

## **Why Bother with the Megaconference?**

### **An Editorial, Retrospective and Open Thank-You Note to WNY-HPNVI Principals**

Dear WNY-HPNVI Principals,

Megaconference preparation efforts have been underway now for over a month and there have been numerous occasions when even I have asked "Why bother with all this work for a few short conference presentations?" when there's so much else demanding our time and resources. Personally, as exciting as record-breaking global events can be, I've never seen the value returned by the event itself. Rather, I think, the event simply provides a motivating excuse for all of us to make progress developing the skills and technologies necessary for each of us to capitalize on these emerging and often daunting technologies in our individual and practical corporate endeavors. In the process of stubbing our toes while working on an exciting but not mission-critical large-scale complex event, we learn what we need to know to develop realistic and supportable production deployment models and to deal with serious unresolved issues in inter-networked real-world contexts. If the event were mission critical, we'd probably never use emerging technology in the first place. This is where the rubber starts to meet the road and when we start to pave the roadways to the future.

One year ago at this time, there was only one system in all of WNY that achieved satisfactory connection to the Megaconference; and UB's WNY-HPNVI, then known as Skunkworks, was one of only fifty sites worldwide that demonstrated the capability to successfully connect. The system used was designed and developed by our WNY-HPNVI and included components on-loan or donated by ECMC, UB/CIT-ITS and NYSERNET. It had been developed with substantial technical and financial assistance from several of our business partners, supporters and manufacturing friends including ECMC, Viewcommunications, Buffalo Computer Graphics, Cisco, Zydacron and RADVision. It included the first known successful cross-connect of H.323 and H.320 systems in a production context to support a back-channel to ECMC that allowed a brief live and on-line presentation by Dr. David G. Ellis from the hospital ER suite. The back-channel was manually switched at UB to effect a local poor-man's MCU for local event participation. It also included a production-hardened H.323 adapter "appliance" for H.320 systems and several of our first attempts to demonstrate substantive low-cost production enhancements for video-conferencing event quality improvement -- like the use of a modest video switcher to reduce talking-slide anesthesia and a telephone hybrid to support real-time remote Q&A. We received compliments from all observers and it was quite a "leap forward" for those who participated.

This year we had a dozen regional sites on-line for the event and more that could have participated had staff support resources been available! Most of those sites have been and will continue to be supported by WNY-HPNVI public infrastructure facilities and a number of them are WNY-HPNVI system designs. As well, almost 25% of the on-line Internet2 Conference presentations were about successful WNY H.323 applications and two presentations were delivered by UB faculty. It should be no surprise that our

confidence to proceed with the applications presented grew, in large part, out of successful experiences with the last Megaconference. We even managed to start to explore functional inter-networking through ERIE1\_BOCES and UB/MFC's successful efforts to cross-connect the H.323 Megaconference content with the existing regional private fiber DL networks – three fiber network sites were completely on-line with local H.323 sites for this Megaconference and over 100 more could have been accommodated in a receive-only mode.

The Megaconference nudges all of us to fine-tune, test and upgrade our sites. Preparations for this year's event resulted in certification, interoperability testing, and site development progress at 8-10 sites; I've included a summary, undoubtedly incomplete, at the end of this note. In my opinion, it's quite an impressive list of benefits derived by a small group of die-hard enthusiasts, PI's and zealots working on a low-priority event that takes a back-seat to all of our every-day practical affairs. Each of the sites that completed certification for local MCU support for this event will find future participation in locally hosted events straightforward. Most important is that we all have come a few steps closer to the days when we'll be effectively supporting Extended Grand Rounds or On-line Partnered K-12 classrooms in a heterogeneous global context -- and on-line delivery of our core business services will be just a few more steps further.

Many, upon reviewing the list, will still probably say "So what? That's just techie stuff; what's important are the applications and not the technology itself." Well, partly as a dialectic foil but also sincerely, I disagree. I think the applications are boundless, and always have been. There's hardly an aspect of our lives, professional or personal, that will not be impacted by high performance networked video technology as it comes of age -- from education, healthcare, and government service delivery to entertainment "television" content delivery and social interaction. Once technology-transparent suspension-of-disbelief quality video connectivity is ubiquitously and transparently available at marginal costs, our visually-centric animal cores will weave it into more activity than we already have done with voice and email connectivity. It *is* the technology and *not* the applications that have been problematic -- from both cost and complexity perspectives. We simply have not yet found a large number of applications (today) whose business models can bear the costs.

The business models are starting to change, however, as the complexity starts to become manageable and costs continue to decline in an accelerating cost-reduction/demand-increase relationship. But technology costs and complexity are still the major impediments to success and widespread adoption; and events like the Megaconference, our global Extended Grand Rounds project, and a new K-12 global classroom partnering project are the excuses for and precipitators of progress. These are the events which, precisely because they are not mission critical, allow us to take chances and to learn from our mistakes so that our subsequent mission-critical production deployments will succeed. They also provide deployment and support models that inform and inspire.

And that's why \*I\* bother, at least.

To those of you who have been actively participating, thank you, one and all, for bearing with the tiresome testing. You've helped to ensure that this year's event will once again be a high-yield success. To those of you who have simply been listening, thank you for tolerating all the noise and please consider joining-in with the active Principals on the next local project -- it's the only way to gain and maintain a real appreciation of what the technology and business models look like in the face of slow but complex change.

Regards,

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## **Summary of Secondary Effects of Megaconference-II Preparations in the WNY Region:**

- **ERIE1-BOCES:** H.323 certification and cross-connect to regional 100+ school fiber system completed
- **ECMC:** clinical roll-about system RF-LAN component evaluation and replacement completed, network security issue sensitivity evolved, hospital deployments accelerated, mobile video production facility completed and first real-time production procedures refined for conference support, IP/TV re-broadcast server re-activated and brought on-line for multicast of live 1.3 Mbps stream from WNY-HPNVI MCU but too late for any local ECMC viewers.
- **UB/MCEER:** procedural and technical certification completed
- **BCG/Veraview:** new Zydacron systems integrated & tested, procedural and technical certification completed, Windows Media Player streaming server integration completed and systems brought on-line for Conference event support, substantially enhanced local business support presence achieved.
- **KALEIDA/BGH:** Acceleration of efforts to join regional activity -- still unable to cross private network boundary but progress made.
- **Erie Community College:** new VCON Falcon IP systems deployed, procedural and technical certification completed, WNY-HPNVI relationship established, path analysis studies to follow.
- **UB/MFC-DL:** VTel Galaxy problems identified, support staff experience gained, PR value from two conference presentations based on classes supported with 323, experience with rapid deployment/integration of WNY-HPNVI CODEC for Galaxy problem work-around, Gateway certification completed, cross-connect to regional fiber networks developed and tested. Identification of Galaxy issues of benefit to KALEIDA and UofR.
- **Turner-Carroll HS/ BISSNET:** Fiber network site accommodated for full participation and first exposure to global H.323 capabilities.
- **Daemen College:** Fiber network site accommodated for full participation and first exposure to global H.323 capabilities.
- **Olean HS/Cattaraugus Allegany County BOCES:** Fiber network site accommodated for full participation and first exposure to global H.323 capabilities.
- **University of Rochester:** Partial Neighboring of management Zones completed, partial MCU cascade capability tested, certification for inclusion of UofR Gateway ports for local events completed except for actual routine Gateway-in to UofR MCU.
- **SUNY Central Administration:** Gateway-in and -out MCU tests completed including preliminary certification of CLI Radiance in-cascade by OARNet. Future participation in locally hosted events will be straightforward.
- **Clarkson University:** Gateway-in and -out MCU tests completed including complete certification of PictureTel 4000 EX in-cascade by OARNet. Future participation in locally hosted events will be straightforward.
- **WNY-HPNVI:** Public MCU burn-in completed, assets upgraded, "Sandbox" integration refined for Conference support, IP/TV R3 integration and deployment on newly integrated platforms completed -- enabling higher-capacity removable content management, lock-down methods and procedures evaluated and

implemented, security weaknesses identified and preliminary countermeasure plans developed, text back-channels trialed, large event logistics and real-time coordination/control protocols refined, streaming support models refined & integrated, overall Sandbox support facility model refined, three critical endpoints upgraded to latest OS and CODEC software release levels, new VCON and Polycom CODEC evaluations started.

- **Regional Experience:**
  - Coordinating multi-Zone support for local sites when interest exceeds local capacity
  - Managing back-office logistic support for large scale events
  - Managing real-time multi-level coordination/control back-channels for site operators and cascade MCU operators
  - Handling “real-world” site deployment issues that do not appear in private network deployments: firewall penetration, security/authentication, weak directory services, path impairments & QOS, diagnostic tool deficiency, vendor support for non-trivial problems,...
  - Handling “real-world” internetworking issues that will impede regional adoption of HPNV technologies: local private network peering, Internet2 access, local ISP peering, ISP firewalls, NAT, and caching servers, ...
  - Managing appropriate levels of coupling of H.323 real-time content with real-time broadcast streams and simultaneous capture and preparation for on-demand replay at varying quality/BW levels.
- **Regional PR value:** Three of thirteen I2 Conference presentations were about applications involving two WNY institutions (UB, ECMC). Two presentations were by UB faculty.
- **Tertiary impact** on national rankings of regional institutions (UB/Wired list ranking for example, was impacted by prior MC participation and subsequent instructional applications)
- **Ease of Future Local Event Participation:** All regional and distant endpoints certified for local MCU support for this event will find future participation in locally hosted events straightforward.