

VOIP IMPLEMENTATION MINNESOTA HOUSE OF REPRESENTATIVES

National Conference of
State Legislatures

Paul Schweizer
September 4, 2008

What is IP Telephony?

- ❑ The technology for transmitting voice communications using voice over IP.
- ❑ Uses a single network infrastructure for the transmission of data, voice and video traffic.
- ❑ Supports a telephony environment where higher level features such as advanced call routing, unified messaging and intelligent contact centers can be utilized

Should Your Legislature Convert to VOIP?

- Assess readiness of organization for new technology
- Assess state of technology & costs
- Weigh risks against rewards, pros & cons

Advantages Experienced

- Manage Moves, Adds & Changes
- Improved Customer Service
- Improved Control Flexibility & On-site Support
- Operating Cost Reductions
- Clean-up of Telephone Number Assignments
- Additional Features and Functions Available

Additional Features & Functions

- Unified Messaging
- Softphones
- On-Line Corporate Directory
- Conference Calling
- Call Usage Reports
- Off-Site Call Routing (Business Continuity)
- Enhanced 911

Potential Disadvantages

- Increased Risk & Responsibility
- Change in Staff responsibilities
- Additional Staffing?
- Loss or Delay of Current Features
- Significant Investment Cost
- Staff Time for Research, Project Management, Contract Review, Purchasing, Implementation, Training

Potential Risks

- What if?
 - Your data network goes down?
 - The internet goes down?
 - Poor voice quality?
 - Too much traffic at the same time?
 - Unexpected costs?

Issues to be Addressed

- Cost & Capacity of Circuits - Connect to PSTN
- Long Distance Provider
- Security
- End User Training
- Records of Legislative Calls
- Maintenance of Switches & Phone Sets
- Port (Change) all User's Phone #

VOIP Implementation in Minnesota Legislature

- MN House Converted in Late 2005
- Joint Legislative Units & Senate in 2008

Minnesota Legislative Environment

- ❑ Part-time legislature
 - ❑ 5 Months in Odd Year
 - ❑ 2 -3 Months in Even Year

- ❑ No district offices

- ❑ Equipment upgrades & new services must be completed during interims

- ❑ House, Senate & LCC – Separate Budget Authority

Minnesota House of Representatives

- ❑ Election every two years
- ❑ 100 – 200 telephone moves
- ❑ New members start January of Odd Numbered Year
- ❑ Current members may keep offices through December

Minnesota House (cont)

☐ Telephone users:

- ☐ 134 Members
- ☐ 251 Permanent Staff
- ☐ 35 other Staff
- ☐ 143 Misc. Phone lines

☐ House of Representatives total annual budget = \$29 million

☐ Technology responsibilities:

- ☐ IT director > for data network
- ☐ Sergeant-at-arms staff > for voice network
- ☐ House controller > contracts, purchasing & budget

Established Project Team, Goals & Timeline

Project Team

- Chief Clerk's Office
 - IT Director
 - Network Engineer
 - IT Analyst
 - Electrician
- Sergeant-at-Arms Department
 - Chief Sergeant-at-Arms
 - **Telecommunications Analyst**
- Controller (Project Manager)

Goals of VOIP Implementation

Primary

- Reduce operating costs as part of solution to budget problem
- Replace call routing service that was being discontinued by vendor

Secondary

- Improve administration of phone system
- Maintain features and high quality voice service
- Position the House to take advantage of technological advances
- Improve the data network through increased redundancy

VOIP Implementation Timeline

2004

- Staff Research
- Planning
- Preliminary Meetings
- Preliminary Cost Analysis

2005

- Feb & March > Budget proposal to Rules Committee
- April & May > Pilot Project
- June > Choose New Direction
- July – Oct > Purchase & Installation
- Nov > Implementation Completed

Anticipated Costs & Benefits

- Lower monthly local service rates
- Reduced or eliminated moves, adds, changes
- Reduced long distance rates

Rate Comparison - Status Quo Vs. VOIP

- Monthly rates from previous provider (ISDN + Voice Mail)

	<u>1 – line</u>	<u>Voice Mail</u>	<u>Total</u>
FY05	\$26.50	\$7.95	\$34.45
FY06	\$33.13	\$9.95	\$43.08
FY07	\$37.03	\$9.95	\$46.98

- Proposed VOIP Monthly Rate = **\$10.00***

- * **Excluding Circuit costs**

Pilot Project

12 Volunteers (two Members) used System for over a month

Features Liked:

Missed call records, different ring tones, menus, setup & speed dial over intranet, one button message retrieval, message light, call forward variable, larger screen

New Direction

- Evaluated pilot project
- Reviewed additional options
- Choose a different service vendor

Full-Scale Implementation Issues

- Communication & Project Management
- Network Equipment
- Service & Purchase contracts
- Station reviews
- Phone sets
- 911
- Training
- Cutover to new system - two phases

Communication & Project Management

- Regular communication to members & staff
- Keep House leaders informed of progress & issues
- Weekly meetings with vendor
- Weekly project staff meetings

Network Equipment Installation

- ❑ House network upgrades
 - ❑ Switches with POE
 - ❑ Redundant firewalls
 - ❑ Additional UPS
 - ❑ Redundant central switches
 - ❑ Wiring review and upgrades
- ❑ Vendor installation of servers

Service/Purchase Contract

- Vendor – Qwest
- Network & phone equipment – Cisco
- Equipment purchases
- Service contracts – local service
- Leased servers, operational software

Station Reviews/Programming

- Collect data base of information on each line, such as the following
 - Service Information
 - Phone number, MAC address, service type, model of phone
 - Features
 - Voice Mail, call forwarding, dial restrictions, headset, expansion module?
 - Site Information
 - Floor location, switch location, jack number, phone IP address, division, sub-account number (billing)

Phone Equipment

- Cisco IP phone equipment
 - Standard set deployed - Model 7960
 - Misc. Phone Equipment
 - Expansion module - Model 7914
 - Headsets

911

- ❑ Cisco Emergency Responder
 - ❑ CER server and software installed in House computer room

Training

- ❑ As part of contract, Vendor used a train-the-trainer approach
- ❑ House provided training room on-site
- ❑ Vendor staffed an on-site help desk during transition period

Cutover to New System - Two Phases

- Phase 1
 - November 18, 2005
 - Non-partisan departments

- Phase 2
 - November 28, 2005
 - All House members & caucus staff

Investment Costs

	Preliminary <u>Costs</u>	Project <u>Costs</u>
VOIP Phone Sets	3,000	162,000
Network Equipment	163,000	132,000
Misc. Costs	10,000	40,000
Total	176,000	334,000

Estimated Monthly Cost Savings

- VOIP monthly rate, including voice mail = \$9.95/ month

 - FY07 Avoided Costs (Previous Provider)
 - 420 lines x \$37.03 x 12 = 186,631
 - 378 voice mail boxes x \$9.95 x12 = 45,133
 - Total \$ 231,764

 - FY07 Costs (Current Provider)
 - 420 lines (incl. v mail) x \$9.95 x 12 = \$50,148
 - Additional circuits \$32,400
 - Total Costs \$82,548
- Estimated Annual Savings \$149,000

Summary of House VOIP Implementation

□ Results

- Achieved monthly cost savings
- January '07 Transition to new majority party – seamless move of hundreds of phones
- High-level of satisfaction with phone services & sets
- Cost savings paid for upgraded network equipment in place

LCC & Senate Conversion

- 3 Units Reached Agreement to Operate a Single Network
- Elegant Network Design
- Maintained separate billing, separate, but inter-connected
- Repurposed existing servers

Combined System Benefits

- 5-digit dialing across legislature
- Additional Monthly Cost Reductions
- Backup phone support to other units
- Single on-line phone directory