



Public Notice
Technical Committee Agenda
Public Notice for the Policy Committee

Special Meeting
May 1, 2012 – 12 PM - City of Champaign Council Chambers

1. Call to Order
2. Roll Call
3. Approval of Agenda
4. Approval of Minutes
5. Policy Committee Updates
6. Action & Discussion Items:
 - a. Construction Update
 - b. Subcommittee Reports and Actions
 - i. OSS/BSS RFP (Fred)
 - ii. Marketing and Outreach
 - iii. FTTP Procurement Process/Status Update (Mike Smeltzer/Teri Legner)
 - c. Technical Issues Relating to Private Investment in Network Expansion (Mike Smeltzer)
7. Discussion items:
 - a. Tasks or Items for the next meeting
 - b. Next Meeting:
 - May 8, 2012 City of Champaign Council Chambers, 3:30 PM
8. Audience Participation – 5 minute limit per person
9. Committee Member Comments and Announcement
10. Adjourn



4/27/12

Proposed Policy for Private Expansion of UC2B for Business Services

Several private entities have expressed interest in connecting new or existing lateral fiber infrastructure to UC2B backbone rings in order leverage those rings to provide fiber-based services to businesses.

As UC2B does not currently have a plan or funding for the expansion of fiber-to-the-premise to businesses located outside the grant funded FTTP areas, the Policy Board should consider adopting policies that encourage private entities to invest their capital to extend the UC2B network by building additional lateral cables and serve more businesses.

This expansion should always be under certain conditions that promote an open-access network as well as minimize the operational overhead for UC2B and the local municipalities in managing additional infrastructure in their rights-of-way.

What follows would only apply to lateral fiber connections from a UC2B ring cable or from an existing lateral fiber cable that are built to a business or businesses and the associated drop cables from the curb(s) into the building(s). Only the lateral cable and drop cable infrastructure being donated would be subject to the donation policy. Any other fiber infrastructure that the donating provider may have would not be affected. That other fiber infrastructure would remain the sole property of the provider, who would be 100% responsible for its maintenance.

There are a series of core principles that the suggested policy promotes:

- A. All lateral fiber infrastructure connecting to the UC2B network in public rights-of-way shall be operated as an open-access network.
- B. The City of Urbana and the City of Champaign through their Public Works Departments and the University of Illinois through its Utilities department have expressed a strong preference for having all lateral fiber infrastructure that connects to UC2B fiber in their rights-of-way to be owned, managed and maintained by UC2B. The fewer organizations that each city and the University have to track and coordinate with concerning infrastructure in their rights-of way, the less burden it will be on the cities and University. While the cities cannot limit who can build fiber infrastructure in its rights-of-way, UC2B can set consistent conditions that must be met before connecting private lateral fiber cables to UC2B fiber cables.

- C. UC2B should have total ownership and maintenance responsibility for all lateral fiber infrastructure that connects to its network in the local rights-of-way.
- D. Assuming ownership and maintenance responsibility for the lateral fiber infrastructure that is “donated” by private parties, should not put a financial strain on UC2B, but rather support UC2B’s sustainability.
- E. Any donated lateral fiber infrastructure must be located within the city limits of the City of Urbana, or the City of Champaign or on the property of the University of Illinois.

The elements of a policy for “donated” lateral fiber infrastructure in commercial areas:

1. Before an entity can connect its lateral fiber infrastructure to a UC2B backbone ring, that entity must first:
 - A.) Execute an IRU or lease agreement with UC2B for the UC2B backbone fiber ring to which the “donated” lateral fiber infrastructure will connect. Each UC2B ring desired must be leased in its entirety.
 - B.) Execute a donation agreement for the lateral fiber infrastructure being donated that details the original cost of installing the donated lateral fiber infrastructure on a per lateral basis (with associated drop cables.)
 - C.) Execute a fiber maintenance agreement for the UC2B ring fiber that is being leased, and also for the lateral fiber infrastructure being donated.
2. The fiber maintenance contract for the ring and donated lateral fiber shall be at the then-current UC2B fiber maintenance rates. UC2B will incur all expenses for J.U.L.I.E. locates and fiber infrastructure repairs and routine maintenance for the donated lateral fiber infrastructure.
3. Any lateral fiber infrastructure that is donated to UC2B must be documented in full, be in excellent operational condition, be built to UC2B standards, and be clear of any ownership encumbrances. Manholes or conduits that are shared with multiple entities are not good candidates for UC2B ownership and maintenance. A lateral fiber cable that already has multiple owners is not a good candidate for UC2B ownership and maintenance. A lateral fiber cable that has more than 10% of its strands fail OTDR testing is not a good candidate for UC2B ownership and maintenance. All donated lateral fiber cables must be accompanied by individual end-to-end OTDR reports for each strand, which will be verified by UC2B before acceptance.

4. An entity donating lateral fiber infrastructure to UC2B will have exclusive rights to use half of the donated lateral fiber cable strands and half of the associated donated drop cable strands via a \$1 dollar 20-year IRU. That IRU shall be renewable for multiple similar terms. The remaining strands of fiber in that infrastructure will be available for other entities to “buy into”.
5. Lateral fiber cables and the associated fiber drop cables attached to each lateral fiber cable will define donated fiber segments. Entities wishing to purchase dark fiber to a location served by a donated lateral and drop cable, must purchase the entire fiber segment - the complete lateral fiber cable and all of the drop cables associated with that lateral.
6. The donated lateral fiber infrastructure must always provide at least 12 strands of fiber for the drop cable into a commercial building. If there are more than 3 potential tenants in a commercial building the fiber drop cable must have at least 4 strands of fiber per potential tenant. Lateral fiber cables must provide 6 strands for each potential commercial customer served by that lateral cable. Fiber cables that lack the desired number of strands are not good candidates for UC2B ownership and maintenance.
7. The first additional entity that elects to buy into “donated lateral infrastructure” will pay to UC2B a one-time fee equal to 55% of the original installation cost of that infrastructure as documented by the original entity at the time of donation and agreed to by UC2B in the donation agreement. UC2B shall then provide 50% of the original installation cost to the original entity that donated the lateral fiber infrastructure (retaining 5% for UC2B overhead.)
8. That first additional user (second total user) of the “donated lateral infrastructure” will be entitled to 2 fiber strands on each fiber drop cable served by the lateral cable. That first additional user (second total user) will also be entitled to 2 strands on the lateral fiber cable for each associated fiber drop cable.
9. That second user will enter into an IRU or lease agreement for UC2B ring fiber that connects to that lateral fiber cable (purchasing complete UC2B rings at a time) at then-current rates, and will be provided with a \$1 dollar 20-year IRU for the lateral and drop cable fibers. Both leases shall be renewable for multiple similar terms.
10. That second user will enter into a fiber infrastructure maintenance agreement for the UC2B backbone ring being purchased as well as for the lateral and drop cable fiber being used at the then-current UC2B annual fiber maintenance rates. The original entity that donated the fiber will not receive any reduction in the rate of their fiber maintenance agreement should additional entities lease strands in the donated cables.

11. Should a second “additional” (third total) entity desire to use the donated lateral fiber infrastructure, they will pay to UC2B a one-time fee equal to 40% of the original installation cost of that infrastructure as documented by the original entity at the time of donation and agreed to by UC2B in the donation agreement.

UC2B shall then provide 15% of the original installation cost to the original entity that donated the fiber infrastructure and 15% of the original installation cost to the first additional entity that bought into that fiber infrastructure (retaining 10% for UC2B overhead.) At that point, the original entity that donated the fiber infrastructure to UC2B and the first entity that bought into the infrastructure will both be considered to have been “made whole” and will receive no additional compensation from any additional users of that fiber infrastructure. The second additional entity that invested will also not receive any compensation from any additional users of the fiber.

12. The third user of the “donated lateral infrastructure” will be entitled to 2 fiber strands on each fiber drop cable served by the lateral cable. That second additional user (third total user) will also be entitled to 2 strands on the lateral fiber cable for each associated fiber drop cable.
13. The third user will enter into an IRU or lease agreement for UC2B ring fiber at then-current rates, and will be provided with a \$1 dollar 20-year IRU agreement for the lateral fiber and the drop cable fiber. Those leases shall be renewable for multiple similar terms.
14. That third user will enter into a fiber infrastructure maintenance agreement for the UC2B backbone ring being used as well as for the lateral and drop cable fiber being used at the then-current annual maintenance rates. The original entity that donated the fiber, and the first entity that “bought into” the fiber will not receive any reduction in the rate of their fiber maintenance agreements as a result of this second entity “buying into” the donated lateral fiber infrastructure.
15. Once two additional entities have bought into a donated lateral fiber cable and its associated drop cables, UC2B shall be free to use the remaining fiber strands on the lateral cable and all of the associated drop cables to provide retail or wholesale services, which could include lambda-based services to accommodate additional entities that wish dedicated access to the locations served by the donated lateral fiber infrastructure.

16. Should UC2B have funds and the need to do so, UC2B could be the first or second entity to “buy into” lateral and drop cables. Unless there have been two other entities buy into a lateral and drop cable, UC2B can only use the additional strands on those cables for its own purposes by buying into them like any other provider.
17. All splicing at all times to the UC2B fiber backbone rings or to existing UC2B lateral cables will be performed by UC2B staff or contractors working for UC2B.
18. Before donating fiber infrastructure to UC2B, any splicing other than to the UC2B backbone ring or to an existing lateral cable will be performed by the entity donating the lateral fiber infrastructure. Once the lateral fiber infrastructure has been donated, UC2B staff or contractors working for UC2B will perform all splicing.
19. This policy applies only to lateral fiber infrastructure connecting to commercial locations. If necessary, a policy covering residential locations can be created later.

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UC2B Private Expansion to Businesses - Example 1

4/26/12

Existing Private Lateral Fiber and Two Private Companies - to a multi-tenant building

Champaign Telephone Company (CTC) paid \$15,000 for a lateral fiber cable and a drop cable into Lincoln Square - a multi-tenant building. That lateral cable is fed from a larger lateral cable serving several anchor Institutions, but it is easily defined. That lateral is connected to **UC2B Ring #7**, on which **CTC** "owns" 4 strands of fiber through its IRU.

\$15,000 Initial investment by **CTC** in a 48-strand lateral cable and a 48-strand drop cable.

CTC donates that Infrastructure to **UC2B**, and purchases a \$1 20-year IRU for half of the fiber strands.

CTC already has a fiber maintenance agreement for **UC2B Ring #7**, as well as for the lateral and drop cables.

There are now 24 strands of fiber on the lateral cable and 24 strands of fiber on the drop cable available for lease to anyone.

Company X also wants to use that drop cable to serve businesses in Lincoln Square via dark fiber.

Company X agrees to lease fiber on **UC2B Ring #7** at the current lease rates.

\$8,250.00 **Company X** pays **UC2B** 55% of the \$15,000 initial installation cost of the lateral and drop cables.

Company X pays the one-time lease fee of \$8,250 for 2 strands on the lateral cable and 2 strands on each connected drop cable.

Company X signs a fiber maintenance agreement for **UC2B Ring #7** as well as for the donated lateral and drop cables.

\$7,500 **UC2B** pays **CTC** 50% of its initial cost for the lateral and drop cables.

CTC's cost of the lateral and drop cable is now \$7,500 (not counting the time value of money) - 50% of its original investment.

\$750 **UC2B** keeps 5% of the initial cost for overhead.

There are now 22 strands of fiber on the lateral cable and 22 strands of fiber on the drop cable available for lease to anyone.

Company Z also wants to use that drop cable to serve businesses in Lincoln Square via dark fiber.

Company Z agrees to lease fiber on **UC2B Ring #7** at the current lease rates.

\$6,000.00 **Company Z** pays **UC2B** 40% of the \$15,000 initial installation cost of the lateral and drop cables.

Company Z pays the one-time lease fee of \$6,000 for 2 strands on the lateral cable and 2 strands on each connected drop cable.

Company Z signs a fiber maintenance agreement for **UC2B Ring #7** as well as for the donated lateral and drop cables.

\$2,250 **UC2B** pays **CTC** 15% of its initial cost for the lateral and drop cables.

CTC's cost of the lateral and drop cable is now \$5,250 (not counting the time value of money) - 35% of its original investment.

\$2,250 **UC2B** pays **Company X** 15% of the initial cost of the lateral and drop cables.

Company X's cost of the lateral and drop cable is now \$6,000 (not counting the time value of money) - 40% of the original investment.

\$1,500 **UC2B** keeps 10% of the initial cost for overhead.

There are now 20 strands of fiber on the lateral cable and 20 strands of fiber on the drop cable available for lease to anyone or for use by **UC2B**.

Neither **CTC**, **Company X**, nor **Company Z** benefit from any further sales or use of the remaining donated strands of this fiber.

UC2B Private Expansion to Businesses - Example 2

4/26/12

Three Private Companies - new fiber to a single business

Company A spends \$18,000 to build a lateral connection and a fiber drop cable to Prairie Gardens' main facility - a single tenant building.

That lateral cable connects directly to **UC2B Ring #2**

Company A agrees to lease fiber on **UC2B Ring #2** at the current lease rates.

\$18,000 Initial investment by **Company A** in a 24-strand lateral cable and a 12-strand drop cable

Company A donates that Infrastructure to **UC2B**, and purchases a \$1 20-year IRU for half of the fiber strands.

Company A signs a fiber maintenance agreement for **UC2B Ring #2**, as well as for the donated lateral and drop cables.

There are now 12 strands of fiber on the donated lateral cable and 6 strands on the donated drop cable available for lease to anyone.

Company B also wants to use that drop cable to serve Prairie Gardens via dark fiber

Company B agrees to lease fiber on **UC2B Ring #2** at the current lease rates.

\$9,900.00 **Company B** pays **UC2B** 55% of the \$18,000 initial installation cost of the lateral and drop cables.

Company B pays the one-time lease fee of \$9,900 for 2 strands on the lateral cable and 2 strands on each connected drop cable.

Company B signs a fiber maintenance agreement for **UC2B Ring #2** as well as for the donated lateral and drop cables.

\$9,000 **UC2B** pays **Company A** 50% of its initial cost for the lateral and drop cables.

Company A's cost of the lateral and drop cables is now \$9000 (not counting the time value of money) - 50% of its original investment.

\$900 **UC2B** keeps 5% of the initial cost for overhead.

There are now 10 strands of fiber on the donated lateral cable and 4 strands on the donated drop cable available for lease to anyone.

Company C also wants to use that drop cable to serve Prairie Gardens via dark fiber

Company C agrees to lease fiber on **UC2B Ring #2** at the current lease rates.

\$7,200 **Company C** pays **UC2B** 40% of the \$18,000 initial installation cost of the lateral and drop cables.

Company C pays the one-time lease fee of \$7,200 for 2 strands on the lateral cable and 2 strands on each connected drop cable.

Company C signs a fiber maintenance agreement for **UC2B Ring #2** as well as for the donated lateral and drop cables.

\$2,700 **UC2B** pays **Company A** 15% of its initial cost for the lateral and drop cables.

Company A's cost of the lateral and drop cable is now \$6,300 (not counting the time value of money) - 35% of its original investment.

\$2,700 **UC2B** pays **Company B** 15% of the initial cost of the lateral and drop cables.

Company B's cost of the lateral and drop cable is now \$7,200 (not counting the time value of money) - 40% of the original investment.

\$1,800 **UC2B** keeps 10% of the initial cost for overhead.

There are now 8 strands of fiber on the lateral cable and 2 strands of fiber available on the drop cable available for lease to anyone or use by **UC2B**.

UC2B will never lease the last two strands on a lateral cable or drop cable, so that it is always in a position to provide open-access lit services.

Neither **Company A**, **Company B**, nor **Company C** benefit from any further leases or use of the remaining donated strands of this fiber.

UC2B Private Expansion to Businesses - Example 3

4/26/12

Two Private Companies and UC2B - new fiber to a single business

Company D spends \$18,000 to build a lateral connection and a fiber drop cable to Solo Cup's main facility - a single tenant building.

That lateral cable connects directly to **UC2B Ring #6**.

Company D agrees to lease fiber on **UC2B Ring #6** at the current lease rates.

\$18,000 Initial investment by **Company D** in a 24-strand lateral cable and a 12-strand drop cable

Company D donates that Infrastructure to **UC2B**, and purchases a \$1 20-year IRU for half of the fiber strands.

Company D signs a fiber maintenance agreement for **UC2B Ring #6**, as well as for the donated lateral and drop cables.

There are now 12 strands of fiber on the donated lateral cable and 6 strands on the donated drop cable available for lease to anyone.

UC2B also wants to use that drop cable to serve Solo Cup with lit services.

\$9,000.00 **UC2B** pays **Company D** 50% of the \$18,000 initial installation cost of the lateral and drop cables.

UC2B uses 2 strands on the lateral cable and 2 strands on each connected drop cable.

Company D's cost of the lateral and drop cable is now \$9000 (not counting the time value of money) - 50% of its original investment.

There are now 10 strands of fiber on the donated lateral cable and 4 strands on the donated drop cable available for lease to anyone.

Company E also wants to use that drop cable to serve Solo Cup via dark fiber.

Company E agrees to lease fiber on **UC2B Ring #6** at the current lease rates.

\$7,200.00 **Company E** pays **UC2B** 40% of the \$18,000 initial installation cost of the lateral and drop cables.

Company E pays the one-time lease fee of \$7,200 for 2 strands on the lateral cable and 2 strands on each connected drop cable.

Company E signs a fiber maintenance agreement for **UC2B Ring #6** as well as for the donated lateral and drop cables.

\$2,700 **UC2B** pays **Company D** 15% of its initial cost for the lateral and drop cables.

Company D's cost of the lateral and drop cable is now \$6,300 (not counting the time value of money) - 35% of its original investment.

\$4,500 **UC2B** keeps 25% of the initial cost for overhead.

There are now 8 strands of fiber on the lateral cable and 2 strands of fiber on the drop cable available for lease to anyone or for use by **UC2B**.

Neither **Company D** nor **Company E** benefit from any further leases or use of the remaining donated strands of this fiber.

UC2B

MINUTES

4-3-2012

3:30 P.M.

CHAMPAIGN COUNCIL CHAMBERS

MEETING CALLED BY	Tracy Smith, Chair
TYPE OF MEETING	UC2B Technical Committee
GENERAL ITEMS	<ul style="list-style-type: none"> Tracy Smith, Chair called the meeting to order. Quorum was verified – Verbal Roll call was taken (see Roll Call sheet). Approval of Agenda. Fred Halenar made motion. David Young 2nd. Approved. Approval of 1/10/12 Meeting Minutes. Fred Halenar made motion. (David Young made one amendment). Mark Toalson 2nd. Approved as amended.

#5. POLICY COMMITTEE REPORT UPDATES TRACY SMITH/MIKE SMELTZER

DISCUSSION	<ul style="list-style-type: none"> Tracy Smith reported that the Policy Committee has been working with our business consultant developing the business model for UC2B as a service. Mike Smeltzer reported that the Policy Board did approve 3 tiers of bandwidth for the residential customers in the grant subsidized areas and they also approved allowing the anchor institutions to use those same rates (at least those going to be connected and funded by the grant, as long as they only needed a single IP address). Mike Smeltzer explained how the 3 tiers were broke down; 20 meg for \$20, 30 meg for \$30 and 40 meg for \$40. These will be available to residential customers in the fiber to the premise areas and to anchor institutions who need one IP address. If any of the anchor institutions needs more than 40 meg, they will fall into a different bucket in terms of rates.
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#6A. CONSTRUCTION UPDATE BOB MILES

DISCUSSION	<ul style="list-style-type: none"> Bob Miles reported that they are well over half way done with the duct for Urbana & Champaign; the University duct is basically completed. On Urbana's side they have MST's (multi-service terminals) pulled in to a couple of the FDH areas; they are pulling tie fibers in that run from the cabinets out to the splices to feed the MST's. The cabinets should be here in another couple weeks. Within a week or so the cabinets & fiber pigtailed for 9 & 8 will be here and get installed. He reported they are ahead of schedule for completion by July (due to good weather).
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#6B. SUBCOMMITTEE REPORTS & ACTIONS

DISCUSSION	<p>OSS/BSS RFP (Fred, Chair)</p> <ul style="list-style-type: none"> No new update; the specifications and the evaluation criteria sheets are done. <p>Marketing & Outreach (Fred Halenar)</p> <ul style="list-style-type: none"> Fred Halenar provided an informational handout/memo from Richard Schnuer that includes recommended outreach programs; building & expanding on current programs. (Attached). <p>FTTP Procurement Process/Status Update (Paul Duke)</p> <ul style="list-style-type: none"> Paul Duke, Shive-Hattery said there are 4 parts, 1, 2 & 4 are close to a final draft; and part 3, the scope - details are still being discussed (meeting tomorrow). By the end of the week, beginning of next, a final draft should be sent out for all to review.
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#6C. DISCUSSION OF PRIVATE PROVIDER FIBER MIKE SMELTZER

DISCUSSION	<ul style="list-style-type: none"> To discuss next week.
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#6D. RECOMMENDATION REGARDING UC2B BUSINESS RATES/PRICING COMMITTEE

DISCUSSION	<ul style="list-style-type: none"> Discussion notes start below:
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DISCUSSION

- Mike Smeltzer said the recommendation from NeoFiber was that we have some tiers of service, similar to what we are doing for the residential. However, those rates would be higher. Several members of the Policy Board would like to see a proposal for how metered service might work; where people are paying for every bit they use or maybe a base package. Mike referenced the material in the packet (3 different ways of looking at metered service) – Mike then went into detail (based on the provided documents) describing the 3 different options.
- Mike Smeltzer stated that he was personally in favor of just having tiers of bandwidth for simplicity sake and for a host of reasons; he thinks the metering is a step backwards and it is extra overhead in terms of expense and overhead in terms of customer interactions at the end of each month – dealing with people who aren't necessarily believing they used that much bandwidth, when in fact they did.
- Mike Smeltzer stated the Policy Board is looking for some feedback from the Technical Committee should we move forward with tiers of bandwidth, or a metered plan or both.
- Tracy Smith reemphasized that the Policy Committee is looking to us to provide basically a technical recommendation on metered vs. flat rate.
- Fred Halenar said the consultant was recommending the flat rate all the way up; a fairly simple approach. Fred asked for some background on why the Policy Committee was looking at a metered approach. Were they looking at a possible revenue source? Why would we want to make it more complex?
- Mike Smeltzer stated that NeoFibers original recommendation spoke to dealing with small businesses rather than large businesses. Their recommendation was that small businesses be treated the same way (at least in the grant subsidized areas) as residential customers, and the same as anchor institutions. They get access to the same 3 tiers of rates. Large businesses would have a different rate structure. In defining a small business vs. a large business; it was a more simplistic way to have one rate structure that dealt with both based on their usage; that's where that came from, but he would argue that we already have tiers and bigger business are going to want bigger tiers and smaller will want small tiers; and that does separate big from small and the issue of IP addresses, and if you need more, you're identifying yourself as a business and there may be ways of separating that other tier that the residential and the anchor institutions and anybody who wants to be in that tier to live with the restrictions that are based there both in terms of bandwidth and public IP addresses; that we'd encourage people to do that.
- Fred Halenar asked what the idea was behind going to the metered bandwidth.
- Mike Smeltzer said we want to encourage people to use it; (example: the water company system) where people get metered and become conservative; just the opposite with the internet, we want to encourage them to use it. Mike mentioned that Peter Resnick and Richard Schnuer were the two people who were the most interested in this option.
- Tracy Smith stated that people either pay for what they use or there's a flat rate.
- Mark Toalson stated even in the document provided it states that water & electricity are utilities to be conserved, pricing them by use then provides incentive for conservation; but for broadband, the maximum benefit to the community is going to be through maximum use. Penalizing those that take advantage of that is not in the best interest in the community.
- Mike Smeltzer agreed. We want businesses to use the internet and encourage use; and metered service is sending the wrong message.
- David Young said the tiers are not a great way to encourage the use though, and thinks the tiers proposed are not just the minimum bandwidth provided, but actually a maximum too; is that incorrect.
- Mike Smeltzer stated yes, the tiers that are proposed, let's say you signed up for 20 meg, we can guarantee your bandwidth will never go past 20 meg per second; it will never go faster than 20 megabits per second.
- David Young asked again, to make sure he understood, it will never go faster than 20 megabits, if you subscribe to 20 meg?
- Mike Smeltzer replied yes, that's how it works, because the vlan itself is rate limited to never go faster than 20.
- Tracy Smith confirmed, to the internet.
- Mike Smeltzer said yes, to the internet. This is not the same thing as a best effort service that you would get from Comcast or AT&T because we actually intend to deliver 20 meg to all customers at all times.
- David Young asked how is Ethernet not best effort. If you are aggregating say 250 people on one 10 gigabit line and they all got 20 megabit subscriptions, it seems we're going to provide that service on a best effort given the circuit we've provided, is that correct.
- Mike Smeltzer said that is correct but you are not factoring in statistical multiplexing.
- David Young replied the thing is that Ethernet provides the best effort service and it is effective because we don't need a huge bit circuit to provide that service for the 250 users at 20 bits per second. He thinks that fundamentally Ethernet is a best effort service.
- Bill DeJarnette said the general discussion on metered service was the concept of controlling your own destiny. Paying for what you're using, that's the fairest because you are controlling what you use, and control how much you pay. To say that metered service

is not in balance is with service that we provided that has tiers; that's a pricing model. To say that one's more effective than the other one, or one's less fair than the other; the one you can game is the tier based rate, because you can push yourself up as close to the edge of that tier as possible and stay there as long as you can, therefore you are doing very well within that tier. These are all pricing models, we're all assuming that no one is running at 100% of the top of their tier, 24/7, otherwise our pricing model is going to have to change dramatically. The argument piece of the fact that tiers as opposed to metered generates one's more fair than the other one, is the aspect of his perspective that it comes down to the sophistication of the calculations as to what a metered service provides and what it doesn't. Tiers are almost easier to wrap your head around and to budget for and allocate for and you can put in your own routers to figure usage. If we're looking at competing in the marketplace, then most likely we have to have a product line that people can compare apples to apples. Looking more upstream than downstream; creating something and contributing to the internet. Otherwise, we're just another Comcast, maybe with a slightly better product today but not necessarily tomorrow.

- David Young said we are not competing very well with Comcast if we're offering a service that is service tiers that are 'up to 20 symmetrical' and 'up to 30 symmetrical' and 'up to 40 symmetrical.' Some of those are within reach of Comcast now, however, a service tier level that is 'up to an average of 20 megabits' or 'up to an average of 30 megabits' is something that lets our network really shine; you can burst up to a full gigabit to the network if it's 3 a.m. and you're the only one person who is awake using UC2B. And it gives you a better experience in that web browsing mode, if you click something, it downloads for a second, except it ought to be faster on UC2B's network, and in 9 seconds you're just reading and going onto the other; so there's a lot of up & down time in a typical usage scenario, and it's important that you just get everything really fast. 20 megabits is really fast, but a gigabit is just so much better. So to limit the service by designing the tiers this way is really bad for this network and its competitiveness.
- Fred Halenar commented on maybe a better example being a cellular phone service, especially for smart phones today, people are going with services that have unlimited phone, text and unlimited internet access and they're demanding that. They're not going to go to a firm that's says you get 5 megs this month and if you go over that you get charged extra, they'll go somewhere else to get their service. That might be a fairer comparison if you're talking about utility.
- John Brighton stated that it strikes me that people actually do not want to know the details of their plan, really. Actually, the more simple you can make it, the easier it's going to be to sell. He doesn't really want to know how much data he's using, and is pretty sophisticated really. He would rather pay one price and be guaranteed that its really going to work well. Increasingly we're not just browsing web pages; we're reading and writing all the time. Using Tumbler and Facebook, actually uploading audio video as part of our daily experience.
- David Young said it's an interactive system, and that's what the internet is, and that's what makes it really beautiful and so it's really easy to parcel it out in megabits per second or in gigabits total you get per day, but what's really important to a user and is fairly universal, is you click something, and it's there really fast. And it just happens to be the case; it's a good thing for us that building this network that not everyone clicks at once. That's where the statistical multiplexing that Mike reminds us of, is really great, because not everybody clicks at once.
- Tracy Smith stated this was great discussion and valid points about user experience and competitiveness of either approach. She would like to encourage us to think about the technical merits of either approach; trying to kick start a more technical discussion about the different approaches, in terms of capacity planning; if we have a metered model, it's an unknown to UC2B how much bandwidth we're going to need, whereas, it's a little more predictable if its set.
- Bill DeJarnette asked why. He is looking at load volumes even if he's doing tiers. He has calculated within those tiers what his expected load value is going be, so if he doesn't have a tier, he is going to take that same load value and apply it against the number of users it would be in that tier, and is still going to know his usage.
- Tracy Smith said it's somewhat more of a known though if there's a rate limit vs. if it's completely open based upon utilization.
- Bill DeJarnette said if he is making his return on investment on his rate, and it's profitable, then there are no down sides to that. On the other hand, if he is losing money on every transaction, he can't make that up in volume and he clearly understands that. The point is, if he has made his underlining bases and done his calculations on what it costs to do all his fixed cost, and knows what those are, and he's applied that across his user base, then everything else is the value of the actual variable cost that he's charging in flowing, whether by tiers or by volume, he's still calculating based on volume. The other side of an upper volume is the potential to get a cheaper price upstream, if he's moving more.
- Tracy Smith stated she was not talking in terms of cost; she is talking literally in terms of getting additional bandwidth, getting the additional equipment to handle the extra capacity of the system.

- John Brighton asked that if the metering system is deployed, that implies that there is some method for metering and that adds additional technical complexity does it not.
- Tracy Smith said yes, there is management overhead with that as well.
- Bill DeJarnette said let's go back to this, so what you're now saying is, it's better to do the opposite of what he thought he just heard earlier, is to encourage use, because if they use too much, then my system can't support it, but he is not making enough money to upgrade his system to support more bandwidth, and therefore grow with the design.
- Tracy Smith said, she is not saying that at all. She is saying in terms of planning, to know when to make those upgrades. She agrees to encourage people to use the system. It's all about understanding the trends, and the trends will be more predictable with caps.
- Bill DeJarnette said when we buy our bandwidth upstream, are we buying that within tiers, but are there caps.
- Tracy Smith said physical limitation of the interface that the circuit connects to.
- Bill DeJarnette confirmed, of the interface, other than that, you can pull whatever you can pull within that interface limit, and you would just have to pay for it.
- Mike Smeltzer said it would depend. If we have a one gig physical port, you're limited to one gig up and one gig down. If we have a 10 gig limited port and we only buy one gig, we're still limited to one gig up and one gig down because our upstream provider is rate limiting us, they're not giving us random access to that full 10 gig.
- Bill DeJarnette agreed. The point is, if you use more, they are going to charge you more. Are you going to pay for the full gig whether you use it or not?
- Tracy Smith and Mike Smeltzer said yes. That's how we're billed, whether we use it or not, our rates not going to change. It turns out, if we did this on a regular basis, and once our provider has some history with us, they're going to base their rate to us on what our average utilization is, if we're a customer that runs 30% or 40% they're going to feel a little more comfortable about giving us an aggressive rate, if we're closer to 80% or 90% of that gig all the time, they're doing their own statistical multiplexing and then we look like a problem child customer, and then they're going to charge us a little more perhaps on a per gig basis come contract renewal.
- Bill DeJarnette agreed and stated which they're calculating the metered usage and calculating what the actual rate would be approximately if we're using about 70% or about 40%, basing it on how much we use eventually to come up with a more competitive rate.
- Tracy Smith brought up another technical issue in terms of security, on a pay as you utilize or metered system, if there was an incident and a machine was compromised, presumably someone would have to pay for utilization that they necessarily did not know about.
- David Young wondered about that too and how Illinois American Water deals with that.
- Bill DeJarnette said that goes back to the analysis, a lot of times what they do is some version of, 'your usage is inconsistent with your prior usage', and here is your notification. You get a flag. If it's in your tier, it just doesn't matter, except to us, because we're paying for that bandwidth even though they are within their tier limit. They are wasting it.
- Mark Toalson stated if there is more complexity and more sophistication for a metered system, which it sounds like is the case, he assumes there'd be more cost in the long term to manage a metered system.
- Tracy Smith said UC2B would need development resources to build that functionality or we would need to find some off the shelf package that presumably would integrate with the billing system, which we don't know what that's going to be yet. There would be cost there too.
- Mark Toalson stated it would be a more expensive system for us to manage.
- John Brighton gave an example of when your behavior pattern changes on your credit card use, they call, and that is a whole CRM layer on top of everything else. It's costly. We want this to succeed at launch and simplicity seems pretty important for that.
- Bill DeJarnette reminded everyone we're not discussing the residential side of this; that's tiered already.
- Bill DeJarnette is not saying metered if we could come up with a real pricing scheme of what it really costs to meter, is worth doing for all the added headaches, benefit issues on a start up environment, but understands the sirens call of the benefit; and that is you control your own destiny. It is your choice to spend more money or not. The issue for us is to still make sure we provide a competitive service, at a competitive rate, to gear up the sustainability of UC2B into the future. Whatever gives us the competitive edge, that's what we need to search out.
- Mark Toalson said to say that it's your choice to spend more money or not, assuming you're very aware of the amount of data you're uploading or downloading.
- Bill DeJarnette said that's why it's not really a great choice at the residential level, or small business level, because they don't have the sophistication necessarily to control their metered use.
- Mark Toalson agreed, and that's the businesses we're talking about here, isn't it.
- Bill DeJarnette said he thinks we're talking about all businesses.
- Mark Toalson, said he thought we were talking about, at this time, just businesses in the

11 census blocks.

- o Bill DeJarnette said he wouldn't encourage any complexity for just that small group of businesses.
- o Fred Halenar said it looks like we're saying that the residential rate is going to be set, and would hate to change that because he thinks that's the expectation out there from the community already. However, if we take the simple approach to start with, doesn't mean that UC2B three or five years from now couldn't alter its billing and rate structures.
- o John Brighton stated that's likely in fact, and business practices are going to change over that time, and what is conventional today will be different tomorrow.
- o Fred Halenar said when you start out, he's not sure you're going to have the full blown effect of everybody on the internet, so it will grow over time, then that's when we need to look at what are our rate models are and maybe it will be time to change. He thinks starting out trying to keep it simple makes more sense.
- o David Young said he has a different understanding of what the Policy Board has passed in the tier structure. The tiers represent to him, because they have very little technical meat, a marketing plan. That's marketing speak to him. When you say that the Policy Board set a certain expectation, he is sure they have, but thinks that within that expectation there is a lot of room for adjusting the service offering to make it rational and useful. Yet to offer -say an on average 20, 30 or 40 megabits, He thinks that's different and if there's a technical specification of what the tiers are, He is really disappointed.
- o Fred Halenar said he was not saying that the Policy Board has set some expectation; he thinks the community has some expectations. That's where the expectation lies.
- o David Young said the expectation is that there are some tiers, or what.
- o Fred Halenar said he didn't want to confuse the residential side with the business side. The residential side is where the expectations have already been set in the 11 census blocks. The commercial side we've always talked that there will be some change in that, so he thinks there was any expectation there and that's what we're looking at now. But his thought is to keep it simple to start with and modify later if we find a financial need to do so.
- o Mark Toalson asked in a maximum average based billing system; say a customer exceeds that average in a month, are they charged more.
- o David Young said the idea is they cannot exceed it in a month or if the billing basis is a day; they cannot exceed it in a day, but they can exceed it for 100 milliseconds. It's just charged against the next milliseconds available. The idea is you can burst up to a gigabit but its charged against your next. Your daily or monthly average is set at 20, 30 or 40 but at any burst you can go to the full capability.
- o Mark Toalson noted concerns about this because if they exceed that average at the end of the month, are you going to cut them off until the months over.
- o David Young said that's when you have to make another decision; and he doesn't think you should cut them off.
- o Mike Smeltzer said we can't be talking about averages. Ethernet – the whole concept of bursting and port speeds and CIR's those are foreign to Ethernet. There are no native things to do in the router to enforce that or enable that short of doing all kinds of extra work, calculations & data. We've always envisioned this as pure rate limiting which routers do very easily. We are trying to keep it simple because we're only talking about 200 possible customers, and we don't think we're going to get all 200 customers.
- o David Young stated he thinks the routers are capable of this.
- o Tracy Smith said it doesn't matter how we implement the rate limit per say, it's still a fixed rate vs. a metered, from that perspective.
- o Bill DeJarnette said given the small group we're dealing with, and the speed to move with, we need to probably look at what our competitors are doing in this area.
- o Peter Folk, Volo, stated the focus of the discussion has been on marketing. The proposed rate for 30 megabits is \$250.
- o Bill DeJarnette asked if are we going to try to discuss the issues on the actual pricing, because he has a huge number of issues on pricing.
- o Tracy Smith stated no, that is not a technical concern.
- o Peter Folk said the pricing of 30 megabits is at \$250/month for a business, if you look at the metered section, and look at the equivalent number of gigabits per month which is 900; that's \$87. As a business, do you want to buy a \$87 package where click it downloads at a gigabit; and on average you use at most 30 meg. Or do you want to buy the other package where you can at most travel at 30 megabits and pay \$250. That is a marketing discussion. From a capacity planning standpoint, if you give me a 30 megabit pipe and you make all of these claims because you're never going to limit them; so if you give that wide open pipe you have to price it according to the fact that you may very well get that virus, that virus is on 24/7; or leave it on 24/7 to get the best speed. If instead it's a metered service, you do have some incentive to reduce your usage, between .04 and .08 cents per gigabit it's not very much. From a marketing and technical perspective, you end up with a win- win metered; with both cases you end up having to guess. You can either buy a flat rate service which is normally your lowest cost per megabit per second because your upstream provider is making that same calculation. Or you can buy a 95th

percentile service where it's doing exactly what you talked about where you pay a base amount and if you go over that, what they measure is your 95th percentile usage and they bill you based on that; that's normally more per megabit but you can sometimes save if you end up with a 10 gigabit circuit. Most routers will do a variety of rate limiting schemes. Fundamentally what is being talked about right now, if you put that cap at 30, then you'll never see more than 30; and agrees with David if you have a gigabit, you would really want to use that; and from a marketing perspective that's where you have a win. In regards to the metered service, you are going to be doing that accounting anyway and it's automated and there is a simple package called MRTG that does that for you and it's free. If you combined the two and offered a minimum guaranteed rate and a price for either overage or not, but guarantee that minimum rate, then you can afford to have low cost for overall contracts and be able to burst to the full gigabit of what's available. You can either be charged or not. Capacity planning with metered is easier.

- Rev. Dr. Eugene Barnes stated there is much talk today about business models. Again, he may have broached this once before, the Somalia pirates what they're doing is considered a business model; that's an extreme. As he was par-oozing through the documents, the 70 some pages, he noticed the consultant said UC2B should be innovative and he's hearing competitiveness and all of a sudden now we're looking at profit margins and ROI's. He still thinks that we've got to keep common sense in terms of who we're targeting. When he was working for Xerox, Xerox said it was better to keep customers than to go get new ones. These are customers you're trying to get, and then you want to be able to sustain them over a period of time. So if we out price it right now, it's not going to service good in the future. It seems like we're running ahead of our headlights. Simple, as Fred said, keep it simple. Let's try not to bake in all the costs right now. Looking to the future, what could, or how the network could be expanded and what opportunity lies there, as opposed to breaking the pockets of the poor slob who may not be able to afford it.
- Ray Mitchell said the main concern he heard from the Policy Committee was that the possibility for anchor institutions that are large over using what you think you're selling at 30 megabits per second, and using that all the time, the reason they put this to you is to see if there's another way to build businesses or other institutions that are larger and use more capacity than what you're expecting from a residential customer.
- Tracy Smith said this has been great discussion about the differences between metered vs. tiered. But again, we've been asked to deliver what are the technical differences. Whether or not, the decision is a Policy decision because there are all kinds of financial & marketing issues and how the technical part weighs in that decision could be debated.
- Bill DeJarnette stated from a technical perspective, he doesn't see either one of these hills too high to climb. We could do a metered system or a non-metered system. He doesn't think from a technical perspective that either one of those is going to be that much more complicated than the other one.
- Fred Halenar added that based on what he heard from Peter; you can do both on the same network.
- David Young stated that the question the Policy Board put to us actually doesn't sound very technical; it sounds more like a marketing or financial question. The answer he gives contains a lot of my values about what is a good network. He feels like we need to send it back to the Policy Board and ask more about their values and then we can design it; a technical solution that fits with that. He agrees with Bill that with whatever we do metered or tiers, it all seems technically feasible.
- David Young said he thinks the Policy Board might be asking the wrong questions and then they're only going to get the wrong answers.
- John Brighton said maybe they didn't know that there is no problem doing either one. Another words, the answer to them is, whatever you want. You decide based on the values you have and what you think is going to be the most successful in terms of customer acceptance and there's no technical barrier either way.
- David Young said to treat it like two choices though might not be the best way. There are two ways to think of the tiered model and there maybe a few ways to think of the metered as well. Given our charge, we can't tell them do it this way right now, he thinks we need more information.
- Mike Smeltzer said we do not have the luxury of time to kick it back to the Policy Board. They are going to make a decision within one week about what these rates are going to look like, you either take a position on this now or you don't take a position on this now, there is no luxury of time, we've lost that.
- David Young asked what do you mean take a position on this now or don't take a position on this now.
- Mike Smeltzer said the Policy Board has asked this group to make a recommendation, should we have metered rates, should we have flat rates, and it's a very simple question. And that's their charge to this group. And if you come back and say we think we should have both or we think we should have some blend or one or another, that's what they're looking to hear, then they can have a discussion about what those rates might be, but at this point where everything's on the table it's impossible for them to come forward with a final plan. So if somebody would like to put a motion on the table, we can vote it up or

down.

- Bill DeJarnette stated said he would clearly have a flat rate, a lower end flat rate, for smaller businesses, and upper ends need to be metered. The upper end users will be sophisticated enough that metered prices will not surprise them if they go up and down a bit each month. If our profit margins are calculated correctly, then the fact that they're using more and paying more is a good thing. That would be Bill's recommendation.
- Fred Halenar asked Bill to define high end.
- Bill DeJarnette stated that Policy discussed that business's within the census block areas, if they have one IP address they qualify for 20 only...(that ideas actually went away).
- Mike Smeltzer stated what you are leading us toward is potentially a good hybrid solution, is that if you're willing to have a single IP address, if you're willing to have one of the three tiers that we defined, that's fine; if you want more than that, you'd move into a metered system. If you need more than 40 megs of bandwidth then we have metered programs for the higher levels of usage.
- Bill DeJarnette agreed and said it was consistent and people can understand that.
- Tracy Smith asked Bill to summarize his recommendation/motion.
- Bill DeJarnette said we use the existing residential tiers as the base business plan, and for someone who wants something outside of that or falls outside of the qualifications, then the metered approach would be available.
- Mike Smeltzer added if they need more than one IP address that moves them into the metered approach.
- Bill DeJarnette said we don't want get into the business of having to figure out whether they have 10 employees, 9 FTE's, how much money, etc...
- Mike Smeltzer agreed entirely.
- Fred Halenar 2nd the motion.
- Peter Folk, Volo, asked why does he have to meet some sort of qualification to chose between your different plans, why can't he just chose from the list of four plans and from how many IP's he wants. In order to be in the metered plan, he has to buy some IP's.
- Mike Smeltzer said if you want more IP addresses that throws you into the metered plan. If you want more than 40 megs of bandwidth that throws you in the metered plan. That is completely up to you.
- Bill DeJarnette stated we didn't say the metered plans started at 40 megabit.
- Mike Smeltzer said we could have a very small metered plan if we wanted to. And if somebody wanted to go to the metered plan, they always have that option.
- Peter Folk, Volo, asked but he can't have multiple IP's on 20 meg.
- Mike Smeltzer said correct.
- David Young asked why we would make that restriction.
- Bill DeJarnette said he doesn't know, with restrictions out there, it was just banded about and gained traction in time. Bill asked Mike Smeltzer about the matrix.
- Mike Smeltzer said its simplicity for the network.
- Bill DeJarnette said there's no real downside to saying the 20, 30, 40 tiered is based on a single IP because if you go to multiple IP's you don't have to jump to greater than 40, you can still be down at the 20 meg rate; it's just that you have the complexity, you're also not worried or surprised that your bill fluctuates up and down. But there's not going to be any real penalty, you're just on a metered rate.
- Tracy Smith said we have a motion on the table.
- Mark Toalson asked it be read one more time.
- Missy Meade reiterated that we would offer the three tiered service of 20, 30 and 40 meg and a metered service, and those having over a single IP address would be metered.
- Bill DeJarnette said we are saying both tiered and metered service will be available. The metered service allows the small user but sophisticated user, or more complex user, or the people who don't think they use much internet but they do to control their own destiny, but to drive those numbers and doesn't think we see that as a downside because that level of sophistication their comfortable with knowing the fact their bill is going to go up & down. If you want multiple IP addresses, then you're going on metered.
- Mike Smeltzer said that we make the 3 tiers already approved available to businesses, and if a business wants more than one public IP address or more than 40 megabits service, then they move into the metered package to be determined.
- Mark Toalson stated something similar, that we offer the 20, 30, 40 for businesses and offer as an option metered service.
- Mike Smeltzer agreed.
- Mark Toalson said it's just not putting any restrictions on that metered service.
- John Brighton agreed.
- Mike Smeltzer said the 20, 30, 40 inherently only have one IP address in them based on what the Policy Board already approved so that infers if you want more than one IP address you're into that metered option.
- Bill DeJarnette stated he thinks we're there; only difficulty is the issue if you're in the flat tiers, you're on one IP.
- Tracy Smith asked to put it to a vote.
- Mark Toalson asked to hear it one more time as amended.

	<ul style="list-style-type: none"> ○ Missy Meade reiterated that we would offer the 3 tiers, 20, 30 and 40 and a metered option. If someone had more than one IP address they would fall into the metered option. ○ Fred Halenar agreed. ○ Tracy Smith asked if all were in favor. ○ All voted 'I' – yes in favor. ○ Tracy Smith stated the motion/recommendation approved and will take to the Policy Committee.
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#6E.

IP ADDRESS PRICING

COMMITTEE

DISCUSSION	<ul style="list-style-type: none"> ○ Tracy Smith stated that the above recommendation encompassed this topic. ○ Bill DeJarnette asked what the question is we're supposed to address on the IP Address. Bill DeJarnette asked are we comfortable with the fact (there is no technical aspect to this), we have to provide IPs. All that's left is the marketing component. Is the cost of setting up 256 IP's consistent with the cost to set up per IP – 8 IP's? ○ Tracy Smith said we have set precedence with our recommendation and if you want multiple IP's, that sets you apart from standard residential usage. ○ Bill DeJarnette agreed, but the question was there's no technical aspect on whether we offer IP's or not, we're going to offer IP's, and we're going to offer them in groups. The question comes down to the pricing issue. ○ Mike Smeltzer stated the way this has taken its turn, anyone who is getting multiple IP's is going to be on a metered service, he thinks the rates could be drastically reduced. We still want to have a onetime charge for setting it up, because there is manual time to do it, but in terms of recurring basis, we could drop it down to a quarter per month or less; they're going to cost us from anywhere from 50 cents to \$2 per year depending how we get them and how many we get so we certainly want to cover that cost, but we don't need to make as much money on that because we're no longer trying to compensate for bandwidth. Most of that dollar a month was based on extra bandwidth use and now that's being covered by the metering. ○ Bill DeJarnette asked what we are looking for in the way of a motion. ○ Tracy Smith stated we have already covered it in if you want additional IP's that sets you apart into the metered and what we would recommend, since it's not a technical decision, that the Policy Committee take that under consideration when the pricing model's being determined, because we've already differentiated that this isn't a standard residential use case. ○ Mike Smeltzer asked if there is any feeling amongst the group if this should be a quarter or fifty cents. ○ Tracy Smith said that is not a technical decision. ○ Mike Smeltzer said alright then we'll let that go to the Policy Board. ○ Bill DeJarnette asked (to push back to Diane) what the appropriate pricing in our current marketplace is. ○ David Young asked what is the cost for IPB6 numbers. ○ Fred Halenar said it depends on where you get them. ○ Tracy Smith asked so what is the Technical Committee comfortable with sharing with the Policy Committee in regards to IP addresses. ○ David Young said yes they should be for sale. ○ Tracy Smith asked do we feel comfortable that we covered it in the previous motion that basically it's a differentiator and puts a customer in the metered program. ○ David Young said he is not comfortable with that, but that was the decision that was made, he doesn't see that IP numbers correlate really closely with usage and doesn't see that IP numbers to configure blocks of them is more complicated than to configure them singly because he thinks the thing that limits your configuration trouble is the number of subscribers and if you have an IP per subscriber, that's just a lot more hosts or subnets you have to program. ○ Tracy Smith said what she is trying to say the decision about pricing is more about the metered package not about per IP. ○ Peter Folk, Volo, said that Dave Young works from home, he might want to buy as a residential user, is there a reason he can't also buy IP's. ○ David Young said that was a great question. He does want to buy IP's. He can buy them from Comcast but it's rather expensive to do that, and he would have to upgrade to a business class package, and doesn't trust Comcast to supply IP's to him, because Comcast doesn't do reverse DNS delegation and they cannot do reverse reliably is his finding; so yes, he would want a 20 meg plan with IP numbers, for his home office purposes. ○ Peter Folk, Volo, ran quick stats from his servers that house about 300 user email accounts including 5 or 10 small businesses and a bunch of individuals, that same server also houses 40 websites, and the average usage over the last 60 days is about 1 megabit. The contention that servers use a lot of bandwidth -certainly not by our server, nothing is limited. ○ John Brighton said he thinks it really depends on what sites that servers hosting. The biggest frustration is the slowest bit rate, not the peak, but the valley. In terms of innovation, but it's
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critical into the innovation, into the novelty of our system, and it's competitiveness, if we could guarantee; he would be happy with 2 megabits floor, as a critical piece of the success of this, he thinks that's important.

- Tracy Smith asked what we want to carry forward to the Policy Committee with regards to additional IP addresses.
- Bill DeJarnette said he doesn't think we're looking to carry forward a motion, just some discussion points.
- Fred Halenar agreed. This is a value thing, and who's setting the value. The cost per IP address is the value.
- Bill DeJarnette stated the other point we want to send to the Policy Board is that there is still a discussion issue about the trickle down of IP addresses to other users and what does that mean. It may mean that we may charge a premium to someone like David, and say you're on the 20 meg service and you want one more IP, we're sorry, it's not available at this low rate, but we can sell you another one and its \$20 for the year for you to have the use of that IP. That might be ok. There might be a market benefit out there to be able to sell a couple IP's to someone. That is something that needs looked at and evaluated.
- Tracy Smith stated so there is nothing technical to bring forth to the Policy Committee with regards to this topic.
- Peter Folk, Volo, said you might send them a note that there is no technical issue with allowing residential users to also buy IP addresses.
- John Brighton said he thinks that's a point of clarification that we could usefully make.
- Mike Smeltzer said it's extremely messy to try and sell them one at a time; it's easy to sell them in the subnet size.
- Bill DeJarnette asked how much is it worth to us. We could sell someone eight if it's easier for us to program eight; it's a question whether we can find a way to do it from a marketing business perspective. Because we do want to solve issues.
- Tracy Smith asked if it's safe to say that we would make the technical recommendation that additional IP addresses would be to follow the bit boundaries, in terms of what that might cost that's not a technical decision or who it's offered to.
- The Technical Committee continued discussion on this topic.
- Tracy Smith asked is it safe to say that if a customer wants an additional IP address, some charge should be associated to that whether it's what was published or something completely different, but some cost should be associated to that.
- David Young agreed.
- Bill DeJarnette agreed and the cost of one may be greater than 10 times that or 8 from that perspective. He doesn't think that it's inappropriate to have a higher cost for an individual item if we can clearly confirm that individual item is a pain for us to deal with but we'll gladly sell it to you, within the scope of our ability to do that and to manage it.
- Fred Halenar asked Mike Smeltzer if this is something that is needed today and what is it exactly that we need, because we are going to meet a week from now as well.
- Mike Smeltzer said that given what you've already voted on to recommend, this is a non-issue at this point other than what it is we charge when we have metered service, and what we charge for those IP addresses. The proposal is clearly high now that we've made the decision to meter those other people, He doesn't think the Policy Board needs a recommendation on this, there's no urgency in doing this.
- Fred Halenar just wanted to be clear on the table Mike Smeltzer was referring to.
- Mike Smeltzer said the one with six levels is the one he did; the one Diane did not reflect normal subnet boundaries and she had made a correction on that and it didn't end up on her final document.
- Mike Smeltzer said the dollar amount could be lowered to a quarter or fifty cents.
- Bill DeJarnette said the only other issue back to Policy would be the fact that it's important to explore the ability to provide IP addresses to single users. Figure out a cost for that and the viability of doing that, because our competitors offer it.
- Mark Toalson suggested we just offer a recommendation. Its technically feasible, and we feel it's advisable and justifiable to have a cost associated with it.
- Mike Smeltzer said that if they need one, then they just buy the package that has five.
- Bill DeJarnette agreed, whatever is cleanest but provides them a pathway that is reasonable and competitive; but we do need boundaries and control.
- **Mark Toalson made motion that additional IP addresses are technically feasible and advisable to offer and valid to include an associated cost to do so.**
- **Tracy Smith stated we have a motion on the table.**
- **Fred Halenar 2nd the motion.**
- **Tracy Smith asked for any discussion items from the committee.**
- **Peter Folk, Volo, said Tracy mentioned the concept of on bit boundaries which he thinks would benefit.**
- **Tracy Smith confirmed the five instead of the one concept.**
- **Bill DeJarnette agreed. It may need explained in more detail to Policy.**
- **Tracy Smith asked for a vote, all in favor say 'I.'**
- **All agreed in favor 'I'.**
- **None opposed.**

	<ul style="list-style-type: none"> o Tracy Smith will take it to the Policy Board.
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7. DISCUSSION ITEMS

DISCUSSION	<p>Tasks or Items for the next meeting:</p> <ul style="list-style-type: none"> o David Young stated he would like see set standards on reporting bandwidth numbers. Suggested to include what was used in the test – wired or wireless, details about the operating system etc. (It is not fair to compare actual measured numbers with whole hypothetical promised numbers from UC2B). David Young will provide a document for Missy Meade to share with the committee. <p>Next Meetings:</p> <ul style="list-style-type: none"> o April 24, 2012 City of Champaign Council Chambers, 3:30 PM o May 8, 2012 City of Champaign Council Chambers, 3:30 PM <p>Audience Participation:</p> <ul style="list-style-type: none"> o None <p>Committee Member Comments or Announcements:</p> <ul style="list-style-type: none"> o None <p>Adjournment – 5:40 P.M.</p>
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