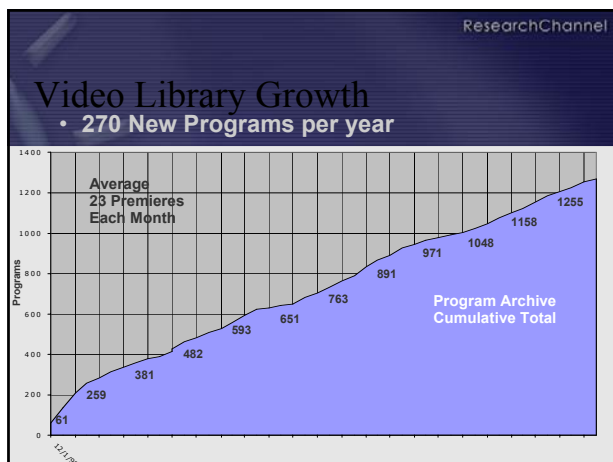
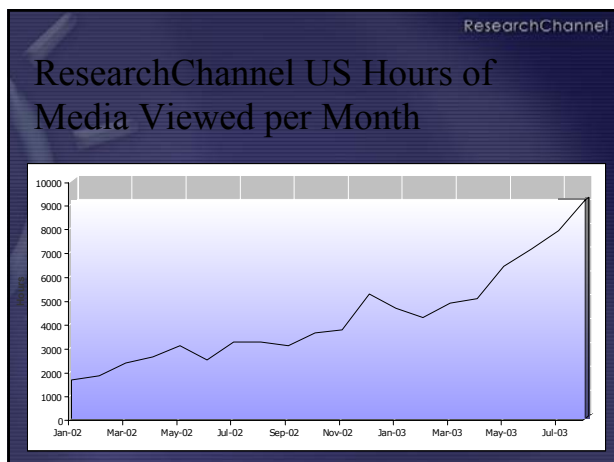




Australian Participation in RC-Global

- **Initial phase**
 - Source content for limited A2 multicast and VOD delivery (2-5Mbps)
 - Test higher bandwidth delivery over GrangeNet
 - Ultimate goal of high
-

Australian Participation in RC-Global

- **Australian interest: AARNet3 services**
 - Initial RC-Global group formed at Internet2 members meeting Indianapolis October 2003
 - Ongoing video conferences and meetings at Internet2 to develop a portal and to define standards for content interchange.
-

Australian Participation in RC-Global

- **We need your help.**
-

DigitalWell

- **Media Asset Management System**
- **Isolon spinning disk cache**
- **StorageTek Back-end**
- **PubCookie authentication**
- **Will be published and made available**
- **www.digitalwell.org**

Delivering Reality: iHDTV

- **HD/IP >220 Mbps**
 - www.ResearchChannel.org/dvd03
- **Desktop HD delivery**
 - **MPEG2@19.2 Mbps**
 - **WM9HD@8 Mbps**

Big Video WorkingGroup: First steps in high quality low latency interactive experiences

- **SDI/IP – contribution feed quality**
- **DV/IP**
- **Plasma screen resolution/IP**
- **HDS DI/IP**
- **HDCam/IP**

BIG Video: DVTS - DV over the Internet

- **DV @ 30 Mbps**
- **IEEE1394 (firewire)**
- **DVTS**
 - Software from The WIDE Project
 - Hardware from Fujitsu Research
- **DVTS Projects**
 - International cultural events
 - Virtual Briefings
 - Video Conferencing, AG-like experiences

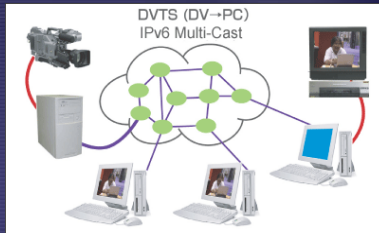
DV - Digital Video

- **Digital Video**, put simply, is video that has been digitally sampled
- **Digital Video** comes in many formats and data rates:
 - CCIR 601/SDI @ 270-360 Mbps @ 4:2:2
 - Digital composite @ 95-135Mbps
 - MPEG2 4:2:2P @ up to 100Mbps
 - High Definition – SMPTE 292M, ATSC rates, and MPEG2MP@HL 13-100Mbps
 - Streaming Video: Real, WM, Quicktime/Darwin/Sorensen, etc.

DVTS

Software from the WIDE project

- **Runs on FreeBSD, OSX, WinXP, Linux**
- **Requires a IEEE 1394 interface**
- **Requires DV source**
- **WinXP client permits desktop rendering of DV stream**



<http://www.sfc.wide.ad.jp/DVTS>

DVTS Projects

- **Streaming applications**
 - Virtual Briefings, Member Meeting, Cultural events
 - <http://people.internet2.edu/%7Ebdr/CometDVIP>
 - <http://apps.internet2.edu/dvip.html>
 - <http://events.internet2.edu/briefings/dvts.html>
- **Video Conference**
 - Testing with UPenn, IU, Korea, UW
 - AG integration (AAnet, GrangeNet, Internet2)
 - CometDVIP "MCU", Desktop integration

iHDTV to the Desktop

- **Lower Bit Rate (3-8Mbps)**
- **WindowsMedia9**
 - Adobe Premiere and/or MS WM9 Encoder
 - Multichannel Audio: 5.1, 7.1
 - 1080i Interlace format issues
- **MPEG4**
 - Advanced Simple Profile – licensing issues
- **Real Networks**
 - RealVideo SDK – limited experience

Uncompressed HD video / IP

- **1.5 Gbps transfer**
- **Dual 2.4GHz Xeon Intel PCI-X PCs**
- **PCI-X 10Gige NICs unavailable at build time**
- **Data traffic split between 2 Gige NICs**
- **AJA Xena HD output card SMPTE 292M**
- **Clips captured from HDCam source**

Uncompressed HD Video / IP

- Video Stored on 6 - 112GB SATA drives in RAID 3 format
- Low data rate between Canberra and Cairns resulted in local network demo
- Low latency predicted for “live” feeds

Participation

- ResearchChannel membership
 - www.researchchannel.org
- DVTS software
 - <http://www.dvts.jp/en/>
- bigvideo@internet2.edu project
 - wellings@cac.washington.edu
 - bdr@internet2.edu

ResearchChannel Global

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