

BCN "Retreat"  
August 7, 2008  
**DRAFT**

Attendees:

Bob Bocher, Joan Wade, Steve Sanders, Jay Jaeger, Bruce Mathew, Carol Nelson, Jamie Poindexter, Wayne Utke, Connie Bandt, Mike Mietz, Bruce Vande Zande, Oskar Anderson, Tim Schell, Elena Pokot, Ed Meachen, Paul Nelson

Agenda Review

- Longer term planning will be in September
- Today: shorter term planning / issues
- Review of overall program, and Teach
- Electronic Survey still in the works

Environmental Level Set (DOA/DET)

- The existing contract is a 5 year contract, we are almost 3 years into that contract (Start date: November 1, 2006)
- **See also:** Handouts from DOA (Mike Mietz)
- Revenue is now exceeding \$2 Million / month
- **See also:** Rate sheets, web site:  
[http://www.doa.state.wi.us/section\\_detail.asp?linkcatid=308&linkid=119&locid=155&sname=](http://www.doa.state.wi.us/section_detail.asp?linkcatid=308&linkid=119&locid=155&sname=), particularly  
<http://www.doa.state.wi.us/subcategory.asp?linksubcatid=1308&linkcatid=308&linkid=119&locid=155>
- Custom quotes for larger amounts of bandwidth are suggested. Contact Mike Mietz.
- Discussion:
  - The current contract is based on requirements that are nearly 5 years old. Suggestion voiced that we should identify today's concerns that we may have an opportunity to address in the shorter term.
  - BCN is not concerned with particular applications. (e.g. AT&T "hosted" VoIP)
- **See also:** Handout: TEACH information from Bruce Vande Zande
  - Bandwidth has been increased to libraries and others: 60% of TEACH customers have received increased bandwidth during FY08.
  - Description of TEACH "packaging" used for most customers
  - Good support from BCN providers (DOA and vendor)
  - TEACH web site is now back in operation, and is evolving.  
<http://teach.wisconsin.gov/>

- Contacts: 608 261-5054, [teach@wisconsin.gov](mailto:teach@wisconsin.gov), video conferencing
- Discussion:
  - As TEACH has “maxed out”, is there any plan to increase the \$17.2 Million?
  - Increases are not anticipated, but budget is still under development
  - If \$17.2 Million is fully committed, what will happen to customers who need more bandwidth?
  - Discussion of latitude in TEACH funding, E-Rate. Suggestion to review budget bill and track next budget bill.
  - Discussion regarding debt service for wiring: debt service costs are decreasing.
  - Discussion of TEACH customers, particularly those in the \$5 Million portion. Customers have some ceilings, to help protect the larger group from those who might otherwise ask for more growth. (UW System does not have access to TEACH funding, private and tech colleges do).
  - 40% of course content used by K-12 is from UW and Tech. Colleges. The rest is within school districts.

#### BCN Requirements

- What could CIO use from us?
  - Input on requirements / suggestions for remainder of contract
  - Everyone always wants more bandwidth. 3 years is a long time: we need to make sure we address that.
- What gaps / growth does each group see
  - How have our needs evolved since the start of the contract?
  - Roundtable:
    - K12 / CESA: Bandwidth: more needed. Concern about HD signals possibly taking more bandwidth. Also, increased use of “hosted” services for administrative functions. But need to keep costs stable.
    - TEACH funding for block grants, aging computers / other end user equipment.
    - Voice, video and data to every classroom. Network “drop” is currently to the entire school district, typically to a high school – sometimes there are issues getting access to individual schools
    - State agencies: For some applications we make choices because of budget: applications that could use more bandwidth, but decisions are made not to increase bandwidth, often for budgetary reasons. Quality of BCN is quite good.
    - Larger agencies also use DSL as an alternative to BCN, bringing VPN connections in over the Internet.

- Bandwidth required for inter-agency connections is increasing due to the collocation of agency servers at the DET data center.
- Libraries: Increased bandwidth is needed. “Web 2.0” (video, media) applications are using more bandwidth. Application sophistication causes more data transfers than traditional “green screen” applications used to.
- Bandwidth is a national level issue: Many articles have appeared indicating that the US is behind the bandwidth curve as compared to other nations. More and more libraries are seeing this issue nationwide.
- Segmentation of service: Leverage of DSL and Cable for “commodity internet” and where costs must be kept down, with higher quality BCN service still leveraged for a larger permanent location and for administrative systems.
- UW: Research and teaching. 100Gb network in Midwest (BOREAS) was increased from lower amounts of bandwidth at very modest costs. “Local loop” connections from this backbone to campuses are where the issue is. High definition video uses more bandwidth. Also need bursting – there are times when a lot of data is transferred all at once. Some of these are not at main campuses, and may involve destinations almost anywhere, including overseas.
- UW Campuses: Residence halls are requiring more bandwidth. Lots of entertainment traffic. Local partnerships with other organizations: city, technology parks, and access between campus and technology parks also need bandwidth. Technology is changing faster; “telepresence” (5Gb) (<http://en.wikipedia.org/wiki/Telepresence>) and other new services not in original contract may need to be addressed.
- Technical colleges: Similar to UW, but perhaps at a somewhat smaller scale. Lots of collaboration with K-12 / CESA. Had been thinking video would decrease, but then gas prices went up, and now there is interest in more video. Hosted services (e.g. administrative systems) at times are bursting (e.g. registration). Each school tends to have their own local / MAN connections within a campus. Tend to not use WAN service: tend to use Internet transport to communicate between schools, so the WAN service is not being leveraged. Considering MAN options / partnerships.
- WADEN Handout: continued growth, partnership with “higher education”. Need more video learning equipment: rooms are scheduled full, so more units are needed, especially portable units. Cost and safety issues for field trips are some of the drivers behind increased demand (“virtual field trips”)
- BCN has been reliable. The quality has been good. The vendors have been responsive. The initial “Major surgery” implementation

went amazingly well. Network capacity has been sufficient for distance education. Scheduling services have worked well.

- Could use more bandwidth. When a portable unit comes on, it makes screen divisions smaller. Could larger monitors help?
- UW Extension: Ditto generally.
- WAICU: Partnerships with K12. More bandwidth. Bursting.
- More hosted services. Latency may not be a huge issue, but bandwidth can be.

Do some service definitions need redefinition / added.

Are new services needed?

Could some services be discontinued?

Review service options

- Web 2.0 is driving some educational and library requirements. Thus Internet transport is getting closer to distance learning in its importance.
- Discussion: Low cost “pretty good” quality of service.
- Can we find ways to do interconnects without hauling it all the way out to the Internet and back, for things like local partnerships, interconnections between Technical Colleges, “local loops” and the like.
- Are there any tariff-related questions with respect to VoIP and BCN, especially for BCN WBAA partners? Interpretation of law by DOA is that we cannot run voice services over TEACH lines. Could this perhaps be addressed to allow additional flexibility? Would VoIP use more bandwidth than we can afford? DET agreed to check into this from a legal standpoint. Note: VoIP is now E-Rate eligible.
- Bursting: Is there a way to allow bursting for shorter timeframes, along with a way to administer it and charge for it.
- UW asked for bursting during the BCN negotiations. WiscNET provided that. WiscNET did it at aggregation points. This has remained an issue since BCN was established.
- Perhaps bandwidth specified could be exceeded within limits with a “truing up” periodically (monthly or whatever).
- “Pretty Good” service discussion. Could BCN provide DSL at a lower price point than the existing copper/fiber “tail” circuit price point? What issues exist with DSL? What is there that could be given up for lower costs? Two issues: One is about supplementing fiber with copper. The other is about low cost copper connections for modest bandwidth to some locations.
  - What would the marginal cost be for increasing bandwidth?
  - Costs to increase bandwidth by an order of magnitude in electronics are actually pretty modest (BOREAS experience)
  - Agency / library need for modest bandwidth locations.

- Larger metro areas can get more for less: so we also need to find ways to retain BCN customers in those areas.
- Could we do some aggregation by business customer (School district, tech colleges, etc.)?
- What would the cost be to have more fiber in more of the remote locations?
- Small incremental reductions would probably not solve the potential future issues – customer would still “drift away”.
- Might it be in the vendors’ best interest to think about what *they* can market over BCN?
- Discussion of telepresence / high definition: all drive bandwidth upward. 720p HD seems likely to evolve over time to 1080p.
- Could we get a market rate adjustment into the contract? Postalization might make it more difficult.
- If we changed the TEACH charge model back to schools, could we perhaps do away with postalization.
- Administrative Communication / Marketing:
  - Are there things that could be done to better inform folks about BCN, and how it can be used?
  - Dealing with comfort levels of folks not used to video-conferencing, along with something to motivate them. Also have to have support available.

Where do we go from here?

- Lay out issues with contract and business requirements to vendor.
- Discuss possibility of “Class B” (“Pretty good”) service with modest bandwidth (up to 10Mb maybe)
- Identify possible ways to leverage connections that are already there:
  - Bursting arrangement
  - Better rates for modest bandwidth increases
  - Suggesting that the vendor consider the impact of services that they can market
- Are there ways to be “less responsive for less dollars”
- DOA will summarize, and how they will move forward, and then after they have shared that with us, will work with the vendor, and get their reaction.
- Can we / should we do work on longer term needs in parallel
  - HD
  - Data hosting
  - Regional partnerships
  - Pushing fiber out more broadly
  - Large bursting
- September meetings
  - Feedback from vendors not realistic by September 4<sup>th</sup>

- Could we talk about HD and/or telepresence?
- How much good does it really do to talk about applications? Things are growing so fast (UW 50% / year)
- Lack of bandwidth is constraining us. We don't want it to be that way.
- Vision, if bandwidth focused, is actually relatively straightforward. So, suggested that we would not meet on Sept. 4<sup>th</sup>. Confirmed by general voice assent.
- E-Rate cycle timing vs. any lower cost services.