



# ILLINOIS CENTURY NETWORK

## **POLICY COMMITTEE MEETING AGENDA**

**March 24, 2004**

**2:00 p.m.**

**ILLINOIS CENTURY NETWORK  
POLICY COMMITTEE  
MEETING AGENDA  
March 24, 2004  
2:00 p.m.**

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ILLINOIS CENTURY NETWORK

NOVEMBER 19, 2003 POLICY COMMITTEE MINUTES

**Submitted for:** Action

**Summary:** Distribution of the November 19, 2003 minutes for review by the Policy Committee.

**Action Requested:** Adoption of the November 19, 2003 minutes.

**Recommended Motion:** *The ICN Policy Committee adopts the November 19, 2003 minutes with any edits as noted.*

ILLINOIS CENTURY NETWORK  
NOVEMBER 19, 2003 POLICY COMMITTEE MINUTES

The meeting was called to order by Mary Reynolds.

Members present: Mary Reynolds; Anne Craig, Illinois State Library; Bruce McMillan, State Museum; Virginia McMillan, Illinois Community College Board; Dan LaVista, Illinois Board of Higher Education (via audio); Brian Foster, Illinois Hospital Association; Lugene Finley, Illinois State Board of Education; Alan Burgard, Department of Central Management Services; Jay Carlson, Department of Central Management Services; Scott Kennedy, Governor's Office; Roderick Frazier; and Marianne Stanke (via audio).

Other guests in attendance: Gary Wenger, College of DuPage; Lori Sorenson, Cindi Hitchcock, Kirk Mulvany, Karlin Sink, Lynn Murphy, Ralph Lucia, and Mike Bernico, all from the Illinois Century Network. Other members of the general public, ICN constituents, vendor representatives, and State agencies were present.

1. Policy Committee Minutes

Staff requests the adoption of the September 17, 2003 meeting minutes.

Motion: Virginia McMillan made the motion; Brian Foster seconded.

Virginia moved that the ICN Policy Committee adopt the September 17, 2003 minutes with any edits as noted. (No edits were noted.)

Motion carried.

Staff requests the adoption of the October 31, 2003 special meeting minutes.

Motion: Bruce McMillan made the motion; Dan LaVista seconded.

Bruce moved that the ICN Policy Committee adopt the October 31, 2003 minutes with any edits as noted. (No edits were noted.)

Motion carried.

## 2. Announcements

Mary indicated that she had no announcements.

## 3. Remarks

Lori Sorenson informed the Policy Committee that Neil Matkin had sent a letter to ICN constituents with a status of the transition, prior to his departure. Jay Carlson and Alan Burgard worked with Neil to ensure that the letter provided the constituents with the most up-to-date information available at the time. Neil shared with staff that he had received many notes from constituents expressing their appreciation for the update.

Lori reported that she has been working with CMS on the introduction of legislation that would allow ICN employees to retain their current benefit structure upon completion of the transition in July 2004. Further developments will be shared with the Policy Committee. Lori went on to tell the Policy Committee about the status of the School to Home communication system that was initiated by the Governor's office. The ICN has been working with Illinois State University and the Center for the Application of Information Technologies at Western Illinois University to develop a web-based tool that will facilitate communication between parents and the schools. A beta test will be implemented in January 2004 and the results of the test will be shared with the Policy Committee.

Lori informed the Policy Committee that Mike Bernico, senior network engineer with the ICN, had been invited to the meeting to receive recognition for his work as a technical reviewer for a book recently published by Cisco. The book, titled *Metro Ethernet*, is doing quite well and Mike's contribution is further testament to the technical expertise of the ICN staff. The Policy Committee members congratulated Mike and gave him a round of applause.

## 4. Budget

Lori asked Cindi Hitchcock, ICN fiscal officer to present the budget items. With regards to the fiscal year 2003 Budget, Cindi indicated that the ICN audit is still in process and the budget update is presented as pre-audit. Of particular significance is the removal of the e-rate projection due to the uncertainty of when the e-rate funds will be received. Rather than overstate the estimated income, the ICN has decided to take a more conservative approach and wait until receipt of the e-rate funds before actually including them in the budget. Cindi discussed a few more adjustments that had been made to the budget, particularly in the cost recovery line and in the telecommunications line item which had been reduced due to lower costs negotiated by staff.

Jay Carlson asked if there was some way to provide a statement of reliability of distribution of the e-rate funds from the federal government, stating that it was going to become more critical to have a handle on e-rate funding as it might impact available funds for special projects and other appropriations. Lori responded that the ICN had been

in consultation with other Midwestern states to present the unique characteristics of large consortia, such as the ICN, to the administrators of the e-rate fund, the Universal Service Administration Corporation. Jay thanked Lori for the information and stressed that it was important for the ICN to establish an audit trail and benchmark the trends related to e-rate funding.

Cindi went on to present the fiscal year 2004 budget. Budget projections have been adjusted to reflect the two percent reserve that has been requested of all state agencies. The increase for personnel cost represents the ICN's share of the State University Retirement funds and the group insurance cost which must be paid by the ICN now that payroll is paid from a non GRF account as a result of the Intergovernmental agreement between the ICN, CMS, and BHE. The line item reflects no additional staff or salary increases.

Jay asked if the increase in contractual costs was tracking with the expansion of services to constituents or is it because equipment is coming off warranty and starting to go into maintenance. Cindi indicated that the former was the cause for the increase. Jay then indicated that it should be easy for staff to plot the increase against the expansion of services associated with the network.

Jay further refined his question by asking if the staff was monitoring the potential budgetary impact as equipment ages and comes off warranty and maintenance. Lori replied that staff has been tracking the equipment, using the resources of property control in conjunction with network services. The ICN monitors end-of-life information and makes decisions about replacement and upgrades. This allows the technical staff to drop contractual maintenance and use parts replacement to keep older equipment in operation until it is replaced or no longer utilized. An internal ad hoc committee is looking at this issue as the cost of contractual maintenance continues to increase.

Marianne Stanke interjected that she was glad to hear that staff was monitoring the maintenance contracts and was prepared for unexpected increases, should they occur. Lori said that the fiscal staff had taken this into account and that the budget projections for this item were very conservative.

Virginia McMillan asked for further explanation of the e-rate funds, noting that the ICN had requested \$5.3 million in reimbursement, but that only \$3 million had been approved. Lori explained that the unapproved portion had to do with the way the ICN was contracting for the backbone circuits. The first six months of the year, the circuits were covered by the CMS master contract. The contract was scheduled to expire mid-year and negotiations for a new contract were underway. The e-rate administrators were consulted on the best approach to filing the application given the contract uncertainty. Therefore, an appeal has been filed but it will be several months before any decisions are made.

Cindi went on to present the fiscal year 2005 budget, which is based on level funding through the state appropriation and provides for a two percent reserve, as in fiscal year 2004. Cost recovery is expected to increase as additional services, including specific

requests for technical training, are added. The personnel line has SURS payments and group insurance added, until the time when personnel issues are resolved through the transition. Mary asked if the projected headcount included additional personnel. Lori indicated that CMS had asked the ICN management to identify critical positions that needed to be included in the headcount. Although nine positions were identified as critical, the total headcount represents an overall decrease of six positions.

Dan LaVista asked for clarification on the cost recovery line – did the increase represent an increase in fees or was the increase predicated on more users? Cindi replied that the increase was predicted in bandwidth usage and in the number of services being provided by the ICN. Dan asked if the constituents had been notified of the fees for fiscal year 2005. Lori said that the constituents had not been officially notified pending the approval of the fiscal year 2005 cost recovery that was anticipated at this meeting, but that they had been told that the staff was going to make the recommendation that cost recovery remain level for fiscal year 2005.

On behalf of the K-12 sector, Lugene Finley asked what the expectations were that a portion of the additional cost recovery line would come from the K-12 community. Lori explained that the staff did not expect any of the cost recovery funds to come from the purchase of additional bandwidth by K-12 constituents. More likely, cost recovery funds would come from the purchase of services, such as filtering. Lugene expressed his concern that the fees for services would rise, and Lori said that the staff projected that fees may even be reduced as the volume of constituents purchasing the service increased.

Lugene felt that it was time to revisit the enrollments as they related to baseline bandwidth allocation for the K-12 sector. Lori indicated that staff would look at utilization and bring the information back to the Policy Committee for an update.

Citing the trend in the increase in the cost recovery line, Scott Kennedy asked if there was an expectation that new services would be available or that there would be an increase in demand for existing services. Cindi responded by saying that the increase is based on trends analysis and the rollout of new services, especially the in-house training where the ICN could re-coup about 100% of the cost.

Jay asked if it might be possible to show the return on investment for the services that are being rolled out in order to anticipate when the savings would impact the budget. Lori indicated that staff would prepare this information for a future Policy Committee meeting. Mary reminded the group that the introduction of services was done at the request of constituents.

Mary asked for a motion on the pre-audit for fiscal year 2003 and proposed budget for fiscal year 2005.

Lugene felt that he wanted to have a better picture of the K-12 utilization and their bandwidth allocation related to enrollment prior to making a decision about the budgets. Mary responded that given the process required to develop the budget for fiscal year

2005, the Policy Committee needed to move forward with the understanding that adjustments may need to be made as additional information is uncovered, just as was done with the fiscal year 2004 budget.

Lori reiterated that the primary purpose to present the fiscal year 2005 recommended budget at this time is to inform the fiscal agent what the budget looks like as they move into negotiations. Once the appropriation is determined, another budget will be presented and that becomes the working budget, as the amount will reflect actual dollars. Mary went on to say that the budget is based on minimal operation and doesn't reflect new development or expansion of the network as has been done in the past.

Jay took the opportunity to respond to Mary's comment, wanting to make sure that the Policy Committee understands that CMS has always and will continue to show a willingness to make budgetary adjustments based on sound business cases. CMS has no intention to stand in the way of enhancing the network or introducing new services. Mary assured the group that her remarks were meant to convey the Policy Committee's concern about being responsive to the economic condition of the state.

Scott asked Lori when the analysis of bandwidth utilization, services and costs would be available for the Policy Committee to review. Lori said that staff could complete the analysis in time for the next Policy Committee meeting in February 2004.

Motion: Virginia McMillan made the motion; Alan Burgard seconded.

Virginia moved that the ICN Policy Committee approve the pre-audit budget for fiscal year 2003.

Motion carried.

Motion: Brian Foster made the motion; Scott Kennedy seconded.

Brian moved that the ICN Policy Committee approve the proposed budget for fiscal year 2005.

Motion carried.

##### 5. Cost Recovery –Fiscal Year 2005 Recommendation

Lori introduced Ralph Lucia to provide the fiscal year 2005 cost recovery recommendation. As there are many new Policy Committee members, Ralph provided a history of the implementation of cost recovery. Specifically he reminded the group that the Policy Committee had charged the ICN staff to develop a cost recovery plan that would provide on-going funding for the network beyond what was available through the generous, but level funding provided by the state. The goal was to ensure the continued growth of the network, avoiding the possibility that constituents would be turned away because of lack of capacity, or that the network become so congested that it became

ineffective to use. After reviewing current utilization, bandwidth allocations based on enrollment, and anticipated operational expenses; the staff recommended that the cost recovery fees remain level for fiscal year 2005. Ralph opened the floor to questions.

Jay asked if cost recovery was targeted towards the costs of last mile connectivity or the actual network cloud. Ralph indicated that it was the network cloud.

Jay went on to express his concern about the increase in bandwidth, primarily on college campuses with residence halls, being driven by peer-to-peer applications and other applications associated with large file sharing. As the staff looks at utilization, Jay suggests that it be broken down by residential higher education and commuter higher education, i.e. community colleges. Jay feels that if this is not monitored, K-12 may find their bandwidth costs going up because of a disproportionate use of bandwidth headroom being built to accommodate very large filing sharing applications. His primary concern is that state and federal dollars may possibly be supporting copyright infringement with regards to legitimate vs. questionable file sharing. Jay indicated that the State Universities Telecommunications Association (SUTA) feels that they have control of this issue on their campuses, but he wanted to express his concerns to the Policy Committee so that they are aware of the issue as well.

Ralph assured Jay that the cost recovery policy was intended to provide bandwidth allocations to accommodate educational applications and that institutions going over their allocation would be paying for excess bandwidth, i.e. bandwidth to student residence halls.

Jay stated that in his opinion the ICN staff is on top of this issue and have been very creative in discussing how to address this issue. However, Jay feels that the pressure to get control and determine responsibility for file sharing that infringes upon copyright is going to get more intense and that the ICN should be diligent in monitoring utilization to determine trends that may indicate the presence of this type of activity.

Mary responded by saying that although suspect file sharing may be going on, it is her hope that many educational or telemedicine applications are also occurring, which may involve enormous amounts of bandwidth. It has been the policy not to get directly involved in constituents' use of the bandwidth and Mary cautioned the group not to prematurely assume that all large bandwidth is for "arts and entertainment", however she admitted that the staff has been cognizant of this issue and has put in safeguards where possible to make sure that the network is used for the purposes for which it was designed.

Jay restated that he felt the pressure would come from media content producers and the potential exists that certain regulations may be imposed on those benefiting from a subsidized network.

Lugene asked if approval for cost recovery should be moved to the February 2004 meeting in light of the discussion that had just occurred.

Ralph reminded the group that ICN constituents are building their budgets now, and need the information for planning. Jay agreed and said he hadn't intended to stifle the process; he just wanted to get it on the table and raise the level of awareness.

Discussion followed on the likelihood that delaying the approval would not change the rate structure, especially as the recommendation called for costs to remain level at the current rate.

Lynn Murphy suggested that the Policy Committee might want to consider moving this item to the September meeting in the future, as an information item, with approval in November, allowing for time to answer questions and clarify issues.

Brian added that the ability to benchmark and monitor network utilization is going to increase in importance for a number of reasons. Specifically, there are a number of growing legitimate uses of bandwidth and it is important that the right profiles are set for those with legitimate uses as opposed to other uses. This will be an important issue for health care applications.

Lori replied that current practice has the network engineers working directly with institutions when they spot abnormalities in bandwidth utilization.

Agreeing with Brian, Lugene added that while it is important to monitor the present, it is also important to try and anticipate future applications and the bandwidth requirements that will be required.

Lori indicated that Lugene's request matched the charge given to the Advanced Engineering Taskforce: to monitor current trends, anticipate future applications, and identify advances in technology that will improve the network.

Motion: Brian Foster made the motion; Bruce McMillan seconded.

Brian moved that the ICN Policy Committee approve the fiscal year 2005 cost recovery recommendation as presented by the staff.

Motion carried.

#### 6. Advanced Engineering Taskforce – Chair Approval / Membership

A revised item #6 was distributed to the Policy Committee members. Lori explained that from the time of the posting of the agenda and the meeting, she had received two additional nominations to the Advanced Engineering Taskforce (AET), which were now included in the revised item. Lori gave a brief overview of the role of the AET and reminded the group that George Badger, who had served as chair of the AET since its inception, had resigned. Recommendations for a replacement from the Policy Committee members and the members of the AET concluded that Gary Wenger, Chief Information

Officer, College of DuPage, be named to the chair position. The chair serves a two-year appointment.

New members being recommended at this time include: Tony Daniels, Central Management Services; Charlie Campbell, Southern Illinois University; Todd Cooper, Illinois Critical Access Hospital Network; and Richard Powell, Chief Financial Officer, John H. Stroger Jr. Hospital of Cook County.

On another matter related to the AET, Lori reported that the stipends previously associated with serving on the AET, are being recommended for elimination due to the financial concerns faced by all agencies. Travel expenses to meetings will continue to be reimbursed.

Dan asked if elimination of the stipends would impact membership.

Lori said that she had discussed the matter with Gary and other members of the AET and while they were appreciative of the stipend, they indicated their willingness to serve without the stipend.

Mary reminded the group of the history of the AET indicating that they had evolved from the technical taskforce that had come together years ago when the plans for the ICN were just being formalized. She expressed her appreciation for the commitment and work of the group, recognizing that their participation helped make the ICN the best network it could become. Lori echoed the staff's appreciation for the work of the AET, acknowledging the importance of their connection with constituents who interact with the ICN on a daily basis.

Virginia added her commendation to the AET for their service and contributions to the Policy Committee.

Motion: Virginia moved; Alan seconded.

Virginia moved that the Policy Committee approve the new member appointments; the appointment of Gary Wenger to the chair position; and the removal of the stipend, as presented by staff.

Motion carried.

Mary thanked Gary for his willingness to assume this leadership role.

## 7. Calendar of Meetings

The 2004 calendar of meetings was presented for approval. Policy Committee meetings will be held at 2:00 p.m. on the following Wednesdays: February 18, June 16, September 15, and November 17, 2004.

Motion: Scott Kennedy moved; Brian seconded.

Scott moved that the Policy Committee adopt the calendar of meetings as presented.  
Motion carried.

#### 8. Network and Services Update

Karlin Sink was asked to provide the network and services update. Karlin reported that through the work of Dirk French, Senior Telecommunications Analyst, the clear channel tariffs for T1s have or soon will be eliminated by SBC, Verizon, and Citizens. This action represents significant savings for ICN constituents who were required to pay this cost as part of their access circuit to the ICN. Lori indicated that Dirk works diligently and proactively with the telecommunications carriers on behalf of the ICN and its constituents to ensure that tariffs are applied in an equitable and fair manner.

Mary commented that while this wasn't directly related to cost recovery, it does save money and is an incredible service to constituents provided by ICN staff.

Jay asked if was possible for the staff to put together a metric dashboard that shows cost savings because of activities such as this. It would be helpful to illustrate where the cost would be if certain cost containment initiatives didn't occur. Lori replied that staff would put the information in a format that can be shared and built upon.

Karlin then went on to describe the network backbone upgrades planned for this year. Currently two requests for proposal are out – one for an increase in capacity between DeKalb and Chicago and the other for an increase between Bloomington and Champaign. A circuit upgrade between Quincy and Springfield is due to be delivered in May. Karlin mentioned this circuit to illustrate the length of time often required in certain parts of the state to upgrade to OC12 capacity. The ICN staff is also looking into favorable pricing available through QUILT, a consortium of research entities and universities that takes advantage of volume purchasing and lower pricing.

Mary thanked Karlin for the update and the on-going efforts of staff to look for ways to further reduce costs.

#### 9. Executive Session

Motion: Alan Burgard made the motion; Virginia seconded.

Jean moved that the Policy Committee go into closed Executive Session at 3:32 p.m., Wednesday, November 19, 2003 for the purpose of discussing Illinois Century Network personnel issues pursuant to Section 2(B)(1) of the Open Meetings Act.

Motion carried.

Motion: Scott Kennedy made the motion, Brian seconded.

Scott moved that the Policy move out of executive session and adjourn.

Motion carried.

ILLINOIS CENTURY NETWORK

**REVISION TO OPEN MEETINGS ACT**  
**(Public Act 93-523 effective January 1, 2004)**

**Submitted for:** Action

**Summary:** Effective January 1, 2004, revisions to the Open Meetings Act (P.A. 93-523) require all public bodies to retain a verbatim record of closed (executive) session meetings via an audio or video recording. Closed session minutes must be reviewed every six months to determine whether or not they should remain confidential or be approved and made available to the public. This item recommends a process for complying with the revisions to the Open Meetings Act.

**Action Requested:** Approval and adoption of the procedures outlined in response to the revisions of the Open Meetings Act.

**Recommended Motion:** *The ICN Policy Committee approves the adoption of the procedures outlined herein in response to the revisions of the Open Meetings Act.*

**ILLINOIS CENTURY NETWORK**

**REVISION TO OPEN MEETINGS ACT  
(Public Act 93-523 effective January 1, 2004)**

As outlined by the Act, the Illinois Century Network Policy Committee will be required to retain a verbatim record of all closed meetings in the form of an audio or video recording in addition to the written minutes of open meetings. Closed session minutes shall include, but need not be limited to: the date, time and place of the meeting; the members of the public body recorded as either present or absent; and a summary of discussion on all matters proposed, deliberated, or decided, and a record of any votes taken.

Recordings of closed sessions are deemed confidential and are not to be disclosed unless the Policy Committee makes the determination that the verbatim recording no longer requires confidential treatment or otherwise consents to disclosure. The verbatim record of a meeting closed to the public shall not be open for public inspection or subject to discovery in any administrative proceeding other than one brought to enforce the Act.

Recordings of closed sessions are to be retained for a minimum of eighteen months and may be destroyed after that time provided that the Policy Committee approves the destruction of a particular recording and approves the minutes of the closed meeting.

The Policy Committee shall periodically, but no less than semi-annually, meet to review the minutes and recordings of all closed meetings. At such meetings, a determination shall be made, and reported in an open session that either the need for confidentiality still exists as to all or part of those minutes or that the minutes or recordings (or portions thereof) no longer require confidential treatment and are available for public inspection.

Minutes of meetings closed to the public shall be available only after the Policy Committee determines that it is no longer necessary to protect the public interest or the privacy of an individual by keeping them confidential.

Minutes of meetings open to the public have historically been transcribed by ICN staff; however, due to the confidential nature of items discussed during closed sessions, these meetings have been recorded via audio and to date have not been transcribed. In order to comply with the revisions to the Open Meetings Act, staff recommends that the transcription of closed session meetings be performed by ICN legal counsel.

Once the minutes of the closed session have been transcribed by ICN legal counsel, the minutes, along with the audio recording of the closed session, shall be returned to the ICN in a sealed envelope. These materials will remain unopened until they are required to be reviewed by the Policy Committee. ICN staff will maintain a log to ensure that executive session minutes are presented to the Policy Committee semi-annually for review in accordance with the Act. The Policy Committee shall review the minutes and/or recordings (or portions thereof) of the closed sessions to determine whether or not the need for confidentiality still exists. If the need for confidentiality still exists, the minutes, along with the audio recording for each session, shall be resealed until they are reviewed again by the Policy Committee at the next semi-annual review. If the Policy Committee determines that the need for confidentiality no longer exists, the minutes of the closed session shall be approved and the audio recording can then be destroyed provided that eighteen (18) months have passed between the date the audio recording was made and the date in which the determination was made by the Policy Committee that the need for confidentiality no longer exists.

**Staff Recommendation**

*The ICN Policy Committee approves the adoption of the procedures outlined herein in response to the revisions of the Open Meetings Act.*

ILLINOIS CENTURY NETWORK

**TIME KEEPING REQUIREMENTS AND PERSONNEL POLICIES UNDER THE  
STATE OFFICIALS AND EMPLOYEES ETHICS ACT (5 ILCS 430/5-5)**

**Submitted for:** Action

**Summary:** As passed by the Illinois General Assembly and signed into law by the Governor, the State Officials and Employees Ethics Act will impose certain obligations and duties affecting the employees of the Illinois Century Network.

**Action Requested:** Approval and adoption of time keeping procedures and personnel policies outlined by the Board of Higher Education in accordance with the State Officials and Employees Ethics Act (5 ILCS 430/5-5).

**Recommended Motion:** *The ICN Policy Committee approves the time keeping procedures and personnel policies outlined by the Board of Higher Education in accordance with the State Officials and Employees Ethics Act.*

## ILLINOIS CENTURY NETWORK

### **TIME KEEPING REQUIREMENTS AND PERSONNEL POLICIES UNDER THE STATE OFFICIALS AND EMPLOYEES ETHICS ACT (5 ILCS 430/5-5)**

The State Officials and Employees Ethics Act (Public Act 93-0615 as amended by 93-0617, effective November 19 and December 9, 2003 respectively) expands and revises ethics laws in the State of Illinois. Many of the provisions of the Act relate to State employees, including public university employees.

As required by statute, the Illinois Century Network, under the direction of the Illinois Board of Higher Education, shall require its employees to periodically submit time sheets documenting the time spent each day on official State business to the nearest quarter hour; contractual employees may satisfy the time sheets requirement by complying with the terms of their contract, which shall provide for a means of compliance with this requirement. The time sheets policies shall require time sheets to be submitted on paper, electronically, or both and shall be maintained in either paper or electronic format by the fiscal office for a period of at least two (2) years.

ICN has established a procedure whereby each employee shall electronically complete a time sheet on a weekly basis. Statutory requirements of the State Officials and Employees Ethics Act require that time sheets be filled out to the nearest quarter hour. The Human Resources Officer will compile from such reports a calendar year employee time sheet for each employee which will show the status of vacation days, sick days, personal days, and floating holidays for that year.

Pursuant to the State Officials and Employees Ethics Act and the direction of the Governor's Office, Policy Committee Members are also required to complete a time sheet for the previous months at each meeting. A copy of the time sheet is included as Attachment A.

The amended State Officials and Employees Ethics Act calls for the adoption and implementation of personnel policies for all State employees. These policies shall include work time requirements, documentation of time worked, documentation for reimbursement for travel on official state business, compensation, and the earning or accrual of state benefits for all State employees who may be eligible to receive those benefits. Currently, the Illinois Century Network adheres to the personnel policies set forth by the Board of Higher Education. At the Board's February 3, 2004 meeting, the current personnel policies were adopted with the addition of the time sheet requirement. The personnel policies adopted by the Board of Higher Education are outlined in the following Appendix.

**Staff Recommendation**

*The ICN Policy Committee approves the time keeping procedures and personnel policies outlined by the Board of Higher Education in accordance with the State Officials and Employees Ethics Act.*

ATTACHMENT A

**TIME SHEET FOR  
THE ILLINOIS CENTURY NETWORK POLICY COMMITTEE  
AS REQUIRED BY  
THE STATE OFFICIALS AND EMPLOYEES ETHICS ACT**



APPENDIX

**PERSONNEL POLICIES FOR  
THE BOARD OF HIGHER EDUCATION  
AS REQUIRED BY  
THE STATE OFFICIALS AND EMPLOYEES ETHICS ACT**

## COMPENSATION

### Professional Salary Ranges

<u>Classification</u>	<u>Salary Ranges</u>
Executive Director	Set by the Board
Executive Deputy Director	\$105,500 - \$130,000
Director, Illinois Century Network	\$100,000 - \$125,000
Deputy Director	\$95,000 - \$125,000
Senior Associate Director	\$80,000 - \$100,000
Associate Director	\$63,000 - \$85,000
Assistant Director	\$38,000 - \$73,500
Research Associate	\$28,000 - \$45,000
Research Assistant	\$16,000 - \$29,000

### State University Civil Service Salary Ranges

<u>Position</u>	<u>Minimum</u>	<u>Maximum</u>
Duplicating Machine Operator I	\$17,400	\$30,000
Secretary III	\$18,000	\$32,400
Secretary IV	\$25,872	\$41,400
Staff Secretary	\$27,372	\$44,550
Clerical Assistant	\$14,000	\$23,325

## REIMBURSEMENT FOR TRAVEL ON OFFICIAL STATE BUSINESS

### Mileage

As a condition of employment, employees expect to incur commuting expenses between their residence and headquarters. These expenses are not reimbursable. Expenses associated with State business in excess of commuting expenses are reimbursable at headquarters and/or residence. An employee whose travel does not include travel through headquarters shall be reimbursed for all mileage. An employee whose travel does include travel through headquarters shall be reimbursed for all mileage in excess of commuting mileage. All travel must be by the most direct route.

“Travel through headquarters” is defined as: Any travel to or through Springfield, regardless of whether the employee made a stop at the work site or changed vehicles or modes of transportation.

Examples of reimbursable mileage expenses are as follows:

1. Residence/Lincoln - Headquarters/Springfield  
Employee drives from residence in Lincoln to Chicago and returns to residence. Reimbursement is for all mileage because the travel was not to or through headquarters.
2. Residence/Lincoln - Headquarters/Springfield  
Employee drives from residence in Lincoln to Collinsville and back to residence. Reimbursement is for all mileage in excess of commuting mileage. The travel, by the most direct route, was through headquarters.

### Mileage Rates

Effective January 1, 2003:

Personal automobile - 36 cents per mile

Employees using private vehicles while on State business must have insurance coverage in an amount not less than that required by Section 10-10(b) of the Illinois Vehicle Code [625 ILCS 5/10-101(b)]. Prior to such authorization the Agency Head shall require employees to file a statement certifying that they are duly licensed and carry at least the minimum insurance coverage or shall require such certification to be noted on the travel voucher.

## MEALS

### Meal Allowance

Travel of 18 hours or less during the same calendar day or when a night's lodging is not required:

	<u>In State</u>	<u>Out-of-State</u>
Breakfast (must leave before (6:00 a.m.)	\$5.50	\$6.50
Lunch	no allowance	no allowance
Dinner (must return after 7:00 p.m.)	\$17.00	\$19.00

## PER DIEM

A travel period is defined as overnight or in excess of 18 hours.

	<u>In State</u>	<u>Out-of-State</u>
Quarter day	\$7.00	\$8.00

Quarter days are as follows:

12:00 midnight to 5:59 a.m.

6:00 a.m. to 11:59 a.m.

12:00 noon to 5:59 p.m.

6:00 p.m. to 11:59 p.m.

	<u>In State</u>	<u>Out-of-State</u>
Total Per Diem Rate (per day)	\$28.00	\$32.00

When the cost of meals for approved conferences is a part of the registration fee, and paid or reimbursed by the Higher Education Travel Control Board member institution, the traveler shall deduct the following amounts from the per diem or per meal allowance:

	<u>In State</u>	<u>Out-of-State</u>
Breakfast	\$5.50	\$6.50
Lunch	\$5.50	\$6.50
Dinner	\$17.00	\$19.00

## LODGING ALLOWANCE

### Location

#### In-State

Chicago Metro Area and Cook County*	\$155.00
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\* The State of Illinois has negotiated a rate of \$130.00, not including tax, with certain hotels in Cook County. Employees should attempt to obtain this lower rate before reserving a room at the maximum allowance. For a list of hotels included in the State negotiated rate see *State Negotiated Rate Hotels*.

Other Metro Area Counties**	\$80.00
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Major Downstate Areas**	\$70.00
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Other Downstate Areas	\$60.00
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#### Out-of-State

Washington, DC***	\$150.00
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Other Out-of-State areas	\$110.00
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#### Out-of-Country

With receipts	Actual reasonable cost
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Without receipts	State Department Foreign Per Diem Rates
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\*\* Definitions:  
 Other Metro Counties:  
 DuPage, Kane, Lake, McHenry, and Will  
 Major Downstate Areas:  
 Champaign, Kankakee, LaSalle, McLean, Macon, Madison, Peoria, Rock Island,  
 St. Clair, Sangamon, Tazewell, and Winnebago  
 Major Cities:  
 Belleville, Bloomington, Bourbonnais, Bradley, Champaign, Collinsville,  
 Decatur, East Peoria, Fairview Heights, Kankakee, LaSalle, Normal, Pekin,  
 Peoria, Peru, Rockford, Springfield, and Urbana

\*\*\* Also the cities of Alexandria, Falls Church and Fairfax, and the counties of

Arlington, Loudon, and Fairfax in Virginia; and the counties of Montgomery and Prince George's in Maryland

### **MODES OF TRANSPORTATION**

1. All travel shall be by the most direct route. Expenses due to deviations for convenience shall be borne by the employee. Distances between destinations shall be as shown on the Illinois Highway Map published by the Secretary of State. Where no mileages are available, odometer readings shall be used. Mileage in and around a city of destination may be claimed as such.
2. All travel shall be by the most economical mode of transportation available considering travel time, costs, and work requirements. Modes of transportation authorized for official travel include automobiles, railroads, airlines, buses, taxicabs and other usual means of conveyance.
3. State vehicles may be used when most economical. Specific instructions covering service and repairs of these vehicles are to be found in the glove compartment of each vehicle.
4. Arrangements on airplanes, trains, or boats shall be the least costly reasonably available alternative.
5. Chartered aircraft, boats, trains, buses, or other such conveyance, shall be used only as a last resort or if proven to be most economical for the circumstances.
6. The rental of an auto while on travel status is allowed, if circumstances require. The most economical vehicle available that is suitable for the State's business shall be obtained. The collision damage waiver and personal accident insurance on rented vehicles are not reimbursable.
7. Privately owned vehicles may be used when authorized.
  - a. Employees using private vehicles while on State business must have insurance coverage in an amount not less than that required by Section 10-101(b) of the Illinois Vehicle Code [625 ILCS 5/10-101(b)]. Prior to such authorization the Agency Head shall require employees to file a statement certifying that they are duly licensed and carry at least the minimum insurance coverage or shall require such certification to be noted on the travel voucher.
  - b. Reimbursement for use of a private vehicle shall be on a mileage basis and shall be in accordance with the rate promulgated pursuant to 5 USC 5707(b)(2). However, in the event the rate set under federal regulations

changes during the course of the State's fiscal year, the effective date of the new rate shall be the July 1 immediately following the change in the federal rate. The current rate can be found on the Higher Education Travel Control Board website.

8. Agency Heads may authorize the use of privately owned aircraft on State business.
  - a. Employees using privately owned aircraft on State business shall be duly licensed by the appropriate licensing body for the particular aircraft to be flown, shall carry insurance in a least the amount of \$500,000 combined single limit, and shall certify this to the Agency Head. Such certification shall be available for review and shall be noted on the travel voucher.
  - b. Reimbursement for the use of privately owned aircraft is set by the Higher Education Travel Control Board, but shall not exceed the rate set by the Federal Government pursuant to 5 USC 5707(b)(2) (1994 edition, Government Printing Office) and 41 CFR 301-4.2(a)(2), as revised (May 23, 1996, Federal Register, Vol. 61 #101, Government Printing Office). No later amendments or editions shall act to vary this rate. The current rate can be found on the Higher Education Travel Control Board Website.

### **LODGING**

It is the responsibility of each employee to request the lowest available lodging rate at the time of making reservations. However, a person who due to a disability may require special lodging consideration may be reimbursed for the actual cost of the least costly lodging that is substantially accessible.

The lodging allowances specified on the Higher Education Travel Control Board Website are the maximum amounts allowable per area. State of Illinois travel regulations allow for payments in excess of state rates when pre-approved by the Executive Director and approved by the Travel Control Board. This advance approval is not required for conferences. To prevent confusion between an official meeting and a conference, a copy of a brochure or registration form which indicates the hotel in which the conference was held should be attached to the **Travel Voucher** for all conferences regardless of the room rate. If the conference is held somewhere other than the hotel, a list of the recommended hotels must be attached. If hotel documentation is not available, a **Lodging Exception** form must be completed. A report of all lodging exceptions granted by an Institution shall be submitted for approval at the quarterly Higher Education Travel Control Board meeting. Lodging rates and the preferred hotel listing can be found on the Higher Education Travel Control Board's website.

## REIMBURSABLE/NON-REIMBURSABLE EXPENSES

The cost of business related special expenses, if reasonable, shall be reimbursable. Examples are:

1. Hire of room exhibit space, set up, and such for official business.
2. Laundry and dry cleaning if on travel status for at least seven (7) consecutive days.
3. Storage and handling of baggage.
4. Taxis including reasonable tips.
5. Telephone calls on official business, including calls of 3 minutes or less to announce safe arrival or delay-change in plans.
6. Telephone calls to secure lodging.
7. Automobile tolls and parking fees
8. Meals purchased for non-State employees while on travel status and in connection with State business. A statement specifying why, for whom, and certifying that the claim does not include alcoholic beverages shall be attached to the travel voucher.

Examples of non-reimbursable expenses are:

1. Alcoholic beverages.
2. Coat check.
3. Entertainment.
4. Late check-out and room guarantee charges.
5. Meals for other State employees or officers.
6. Parking tickets or other traffic tickets.
7. Tips incurred beyond those specifically provided in this Part.
8. Transportation to procure meals except when the nature and location of work at a temporary duty station are such that suitable meals cannot be procured at that location.
9. Commuting expenses.

## DEFINITIONS

### Commuting Expenses

The cost of one round trip between residence and headquarters. Cost may include mileage, parking fees, tolls, etc. Mileage cost is determined by multiplying the commuting mileage by the mileage reimbursement rate located on the Higher Education Travel Control Board's website.

### Commuting Mileage

The actual round trip mileage between residence and headquarters.

### Travel Status

An employee shall be considered "on travel status" while away from Springfield on authorized State business. Travel status shall begin when an employee leaves Springfield or, if reporting directly to destination, from residence or other location. Travel status shall conclude when an employee returns to Springfield or, if reporting directly from original destination, to residence or other location at the completion of authorized State business.

## **GENERAL**

Section 12-3 of the State Finance Act [30 ILCS 105/12-3], requires that Form TA-2 be completed and filed with the Legislative Audit Commission for any individual whose headquarters has been designated as a location other than that at which official duties require the largest part of working time. The reports shall be filed no later than July 15 for the period from January 1 through June 30 of that year and no later than January 15 for the period July 1 through December 31 of the preceding year. If an agency has more than one facility or institution, the report shall indicate on its face to which facility or institution the data pertain.

Claims for reimbursement shall be supported by original receipts for railroad, bus, airplane (passenger coupon), lodging, and all other items in excess, individually, of \$10. Receipts are not required for meals on the per diem or per meal basis.

When travel is not required as a condition of employment and is a benefit to both the agency and the employee, the Agency Head or designee may provide partial reimbursement. The reimbursement may not in any case exceed the rates otherwise authorized.

## **WORK TIME REQUIREMENTS AND EARNING AND ACCRUAL OF BENEFITS**

### Work Schedule

The regular work schedule established by the Illinois board of Higher Education is a five-day, 37- ½ hour week, with working hours from 8:30 a.m. until 4:30 p.m. daily with one-half hour for lunch.

Total working hours as set forth are the *minimum* expected from the professional staff. Due to more varied responsibilities including meetings, evening or weekend assignments, travel and other special duties, professional staff work hours may differ somewhat from civil service staff.

### Holidays

Pursuant to the state Universities Civil Service System Act (*Illinois Compiled Statutes* 1998, Chapter 10, Act 70/45a.), the following holidays are observed by the Board: *New*

*Year's Day, Martin Luther King Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.* The Act also specifies that five additional days to be designated by the agency shall be observed as official holidays for which staff will receive their usual compensation. Those additional five days include the Friday after Thanksgiving and four "floating" holidays to be chosen by employees on an individual basis. Floating holidays must be used during the calendar year and cannot be accumulated beyond the end of the year.

All professional staff observe the same holidays as civil service staff.

### **Vacation**

#### Vacation Time for Civil Service Staff

Vacation time earned for civil service staff is based on years of state service. Computation of years of state service includes total years of service in the State Universities Civil Service System as well as years of service in other state agencies. An employee may accumulate leave in an amount equal to that earned in two years of service. The Personnel Officer shall notify employees on a quarterly basis of the total vacation leave earned and used. Civil service staff earn vacation days in accordance with the following schedule:

<u>Years of Service Completed</u>		<u>Vacation Days Earned in One Year</u>
<u>At Least</u>	<u>Not More Than</u>	
0	3	12 working days
3	6	15 working days
6	9	18 working days
9	14	21 working days
14 and over		25 working days

#### Vacation Time for Professional Staff

Vacation time earned for all classifications of professional staff is based on years of state service. Computation of years of state service includes total years of service with other state of Illinois agencies. The maximum amount of accrued vacation that can be paid out at termination of employment is two times the rate of vacation being earned at that time. Professional staff earn vacation days in accordance with the following schedule:

<u>Years of Service Completed</u>		<u>Vacation Days Earned in One Year</u>
<u>At Least</u>	<u>Not More Than</u>	
0	5	22 working days
5	10	25 working days
10 and over		28 working days

### Personal Days

Any full-time employee may be absent for three (3) days without loss of pay during each calendar year. These personal days should be used by an employee for the conduct of legitimate transactions not possible to conduct at any other time. Any employee's unused personal days will be transferred to his/her sick days at the end of the calendar year.

### Sick Leave

Those persons working at least half-time or more shall be eligible to earn credit for sick leave. The following provisions apply to earning and use of sick leave:

- An eligible employee shall earn credit for sick leave with full pay at the rate of one work day for each month of service. The amount of leave accumulated at the time when illness or injury begins shall be available in full, and additional leave shall continue to accrue while an employee is using that already accumulated.
- There shall be no limit in the amount of sick leave that may be accumulated.
- An eligible employee may use accumulated sick leave only when the employee is ill or injured or obtaining medical or dental consultation or treatment. Acceptable evidence of disability may be required before allowing the use of sick leave.
- Use of sick leave shall be limited to illness for employee, spouse, and/or children. Exceptions and applications of this policy beyond spouse and children, e.g., members of household, may be granted.
- A former employee who separates in good standing and returns to employment within two years, shall have former accrued sick leave restored (paragraphs 4 and 5 approved and added by the Merit Board at its Eighty-Fourth Meeting, June 11, 1980).
- Upon termination of employment for any reason, an employee is entitled to be paid for one-half of unused sick leave that accrued during the period of time from January 1, 1984 through December 31, 1998. Unused and unpaid sick leave may be accepted by another state agency to which an employee transfers subject to certain requirements. The Illinois Board of Higher Education may accept unused and unpaid sick leave accrued for an employee transferring from another state agency, provided the previous employer will furnish the Board with verification of such unused and unpaid sick leave. Under certain circumstances unused and unpaid sick leave may be credited as additional service credit at the time of retirement.

### **Disability**

When an employee cannot perform the duties of the position because of illness, an employee must have established two years of service in the Retirement System to qualify for disability benefits. No minimum service is required if disability results from an accident. In order for disability benefits to commence, an employee must be off the payroll, must have exhausted sick leave benefits, and must have been actually off the job for sixty days. Benefits cannot begin more than 30 days prior to receipt of the application for such benefits made to the State Universities Retirement System. If disability is anticipated to be prolonged, vacation time should also be used before disability benefits begin.

### **General Leave Policy**

Employees may be granted employment leaves, if approved by the Executive Director, without jeopardizing their employment with the Illinois Board of Higher Education. Leave requests shall be documented as appropriate to the type of leave.

### **Funeral Leave**

Approval with pay will be granted to an employee for a leave of up to three work days for the death of a member of the employee's immediate family, household, in-laws, and/or grandparents of the immediate family; and of one day to attend the funeral of a relative outside the employee's family or household.

Immediate family is defined as: father, mother, sister, brother, spouse and children. In-laws are defined as: mother-in-law, father-in-law, brother-in-law, sister-in-law, son-in-law and daughter-in-law.

### **Jury Duty or Other Court Appearances**

An eligible employee shall be granted a leave of absence without loss of pay when called for jury duty or for other court appearances when subpoenaed as a witness. The Illinois Board of Higher Education will pay the salary of an employee on jury duty, and money received for such duties shall be turned in to the Board's Personnel Officer for deposit into the State Treasury.

**DOCUMENTATION OF TIME  
WORKED AND TIME SHEETS**  
(Specific Procedures for ICN)

Each employee shall electronically fill out, at the end of each work week, the time sheet provided, which will be filed with the Human Resources Officer. Statutory requirements of the State Officials and Employees Ethics Act require that time sheets be filled out to the nearest quarter hour.

The Human Resources Officer will compile from such reports a calendar year employee time sheet for each employee which will show the status of vacation days, sick days, personal days, and floating holidays for that year.

Pursuant to the State Officials and Employees Ethics Act and the direction of the Governor's Office, Policy Committee Members will complete a time sheet for the previous months at each meeting.

ILLINOIS CENTURY NETWORK

**BUDGET / E-RATE UPDATE**

**Submitted for:** Information

**Summary:** This item provides an update of the fiscal year 2004 budget, year-to-date e-rate funds received, and the fiscal year 2002 – 2003 audit.

**Action Requested:** None

## ILLINOIS CENTURY NETWORK

### **BUDGET UPDATE FISCAL YEAR 2004**

This item presents the Policy Committee with a fiscal year 2004 year-to-date budget update. E-rate reimbursements at February 29, 2004 totaled \$1,754,532. This figure is a combination of Year Three, Four and Five checks from telecommunications providers totaling \$1,116,297; as well as Year Three e-rate credits totaling \$638,235 applied to telecommunications invoices. An additional \$639,233 in approved Year Three e-rate credits on telecommunications invoices will be received by June 30, 2004. Information at this time allows ICN to project \$2,132,857 in additional e-rate funds to be received by the end of this fiscal year, resulting in the current revised e-rate reimbursement projection of \$ 4,526,622.

Cost recovery funds continue to be received at a steadily increasing pace. The ICN is billing approximately \$210,000 per month. ICN constituents have an excellent payment record. Cost recovery revenues are \$345,000 ahead of this time last fiscal year mainly due to new services such as filtering and IP video and the addition of new non-primary constituents. ICN currently has 386 constituents that are billed on a monthly basis.

Expenditures are running well on target. Historically, ICN has postponed major equipment purchases and upgrades until the Spring. This allows equipment to arrive in time for upgrades during summer breaks at schools, colleges and universities. It also allows ICN to more effectively project expenditures and irregular revenues, such as e-rate reimbursements, and adjust or defer spending accordingly. Funds received from e-rate reimbursement and cost recovery have been earmarked for capital expenditures associated with large equipment purchases and build out costs to increase network capacity such as the dark fiber project which will be rolling out next fiscal year.

#### **Fiscal Year 2002 and 2003 Audit**

In February 2004 the Board of Higher Education and Illinois Century Network were provided with draft copies of the Compliance Audit for the Board of Higher Education for the two years ended June 30, 2003. The draft includes a preliminary finding (03-01) regarding excess inventory not transferred.

The referenced equipment was purchased by State Board of Education in fiscal year 2000 as an incentive to encourage ICN constituents to develop aggregate community connections to the ICN to support multiple users. In June 2001, ICN discontinued the practice of funding community networks due to budget limitations.

In fiscal year 2002 the unused equipment was transferred from State Board of Education to Board of Higher Education as fiscal agent for ICN, at which time it came under the control of ICN. ICN recognized that the inventory would likely not be deployed as part of the community network project and identified the inventory as surplus. The following steps were initiated to distribute the equipment to constituents for alternate projects:

- In December 2002, ICN requested permission from the Director of CMS to transfer ownership of equipment to ICN constituents, such as municipalities, units of local government, school districts, public universities, community colleges and eligible not-for profit organizations, as provided under the State Property Control Act. Such transfers require the written approval of the Director of CMS.
- During February 2003, ICN used a portion of the initial equipment as a trade in on a pending order. ICN received a trade-in allowance of approximately \$228,000 on equipment costing approximately \$900,000. Depreciation of \$484,500 had been taken on this equipment resulting in an accounting loss on this transaction of approximately \$187,500.
- In October 2003, ICN re-established efforts for approval to transfer ownership of excess inventory to constituents. It is the understanding of ICN that the current request is being reviewed by the legal office of CMS.
- The existing inventory, with the required permission of CMS, has been made available to other state agencies and some has been transferred to those agencies in accordance with the State Property Control Act.
- In the meantime, the ICN has instituted a "sparing policy" that will allow certain existing excess inventory to be used as replacements or to provide replacement parts for equipment presently in service that may malfunction or become defective. Maintenance agreements will be discontinued on this equipment.
- Staff will continue to pursue trade-ins when cost-effective such as the trade-in that occurred in February 2003.
- The value of the remaining inventory in storage as of March 12, 2004 is \$2,265,673. Through the sparing policy, it is anticipated that all the remaining equipment will be in use or disposed of by the end of fiscal year 2005.

Staff, in collaboration with the Board of Higher Education and ICN legal counsel, is drafting a response which outlines the actions taken by ICN to transfer the equipment referenced in the audit.

**ILLINOIS CENTURY NETWORK**

**Fiscal Year 2004**

**As of 02/29/04**

	<b>Approved at 6/18/03 PC Meeting</b>	<b>Revised Projection</b>	<b>Year-to-Date</b>
<b>REVENUE SOURCES:</b>			
ICN Appropriation:	25,500,000	24,896,296	20,750,000
E-Rate Reimbursement:	1,752,159	4,526,622 <sup>1</sup>	1,754,532 <sup>2</sup>
Cost Recovery Funds:	2,000,000	2,000,000	1,379,078
Interest	0	0	2,874
<b>TOTAL REVENUES:</b>	<b>29,252,159</b>	<b>31,422,918</b>	<b>23,886,484<sup>3</sup></b>
OMB 2% Reserve	-603,704		
<b>ADJUSTED REVENUES:</b>	<b>28,648,455</b>		
<b>EXPENDITURES:</b>			
Personnel:	3,934,231	4,579,361	2,927,147
Contractual:	1,063,975	1,366,705	760,728
Commodities:	62,300	62,300	19,471
Equipment:	22,500	52,500	34,542
Telecommunications:	23,809,153	25,251,540	12,238,736 <sup>4</sup>
Regional Technology Centers:	0	0	0
Operation of Auto:	10,000	10,000	643
Prompt Payment Interest:	250,000	512	512
Permanent Improvements:	100,000	100,000	0
<b>TOTAL EXPENDITURES:</b>	<b>29,252,159</b>	<b>31,422,918</b>	<b>15,981,779</b>
Adjustment for OMB 2% Reserve:	-603,704		
<b>ADJUSTED EXPENDITURES:</b>	<b>28,648,455</b>		

<sup>1</sup> Revised to include year-to-date receipts, plus projected future receipts of \$ 639,233 in approved and pending e-rate credits on telecommunications invoices, plus \$ 2,132,857 received in March prior to report publication .

<sup>2</sup> Figure includes \$ 638,235 e-rate credit applied to telecommunications invoices.

<sup>3</sup> ICN Trust Fund 729 expired at the end of FY03. The balance in that fund was transferred to Fund 736 for ICN use in FY04. \$1,416,160 was transferred, which is not included in Total Revenues.

<sup>4</sup> Figure includes \$ 638,235 e-rate credit applied to telecommunications invoices added to actual expenditures to date.

ILLINOIS CENTURY NETWORK  
SCHOOL-TO-HOME INITIATIVE UPDATE

**Submitted for:** Information

**Summary:** The School-to-Home initiative is a web-based mechanism to improve the communication between parents and schools. Based on the premise that parental involvement in their child's education is critical to success, Governor Rod Blagojevich asked the ICN, in partnership with Western Illinois University and Illinois State University, to develop a communication tool for all K-12 schools in the state. This item provides a status report on this initiative.

**Action Requested:** None

**ILLINOIS CENTURY NETWORK**  
**SCHOOL-TO-HOME INITIATIVE UPDATE**

In his February 2003 State-of-the-State address, Governor Rod Blagojevich called on all Illinois schools to adopt the National PTA standard for parental involvement to ensure that communication between home and school is frequent and meaningful. The Illinois Century Network (ICN) provided funding to the Center for Application of Information Technology (CAIT) at Western Illinois University to develop applications and the Center for the Study of Education Policy at Illinois State University to survey schools across Illinois to determine the extent of the use of technology for communicating with parents of students in Illinois schools.

The report on use of technology in school/home communication was prepared by the Center for the Study of Education Policy at Illinois State University. The Center surveyed Illinois school personnel on technology usage patterns and conducted parent focus groups at schools across the state to garner communication issues of concern to parents. The report found that:

- 97% of Illinois elementary and secondary schools are connected to the Internet
- 47% of Illinois households had access to the Internet at home in 2001
- About half of Illinois families have a computer available for home use

Surveys of Illinois principals, teachers and school technology representatives indicated:

- E-mail was available in approximately three-quarters of schools
- Only one-third of Illinois schools had voice mail available in every classroom or faculty office
- Interactive web pages for parents to access student information were available in one-fourth of Illinois schools

Nearly one-fourth of teachers responding to the survey used the Internet or e-mail for communicating some type of academic information to parents. Percentages varied by application. Costs, time, and data privacy were the top concerns across groups of parents, teachers, principals, and technology representatives surveyed in the study. The lack of parent access to a computer or the Internet was a major concern of parents, teachers, and principals.

The report includes the following recommendations:

- Improved school/home communication would benefit students, their families and schools; however, multiple communication methods and formats are needed to meet the varying capacities and communication needs of Illinois families.
- Illinois can promote cost-effective solutions that build upon the variety of existing student information systems, parent communication tools, and grading systems already in place rather than mandating a one-size-fits-all system.
- Illinois should make use of the existing Illinois Century Network infrastructure to provide a menu of support services from which schools may selectively choose based upon their priorities, capacity, and needs.
- Any new statewide program/initiative must recognize the cultural and economic differences in the schools and homes across the state and the potential for technology to widen the digital divide rather than close it.

The next steps in the development and implementation of the School-to-Home initiative include completing the beta test of the program and securing funding for an anticipated fall 2004 rollout. Complete copies of the report are available at <http://coe.ilstu.edu/edpolctr/011404%20ICN%20Final%20Report%201-9-20041.pdf>.

ILLINOIS CENTURY NETWORK

**NETWORK UTILIZATION:  
E-RATE**

**Submitted for:** Information

**Summary:** This item provides an overview of the process undertaken by the Illinois Century Network staff to file the annual consortium e-rate application on behalf of constituents. The item also describes issues associated with this process that are common to other statewide educational networks.

**Action Requested:** None.

## ILLINOIS CENTURY NETWORK

### NETWORK UTILIZATION: E-RATE

Illinois educational institutions have been taking advantage of the federal e-rate program since its inception in 1998. On behalf of all eligible ICN constituents, ICN staff files a consortium application with the Schools and Libraries Division (SLD) of the Universal Service Administrative Company (USAC), the entity responsible for the administration of the E-rate program. All eligible schools and libraries must give the ICN approval to place their institution on the consortium application which is filed for specific "funding" years which coincide with a July 1 – June 30 fiscal year cycle. This approval comes in the form of a Letter of Agency (LOA) which must be signed and received by the ICN on an annual basis. This approval is necessary to ensure that all entities included in the ICN application are in compliance with the rules and regulations of the program. The most notable requirement is compliance with the Children's Internet Protection Act which requires content filtering of the Internet. Connected entities not in compliance with the program rules are removed from the ICN's application.

The following information briefly outlines the steps involved in filing the E-Rate application.

1. Prior to the submission of the actual application, the ICN submits a preliminary plan (form 470) outlining the telecommunications needs for the upcoming funding year. The SLD posts this information on the USAC website for 28 days, providing the vendors the opportunity to bid on identified services.
2. In early November, the window for submitting the application (form 471) opens. Only entities that have had their form 470 posted on the USAC website for 28 days are eligible to submit their application. The window for submitting the form 471 closes early February. The application is based on the estimates for the following fiscal year.
3. The SLD reviews all applications and often seeks clarifications and copies of supporting documents from the applicant. Should any adjustments need to be made to the application, they are made at this stage, prior to the final approval process.
4. Upon approval, the applicant (ICN) is sent a Funding Commitment Letter from the SLD informing the applicant of the funding amount approved. Within 120 days, the ICN must submit a form (form 486) that confirms the information is still accurate and re-certifies CIPA compliance.

5. The final form (BEAR form 472) specifies the amount of money the ICN is requesting from each vendor. The form is forwarded to vendors for review, asking the vendor to verify that the ICN has spent the amount of money requested on the application. The vendor confirms or adjusts this amount with the SLD, based on discussions with the ICN.
6. The funds are sent to the vendor who is responsible for passing the money along to the ICN, either through a check or a credit applied to existing account(s).

As can be seen from the steps of the process, a number of verifications, forms, and entities are involved. Due to the inability to predict when the funds will be received, the ICN has adopted the practice of not including the funds in the budget until they are received. MoreNet, Missouri's version of the ICN experiences a delay of 10 – 14 months between application and funding commitment and their application includes 750 participants, significantly less than the 2,990 submitted by the ICN.

At the 2004 annual meeting of all of the educational state networks, a representative from USAC acknowledged the past delays in processing state network applications. Last year, SLD set a goal of processing eighty percent (80%) of the applications within a certain amount of time. They achieved that goal by processing the most simple applications first, leaving the complex applications, representative of large consortia like the ICN until last. Recognizing that this process unfairly delayed all state network applications, the SLD is working on a new process to rectify the situation. The details of their new approach were not available at the time of the meeting, however they did indicate that they hoped their performance and timeliness of processing applications would be improved for the next round of funding.

As mentioned during the November 2003 meeting, staff has taken an active role in working with surrounding state networks to inform USAC of the impact the funding delays have on the network and constituents. Additionally, this group presented solutions for improving the process. These efforts have produced positive results as the processing time has dramatically decreased as shown in Figure 1 below.

**Figure 1: E-rate Application Timeline**

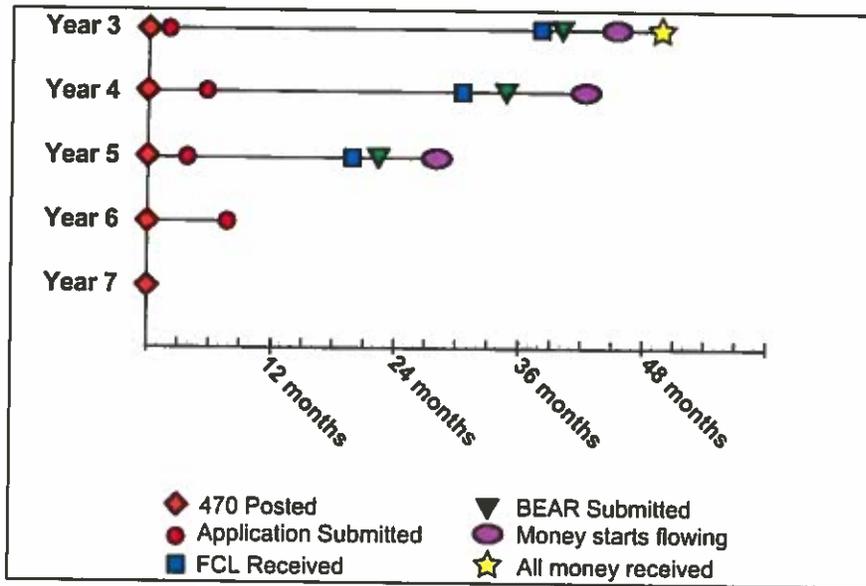


Table 1 provides an update on ICN’s e-rate applications.

**Table 1: E-rate Funding Status**

	Approved	Received
Year 3	\$2,137,760	\$2,137,760
Year 4	\$3,026,392	\$ 804,775
Year 5	\$5,531,960	\$2,448,213
Year 6	\$6,921,270 <sup>1</sup>	
Year 7	\$5,403,699 <sup>2</sup>	

<sup>1</sup> This amount is subject to the actual amount ICN will spend in fiscal year 2004.

<sup>2</sup> This is the amount requested based on estimated expenditures in fiscal year 2005.

ILLINOIS CENTURY NETWORK

**NETWORK UTILIZATION:  
SERVICES**

**Submitted for:** Information

**Summary:** This item provides an update of two services recently made available to ICN constituents, filtering and IP video. A summary of activity to-date and an analysis of the costs associated with each service.

**Action Requested:** None.

## ILLINOIS CENTURY NETWORK

### NETWORK UTILIZATION: SERVICES

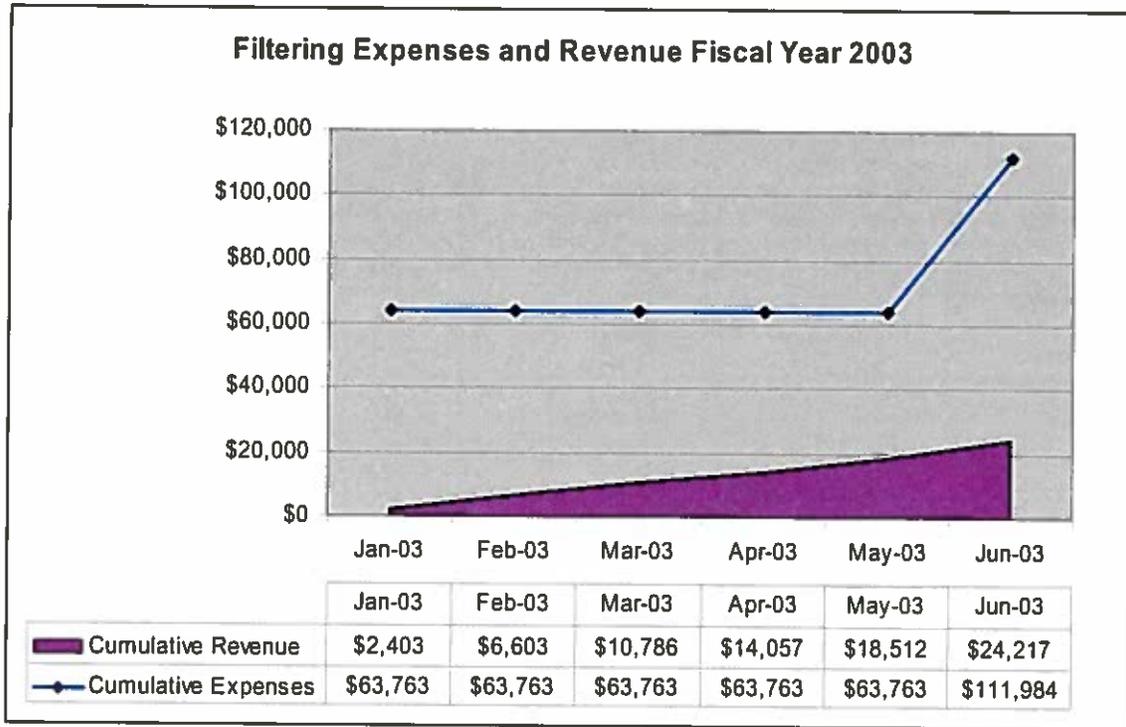
Based on constituent requests and information collected at the last round of regional information sessions, the ICN staff developed a process for evaluating the costs and benefits of offering network services to ICN constituents. The process involves evaluating the service using several different criteria: the need / demand for the service; the cost to implement the service; the training required to install and support the service; the time required to make the service available; the availability of similar services, at similar costs, from the private sector; and the application of the cost recovery model to insure that the both the ICN and the constituents are paying less than they would if they purchased the service on their own. Once all of the criteria have been addressed, the service proposal is brought to the management team for final approval. Each service is assigned a project leader who coordinates all aspects of rolling out the service. Information regarding the availability of the service is communicated to the constituents and posted to the ICN web site.

#### **Filtering**

ICN launched filtering services in January 2003. Based upon volume discounts offered from the vendor, and needs expressed by a number of constituents, an initial quantity of 11,500 filtering licenses was purchased. By June 2003, the licenses were one-hundred percent (100%) utilized and requests for the service were continuing. Currently, the cumulative number of licenses in use is 17,349, representing 73 sites. This number is expected to grow as constituents switch to the ICN filtering option when their current contracts with other vendors expire and as ICN begins to market the service.

Financial results:

**Figure 1: Filtering Expenses and Revenue for Fiscal Year 2003**

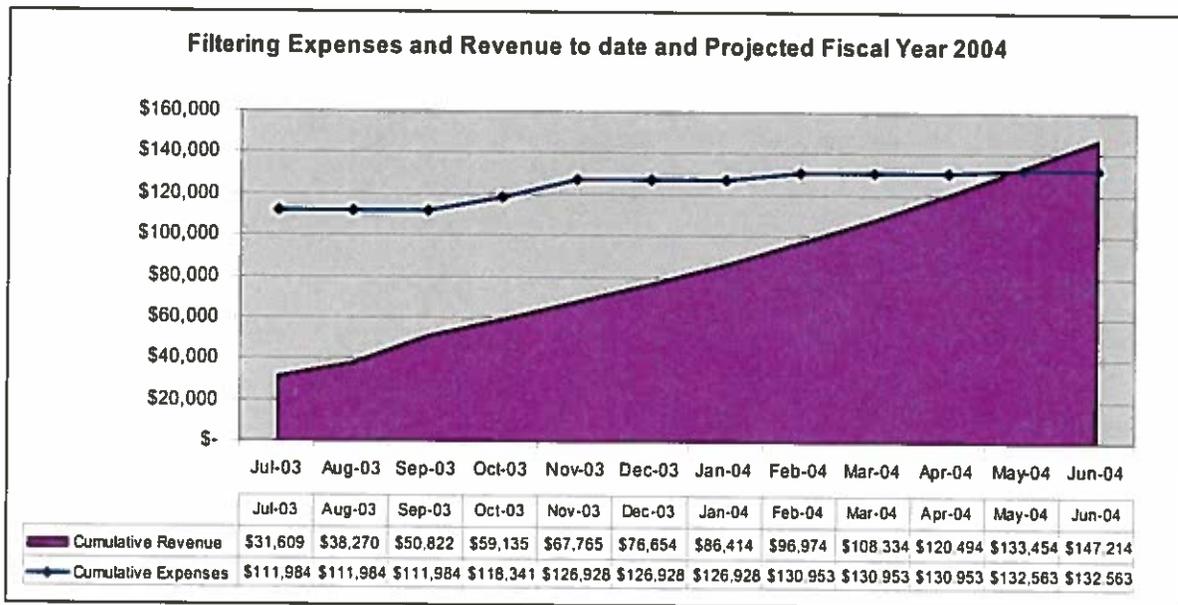


Deploying a centralized filtering solution across a large enterprise such as the ICN required the purchase of sufficient equipment to make the service available everywhere in the state. In addition, it was necessary to build in adequate redundancy so as to provide uninterrupted service to constituents in the event of a hardware failure. As a result, expenses exceeded revenues during the first fiscal year. Expenses during fiscal year 2003 totaled \$430,799; revenue from filtering totaled \$76,578.

Projections for fiscal year 2004:

Conservative estimates for fiscal year 2004 indicate that ICN filtering will reach the break-even point in May 2004. Expenses will again exceed revenue in July when it is necessary to renew the purchase of filtering licenses. Filtering licenses are purchased at the start of each fiscal year based on the number of hosts (constituent computers) using the service. As the service grows throughout the year, additional licenses are purchased on a pro-rated basis so that all licenses extend only to the end of the current fiscal year. The service should reach the break-even point again in October 2004.

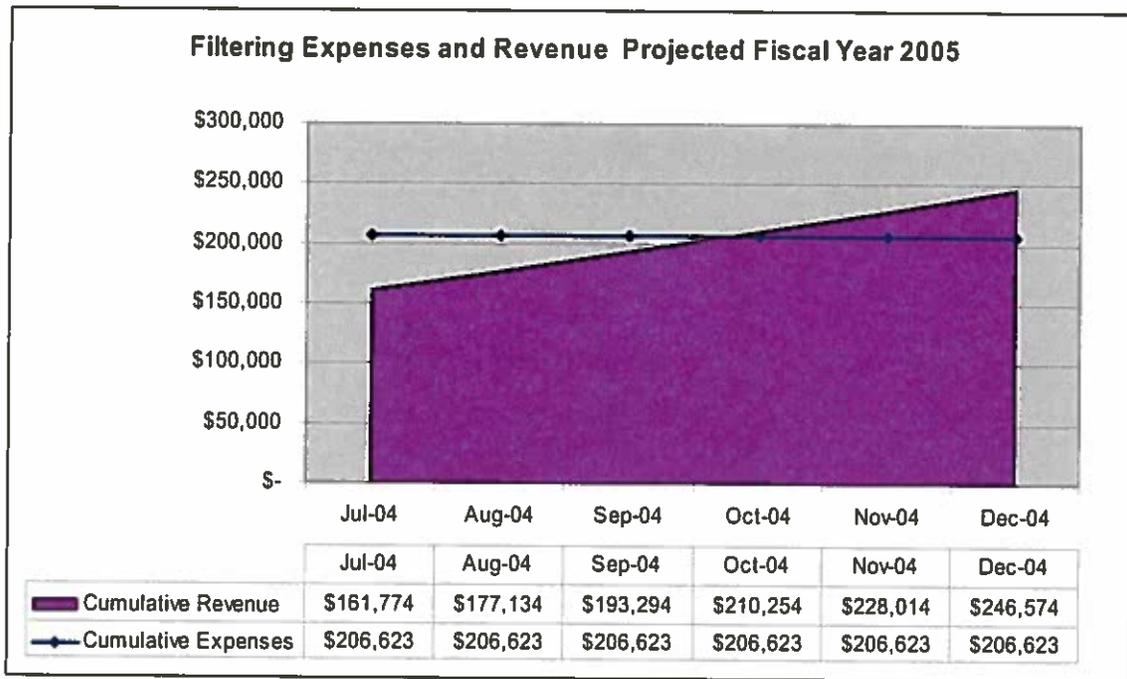
**Figure 2: Filtering Expenses and Revenue for Fiscal Year 2004**



Ongoing projections:

Existing hardware will continue to scale such that the service will be able to grow much larger before additional hardware will be required. Hardware is projected to remain in use for approximately three years from the original purchase date. The revenue exceeding expenses starting in November 2004 will eventually be used to replace existing hardware and prepare for future growth. The largest ongoing expense is for filtering licenses. If ICN filtering continues to be popular with constituents, there is the potential for much greater efficiencies of scale with higher numbers of computers being filtered.

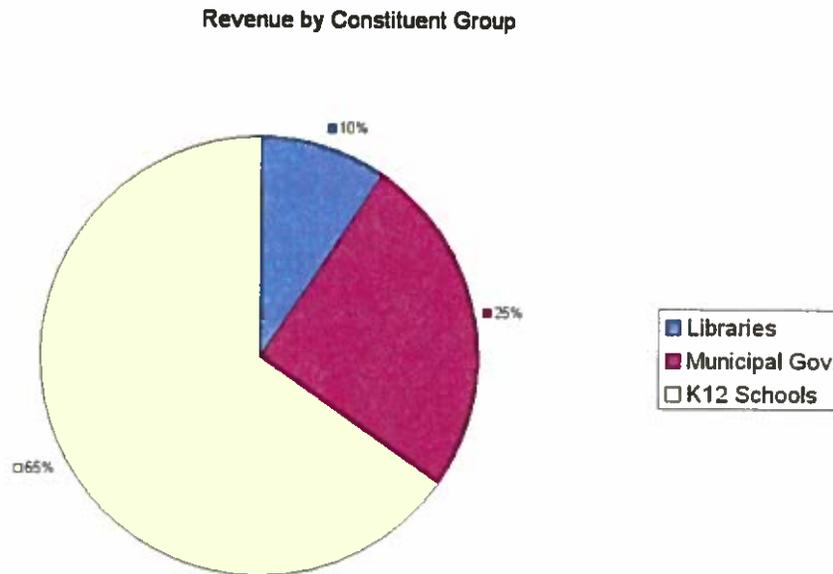
**Figure 4: Filtering Expenses and Revenue Projected for Fiscal Year 2005**



Filtering revenue by constituent group:

Clearly, K-12 schools are by far the largest users of ICN filtering. This was anticipated since K-12 schools are the largest constituent group on the network and are required by the Children’s Internet Protection Act (CIPA) to filter Web content if they wish to receive Federal monies for their Internet connectivity. Libraries, which were previously exempt from this requirement, will be under the same restrictions beginning July 2004. In anticipation, many have signed up for ICN filtering.

**Figure 5: Revenue by Constituent Group**



**Benefit:**

ICN filtering was not deployed in an effort to generate money to be used for other endeavors. It was implemented as a service to constituents that would pay for itself over time. With this in mind, ICN filtering is certainly a success. It provides an economical solution for constituents who wish to prevent objectionable and often illegal content from reaching the users on their networks. It is also a cost effective solution for schools and libraries that are required to filter in order to receive Federal monies to support technology at their institutions.

Satisfied constituents are the primary return on investment.

As you know, we now rely on your N2H2 Internet Filter service and have found it to be a good choice that has very nicely met our needs at this school. Previously we had two other products that proved to be more costly and time intensive. ICN staff handling the technical support has really helped CHA and many other schools to use a very solid product without the intense support/maintenance...thanks.

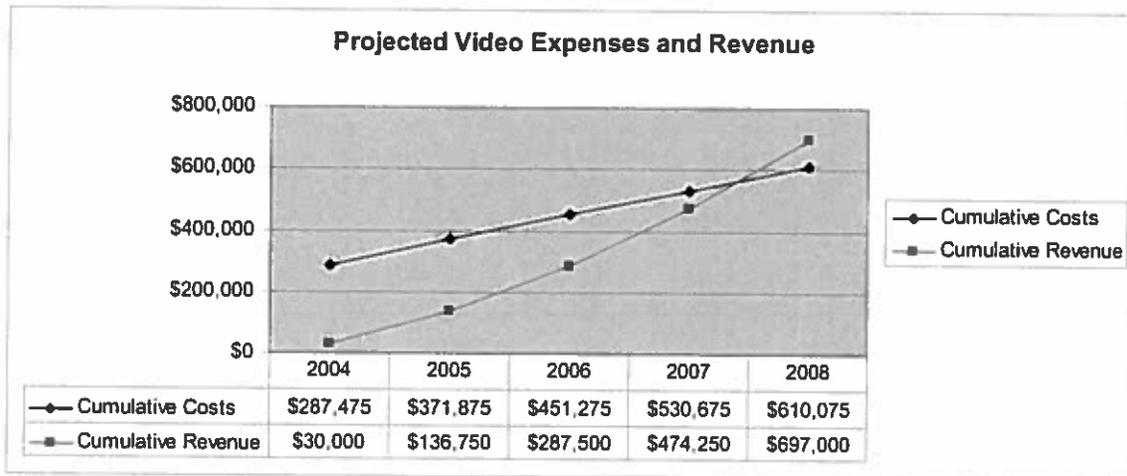
*George Schroepfer, Director of Technology  
Christian Heritage Academy*

## IP Video

In April 2003, ICN launched the IP (H.323) video service. Since that time, 83 video endpoints have registered to use this service. As constituents migrate from older technology to the new IP-based technology, they will look for cost effective ways to use their ICN connection for video traffic in addition to data traffic. The newly executed contract that the Department of Central Management Services has in place for cost-effective IP video equipment will serve to foster the migration to H.323 and the ICN expects to see significant growth in the number of video endpoints registered to use the service. Additionally, the ICN and CMS video networks will be integrated to realize further costs savings and enhanced service for all constituents.

### Costs and Projections

**Figure 6: Projected Video Expenses and Revenue**



IP Video service was developed based on a return on investment (ROI) period of three to five years. To date, video expenses are \$287,475 while anticipated revenues for fiscal year 2004 are \$30,000. Conservative projections for video endpoints were used to project the ROI period. Potential endpoint figures include current H.320 (ISDN) endpoints upgrading to H.323 (IP) as well as the addition of new endpoints.

ILLINOIS CENTURY NETWORK

**NETWORK UTILIZATION:  
COST SAVINGS**

**Submitted for:** Information

**Summary:** ICN staff continually looks for ways to reduce costs for constituents at the local level, as well as statewide at the backbone level. This item provides the Policy Committee key examples of where costs savings have occurred.

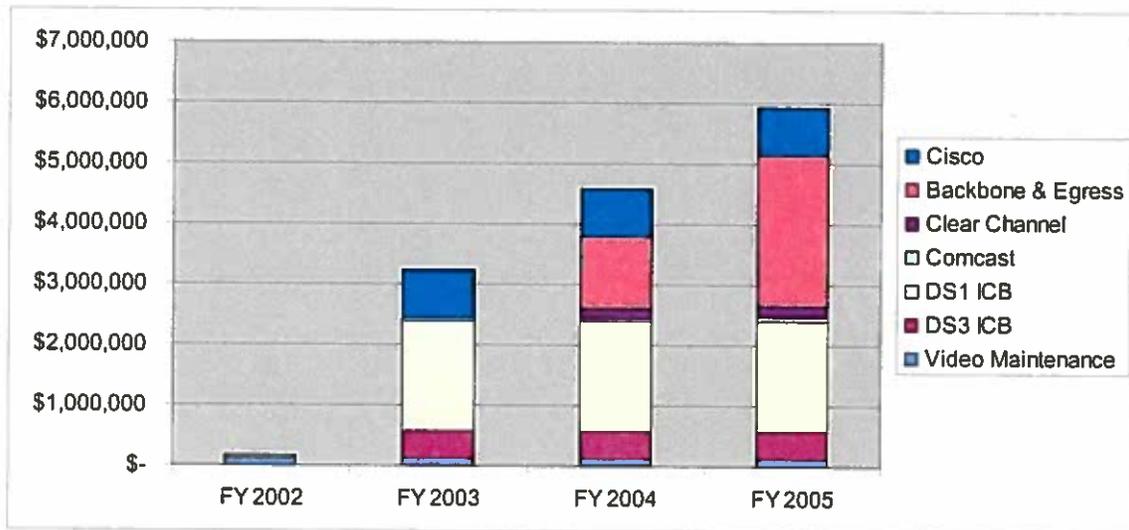
**Action Requested:** None.

## ILLINOIS CENTURY NETWORK

### NETWORK UTILIZATION: COST SAVINGS

ICN staff continuously works to lower costs for both the backbone network and its constituents. These efforts focus on the areas of backbone circuits, Internet egress, last mile connectivity and services. The resulting cost savings have enabled the ICN to increase the network's capacity at level funding. Figure 1 provides a look at the cumulative impact of ICN's cost savings initiatives.

**Figure 1: Summary of Cost Savings Initiatives**



The following synopsis of past efforts and results illustrates the role the ICN has played in lowering telecommunications costs.

The ICN provided support for the Illinois Video Education Network (IVEN) by implementing a central video switch designed to use the ICN backbone to interconnect IVEN regional video hubs. The ICN also underwrote a maintenance contract that covered this central and regional hub equipment. Rather than renew this maintenance contract the ICN moved maintenance in-house and negotiated an open purchase order arrangement for Tier 2 manufacturer support, saving constituents \$450,000 for fiscal year 2002 through fiscal year 2005.

The ICN uses channelized DS3 circuits to aggregate traffic at network points of presence (POP) sites. Community networks and individual sites use DS3 circuits to connect to the ICN as well. The ICN and SBC negotiated a contract for lower DS3 costs

which will result in a total savings to the ICN and constituents of \$1.428 million over the 36 month contract term when compared to standard tariffs.

The ICN negotiated a DS1 contract with SBC that is used by most constituents in SBC service areas for connecting to the ICN POP and to build constituent intranets for data and video transport. Use of this contract saves constituents a total of \$1.8 million annually compared to standard tariffs.

The ICN contracted with Comcast for a fiber build-out that replaced the need for leased OCn services in Chicago saving the ICN \$136,320 over the first 36 months of the contract and \$85,440 annually thereafter.

The ICN negotiated with Verizon, Citizens and SBC for the elimination of DS1 clear channel capability charges resulting in annual savings of approximately \$179,376 for ICN, constituents, and CMS.

Negotiations with Interexchange carriers and Tier 1 Internet Service Providers resulted in annual savings of \$1.17 million for fiscal year 2004 and \$2.48 million for fiscal year 2005 for backbone circuits and egress.

The ICN/SBC master contract for Cisco Systems products and services provide discounts of forty-two percent (42%) for equipment and thirty percent (30%) for SmartNet maintenance service. Savings from the previous contract are estimated to be more than \$800,000 per year.

The ICN Filtering and IP Video services use centralized equipment and group purchasing to significantly lower the cost of these services for our constituents. The savings to constituents is difficult to quantify. The filtering service is new to both the ICN and constituents, thus lacking historical data for comparison. A significant cost savings to constituents is the ICN's management of the filtering hardware. IP Video offers similar challenges as it will be a new service to many constituents. For those constituent who will be converting from older technology, ICN staff will likely be engaged in the cost savings analysis which will provide information for staff to record and track over time.

ILLINOIS CENTURY NETWORK

**NETWORK UTILIZATION:  
BASELINE UTILIZATION**

**Submitted for:** Information

**Summary:** In response to the Policy Committee's request for additional information regarding primary constituent use of baseline bandwidth, ICN staff conducted an extensive analysis. The results of this analysis are presented in this item.

**Action Requested:** None.

**ILLINOIS CENTURY NETWORK**

**NETWORK UTILIZATION:  
 BASELINE UTILIZATION**

In response to the request from the Policy Committee for more information regarding primary constituent use of ICN baseline bandwidth and whether it is adequate for current and future needs, ICN staff performed an analysis of directly connected constituent sites. To ensure that the sites in the study were representative of the institutions in their constituent category, some sites were excluded. Only K-12 schools were used to represent K-12, only campuses were used to represent higher education and only public libraries were used to represent libraries. Examples of excluded sites are district K-12 offices, Regional Offices of Education, extension offices for universities, library system offices etc.

The baseline utilization analysis provides a great deal of insight into primary constituent use of allocated baseline bandwidth. Higher education institutions utilize the greatest amount of bandwidth. A small but significant percentage of other primary constituents who have access to their full baseline bandwidth allocation are fully utilizing the bandwidth. The vast majority of primary constituents who are receiving less than their baseline bandwidth allocation (primarily due to the high cost of access circuits) are experiencing congestion.

**Bandwidth Allocation**

Every site in the study was examined to determine how much ICN bandwidth they currently receive, compared to the amount of baseline bandwidth the institution qualifies for under the current cost recovery model. The results are shown below in Table 1.

**Table 1: Primary Constituent Access to Baseline Bandwidth**

<b>Site Category</b>	<b>Above Baseline</b>	<b>Even with Baseline</b>	<b>Below Baseline</b>
K-12 Schools	0%	80%	20%
Community Colleges	25%	50%	25%
Public Colleges and Universities	92%	8%	0%
Private Colleges	39%	54%	7%
Public Libraries	1%	85%	14%
Museums	10%	86%	5%
<b>Overall Percentages</b>	<b>3%</b>	<b>79%</b>	<b>18%</b>

As expected, the study shows that higher education institutions are using more bandwidth than is provided under the current cost recovery model. Most of these institutions are purchasing additional bandwidth while a few receive additional bandwidth as compensation for hosting an ICN Point of Presence (POP). K-12 schools are currently operating within the limit of what is provided under ICN's current model, with the exception of one private school that has chosen to purchase additional bandwidth (the table shows 0% above baseline due to the large number of K-12 schools on the network). The majority of libraries are also within their allocated bandwidth provided without cost. A small number of museums have chosen to purchase additional bandwidth.

It is also important to note that approximately eighteen percent (18%) of the primary constituents connected to the network are receiving less bandwidth than they are eligible for under the current model. It is assumed that most of these institutions cannot afford the cost of access circuit(s) sufficient to provide them with the baseline bandwidth allocation. Additionally, there are 145 public school districts (approximately 15%) that are currently not connected to the ICN as they are receiving Internet service from another provider.

### Current Utilization

The previous table showed the percentage of constituents in each category that were receiving ICN bandwidth above, equal to and below their baseline bandwidth allocation. In Table 2, access to baseline bandwidth is further divided based on utilization of the available bandwidth.

**Table 2: Utilization of Available Bandwidth (All Primary Constituents)**

<b>Current Bandwidth</b>	<b>Portion of Whole</b>	<b>Potential Congestion</b>	<b>Adequate</b>	<b>Room to Grow</b>
Above Baseline	3%	46%	31%	23%
Even	79%	29%	32%	39%
Below	18%	71%	21%	8%

In Tables 3 through 8, the constituent categories identified in Table 1 are further broken down to show potential congestion, adequate bandwidth and room for growth.

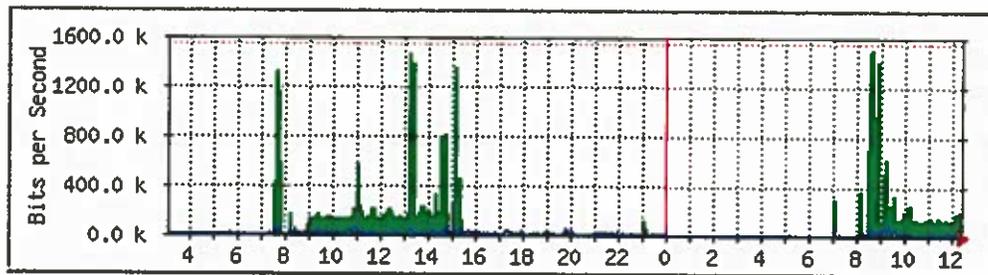
**Table 3: K-12 Schools**

<b>Current Bandwidth</b>	<b>Portion of Whole</b>	<b>Potential Congestion</b>	<b>Adequate</b>	<b>Room to Grow</b>
Above Baseline	0%	NA	NA	NA
Even	80%	27%	36%	36%
Below	20%	72%	21%	7%

Eighty percent of the connected K-12 schools are receiving their baseline bandwidth. An estimated twenty-seven percent (27%) of these experience some congestion during the day. The largest percentage of potentially congested connections can be seen within the twenty percent (20%) of K-12 schools that receive less than the baseline of bandwidth that they currently are allocated under the ICN's cost recovery model. Here, seventy-two percent (72%) of the lines show signs of congestion. Many of these institutions are connected with circuits smaller than a T1. It is reasonable to assume that the cost of a T1 circuit is more expensive than these schools are able to afford.

The degree to which this congestion impairs classroom activity can only be determined by interviewing individual administrators and users. ICN staff contacted a small number of institutions in this category and found that some congestion occurs because of how the Internet is used at these institutions. Rather than a random and constant use, as is the case for large colleges and universities, K-12 institutions often access the Internet in bursts. Overall utilization of the connection may be low for much of the day, but during peak usage times, the circuit is unable to accommodate the demand. This is particularly true for institutions with a single T1. An extreme example of this pattern of utilization is shown below.

**Figure 1: K-12 Utilization Graph**



The graph in Figure 1 shows the daily utilization of a T1 connection to a grade school. The maximum bandwidth utilization in this graph was ninety-seven percent (97%). The weekly maximum (the percent utilization used for the study) was sixty-five percent (65%). The weekly average utilization was only six point seven percent (6.7%). The numbers alone don't adequately describe what is happening at this school. It is important to understand that ICN's graphing software only polls the constituent router every five minutes. Each sample used to produce this graph represents a five-minute average. As the graph demonstrates, utilization is minimal most of the school day. At times of peak usage, however, the circuit is near saturation and users will experience delays.

K-12 administrators tell staff that delays can be problematic at times, because of the tendency for students to lose focus and become disruptive while waiting for Internet content. To avoid this problem, some administrators encourage teachers to anticipate the day's classroom needs and to download content before the start of class. Careful examination of the above graph shows a spike at about 7:30 a.m. on day one (the spike farthest to the left). This early morning spike may represent a teacher (or teachers) downloading content for that day's lesson. Administrators report that anticipating the

need for content is wise, but isn't always possible. Sometimes it is helpful to be able to find information immediately in response to something that occurs during a lesson, such as a question from one of the students. Additionally, it is beneficial for students to learn to find the information themselves.

**Table 4: Community Colleges**

<b>Current Bandwidth</b>	<b>Portion of Whole</b>	<b>Potential Congestion</b>	<b>Adequate</b>	<b>Room to Grow</b>
Above Baseline	25%	44%	33%	22%
Even	50%	50%	22%	28%
Below	25%	67%	11%	22%

Community colleges as a group require less bandwidth than four-year institutions. Staff attributes this difference to the limited number of student residential facilities at community colleges. However, there is a concern with the twenty-five percent (25%) that are receiving less bandwidth than they qualify for. This group represents twenty-five percent (25%) of the whole and sixty-seven percent (67%) of these are in the "Potential Congestion" category.

**Table 5: Public Colleges and Universities**

<b>Current Bandwidth</b>	<b>Portion of Whole</b>	<b>Potential Congestion</b>	<b>Adequate</b>	<b>Room to Grow</b>
Above Baseline	92%	27%	45%	27%
Even	8%	100%	0%	0%
Below	0%	NA	NA	NA

Public universities receive by far the largest amount of bandwidth per institution of any category of constituents on the network. There is one public university receiving baseline bandwidth only. Bandwidth use by constituents in this category continues to grow on a monthly basis.

**Table 6: Private Colleges**

<b>Current Bandwidth</b>	<b>Portion of Whole</b>	<b>Potential Congestion</b>	<b>Adequate</b>	<b>Room to Grow</b>
Above Baseline	39%	67%	19%	14%
Even	54%	66%	24%	10%
Below	7%	50%	0%	50%

The vast majority of private colleges and universities with bandwidth above the baseline (thirty-nine percent of connected private higher education) appear to be using all the bandwidth available to them. Two thirds of the institutions with only baseline bandwidth (fifty-four percent of connected private higher education) also appear to be using all the bandwidth available to them.

**Table 7: Public Libraries**

<b>Current Bandwidth</b>	<b>Portion of Whole</b>	<b>Potential Congestion</b>	<b>Adequate</b>	<b>Room to Grow</b>
Above Baseline	1%	25%	50%	25%
Even	85%	24%	21%	55%
Below	14%	70%	23%	7%

Public libraries are each allocated 1.5 Mbps of baseline bandwidth (the speed of a T1). Eighty-five percent (85%) of public libraries are accessing their baseline bandwidth of which one quarter (24%) are experiencing congestion. The most urgent need, however, is seen in the fourteen (14%) that are connected at less than T1 speeds. The connections of seventy percent (70%) of these libraries show signs of potential congestion.

**Table 8: Museums**

<b>Current Bandwidth</b>	<b>Portion of Whole</b>	<b>Potential Congestion</b>	<b>Adequate</b>	<b>Room to Grow</b>
Above Baseline	10%	0%	50%	50%
Even	86%	56%	17%	28%
Below	5%	0%	0%	100%

Museums are each allotted 1.5 Mbps of baseline bandwidth (the speed of a T1). Eighty-six percent (86%) of museums have access to their baseline bandwidth of which more than half (56%) are experiencing congestion. Only a small percentage (5%) of museums are unable to access their baseline.

### **Conclusions**

As funding levels change, telecommunications costs shift, and constituent utilization of the ICN increases, staff must continually seek ways to insure that the primary constituents of the ICN have the bandwidth required to support education applications and resource sharing throughout the State. In the current environment, seventy-nine percent (79%) of constituents are accessing their full baseline bandwidth and a small percentage (3%) have purchased bandwidth above the baseline. As anticipated, the study confirms that a significant percentage (18%) of constituents do not have access to the baseline bandwidth available to them. Nearly three-quarters of these constituents (71%) are likely experiencing congestion on their current connection. Based on the results of this study, staff have identified two areas of concern: 1) the majority of primary constituents are at or nearing capacity of their baseline bandwidth and 2) a significant percentage of constituents are unable to access their available baseline bandwidth.

Seventy-nine percent (79%) of primary constituents are at or nearing capacity of their baseline bandwidth. Advanced Engineering Taskforce members report that many K-12 schools needing the additional bandwidth will be unable to purchase bandwidth above their baselines due to budget limitations. This information is consistent with ICN's

experience with cost recovery as there is only one K-12 school purchasing additional bandwidth. As demand for bandwidth within the schools continues to grow, the current baselines will present a problem to many constituents. One option to consider is increasing baselines as a result of the cost savings achieved through aggressive contract negotiations. However, any adjustments to baselines must be carefully implemented in a manner that promotes responsible growth and sustainable levels.

While increasing baselines would benefit a large percentage of constituents, the eighteen percent (18%) of constituents currently not accessing their baselines would see no improvement. Staff recommends further study of these constituents to determine if cost is the obstacle or if there are other reasons for not accessing the full baseline. It's reasonable to assume the cost of the last mile access circuit will be an obstacle for many. As most elements of telecommunications costs have significantly decreased over the past few years, the price for access circuits in rural areas has gone unchanged. Staff continues to aggressively pursue alternative last mile connectivity options including utilizing cable companies and satellite technology.

Another option for addressing the growing saturation of baseline bandwidth is to reduce the rate for purchasing additional bandwidth. The current rate starts at \$250 per megabit and decreases as more bandwidth is purchased. Advanced Engineering Taskforce members have suggested that staff revisit the ICNs cost for bandwidth as a result of decreased backbone and egress costs. Another suggestion is to adjust the rate structure so that the cost for the first few megabytes is less than the cost at a greater level. This rate adjustment would enable more constituents to purchase additional bandwidth. AET members also encourage the staff and Policy Committee to reconsider the methodology for allocating bandwidth to a constituent funded community network. The current methodology aggregates the enrollment for all primary constituents participants as opposed to summing the eligible bandwidth for each individual constituent. As a result of this methodology, constituents receive less bandwidth by connecting as a group than they would connecting individually.

The results of this analysis provide a solid foundation for reevaluating bandwidth baselines and costs for fiscal year 2006. Staff's aggressive efforts to realize cost savings for the backbone and egress have proven fruitful resulting in a lower operating cost. In looking to the future telecommunications market, staff anticipates that these cost savings trends will continue especially in the area of egress costs. Plans for ICN and CMS to pursue network consolidation and dark fiber opportunities will further reduce operating costs for both entities. For these reasons, staff recommends a formal review of bandwidth baselines and costs to recommend adjustments for fiscal year 2006.

APPENDIX

**BASELINE BANDWIDTH UTILIZATION ANALYSIS  
STUDY OVERVIEW**

## **BASELINE BANDWIDTH UTILIZATION STUDY OVERVIEW**

### **Utilization Analysis**

The utilization statistics used in this analysis were gathered using a software program called Multi Router Traffic Grapher (MRTG). MRTG is a tool that provides a live visual representation of network traffic. MRTG produces daily, weekly, monthly and yearly graphs. Accompanying each graph is some summary data as well as Maximum In, Maximum Out, Average In, and Average Out data. For this analysis, it was determined that data from the weekly Maximum fields would be collected. Weekly data was preferred over daily data, primarily because constituent connections are not used equally every day of the week. For example, some libraries are only open on specific days of the week. In addition, inclement weather has resulted in the cancellation of classes and activities at many of the institutions in the study. By looking at weekly data rather than daily, the impact of these problems was minimized. The maximum field was chosen because it provides the highest 30-minute average that occurs during the week. Inactivity on a given day, or even several days, will not impact this average. Using random samples rather than examining each connection achieved utilization percentages for the two categories with the largest number of connections, public libraries and K-12 schools. In each case, the sample was large enough to provide a reasonable estimate of the whole (63 each for libraries and K-12).

Connections with weekly maximum utilizations (highest 30-minute average of the week) of ninety to one hundred percent (90-100%) were considered to be showing signs of potential congestion. Connections with 30-minute averages showing sixty to eighty-nine percent (60-89%) utilization were considered to be connections that appear to be adequate. Connections with 30-minute averages less than sixty percent (60%) were considered to have significant room for future growth.

### **Limitations**

To put the data collected using MRTG into proper perspective, it is necessary to understand how constituent utilization is currently being monitored and what data can reliably be extracted from the system.

MRTG is primarily interpreted visually. ICN technicians use it to see the utilization of constituent connections and, to a limited degree, what has happened in the past. Many times, technicians will look at the graphs while speaking with a constituent who has called in for support. When used in combination with an understanding of what users are experiencing, MRTG can be a very effective tool.

Without the added perspective from the users, the information in MRTG is incomplete. MRTG can document the amount of traffic passing through a connection, but it cannot show what application(s) are causing the traffic or the degree to which congestion might impair the user's experience. For example, a user who is viewing a streaming video application would be severely impaired by congestion of the institution's

access circuit. Someone downloading a large file would only experience a longer download time, which may or may not be problematic depending on the circumstances.

Another limitation of MRTG is that it is not a good source of historical data. Historical data is kept only in summary form. Data from daily graphs is averaged to produce weekly graphs. Data from weekly graphs is further averaged to produce monthly graphs etc. The averaging eventually combines periods of use with periods of inactivity, which limits its usefulness to document trends and predict future needs.

In some cases, the visual representations can be interpreted by a technician to predict when a circuit will become saturated. This, however, is a subjective interpretation of the user, not a direct output of the program. An interpretation made in this way cannot be construed as data. It is also very time consuming because it is best done with input from the constituent. While the ICN is able to provide current utilization, it is unable to provide predictive data about future constituent needs for additional bandwidth at this time.

ILLINOIS CENTURY NETWORK  
**EXECUTIVE SESSION**

**Submitted for:** Information

**Summary:** A closed executive session is requested for the purpose of discussing personnel issues.

**Action Requested:** None.

**ILLINOIS CENTURY NETWORK**

**EXECUTIVE SESSION**

The Policy Committee will meet in Executive Session today. Under the Open Meetings Act, there must be a motion adopted in open session to authorize an Executive Session. A quorum must be present, and the motion must be approved by a majority of the quorum with a recorded vote. A quorum is present. I would now ask if we could have a motion and a second to authorize an Executive Session, as follows:

“I move that the Policy Committee go in to closed Executive Session at \_\_\_\_\_ p.m., Wednesday, March 24, 2004 for the purpose of discussing Illinois Century Network personnel issues pursuant to Section 2(B)(1) of the Open Meetings Act.