by Peter Coroneos (28th May 2008)



"Video Room Design Essentials" presented by Ulrich Schwenn (19th May 2008)

Ozeconference Management

- ✓ Better data collection via pre registration survey to account for endpoint differences
- ✓ “ Front door” welcome slide and in-person greeting by MCU operator to avoid any noise distraction by participants joining after conference has commenced
- ✓ Regular PR through site visits and demonstrating best practice , raising awareness in a sector
- ✓ Inclusion of back channel chat capabilities through widget on website
- ✓ Focusing on finding the right audience

RTC road show 2008

“ It’s all about information”



The Road Show will provide attendees with:

- information on current VoIP, Video Conferencing/Streaming, Instant Messaging and Presence technologies;
- a chance to influence AARNet's direction in the delivery of new applications and services;
- a chance to engage with AARNet staff on issues that matter to YOU

RTC road show 2008 (cont.)

The Road show will take place as follows:

- ✓ **11th Sept 2008** for WESTERN AUSTRALIA
at CSIRO - ARRC, Perth, WA
- ✓ **16th Sept 2008** for SOUTH AUSTRALIA
at Flinders University, Adelaide, SA
- ✓ **18th Sept 2008** for VICTORIA & TASMANIA
at Monash University, Melbourne, VIC
- ✓ **23th Sept 2008** for NEW SOUTH WALES & AUSTRALIAN
CAPITAL TERRITORY at University of Sydney, Sydney,
NSW
- ✓ **25th Sept 2008** QUEENSLAND & NORTHERN TERRITORY
at Griffith University, Brisbane, QLD



Summary

AARNet provides

- ✓ booking & bridging service, with streaming support
- ✓ dedicated tech support service – NVCS
- ✓ automated recording facility for bridging services
- ✓ events management and support
- ✓ OzeConferences and Roadshows

AARNet is building on that to deliver

- ✓ QA program
- ✓ Automated recovery of recorded conferences
- ✓ Content Delivery Infrastructure

AARNet is involved in all of these areas and more!

AARNet lounge @ QuestNet2008



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Thank you – QUESTIONS ?