



Public Notice
Technical Committee Agenda
Public Notice for the Policy Committee

Regular Meeting
December 27, 2011 – 3:30 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 (John Kersh)
 - iii. IRU/Transport Contracts & Adoption (Bill DeJarnette)
 - iv. FTTP Procurement Process/Status Update (Mike Smeltzer/Teri Legner)
 - c. Discussion/Approval of Core Network Plan and Design (Tracy)
7. Discussion items:
 - a. Tasks or Items for the next meeting
 - b. Next Meetings:
 - January 10, 2011 City of Champaign Council Chambers, 3:30 PM
 - January 24, 2011 City of Champaign Council Chambers, 3:30 PM
8. Audience Participation – 5 minute limit per person
9. Committee Member Comments and Announcement
10. Adjourn

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UC2B

MINUTES

12-13-2011

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. Mike Vrem 2nd. Approved. • Approval of 11/22/11 Meeting Minutes. Bill DeJarnette made motion. Mike Vrem 2nd. Minutes approved.

#5. POLICY COMMITTEE REPORT UPDATES

DISCUSSION	<ul style="list-style-type: none"> ○ No new update
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#6A. CONSTRUCTION UPDATE BOB MILES

DISCUSSION	<ul style="list-style-type: none"> ○ Bob Miles reported that there are 2 plows working (one in Champaign & one in Urbana). ○ 6 bore crews working in Champaign. 3 are working in Urbana. ○ Everything is going well and they are making good progress. ○ The goal of 100,000 feet should be reached by the end of the year. Western will definitely make it and Berns will be close.
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#6B. SUBCOMMITTEE REPORTS & ACTIONS

DISCUSSION	<p>OSS/BSS RFP (Fred, Chair)</p> <ul style="list-style-type: none"> • Ready to build specifications for the RFP – Mike Smeltzer still has this on his to-do list, Fiber to the Premise Procurement had taken precedence. • Ray Mitchell stated the Marketing/Canvassers are building a database to put all of the interested citizen names & information in, something to keep in mind for this part of the project. Mark Toalson verified they were using a GIS compatible system, and Mike Smeltzer confirmed and recommended he speak to John Gant. <p>Marketing & Outreach (John Kersh, Chair)</p> <ul style="list-style-type: none"> • No new update <p>IRU/Transport Contracts & Adoption (Bill DeJarnette, Chair)</p> <ul style="list-style-type: none"> • All documents have been completed & to Policy. <p>FTTP Procurement Process/Status Update (Mike Smeltzer/Teri Legner)</p> <ul style="list-style-type: none"> • Mike Smeltzer provided handouts showing the plan for how the work could be divided out and explained the scenarios and processes. The Committee proceeded to discuss the options (including diversity & price). • Teri Legner stated the handouts/plan will be revised and taken to Policy on Dec. 21st and then meetings will be arranged for Public comment. • Peter Folk stated this is the best process he has seen & commended the committee. • Tracy Smith agreed and stated that this is the finest example of how it should be done.
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6C. DISCUSSION /APPROVAL OF CORE NETWORK PLAN TRACY SMITH

DISCUSSION	<ul style="list-style-type: none"> • Tracy Smith explained and walked the committee through the diagram on the provided handout. • Ross Veach asked about local peering and Tracy Smith said that there are peering exchanges and the University is working to get there. • The committee discussed the design in detail. • Tracy will update the design, cost, add the narrative & legend and bring it back to the Tech Committee on Dec. 27th for final approval. • Fred Halenar made motion to accept this design with the modifications that were discussed above & to bring it back Dec. 27th to the committee. Bill DeJarnette 2nd the motion. Motion approved. This item will be on the next meeting agenda.
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#6D.

DISCUSSION/APPROVAL OF CHANGE ORDER FOR
JBCC- SPLICE CASE VENDOR

MIKE SMELTZER/BOB MILES

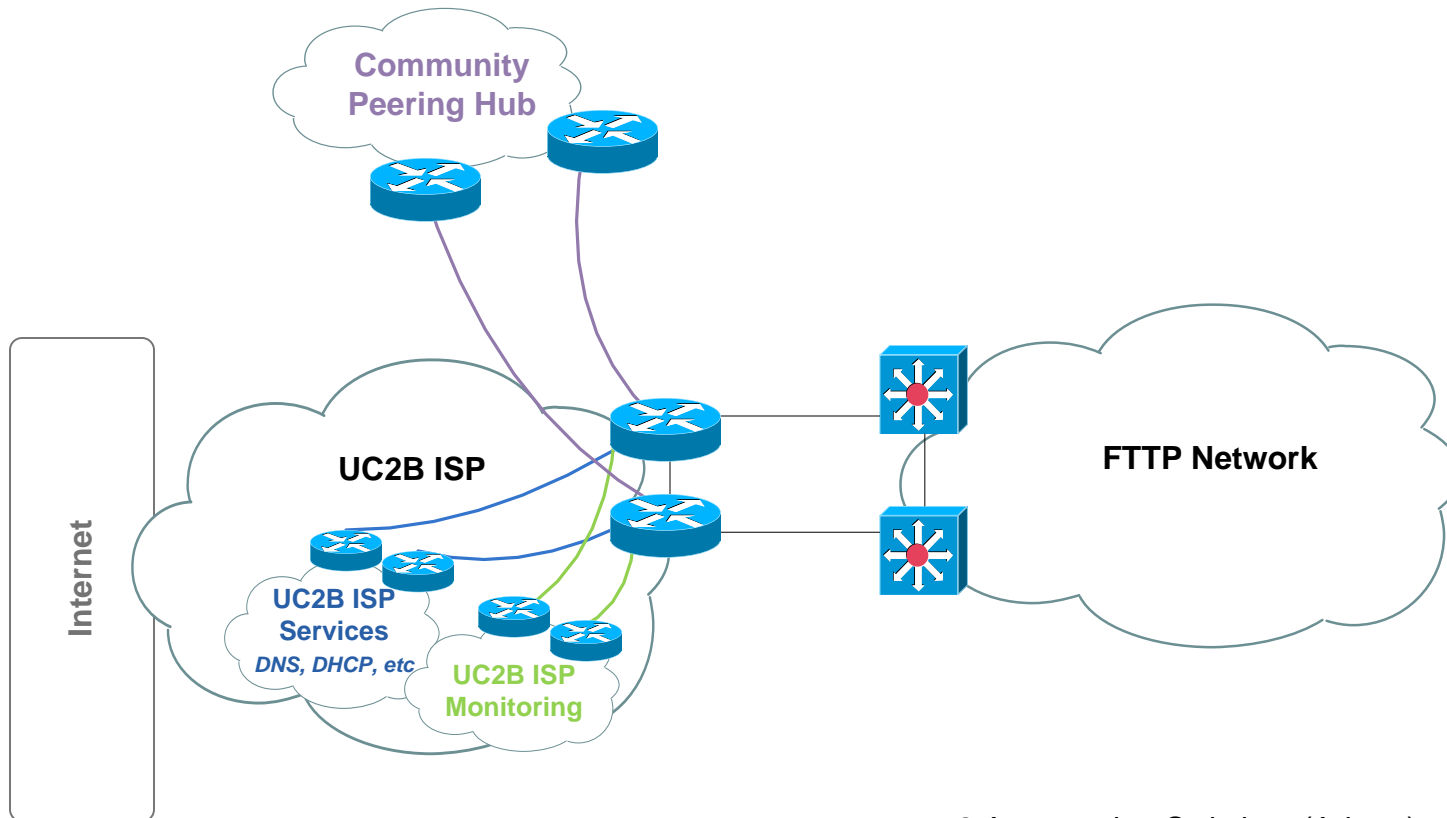
DISCUSSION	<ul style="list-style-type: none">• Mike Smeltzer explained in the original bid documents sent out, we had specified a certain brand of splice case, that we thought was the best long term solution, in the rush to reduce the scope of some of the contracts, in Champaign and in the University contract, that stayed the same, in Urbana it changed and they just caught that change. There is a cost difference of \$30,000 in the product we actually would prefer them to use. Bob Miles explained the value and advantages of having & using the same product (ease of use, consistency of performance, and the ability to add speed to get them back up with a high degree of reliability). The committee discussed the situation, the cost and product differences.• Bill DeJarnette made a recommendation to approve the change order, Fred Halenar 2nd the motion. The motion was approved and will be sent to the Policy Committee.
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7.

DISCUSSION ITEMS

DISCUSSION	<p>Tasks or Items for the next meeting:</p> <ul style="list-style-type: none">○ Tracy Smith will bring back the Core Design for final approval. <p>Next Meetings:</p> <ul style="list-style-type: none">○ December 27, 2011 City of Champaign Council Chambers, 3:30 PM○ January 10, 2011 City of Champaign Council Chambers, 3:30 PM <p>Audience Participation:</p> <ul style="list-style-type: none">○ None <p>Committee Member Comments or Announcements:</p> <ul style="list-style-type: none">○ None <p>Adjournment – Fred Halenar motioned to adjourn. Tony Vandeventer 2nd. Meeting adjourned.</p>
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Proposed UC2B Core Design



- 2 Aggregation Switches (Adtran)
- 2 ISP Routers
- 2 Peering Routers
- 4 Collection Switch/Routers
- Servers, IPAM Appliance, Monitoring Software

Functional - Vertical Divisions of Work

Sub-Package A1
Champaign Anchors
Outside Work.
(Includes splicing & terminating the fiber inside the building.)

Sub-Package B1
Urbana Anchors
Outside Work.
(Includes splicing & terminating the fiber inside the building.)

Sub-Package C1
All Fiber-to-the-Premise locations
Outside Work. (No splicing required.
Fiber coiled at outside of building.)

**Vertical Package 1
Outside Work**

Design & install fiber from the curb to the building and restore landscaping, sidewalks and driveways to previous states.

Sub-Package A2
Champaign & Savoy Anchors
Inside Work.
(Includes splicing.)

Sub-Package B2
Urbana Anchors
Inside Work.
(Includes splicing.)

Sub-Package C2
All Fiber-to-the-Premise locations
Inside Work.
(No splicing required.)

**Vertical Package 2
Inside Work**

Design & install copper and fiber inside cabling. Configure UC2B Optical Network Terminal (ONT), Wi-Fi & Gateway. Configure customer's Internet-capable wired and wireless devices.

Horizontal Package A

All 132 Champaign/Savoy Anchor & IRU Locations. 9 have multiple Anchors. None have existing fiber. 101 require splicing. Also includes up to 144 MDU & MTU units in 13 buildings with interior hallways. All MDU and MTU buildings will require splicing.

Horizontal Package B

All 84 Urbana Anchor & IRU Locations. 13 have multiple Anchors. 24 have existing fiber. 64 require splicing. Also includes up to 112 MDU & MTU units in 16 buildings with interior hallways. All MDU and MTU buildings will require splicing.

Horizontal Package C

Fiber Distribution Hub Service Areas 1-12. An estimated 2,356 total single family, single business, mobile home, MDU/MTU or single Anchor locations. None have existing fiber. None require splicing. Only includes MDU and MTU locations with no interior hallways.

Proposed divisions of work for UC2B Fiber-to-the-Premise (FTTP) construction and equipment installation



**Urbana-Champaign
Big Broadband**

Geographic - Horizontal Divisions of Work

UC2B FTTP RFP - Final Scoring of Combinations

Combo #	Winning Sub Packages	Component Price	Total Price	Component Diversity %	Average Diversity %	Price Points	Diversity Points	Total Points	
	A	All of Everything	\$ 2,000,000	\$ 2,000,000	10%	10%	750.00	71.43	821.43
	B	All Outside - Vert-1	\$ 1,100,000	\$ 2,200,000	30%	35%	675.00	250.00	925.00
		All Inside - Vert-2	\$ 1,100,000		40%				
	C	All Champaign Anchors - Horiz-A	\$ 200,000	\$ 2,225,000	10%	20%	665.63	142.86	808.48
		All Urbana Anchors - Horiz-B	\$ 125,000		20%				
		All FTTP - Horiz-C	\$ 1,900,000		30%				
	D	All Anchors Outside & Inside - Horiz-A & B	\$ 300,000	\$ 2,580,000	15%	20%	532.50	142.86	675.36
		All FTTP Outside & Inside - Horiz-C	\$ 2,280,000		25%				
	E	All Anchors Outside - A1 & B1	\$ 225,000	\$ 2,350,000	10%	18%	618.75	125.00	743.75
		All Anchors Inside - B2 & B2	\$ 125,000		25%				
		All FTTP Outside - C1	\$ 1,300,000		15%				
		All FTTP Inside - C2	\$ 700,000		20%				
	F	All Anchors Outside - A1 & B1	\$ 225,000	\$ 2,630,000	10%	20%	513.75	142.86	656.61
		All Anchors Inside - B2 & B2	\$ 125,000		25%				
		All FTTP Outside & Inside - Horiz-C	\$ 2,280,000		25%				
	G	All Anchors Outside & Inside - Horiz-A & B	\$ 300,000	\$ 2,300,000	15%	17%	637.50	119.05	756.55
		All FTTP Outside - C1	\$ 1,300,000		15%				
		All FTTP Inside - C2	\$ 700,000		20%				
	H	Champaign Anchors Outside - A1	\$ 165,000	\$ 2,460,000	10%	17%	577.50	119.05	696.55
		Champaign Anchors Inside - A2	\$ 95,000		15%				
		Urbana Anchors Outside - B1	\$ 130,000		10%				
		Urbana Anchors Outside - B2	\$ 70,000		20%				
		FTTP Outside - C1	\$ 1,300,000		15%				
		FTTP Inside - C2	\$ 700,000		30%				

Least Cost: \$ 2,000,000 Largest %: 35%

Overview and Recommendations for the UC2B Core Network Design

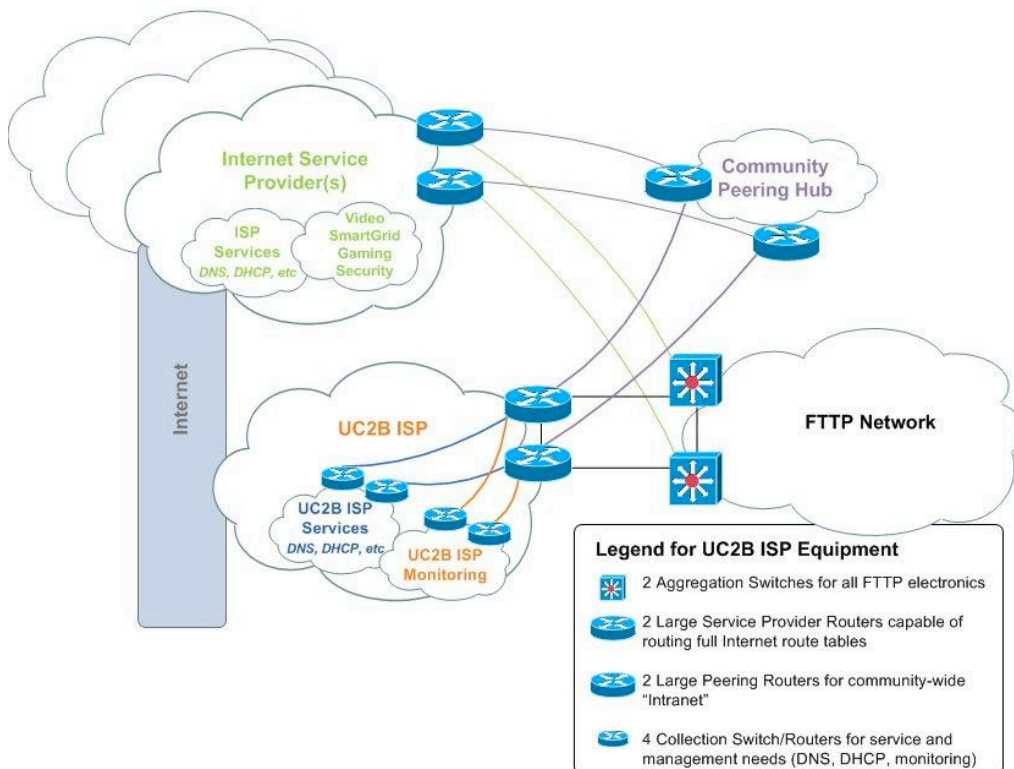
OBJECTIVE

To leverage both University resources and equipment contracts to build a redundant, highly available core network infrastructure from which services, including the UC2B Internet service and services from other providers, will be offered to UC2B subscribers.

BACKGROUND

To launch the UC2B ecosystem, a baseline Internet service is required. For a minimum of 2 years, the University of Illinois has agreed to manage the core of the UC2B Internet Service Provider (ISP) service. As such, network equipment must be procured.

DESIGN DETAIL



DESIGN EXPLANATION

The FTTP "cloud" will aggregate into two switches located in diverse UC2B core node sites. Any provider (service, application, etc.) will deliver services to UC2B-connected locations (homes, anchors, businesses) via the FTTP aggregation switches. These are the entry point for any provider to any UC2B subscriber. To maximize availability, all providers will be required to redundantly connect to the UC2B network via these two aggregation switches.

The community-wide "Intranet", which is unique to the UC2B project, is where all UC2B providers will also connect. This community peering hub will provide unfettered access between all UC2B connected entities. For example, students will have direct access to local schools, libraries, and

the University regardless of their Internet provider on the UC2B network. The community peering hub will consist of two "service provider class" routers located within each UC2B core node site (for redundancy).

The Internet service provided courtesy of UC2B will be leveraging the University for commodity Internet bandwidth. Again, to provide a resilient service, two "service provider class" routers will be located within each UC2B core node site (for redundancy).

As part of the UC2B Internet service, critical supporting services like DNS and DHCP are required. Two smaller routers are required for supporting services.

Out of band management of this network is critical. Two smaller routers are necessary for both management access and supporting tools, like network monitoring.

DESIGN GOALS

While the University has agreed to manage the core network equipment for 2 years, management afterwards has not been decided. To ensure that the appropriate class of equipment is procured and to facilitate an easy management transfer, we recommend Cisco as the vendor. Their software is considered to be "universal".

The University has negotiated contracts with all of the "service provider class" vendors. Due to the volume of equipment procured annually, the discounts extended to the University far surpass what would be extended for a separate UC2B bid for 8 routers and 2 switches. It is recommended that the existing University contracts be utilized for the procurement of the following:

TYPE	QUANTITY	MODEL	PRICE
Aggregation Switch	2		
Service Provider Routers	2	ASR-9006	\$132,000
Community Peering Routers	2	ASR-9006	\$85,000
Service Routers	2	3750X	\$22,000
Management Routers	2	3750X	\$22,000

SUMMARY & RECOMMENDATION

A UC2B Internet service offering is essential to attract subscribers. The UC2B Internet service should be delivered via robust, redundant, "carrier class" equipment. The University has existing contracts for the desired class of device. In addition to availability and cost, manageability is also a factor. To facilitate the potential management transition after 2 years, seeking "universal software" defines the equipment vendor to be Cisco. The recommendation is to proceed with purchasing the UC2B core equipment immediately such that infrastructure exists to provide service to subscribers beginning as early as March.