

Videoconferencing & Audio Visual Services

QUESTNET 2012 CAIRNS

Gary Gulliford – Manager VAVS



<http://www.jcu.edu.au/Videoconferencing/>

Bookings and Enquiries:

videoconferencing@jcu.edu.au

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History



JCU videoconferencing & AV capability in 1998

- 4 AV Technical staff based in Townsville. 0.5 in Cairns
- 48 Centrally bookable teaching spaces
- 7 Data/video Projectors – Sony 3-gun CRT
- 2 Picturitel Videoconferencing systems (ISDN)
- Central AV loan store model supporting OHPs, 35mm projectors, Audio cassette players, TVs and VCRs with repair workshop
- Analogue media and audio systems.
- Minimal utilisation of Network

Current Situation

- Staff - 8 Technical & 1 Administration
- 134 Common Teaching Rooms (CTRs)
(153 CTRs in 2012)
- 34 centrally bookable Videoconferencing capable venues
- Commercial videoconferencing operation
- Videoconferencing infrastructure support for non-central and personal systems
- Desktop Videoconferencing provision – Jabber (aka Movi)

Control Centres

- 1 each at Cairns and Townsville
- TMS for Videoconference management
- RMS for control system management
- Biamp/Nexia audio processors
- Browsers for VNC and direct access to devices



Transition issues



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- User media develops from analogue audio and video to digital formats
- PC, laptops and portable media adoption
- Growth of powerful supporting networks such as AARNet
- H323 & SIP videoconferencing standards
- Display and control system improvements.
- Responses to Prof McKinnon review.

User Support



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- Targeted specific user training
- Scheduled and on demand group training sessions
- Distributed call centre support
- Support staff working direct with users
- Input from system users
- Conference and after hours support
- Online resources & remote support

Challenges

- Celcat Room bookings system limitations.
- Automation of Bookings, call connections & billing.
- Analogue Sunset 2015
- HDCP and EDID compliance
- Support for HDMI and Display Port
- Human Resources – managing expectations
- Physical environment – older facilities
- Compatability with MOE deployment system & AD/LDAP

Current Trials

- **Doceri™ iPad software suite for classrooms, conference rooms, and auditoriums – any place where you give presentations, teach, or collaborate**
- Through the Doceri Remote iPad app and Doceri Desktop software, you can control a computer (Mac or Windows), easily launch any document or application, and annotate over them at any time. You can save drawings and play them back in the future allowing even better presentations to be created from your existing PowerPoint or Keynote slideshows. If you just want to use it as a whiteboard, you can create any handwritten/drawn content on any background of your choice



JCU Dental School

- New building opened 2011
- 80 chair Dental Simulation lab
- Prosthodontics, Anatomy & General purpose labs
- Tropical QLD Centre for Oral Health opened 2012
- AV systems heavily reliant on JCU network for system control, signal routing and management.
- Spark Dental – Titanium practice management software.



Aquarium project

- Installed AV system to enhance visitor experiences
- Set up underwater IP camera which will be viewable by the public soon
- Currently use Jabber on laptop to link with other institutions for presentations



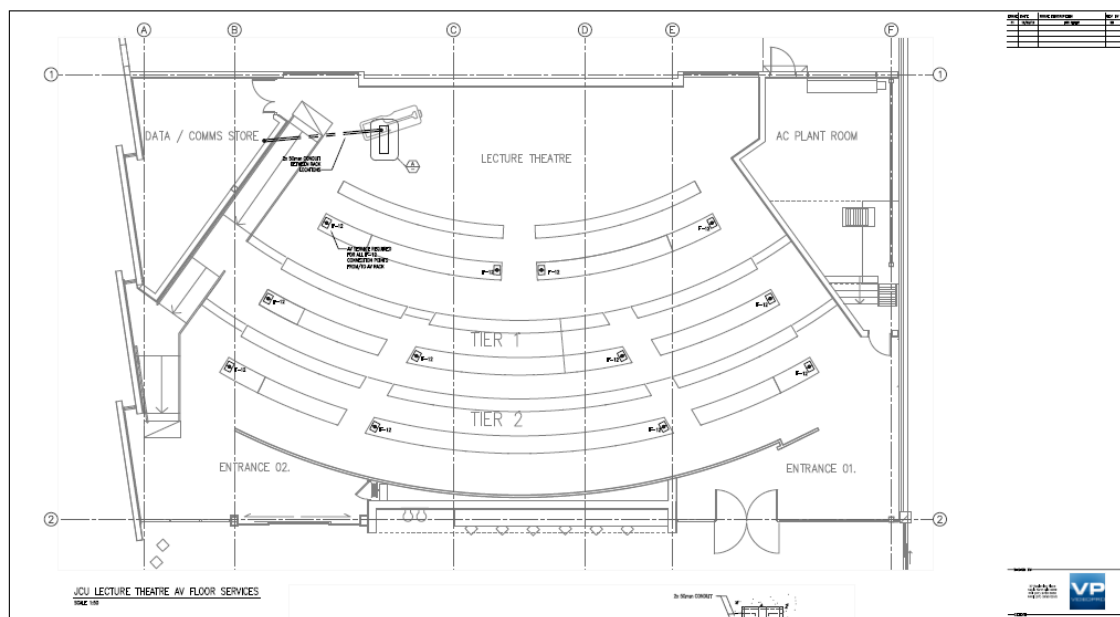
New Systems



Wireless Presentation: This feature allows a presenter to send their desktop image to a display projector without the need for a VGA cable. Lecturer can move seamlessly from one students presentation to the next to keep the rest of the class engaged. Also does Audience Response, e-Whiteboard, Instant Messaging, File Sharing, Streaming and Recording.

New Facilities

Cairns Lecture Theatre – 120 seat collaborative theater

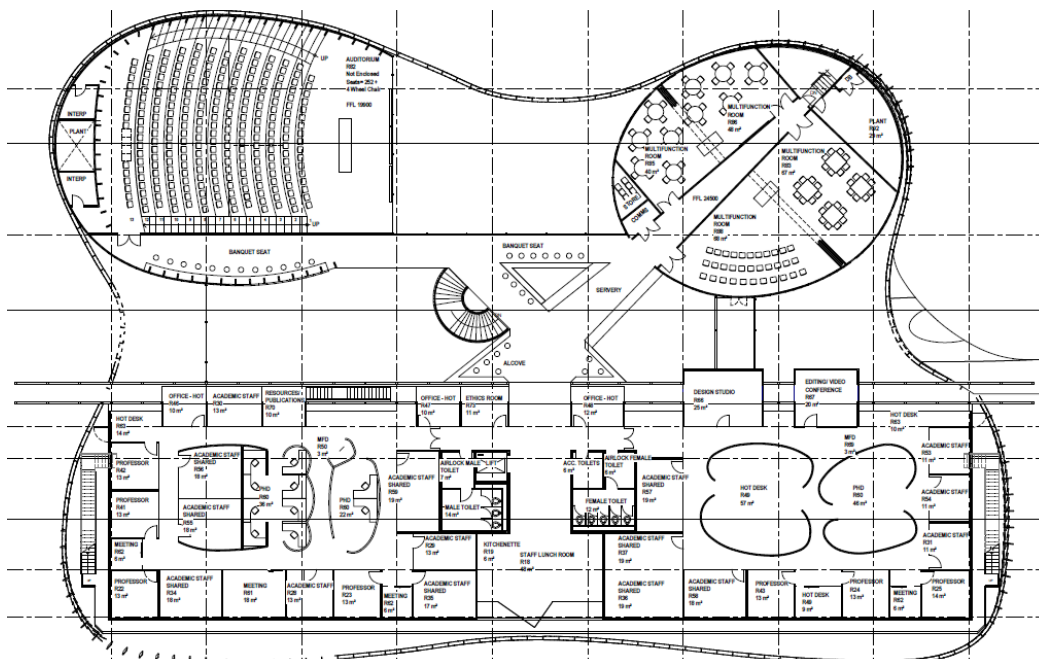


Cairns Institute

- 1 lecture theatre (200+ seats) with Videoconferencing and simultaneous translation facilities
- 7 medium sized classrooms
- Digital signage system



New Facilities Cairns Institute



New Facilities Education Precinct

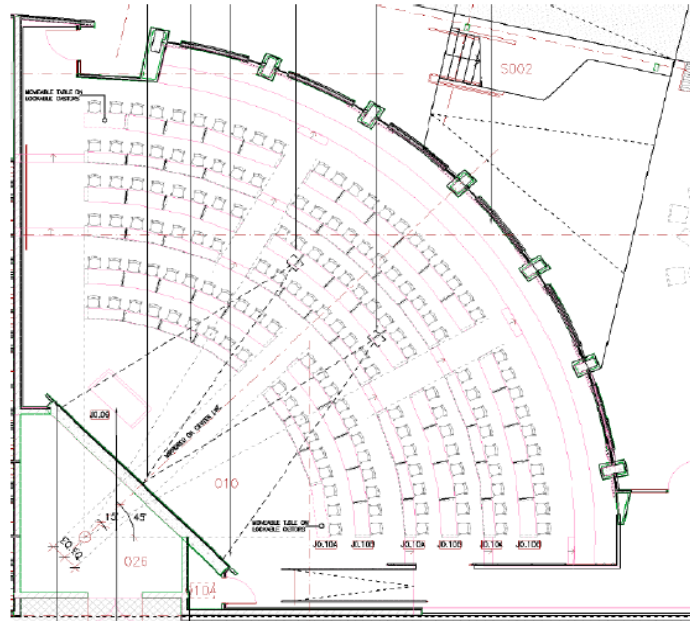
1.1. Collaborative Theatre (010) 230 persons

Space Design

The space must be able to accommodate didactic, discursive and collaborative modes of teaching and learning with a bias to didactic mode (expected 60 - 90% usage).

Refer Drawings:

AV101 Video Schematic
AV 201 Audio Schematic
AV 301 Control Schematic



Townsville Education Precinct

- 1 x 150 seat collaborative theater with Videoconferencing
- 1 x 80 person active learning space – MIT TEAL model
- 1 x 48 person wet lab
- 1 x 48 person dry lab
- 1 x 25 person dividable into 2 x 12person conference room.
- Peer to Peer learning centre

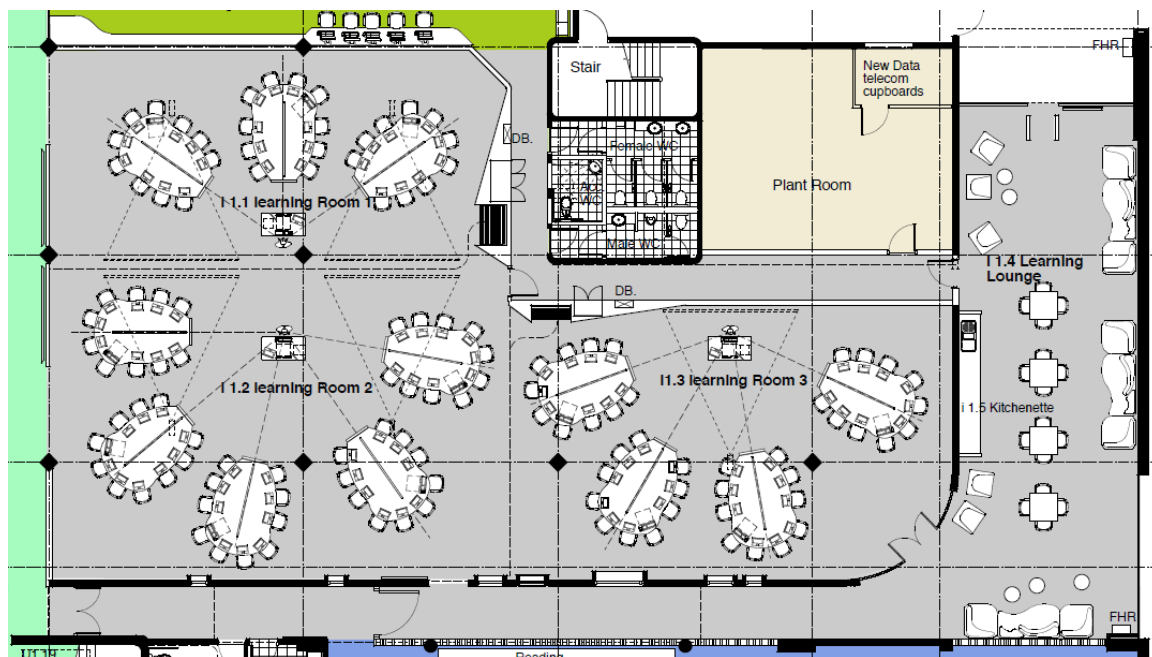


Mabo Library Redevelopment

- Digital signage solution with 8 x digital signage displays
- 3 x iLecture rooms
- 13 x Digital signage/Student group work displays



New Facilities Mabo Library



Future

- Inputs determined by consumer devices
- Remote management and support
- Migration to digital systems and HD
- Leveraging existing equipment and network
- Digital signage – campus wide system
- Streaming
- Web cameras
- Demand for less didactic teaching

Videoconferencing & Audio Visual Services

Jens Didriksen

Videoconferencing Administrator

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Videoconferencing history at JCU



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- 1994 - 1998 - 1 system at each campus - 128kbps ISDN
- 1999 - 3 systems at each campus - 128kbps ISDN
- 2000 - Replaced 6 PictureTel systems with 8 Tandberg 384/768kbps (ISDN/IP) systems
- 2001 - Completed migration to H323
- 2002 - 12 videoconferencing systems – Duo video
- 2005 - 20 videoconferencing systems
- 2006 - 21 videoconferencing systems (Thursday Island)
- 2007 - 25 videoconferencing systems + 8 Executive & 12 Faculty owned systems
- 2011 - 30 videoconferencing systems + 70 plus Executive and faculty owned systems
- 2012 - 34 Centrally bookable videoconferencing systems

Videoconferencing



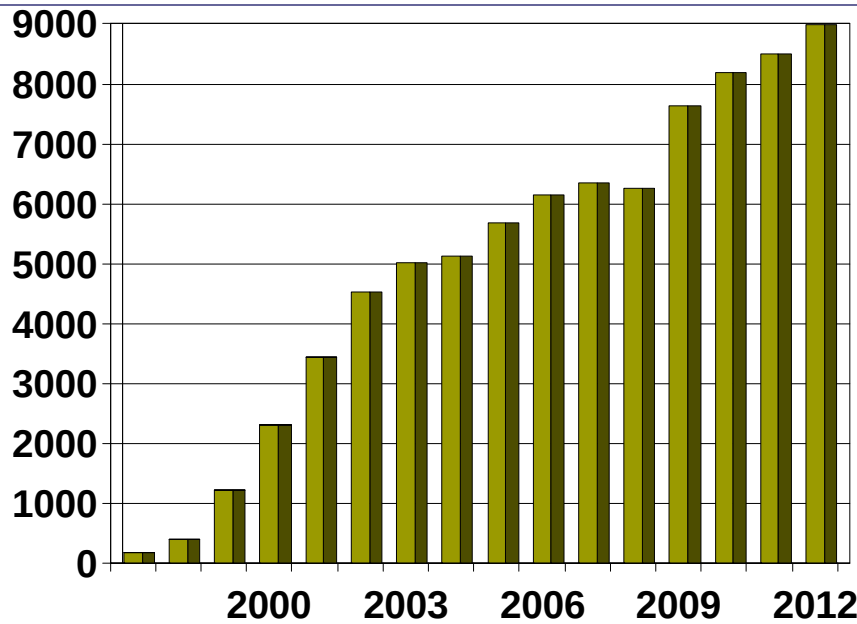
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- Latest H323 ITU standards and SIP compatibility (H264, H239 etc)
- All centrally bookable videoconferencing venues are compliant under AARNet's National Video Conferencing Service (NVCS) Quality Assurance scheme
- Some Endpoints have embedded MCUs
- Cisco Management Suite
- Global dialling directories
- Video Communication Servers (Allows Interworking)
- Aggregated ISDN through Gateways
- Codian HD MCU
- MPS800 SD MCU
- Content Servers for recording

Videoconferencing Growth

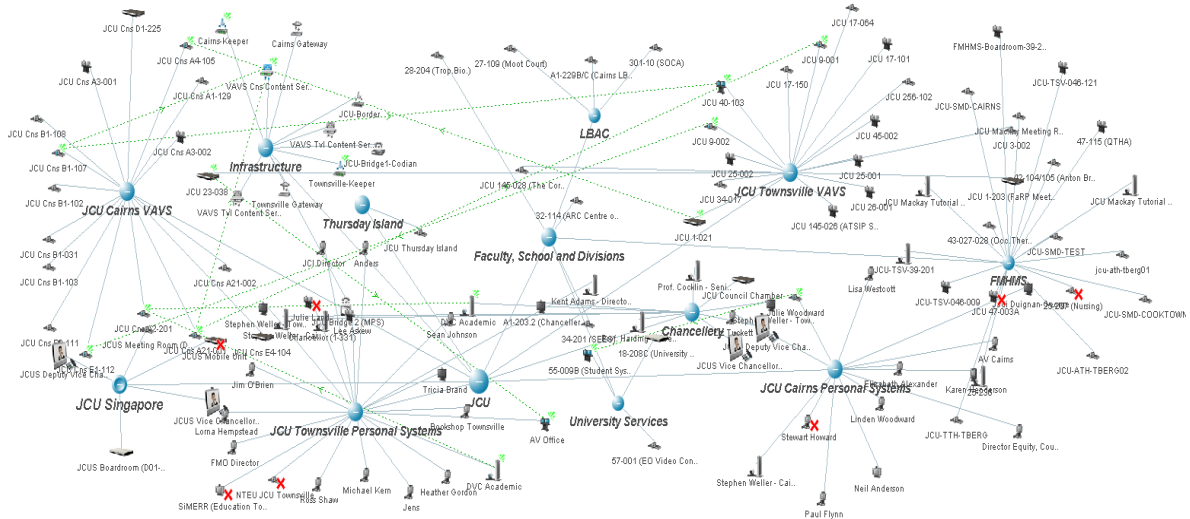
(Total usage in hours)



Centrally bookable and managed venues only

Hours Usage

Videoconferencing Monitoring





- In the beginning, we had this:
- That's right; nothing!

Why do we need it



- Cairns and Townsville were two islands connected via ATM link
- ISDN BRIs kept in place for redundancy after migrating to IP
- No firewall traversal, ports had to be opened as required
- Overall an expensive and labour intensive solution
- Does not scale very well – if at all...

Initial deployment



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- Gatekeeper at each campus with firewall traversal through one Bordercontroller
- ISDN Gateway at each campus; replaced all BRIs with PRIs at each campus
- TMS v8.0 for management
- Added MPS800 MCU
- TCS each campus

On our way...



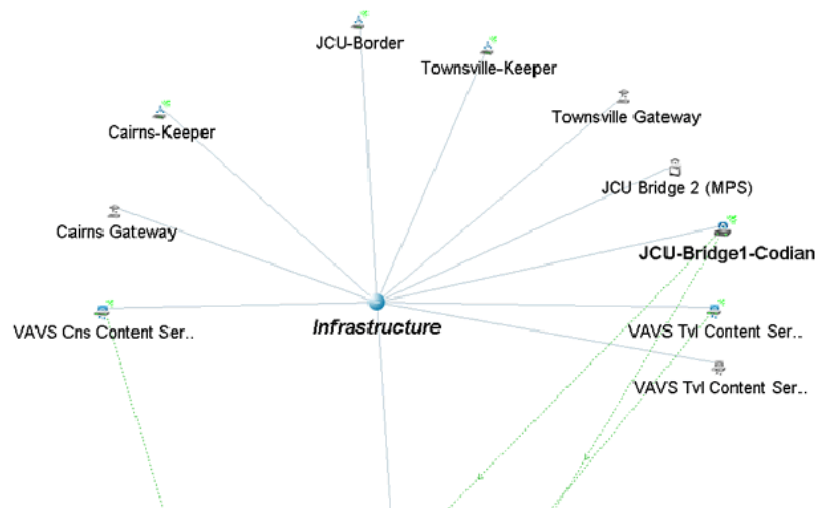
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- GKs and BC replaced by 2 VCS-C and one VCS-E.
- Added 3rd TCS
- Codian 4520 HD MCU
- TANALYTICS
- JabberVideo (Movi)
made available to all staff and PG students



■ ..to where we are today:



Why VCS?

- Using VCS-C/VCS-E combination allows secure firewall traversal which is easily monitored; all connections through one box
- Allows for use of DHCP and private IP addresses etc
- Allows non H.460.18/19 compliant endpoints to register with VCS-E
- Allows older PLCM systems to connect using proprietary “URI dialling”

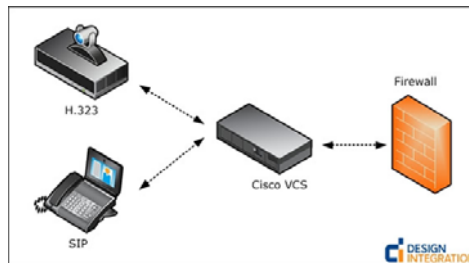
Additional benefits



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- Allows interworking of SIP and H.323



- Allows interworking between IPv4 and IPv6
- Quick and easy way of neighbouring with other organisations such as Qld Health
- Provisioning of JabberVideo (Movi) clients

What's next?



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- We are no longer islands, we now have dual-path electrical connections, so
- We can now cluster our two VCS-C
- Cluster and load-balance two TCS
- Integrate VCS with Avaya Call Manager and Microsoft Lync (might not be possible with Office 365)
- JCU Singapore infrastructure
- Add Show&Share and MXE3500 for back-end processing of TCS recordings

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