networkMaryland™ Advisory Group
November 20, 2007
Annapolis, Maryland

## Attendees:

| **Advisory Group** | **Guest** | **DBM** |
|---|---|---|
| Sidney Drake | Jason Ross | Ellis Kitchen |
| Nate Archey | Robert Bowman | Greg Urban |
| Ron Brothers | Ed Quattrone | Cheryl Lincoln |
| John Gallagher | Chuck Hutzell | Joe Scher |
| Chuck Bristow | Dan Vestal | Joanne Rusk |
| Ron Ward | Jerry Ryznar | |
| Stuart Ragland | | |
| Mike McCarty | | |

**Welcome & Introductions**

Greg Urban called meeting to order at 10:05 a.m.

Greg introduced himself, Ellis Kitchen, Cheryl Lincoln and Joe Scher and said that Tim Kwong was on a well-deserved vacation.

The visitors introduced themselves.

There was not a quorum; therefore, a vote could not be taken on the Minutes from the September 18, 2007 meeting.

Chuck Bristow noted that on the last page of the September Minutes there was a partial sentence. It should have stated that Sidney Drake asked about invoices and what intranet services would be available.

Ellis Kitchen noted that:

- Since the network is fully built, the next step is adding additional services under the network. One initiative for FY'09 is to discuss development of new products/services for customers and Ellis would like to gather ideas toward that end.

**State of the Network**

**Operational Customers**

- There are 73 subscribers as of today, including

  79 ISP circuits, an increase of two since the last meeting

  87 SwGI circuits, which represents a change of two,

  1174 layer 2 circuits

  10 VPN connections (no change)

**Customer Provisioning**

69 circuits are currently in customer's testing/implementation phase

30 new circuits have been provisioned since the last meeting

19 circuits have been accepted by customers since last meeting.

**Growth Chart**

We are close to 1200 circuits.

**Executive Branch**

There have been many changes to this group of users, as denoted by red asteriks

**Non Executive Branch**

There have been quite a few changes to this group of users, denoted by red asterisks provided on handouts.

**Non-State Customers**

Includes Caroline County, Washington County Public Network and Women, Infants & Children Program (WIC).

**New Customers**

Department of Agriculture – Internet service

Washington County Government-Hagerstown

Women, Infants & Children (WIC) Program – L2 connection to their Data Center in Beltsville

Caroline County – ISP & SwGI (out of MSC in Denton)

**Operations**

- Consulting Services Engagements

DPSCS: Turn up networkMD on-net connections
OPD: Turn up networkMD on-net connections
WCC: Migrate HQ connections from a leased line to fiber. Have leased services to migrate over to the network.
MSP: Migrate from DPSCS's WAN. This is a change to their technology.
SBE: Set up a syslog server for security logging (a consulting arrangement)

- Working with Agencies to update WAN architecture, which is mostly leveraging infrastructure we've put in place
  MSP
  DPSCS
  MDOT
  JUD/JIS
- DNS servers: hardware installation at POPs by December
- Re-provisioned Archives L2 connection between Hall of Records and UMBC onto newer equipment
- Purchased Kiwi Syslog software for firewall logging
- Internal Operations and Support
  Continuing to identify and gather FMIS legacy network equipment for trade-in or for surplus;
  DC Power Plant maintenance contract is up for renewal. It should be on the street in approximately a month.

**Project Status**

- Migration of backbone from ATM to Native IP
  Realize reduction in management/maintenance costs
  Use MPLS to provision Layer 2 circuits
  Use Ethernet over TDM (EoTDM) for MSC connectivity, which is much cheaper than ATM
- Schedule
  Phase I: AMAN – Completed in October
  Phase II: UMCP/Annapolis/Baltimore core-November (then will be able to decommission 2 switches in Baltimore, which will save $75,000 p/year in maintenance)
  Phase III: Western Maryland – December (Frederick & Hagerstown)
  Phase IV: Southern Maryland – January '08 (LaPlata & Leonardtown)
  Phase V: Multiservice Centers – June '08 (about 12 sites)
  There will not be impact to customers (example, College of Southern Maryland--Phase IV—will go to Ethernet connection)
- UMBC POP
  UMBC POP completed
  Connects to backbone at UMCP and 6 St. Paul
  Archives have been migrated to permanent networkMD equipment and services re-provisioned.

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- Catonsville MSC
  Fiber between UMBC and Catonsville MSC completed
  Equipment deployed; punch list items remain
- Towson POP
  Will connect to backbone via the UMBC POP
  Baltimore County fiber splicing completed
  networkMD awaiting fiber splicing along I-695 to UMBC
  Completion expected in December
  No ATM will be deployed at this POP
- Salisbury MSC
  Initially connect to network via a leased line
  PMP is in development (waiting for hardware validation)
  DS3 clear channel circuit to Easton is completed
  No ATM will be deployed at this POP
- Denton MAN
  Connects subscribers to the Eastern Shore microwave backbone
  All parts procured and received
  Installed equipment in 7 buildings in Denton
  Moving our presence in the County Data Center to the building's
  telecommunications room (extending fiber)
  Preparing WAN request forms for subscribers to assist in transition
  from off-net leased services to on-net circuits.  This is a change from
  our past procedure.  Subscribers will submit the forms if they want to
  proceed forward.
- Cambridge MAN
  Resource share with Bay Country Communications
  Install equipment in 4 buildings in Cambridge (fiber is in more than 4)
  Serve 17 agency connections
  PMP completed and approved
  Equipment has been received
  Fiber installation by Bay Country Communications is in progress

**networkMaryland™ Overview**

UMBC and Catonsville are new additions

**Projects in Planning**
- Western Maryland Microwave
  Partnership with UMATS and Sailor.
  Reevaluation has caused this project to be discontinued
- Washington County Connectivity
  MOU with WCPN
  networkMaryland will establish a POP in Hagerstown
  WCPN will receive SwGI and tower access
  networkMaryland will receive last mile access to subscribers

- Fiber Projects
  - St. Mary's County: Receive one pair of fiber from Leonardtown MSC to US 301, connecting to LaPlata and last mile subscriber access. The county gets ISP connectivity.
  - Resource sharing agreement with Fibergate: Additional fiber in Montgomery and Prince George's Counties and to Fort Detrick. Agreement drafted.
  - Frederick MAN: Add an additional POP in Frederick and build a diverse fiber path to the city. Partnership with Frederick County Government. Relies on Fibergate fiber. There was a city network outage and they're looking to mitigate this situation

## Other Initiatives/Additional Services

- Transport Services
  Ethernet everywhere: Support Ethernet handoff for non-MSC locations
  Clear channel (non-ATM) access: Provide greater than T1 bandwidth and support QoS
  Times have changed. We have a transport model, but where can we go from here? networkMD is a tool, but how can agencies better do their job and achieve their mission?
- Network Services
  VPN: Support small and remote offices and teleworkers (example, the Registers of Wills)
  Voice: Circuit emulation; PBX trunking; VOIP
  Video-conferencing
  These issues were brought up at ITAC. Stuart Ragland said he understood that even elected officials were interested in video-conferencing.

  Ellis noted that the State House would be closing after the 2008 Legislative Session, reopening prior the next session. The Governor's staff may move to Baltimore. Thus, video-conferencing might be a priority.
  Mike McCarty asked what was proposed for video-conferencing. Could it be offered via transport services? Possibly offer blocks of time and streaming? Ellis suggested that he'd like input from the group.
  Rob Bowman asked about the feasibility of a survey for services. Ellis said that ITAC was considering the many ideas on the table. However, we don't want to get in the off-net mode. We have expertise and can do more than routers and switches but only if it makes sense.

Stuart Ragland suggested setting up an IT museum to showcase marketing—where we've been and where we're going.

Virginia doesn't have networkMD, and they're still building. Virginia has a "buyer's club" for services. NetworkMD reflects very well on the state.

There followed a discussion on trunking and PSCN connections.

Greg Urban invited members to submit ideas for discussion

- Application Services

  Consolidated directory services

  > An aggregated situation which is workable.
  > Mike McCarty suggested that consolidating directory services would be very useful to counties and entities such as libraries.

  Hosted email for agencies

  Meeting Collaboration/Video conferencing

  > Some agencies have it and some don't.
  > The University System provides a Distance Learning Network which we might explore.

- Data Center Services

  Remote storage (SAN)

  Remote backup (to disk offsite)

  Data center collocation (we do some now)

  Managed servers

  Managed web hosting/application hosting (example, Time Entry)

  The goal is to leverage resources and dollars.

- Rate Structure

  Reduction in overall subscriber costs and bandwidth rates

  Better alignment of costs and subscriber fees

  > Installation charges
  > Port charges

  Introduction of new products and services

  > Ethernet everywhere

  "Straw Man" cost model built and being analyzed

  > Agency allocations are due at the end of the month. (Greg has to provide numbers by 11/26/07)

Jason Ross asked how ISP was holding up. Hottest circuits run at 65%; UMATS – 50%. We have enough room. We're recompeting the contract in June.

Mike McCarty noted that fiber was being put into Lexington Market and possibly into 300 Lexington. This should reduce the cost. Mike asked if it were possible/feasible for networkMD (the State) to bid jointly with other agencies. Ellis pointed out that most State master contracts have the provision that other agencies,

entities, municipalities, etc. could piggyback onto the master contract but that we would look into the suggested possibility of joint bidding. Jason Ross suggested that possibly the State could work with other agencies/entities to include their requirements/needs when developing an RFP. Greg Urban will approach Norwin Malmberg for ideas.

The next Advisory Group meeting will be held January 15th, (possibly in Annapolis), although we may try to coordinate with the ITAC meeting. The next Engineering meeting will be held December 10 at 1:30 at UMBC.

Mike McCarty asked is there was any word from PSC. None yet.

**Meeting adjourned**
Greg Urban adjourned the meeting at 11:10 a.m.