

ILLINOIS CENTURY NETWORK
COST RECOVERY – FISCAL YEAR 2006

Submitted for: Information

Summary: Staff recommendations for fiscal year 2006 cost recovery to be forwarded to BCCS/CMS management for review.

Action Requested: None

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In 2002 the ICN implemented cost recovery to ensure the availability of reliable bandwidth in light of increased utilization and limited financial resources. The policy provides a vehicle for non-primary constituents to purchase bandwidth to connect to the ICN and a financial incentive for larger bandwidth users, primarily higher education, to shape their bandwidth. Keeping with the commitment to notify constituents of changes in bandwidth pricing and/or bandwidth allocation, with enough lead time for institutional planning, this item serves to outline several considerations impacting cost recovery for fiscal year 2006. The usual practice has been to notify constituents in November of changes that will become effective the following fiscal year, (July 1 – June 30). Most primary constituents prepare their budgets in early spring, so this timeline provides opportunity for technical and fiscal planning.

Bandwidth Allocation and Pricing

Due in large part to advanced planning and strategic negotiations with vendors, the ICN has been able to take advantage of discounted pricing for Internet egress and cost-saving upgrades to the network backbone. These cost savings have an increasing importance as the ICN/BCCS consolidation will result in an increase both in the number of constituents and the bandwidth being utilized. It is also important to note that the addition of the state agency constituents allows the ICN bandwidth allocation and pricing to remain stable during the initial phases of the consolidation. Therefore, ICN constituents will continue to receive baseline bandwidth at the current fiscal year 2005 allocation and that costs for additional bandwidth will also remain at the current price.

The fiscal year 2006 bandwidth allocation for primary constituents is reflected in Table 1:

Table 1
Baseline Bandwidth Allocation

Baseline Transit Amounts for Primary Constituent Direct Connections		
Institution(s) (FTE) Headcount	ICN Provided Base Bandwidth/Transit (Mbps)	Total Bandwidth
Less than 1,000	1.5 Mbps	1.5 Mbps

1,000 – 13,999	1.5 Mbps per 1,000 Enrollment or FTE	3 – 21 Mbps
14,000 – 22,000	1.0 Mbps per 1,000 Enrollment or FTE	22 – 30 Mbps
Additional Bandwidth Costs	Purchase at Fiscal Year 2006 Cost Recovery Rates listed below	Over 30 Mbps

Table 2 reflects the fiscal year 2006 bandwidth pricing:

Table 2
FISCAL YEAR 2006 BANDWIDTH PRICING

Fiscal Year 2006 Bandwidth Pricing	
Bandwidth Available	Fiscal Year 2006 Cost per Mbps
Less than 10 Mbps	\$250
10 - 24 Mbps	\$225
25 - 44 Mbps	\$200
45 - 99 Mbps	\$175
100 Mbps and above	\$150

Based on feedback received at the 2004 ICN informational sessions and recommendations from the Advanced Engineering Taskforce, there are several other opportunities that will be investigated as the BCCS/ICN consolidation continues. Seasonal fluctuations in Internet egress utilization, E-rate benefits, local aggregation of network traffic, and baseline bandwidth allocation are among the issues that will be addressed during the coming year.

Internet Egress

Several educational institutions, primarily those with residential traffic, have requested that the ICN investigate an option whereby egress is reduced during periods of lower utilization, i.e. summer session. The ICN has been actively pursuing options with egress providers to provide constituents with the ability to reduce Internet egress, and consequently cost, during times of lower utilization. The ability to implement a policy that provides this flexibility will depend on the final negotiations with the egress providers and the ability of ICN and BCCS/CMS to develop the policies and business rules to support this fluctuation.

E-rate Benefits

Every year, on behalf of all ICN constituents, the ICN files a network E-rate application to help reduce the costs of supporting the shared backbone. E-rate participation is voluntary and each constituent that does participate helps to increase the potential savings for all constituents, even for those who do not wish to participate – all ICN constituents benefit from the network E-rate filing. As an incentive for participation, and subsequently lower overall costs, ICN/BCCS management will consider the means by which those constituents who do participate could potentially receive a greater benefit than those who do not. Establishing what the benefit might be and how it would be administered are issues on the table that the ICN/BCCS team will be looking at for the future.

Local Traffic Aggregation

One of the recommendations from the 2004 report of the Advanced Engineering Taskforce was for the ICN technical design engineers to revisit the pricing structure for those constituents who were taking advantage of local private fiber – community networks. Under the current pricing formula, constituents who are connected indirectly in this manner are penalized by doing so, in that each constituent is only allowed bandwidth equal to the aggregate allocation as opposed to what each would receive if they were to connect individually. This conservative formula for calculating baseline bandwidth was deemed to be necessary at the time that cost recover was implemented. During the 2004 Regional Information Sessions, many constituents pointed out the disparity of this formula indicating that it was counterproductive for those who wanted to take part in “community networking” opportunities, and consequently have access to more and provide additional access for their constituents. In response to these suggestions, ICN/BCCS, in collaboration with the Advanced Engineering Taskforce, will re-evaluate the formula for calculating baseline bandwidth for connections that serve multiple primary constituents.

Baseline Bandwidth Allocation

Dependent upon funding, the allocation of baseline bandwidth for primary constituents will also be reviewed. The network was created and funded to provide constituents with advanced services such as interactive video and access to educational content from remote sources. Many of the educational institutions have been upgrading their internal infrastructure and purchasing hardware to be able to take advantage of these applications, however the current baseline bandwidth allocation for primary constituents is not adequate to accommodate these applications. Additionally, most schools are in no financial position to purchase the bandwidth necessary to support applications such as IP video. The cost of the access circuit(s) is difficult enough for them to fund. This is particularly true for the smallest schools that are only allocated 1.5 megabits of bandwidth and would stand to benefit greatly from educational content that would otherwise be inaccessible due to cost. During the next year, ICN/BCCS will be re-

evaluating the current baseline amounts and cost structure in light of the aggressive pricing negotiations for backbone circuits and egress as well as the migration of State agency traffic to the backbone network.