

I2 Applications/Engineering Workshop Impressions

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Concrete summaries and minutes of the sessions at the conference have been posted to the I2 web site, so let me offer my impressions of the conference rather than rehash that material. These impressions are best summed up by two peripheral images:

- At one of the dinner receptions, the jazz pianist tacked a sign to his piano that said "Will Play For Bandwidth."
- Later that night, I returned back to my hotel and found I could not dial back to CCS, or even make a long distance call back to my wife. Try as I might, I could not break through a fast-busy signal. Calling down to the front desk, they said "Yes, we know. All of our outside lines are in use. With all of this modem use..."

Here are some specific observations:

1. QoS (Quality of Service) is the biggest hullabloo in recent memory I can recall. It pervaded almost every discussion I heard. But it was as if someone said to the assembled masses Discuss 'Rome,' give examples. The first person would go on about aqueducts (infrastructure and delivery), the second *Pax Romana* (ideology), the third would expound on the Roman legions (enforcement and security), the next on the Senate (administration), and so on. Everyone has a different slant on this topic which will make progress (or even knowing what "progress" is) on this topic difficult until this is recognized. One of the most interesting discussions I heard on the topic centered on "well, should we be thinking about QoS at all?" The observation was made that the only proven solution in the history of humankind to the problem of limited bandwidth is more bandwidth. Classic example: what if back in the days of the ARPAnet the net architects had said "Instead of replacing the 9600bps lines with this new T1 technology, let's create some sort of bandwidth reservation mechanism to handle the demand?"
2. IPv6 does not appear to be nearly as hot or rich a topic in this community. I came a few minutes late to a breakout session this topic and by the time I got there, people had run out of things to say.
3. If one were to simply judge by the demographics of the meeting attendees, the future of high speed networking in the higher education community will be decided by middle-aged white men (most with IBM ThinkPads).
4. Microsoft NT was singled out during a discussion as the one operating system that needed some work before it could really participate in high-speed networking research. Specifically, it did not have support (nor could one add it without full source) for large packet sizes. The ability to tweak this and other TCP/IP stack parameters are critical for any sort of reasonable performance on a fast pipe.
5. It seems like every I2 member who has not already received a connections grant already is applying for one this round. For more tips on the connections grant writing process, please see my previous email on the subject.
6. We had a chance to tour the new Media Center recently built at Umich. This impressive facility is a combination computer and media teaching/research/library building. Most interesting about the building is their attention to both collaboration and infrastructure. Sections of the building are clearly made for people to sit together and think. Every nook and cranny is wired for net. Students can borrow (i.e. "check-out") PCMICA network cards for their laptops and digital cameras. It is an interesting model for future school libraries.
7. Almost more impressive is the bell tower (with a carillon, or set of huge tuned bells) right outside the Media Center. One person plays the entire set of bells through a keyboard/ foot-pedal setup. This was a good reminder of the power still available to people through very simple means. (as an aside, the song "Sunrise, Sunset" translates suprisingly well to carillon.)
8. Canada is significantly ahead of the game vis a vis high-speed networking infrastructure. They are also welcoming research partners. CCS should look into this

Key benefits from trip: connections grant info & QoS revelations