Illinois Century Network

Policy Committee
Meeting Agenda

October 20, 2014
1:00 p.m.

ILLINOIS CENTURY NETWORK ™
Central Management Services

WWW.ILLINOIS.NET

ILLINOIS CENTURY NETWORK
POLICY COMMITTEE
MEETING AGENDA
October 20, 2014
1:00 p.m.

Next Meeting
(Pending Approval)
January 20, 2015
Community College Board, Springfield
James R. Thompson Center, Chicago

ILLINOIS CENTURY NETWORK

OCTOBER 20, 2014 POLICY COMMITTEE MINUTES

Submitted for:　　　　Action

Summary:　　　　Distribution of the July 21, 2014 minutes for review by the Policy Committee.

Action Requested:　　　　Adoption of the July 21, 2014 minutes.

Recommended Motion:　　　　*The ICN Policy Committee adopts the July 21, 2014 minutes with any edits as noted.*

ILLINOIS CENTURY NETWORK

JULY 21, 2014 POLICY COMMITTEE MINUTES

Greg Wass called the meeting to order at 1:05 PM.

Members Present (Springfield):

Greg Wass, Central Management Services	Lori Sorenson, Central Management Services
Bonnie Styles, Illinois State Museum	Kathleen Bloomberg, Illinois State Library
Todd Jorns, Illinois Community College Board	Vicki DeWitt, Illinois Principals Association

Members on audio bridge:

Chet Olson, Mayor of Rochelle	Alan Phillips, Board of Higher Education
Mike Dickson, Consultant	Brent Engelman, Board of Education

Members absent:

Sean Vinck, Office of the Governor	

Staff and guests:

Robin Woodsome, Central Management Services	Tom Oseland, Central Management Services
Deborah Kelley, Central Management Services	Essam El-Beik, Central Management Services
Carla Poani, AT&T	Frank Whitney, AT&T

Minutes
Greg Wass introduced the first item on the agenda, approval of the minutes from the April 21, 2014 meeting. A motion was made by Bonnie Styles to accept the minutes. The motion was seconded by Kathleen Bloomberg. The motion carried.

IBOP
Lori reported that the closeout has been extended to August. All requested documentation has been submitted to the NTIA and is under review.

E-rate
Greg mentioned the FCC Intergovernmental Committee met last week in Washington. The new order will come out next week. There are many decisions to be made.

Tom Oseland reported that the 2013 funding year ended June 30th with 110 of 119 customer applications approved. Most customers are waiting for the final June bills to make their final claims. CMS should receive around $250,000.

After changes to the process, the 2014 review process is less time consuming. There were 162 applications for $1.3 million, and of those, 117 are approved.

As discussed at the last meeting, two charts are included on the report tracking funding as a service provider and as a recipient.

AET Membership
Lori reported this item. The Advanced Engineering Taskforce is the group that works with ICN staff to develop network operations policies, services and rate recommendations, and plan for new technology.

The members whose terms have expired and are seeking reappointment include Alan Pfeifer with Sauk Valley Community College, Brian Murphy with Eastern Illinois University, Troy Brown with Heartland Library Systems, and Robert Dulski with Chicago Zoological Society. In addition to those reappointments, we would like to recommend Anita Nikolich with the National Science Foundation. She is based in Illinois and was recommended by Joel Mambretti.

The AET is not seeking reappointment for Steve Menken – he has taken a job with the University of Oregon. Ken Davis and Dennis Gallo have resigned and retired respectively.

The membership and attendance matrices were provided. There is a balance across membership groups and geography. We are always open to membership recommendations and meeting attendance is open to the public.

Kathleen Bloomberg made a motion to reappoint the four members and appoint Anita Nikolich to 3-year terms. The motion was seconded by Todd Jorns. The motion carried.

Customer Profile
Robin Woodsome provided an overview of ICN customers. He reported that when customers leave the ICN, an interview is conducted to see what reasons are behind the decision. Staff has completed a review of that information and the reasons for leaving the ICN can be summarized in three categories: costs, facility closings/mergers, and moved to an IBOP partner (iFiber and Clearwave).

There are two categories within costs – ICN costs and costs in general. ICN costs represent those going to a similar service (fiber based metro Ethernet service) at a lower cost. The other group includes customers that can't afford the service at all – typically smaller schools or libraries. They usually go to a DSL or cable modem provider with no speed guarantee. The sites that left for another BTOP partner represent sites that completely left ICN and are receiving all services from a partner. The agenda packet included a grid that shows a breakdown of the numbers by category. This does not include state agencies.

The total current number of CAIs is over 6,000. Some of our studies use individual sites and some look at the entire organization. For this study, we looked at individual sites.

Despite the fact that the ICN is a higher quality network than most commercial options, we are seeing customers leaving the network for a lesser quality service if the price is less. Many of these customers report dissatisfaction with the alternate service. A small percentage of customers return to the ICN at the end of their service contract; however, others learn to live with the less than ideal service because of budget limitations. At least 50% of our customers never leave the network. CMS is working to hire a marketing person to help educate the schools and libraries.

When ICN was first started, most schools and libraries had no other choice for Internet services. Over the years as customers began to have other options for a service provider, the ICN remained the best cost and best quality. The government's investment in broadband networks has resulted in a significant price reduction for Internet services and with the build out of open access networks; the number of service providers is growing.

The report also shows the number of customers only use the bandwidth subsidized by the state. For this study, we looked at organizations since that is how the allocation is made. These are only primary constituents.

Budget
Lori reported that the 2014 budget figures are projected as there could be a couple more fiscal year 2014 invoices still to pay. Based on the latest projections, the fiscal year will end with a positive balance of $3.7 million as a result of the $5 million in E-rate funding. This is the last payment as a recipient.

For fiscal year 2015, CMS requested $6 million but received $1 million in general revenue funds to subsidize bandwidth for the schools, libraries, museums, community colleges, etc. Greg reported that CMS would like to engage the state agency Policy Committee members in submitting the fiscal year 2016 budget request. Kathleen Bloomberg mentioned with the tight budgets, along with union mandated increases, there is no room available in the agency budgets to add another item. Alan Phillips commented that we need to have a more comprehensive discussion regarding the approach next year. This year, higher education was cut 12.5% ($248 million). If the tax increase is not extended, it will be twice that much. If users don't collectively come together, it will not succeed.

Greg suggested the budget office could coordinate a meeting with the entities that receive the subsidy and talk this though and make a plan. Then we can bring in the appropriation staff to educate them on what services ICN provides. Maybe we can get the budget analyst to attend the October meeting.

State Funding Allocation
Staff has been reviewing the funding allocation model looking for different ways to take advantage of the large capacity while generating revenue to cover the primary fixed network operating costs. The purpose is to overcome the dwindling appropriation and get everyone on track to get the services they need. To date, the discussions have been internal. It is being shared with the Policy Committee to collect feedback before working through the details with the AET.

Staff applied the current funding allocation model to the $1 million allocation and determined that many of the smaller schools and libraries would result in around 1 Mb of bandwidth.

The ideas under consideration include establishing a membership fee, establishing a minimum purchase of 10 Mb, and offering 5-times the on-net bandwidth.

Staff will work with the AET develop the details and bring it back to the Policy Committee.

Adjournment

A motion was made by Bonnie Styles to adjourn the meeting. The motion was seconded by Vicki DeWitt. The motion carried. The meeting adjourned at 3:05 PM.

ILLINOIS CENTURY NETWORK

ILLINOIS BROADBAND OPPORTUNITY PARTNERSHIP UPDATE

Submitted for: Information

Summary: Provides an update on the Illinois Broadband Opportunity Partnership.

Action Requested: None

Recommended Motion: None

ILLINOIS CENTURY NETWORK

ILLINOIS BROADBAND OPPORTUNITY PARTNERHSIP UPDATE

Project Completion Announcement
On August 1, 2014 Governor Quinn announced the completion of the Illinois Century Network broadband infrastructure project at a ceremony at Illinois State University. The ceremony included remarks from Central Management Services, Illinois State University, Meade Construction, Mavidea Technology Group, City of Bloomington, and McLean County Schools and provided an opportunity to celebrate the success and impact of the project.

US Department of Commerce Project Review
Staff responded to a US Department of Commerce Office of Inspector General review of left over grant equipment. The review includes the entire Broadband Technology Opportunities Program (BTOP) and is not specific to the ICN grant. The review included preparing a list of remaining network equipment and a site visit from the Department of Commerce to physically inspect the equipment and purchasing records. There will be no ICN specific report as an outcome of the review. The information gathered from the ICN review will be included in report that summarizes the findings of the overall BTOP grant program.

Close Out
The project officially closed on August 28, 2014. The NTIA staff is still reviewing the final close out documents.

ILLINOIS CENTURY NETWORK

E-RATE UPDATE

Submitted for:	Information
Summary:	This item provides an update on ICN E-rate funding requests.
Action Requested:	None
Recommended Motion:	None

ILLINOIS CENTURY NETWORK

E-RATE UPDATE

Reimbursements continue to be processed for the 2013 E-rate funding year. To date, approximately $202,557 related to ICN customers' E-rate applications has been disbursed by USAC, the administrators of the E-rate program, through the two methods of claiming reimbursements. One of these methods, the Service Provider Invoice or "SPI", Form 474, is utilized by the service provider to request reimbursement of funds from USAC for invoice discounts given to customers based on approved E-rate funding. Of the figure mentioned above, approximately $114,673 has been collected by ICN. The other method, the Billed Entity Applicant Reimbursement form, or "BEAR" Form 472, is utilized by the applicant to collect reimbursement of funds based on approved E-rate funding. This method is used when the applicant paid for services in full throughout the funding year. The remaining $87,884 of the total $202,557 has been disbursed via the BEAR method. This method of reimbursement is particularly cumbersome for the service provider as they are required to act as the "middle man" for disbursement of the funds by USAC to the applicant. Once the BEAR has been submitted by the applicant and approved by USAC, the funds are transmitted by USAC to the service provider who in turn must pass the funds along to the applicant/customer no later than 20 days after receipt of payment from USAC. There is no compensation provided for administrative costs incurred by the service provider. Thankfully, the recent FCC Report and Order provides for a change in this process. Under the new rules the applicant will be reimbursed directly by USAC.

Since the last Policy Committee meeting, USAC has continued to review and approve 2014 E-rate applications at a rapid pace. Of the 162 applications listing ICN as an Internet service provider, as of this writing 157 of those have completed the review process. One hundred fifty two (152) of these applications were approved for funding with the remaining five (5) not funded, primarily due to cancellation by the applicant for various reasons. The speedier process in place at USAC has benefited the ICN and its customers greatly. It is now possible to begin discounting applicants' invoices much sooner in the year which, in turn, allows for approved 2014-15 E-rate funds to be utilized more quickly. Claims have already been made for 40 customers whose invoices were discounted by approved E-rate funds beginning with the July billing cycle. A total of approximately $16,201 has already been claimed by ICN for reimbursement of invoice discounts provided to E-rate approved customers. By utilizing this process, the SPI method described above, ICN staff are able to more quickly establish the flow of E-rate funds while at the same time avoid the much more cumbersome and time-consuming BEAR process. Many customers will continue to choose the BEAR reimbursement claim method. It's too soon in the funding year to accurately predict how much funding will be requested through this process. However, based on 2013 figures along with more focus on broadband services, it's possible that the funding utilized throughout the year could possibly be as much as two to four times higher than the 2013 funding year.

The chart on the following page summarizes activity for the ICN as a service provider in the E-rate program beginning with the 2013 funding year; the first year in which ICN participated as an Internet service provider.

Service Provider Activity

Funding Year	Total apps listing ICN	Total apps approved for funding (to date)	Total dollar amount approved (to date)	Total dollar amount claimed for support (to date)
Year 16 (2013)	119	110	$1,323,108	$202,557
Year 17 (2014)	162	152	$1,845,709	$16,201
Totals	N/A	N/A	**$3,168,817**	**$218,758**

The chart below summarizes ICN E-rate application history for each funding year up to 2012.

Applicant Activity

Funding Year	Received
Year 3 (2000)	$2,137,765
Year 4 (2001)	$2,522,559
Year 5 (2002)	$4,996,227
Year 6 (2003)	$4,644,171
Year 7 (2004)	$2,497,427
Year 8 (2005)	$2,424,567
Year 9 (2006)	$982,392
Year 10 (2007)	$953,998
Year 11 (2008)	$799,251
Year 12 (2009)	$1,339,032
Year 13 (2010)	$2,982,199
Year 14 (2011)	$2,561,151
Year 15 (2012)	$2,520,377
Totals	**$31,361,116**

- $2B of additional E-rate funding available for E-rate funding years 2015 and 2016
- The additional funding is targeted to schools and libraries internal Wi-Fi networks
- Application process simplified and applicant burden reduced
- Non-broadband services eliminated, voice services phased out

New E-Rate Rules Released July 23, 2014
On July 23, 2014 the Federal Communications Commission (FCC) released a 176 page 'Report and Order' that establishes new rules for the E-rate program for schools and libraries. These rules will apply to E-rate funding year 2015 and subsequent years. E-rate funding year 2015 refers to services funded from July 1, 2015 to June 30, 2016.

These rules are part of a process to modernize the E-rate program. Over the past year and a half the FCC has requested input from stakeholders that has helped in formulating the rules. Illinois Department of Central Management Services has provided input to the FCC as well as meeting with FCC staff to help guide the rules to address Illinois' needs.

The E-rate rule changes are very significant and affect all Illinois schools and libraries eligible for E-rate funds.

Three Goals
There are three goals stated in the report and order that all the rule changes relate to. The goals are:

- Ensuring Affordable Access to High Speed Broadband sufficient to support digital learning in schools and robust connectivity for all libraries
- Maximizing the Cost Effectiveness of Spending for E-rate Supported Purchases
- Making the E-rate Application Process and other E-rate Processes Fast, Simple and Efficient

Although these rules are broad and general in nature, there is clear focus in the report and order on upgrading schools and libraries "internal connections". Internal connections refers to those broadband connections within the school or library property line that deliver broadband to the student or library patron device, in other words, the broadband connection is from the school or library property line to the device. External connections are those connections that deliver broadband to the school or library. External connections are typically provided by a service provider and internal connections are typically installed and operated by the school or library or a sub-contractor of the school or library. It is important to understand the distinction between internal connections and external connections, since E-rate splits funding into these two major categories.

$2B Additional Funding Available for Internal Connections
The FCC has targeted $1B per year for the support of internal connections. For funding year 2015 and 2016 an additional $1B per year is made available to applicants above the standard E-rate funds available. While no additional funding is being made available for funding year 2017, the FCC expects that the elimination of non-

broadband services and phase out of support for voice service will result in monies freed up to provide $1B for internal connections in funding year 2017 and $1B each year in subsequent years.

With the report and order, the FCC are encouraging schools and libraries to upgrade their internal connections and are facilitating this. With the additional funding, many more schools and libraries than in the past will be eligible to receive internal connection funding. Also schools and libraries were required to develop a Technology Plan to receive internal connection funding, with the new E-rate rule changes this requirement has been removed, significantly easing the application burden.

For those schools and libraries that apply in funding year 2015 or funding year 2016 an internal connection budget of $150 per student for a school and $2.30 per square foot for a library applies over a five year period. For example, an average classroom of 17 students would be eligible for a budget of $2,550 per classroom over a five year period to upgrade their internal connections. For small schools and libraries, there is a funding floor of $9,200, meaning that very small schools and libraries will have a budget of at least $9,200 for their internal connection upgrades.

For internal connections, basic maintenance continues to be funded and managed Wi-Fi is a new service that is eligible for E-rate support. This allows a school or library to completely outsource the installation and operation of their internal connection network.

Importance of Applying in Funding Year 2015
An important point to note is that the FCC has designated funding years 2015 and 2016 as test years, and if there are no rule changes, schools and libraries will revert back to the 2-in-5 rule for internal connection funding for those schools and libraries that did not receive internal connection funding in funding years 2015 and 2016. Prior to 2015, the 2-in-5 rules states that an applicant can only receive internal connection funding in two of every five funding years. With the budget approach of $150 per school student or $2.30 per library square foot the applicant can receive funding multiple times over 5 years until exhaustion of their budget.

In addition if there are no FCC rule changes, applicants that did not receive E-rate funding for basic maintenance, managed Wi-Fi and caching in funding year 2015 or 2016 will not be able to apply for these services in funding year 2017. Thus applicants that require support in these areas are encouraged to apply for E-rate funding in funding year 2015.

Although the FCC has a target of $1B per year for internal connection funding, the FCC will still ensure all valid requests for external connection funding will be satisfied, even if this means diverting funds away from the $1B for internal connections. Thus, the FCC will continue to fund all valid external connection requests, as it has done in the past. This is the reason why in the past, internal connection funds have been very limited.

Summary and Call to Action
A new opportunity has arisen for schools and libraries. There is additional significant FCC funding available for internal connection installs and upgrades, meaning that many more schools and libraries will be funded for internal connections in funding year 2015. With no technology plan requirement, the application burden for schools and libraries has reduced significantly. Managed Wi-Fi being introduced

as an eligible service in funding year 2015 allows schools and libraries to completely outsource the installation, operation and management of their internal Wi-Fi network.

We encourage all schools and libraries in the state to apply for funding for both their internal connections and external connections if they can fund their required matching component. For funding year 2015 the E-rate bid process is open now and will close approximately March 2015.
This write up thus far has highlighted some key rule changes in the July 2014 Report and Order. A brief summary of the rule changes is given below followed by recommendations for further reading.

Brief Summary of all the Rule Changes

- Goal 1: Ensuring Affordable Access to High Speed Broadband sufficient to support digital learning in schools and robust connectivity for all libraries
    - $1B target for category 2 (internal connections) services
    - Minimum contribution rate for category 2 services increased from 10% to 15%
    - Budget for category 2 services introduced: $150 per school student and $2.30 per library square foot with a funding floor of $9,200 for schools and libraries
    - E-rate support for category 2 non-broadband services eliminated and for voice services phased out
    - E-rate support for basic maintenance, managed Wi-Fi and caching for funding years 2015 and 2016

- Goal 2: Maximizing the Cost Effectiveness of Spending for E-rate Supported Purchases
    - Pricing will be publicly available on the Universal Service Administrative Company (USAC) website
    - Preferred master contracts introduced exempting applicants from having to submit the E-rate form 470
    - Consortium lead may seek bids on behalf of its members even if consortium lead does not have authority to purchase services for its members

- Goal 3: Making the E-rate Application Process and other E-rate Processes Fast, Simple and Efficient
    - Application process for multi-year contracts streamlined. Only need to submit a complete FCC Form 471 for the first funding year.
    - Technology plan requirement eliminated for category 2 services
    - Business class Internet services with at least 100Mb/s downstream and 10Mb/s upstream for $3,600 or less annually is exempt from form 470 bid requirements
    - Signed contract requirement is eased. Now, actual signatures are not mandatary.
    - Documents are required to be filed electronically.
    - Direct connections between schools and libraries possible on approval of waiver request
    - District wide discount rates adopted
    - Definition of "Rural" updated
    - Schools and school districts participating in the Community Eligibility Provision (CEP) of the National School Lunch Program (NSLP) can use the same approach for determining their E-rate discount as they use for their NSLP reimbursement rate
    - When school wide income surveys are used, only those surveys actually received are taken into account

- o An applicant can receive reimbursement directly from USAC, rather than via the provider
- o Document retention period extended to 10 years from 5 years
- o Tribal consultation, training and outreach program to be implemented
- o Appeals should be filed with USAC before seeking FCC review

Further Reading

For more detail on the rules changes a 9 page summary has been produced by USAC, available at http://www.usac.org/sl/tools/modernization-order/default.aspx at the link "E-rate Modernization Order Summary". The 176 page E-rate Modernization Order is also at this link as well as E-rate training materials, draft forms for funding year 2015 and the draft eligible services list.

ILLINOIS CENTURY NETWORK

PROPOSED RATE CHANGES

Submitted for:	Action
Summary:	This item provides a summary of the ICN rate analysis.
Action Requested:	That the Policy Committee approve the adoption and implementation of the listed recommendations for ICN broadband services and rates.
Recommended Motion:	*The Policy Committee approves the adoption and implementation of the listed recommendations for ICN broadband services and rates.*

ILLINOIS CENTURY NETWORK

PROPOSED RATES CHANGES

The Illinois Century Network is facing a number of challenges that include (i) reduction in state appropriation from $5M to $1M for fiscal year 2015, with further reduction possible (ii) downward pressure on commodity internet market price and (iii) downward trend in the number of connected customers. To address these challenges and maintain adequate cost recovery we are proposing a number of recommendations impacting the free allocation and pricing. These recommendations are given below and further detailed in the accompanying slide deck (see Attachment 1):

1. **Remove the free allocation – if fiscal year 2016 state appropriation is $1M or less** – the reduction in state appropriation does not provide sufficient funds for an equitable free allocation scheme. For customers purchasing a large quantity of bandwidth the impact should be minimal or zero, due to the price reductions we are proposing. To minimize the impact, we strongly encourage K-12 schools and libraries to apply for E-rate reimbursement. ICN is assisting customers with E-rate by offering training and assistance in broadband connection architectures.

2. **Internet egress price reduction** – the proposed changes to our Internet egress pricing is in line with market pricing. The price reduction is more significant as customers purchase at least 100 Mb. This encourages customers to pay more for significantly more bandwidth - in line with the desired goal of ICN to promote high bandwidth use amongst customers

3. **Introduce minimum purchase amount of $140 for 10 Mb** – a minimum purchase amount of $140 for 10 Mb is introduced. This moves many customers paying less than $100 per month to at least $140. This approach also encourages customers to move from T1 circuits to high speed metro Ethernet circuits.

4. **Introduce on-net service offering providing increased bandwidth (5x)** – customer data that stays on-net (i.e. remains within the ICN network) will have more bandwidth available than customer data exiting the ICN network. This enables customers to take advantage of on-net cloud services without purchasing more bandwidth.

5. **Allow ICN to act as the end-to-end supplier of broadband connections to primary customers** – allowing ICN to act as the end-to-end supplier of broadband connections to primary customers simplifies the ordering and support process for customers, simplifies the E-rate process and consolidates invoice processing and contract management across customers.

6. **Updated commercial pricing** – pricing updated for commercial customers to remain in-line with market.

Recommended Motion: *The Policy Committee approves the adoption and implementation of the listed recommendations for ICN broadband services and rates.*

ILLINOIS CENTURY NETWORK

2015 MEETING SCHEDULE

Submitted for: Action

Summary: This item seeks to review the meeting schedule for the next year

Action Requested: The ICN Policy Committee adopts the calendar year 2015 meeting schedule as presented.

Recommended Motion: *The ICN Policy Committee adopts the 2015 meeting schedule.*

ILLINOIS CENTURY NETWORK

2015 POLICY COMMITTEE MEETING SCHEUDLE

The schedule is based on four meetings per year, occurring on the third Monday of the months of January, April, July and October. If the Monday happens to be a holiday, the meeting will occur on Tuesday. Based on this formula, the schedule for 2015 is as follows:

<div align="center">

January 20, 2015 (Tuesday)
April 20, 2015
July 20, 2015
October 19, 2015

</div>

All meetings will be held in the conference room of the Illinois Community College Board, 401 East Capitol Street, Springfield, IL and at the James R. Thompson Center in Chicago. A conference bridge is also available for those members unable to attend at either location.

Recommended Motion: *The ICN Policy Committee adopts the 2015 meeting schedule*

Attachment 1

Illinois Century Network

ICN Policy Committee Meeting October 20, 2014

v1.2

- The following slides describe recommended actions for ICN given the current landscape that includes

    o Reduction in state appropriation

    o Downward trend in number of connected customers

    o Downward trend in Internet egress market prices

    o Many customers still connected to ICN via T1

    o Bandwidth demands increasing exponentially

    o Migration of applications and services to 'the cloud'

1. Remove the free allocation - if fiscal year 2016 state appropriation is $1M or less

2. Internet egress price reduction

3. Introduce minimum purchase amount of $140 for 10 Mb

4. Introduce on-net service offering providing increased bandwidth (5x)

5. Allow ICN to act as the end-to-end supplier of broadband connections to primary customers

6. Update commercial pricing for Internet egress and 10 G ethernet circuit

1. Remove the free allocation - if fiscal year 2016 state appropriation is $1M or less

   - $1M or less state appropriation does not provide a practical allocation mechanism

   - For large bandwidth users, impact will be reduced or zero due to proposed Internet egress price reduction

   - ICN will continue to encourage all eligible schools and libraries to take advantage of E-rate reimbursements

2. Internet egress price reduction

ICN Broadband Service with Internet Egress		
Service Level (Mbps)	Current Pricing per Mbps	Proposed Pricing per Mbps
10	$14.00	$14.00
20	$13.50	$12.00
50	$11.50	$9.00
100	$10.00	$6.00
200	$9.75	$5.50
500	$9.50	$5.00
1000	$9.00	$4.50

o Brings pricing in line with market

o Price reduction more significant at 100Mb/s and greater. Encourages users to pay more for significantly more bandwidth – in line with the desired goal of ICN to promote high bandwidth use amongst customers

o Simplified pricing via removal of port fee

Revenue at different take rates for each pricing scenario

With current pricing kept constant, a 20% - 40% take rate is expected

With a price reduction, a 60% - 80% take rate is expected

Take Rate		20%	40%	60%	80%	100%
Price Scenario 1	Primary Revenue	$1,140,687	$2,281,374	$3,422,061	$4,562,748	$5,703,435
	Non-Primary Revenue	$3,816,531	$3,816,531	$3,816,531	$3,816,531	$3,816,531
($14 to $9, $30)	Total Revenue	$4,957,218	$6,097,905	$7,238,592	$8,379,279	$9,519,966
Price Scenario 2	Primary Revenue	$1,246,973	$2,493,947	$3,740,920	$4,987,894	$6,234,867
	Non-Primary Revenue	$5,477,883	$5,477,883	$5,477,883	$5,477,883	$5,477,883
($14 to $9, $140)	Total Revenue	$6,724,856	$7,971,830	$9,218,803	$10,465,777	$11,712,750
Price Scenario 3	Primary Revenue	$1,079,904	$2,159,808	$3,239,712	$4,319,616	$5,399,520
	Non-Primary Revenue	$4,646,100	$4,646,100	$4,646,100	$4,646,100	$4,646,100
($14 to $6, $140)	Total Revenue	$5,726,004	$6,805,908	$7,885,812	$8,965,716	$10,045,620
Price Scenario 4	Primary Revenue	$896,521	$1,793,042	$2,689,564	$3,586,085	$4,482,606
	Non-Primary Revenue	$4,089,810	$4,089,810	$4,089,810	$4,089,810	$4,089,810
($14 to $4.50, $140)	Total Revenue	$4,986,331	$5,882,852	$6,779,374	$7,675,895	$8,572,416
Price Scenario 5	Primary Revenue	$816,480	$1,632,960	$2,449,440	$3,265,920	$4,082,400
	Non-Primary Revenue	$3,686,856	$3,686,856	$3,686,856	$3,686,856	$3,686,856
($14 to $3, $140)	Total Revenue	$4,503,336	$5,319,816	$6,136,296	$6,952,776	$7,769,256
Price Scenario 6	Primary Revenue	$625,522	$1,251,043	$1,876,565	$2,502,086	$3,127,608
	Non-Primary Revenue	$2,655,036	$2,655,036	$2,655,036	$2,655,036	$2,655,036
($10 to $2, $140)	Total Revenue	$3,280,558	$3,906,079	$4,531,601	$5,157,122	$5,782,644
Price Scenario 7	Primary Revenue	$1,106,922	$2,213,844	$3,320,766	$4,427,688	$5,534,610
	Non-Primary Revenue	$6,125,970	$6,125,970	$6,125,970	$6,125,970	$6,125,970
($26 to $4.50, $260)	Total Revenue	$7,232,892	$8,339,814	$9,446,736	$10,553,658	$11,660,580

Revenue growth assuming growth in bandwidth and subscribers at a 20% - 30% level.

Growth Rate	**Fiscal Year**					
	2016	2017	2018	2019	2020	2021
5%	$6,779,374	$7,118,343	$7,474,260	$7,847,973	$8,240,371	$8,652,390
10%	$6,779,374	$7,457,311	$8,203,043	$9,023,347	$9,925,681	$10,918,250
15%	$6,779,374	$7,796,280	$8,965,722	$10,310,580	$11,857,167	$13,635,743
20%	$6,779,374	$8,135,249	$9,762,299	$11,714,758	$14,057,710	$16,869,252
25%	$6,779,374	$8,474,218	$10,592,772	$13,240,965	$16,551,206	$20,689,008
30%	$6,779,374	$8,813,186	$11,457,142	$14,894,285	$19,362,570	$25,171,341
40%	$6,779,374	$9,491,124	$13,287,573	$18,602,602	$26,043,643	$36,461,100

- Total ICN Revenue with 100% and 60% take rate, using Price Scenario 4 - $14 - $4.50

With Price Scenario 4 ($14 to $4.50)

	Take Rate of Primary Customers	
Revenues	**100%**	**60%**
State Appropriation	$1,000,000	$1,000,000
Primary & Non-Primary Customers	$8,572,416	$6,779,374
Private Customers	$3,100,000	$3,100,000
Total Revenue	$12,672,416	$10,879,374

3. Introduce minimum purchase amount of $140 for 10 Mb

- All customers pay at least $140 per month and have 10 Mb available

- Encourages customers to move from low bandwidth circuits (T1) to Metro Ethernet

- Helps ICN cost recovery in serving low bandwidth users

4. Introduce on-net service offering providing increased bandwidth (5x)

	ICN Broadband Service with Internet Egress		
Service Level (Mbps)	Current Pricing per Mbps	Proposed Pricing per Mbps	Effective Price per Mbps with 5x On-net
10	$14.00	$14.00	$2.33
20	$13.50	$12.00	$2.00
50	$11.50	$9.00	$1.50
100	$10.00	$6.00	$1.00
200	$9.75	$5.50	$0.92
500	$9.50	$5.00	$0.83
1000	$9.00	$4.50	$0.75

- Service offers increased bandwidth (5x) for on-net traffic – traffic that stays within the ICN network

- Reduces effective price per Mb

- Service offering takes advantage of the significant user traffic that stays on-net

5. Allow ICN to act as the end-to-end supplier of broadband connections to primary customers

- Simplifies ordering process for customers, particularly the E-rate application process

- Simplifies support process for customers, only needing to deal with one service provider

- Invoice processing, contract management consolidated by ICN across customers

6. Updated commercial pricing

ICN Commercial Broadband Service with Internet Egress		
Service Level (Mbps)	Current Pricing per Mbps	Proposed Pricing per Mbps
10	$25.00	$18.00
20	$24.00	$15.50
50	$21.00	$11.50
100	$19.00	$8.00
200	$18.00	$7.00
500	$17.00	$6.50
1000	$16.00	$6.00

Current Pricing for 10GE circuit	Proposed Pricing for 10GE circuit
$8,750.00	$3,500.00

○ Commercial Internet egress pricing aligned with anchor institution pricing with approximately 30% mark up

○ In line with market pricing