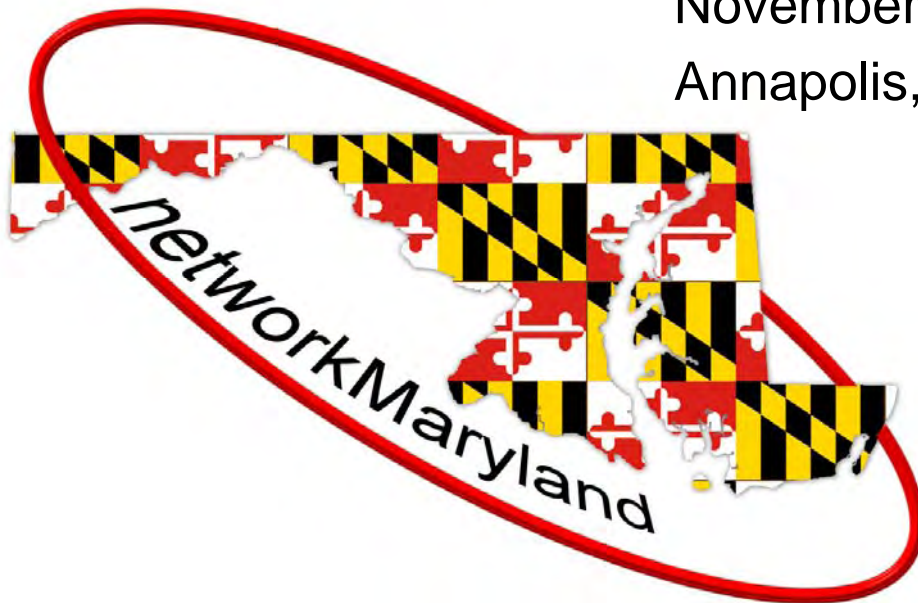


Statewide High Speed Network

networkMaryland™ Advisory Group Meeting
November 20, 2007
Annapolis, MD





Meeting Agenda



- Welcome & Introductions
- State of the Network
- Status of Project
- Other Business



Welcome



- Introductions
- Gregory Urban – Director, networkMaryland™
- Ellis Kitchen – State Chief of Information Technology
- Guests/Visitors
- Meeting Minutes Approval
 - September 2007



Meeting Agenda



- Welcome & Introductions
- **State of the Network**
- Status of Project
- Financial Review
- Other Business



Operational Customers



- 73 Subscribers today
- Circuit Breakdown
 - 79 ISP Circuits
 - 87 SwGI Circuits
 - 1174 Layer 2 Circuits
 - 10 VPN Connections



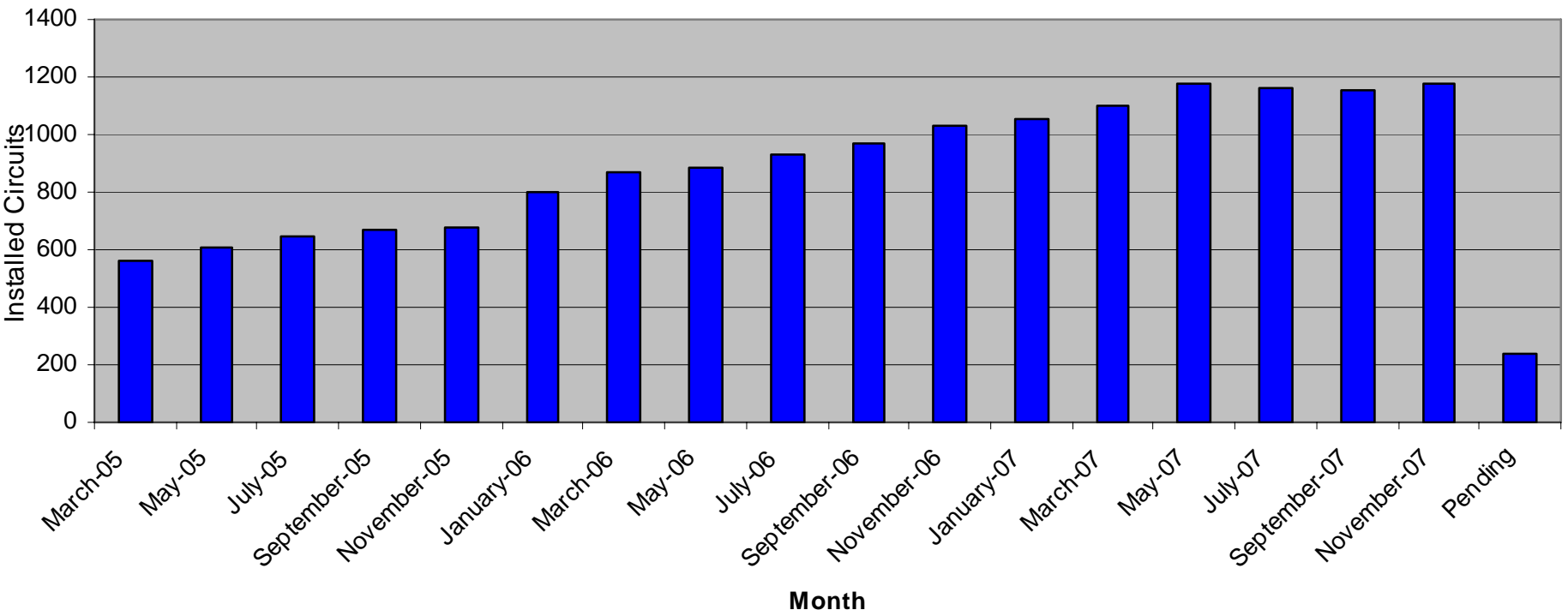
Customer Provisioning



- 69 circuits are currently in the customer's testing/implementation phase
- 30 new circuits have been provisioned since the last meeting
- 19 circuits have been accepted by the customer since the last meeting



Installed Circuits





Executive Branch

Executive Branch networkMaryland Subscribers as of November 16, 2007

Treasurer	Internet SwGI Layer 2	Comptroller	Internet SwGI Layer 2	Governor's Office	Internet SwGI Layer 2	Attorney General	Internet SwGI Layer 2 *	Secretary of State	Internet SwGI Layer 2
Aging	Internet SwGI ** Layer 2	Agriculture	Internet SwGI Layer 2 *	Budget & Management	Internet SwGI Layer 2	Business & Economic Development	Internet SwGI Layer 2 *	Education	Internet SwGI Layer 2 *
Environment	Internet SwGI Layer 2 *	General Services	Internet SwGI Layer 2	Health & Mental Hygiene	Internet SwGI Layer 2 *	Housing & Community Development	Internet SwGI Layer 2	Human Resources	Internet SwGI Layer 2 *
Juvenile Services	Internet SwGI Layer 2 *	Labor, Licensing & Regulation	Internet SwGI Layer 2 *	Natural Resources	Internet SwGI Layer 2 *	Planning	Internet SwGI Layer 2	Public Safety Correctional Services	Internet SwGI Layer 2 *
		State Police	Internet SwGI Layer 2 *	Transportation	Internet SwGI Layer 2 *	Veteran's Affairs	Internet SwGI Layer 2		

Legend:

Agency is Not Receiving networkMaryland Service - A Cost Savings exists if networkMaryland provides service
Agency Expressed Interest in Receiving networkMaryland Service
Agency is in Process of Receiving networkMaryland Service (JCR submitted)
Agency is Receiving networkMaryland Service
Size of Agency is small and does not realize a significant cost savings by connecting to networkMaryland or the service is not required

* networkMaryland Provisioning has been completed, Department is in process of migrating to service

** Agency is receiving networkMaryland service through parent, primary agency

* - denotes a change in service since the last Advisory Group Meeting



Non-Executive Branch

Non-Executive Branch networkMaryland Subscribers as of November 16, 2007

Office of People's Council Internet SwGl Layer 2	Judiciary Internet SwGl Layer 2 *	MD General Assembly Internet SwGl Layer 2	Office of Legislative Auditors Internet SwGl Layer 2	State Lottery Internet SwGl Layer 2 *
State Board of Elections Internet SwGl Layer 2	Maryland State Archives Internet SwGl Layer 2 *	Department of Assessment and Taxation Internet SwGl Layer 2 *	MIEMMS Internet SwGl Layer 2	Subsequent Injury Fund Internet SwGl Layer 2 *
Commission of Human Relations Internet SwGl Layer 2 *	Office for Children Internet SwGl Layer 2	Office of Public Defender Internet SwGl Layer 2 *	Dept. of Rehabilitative Services Internet ** SwGl** Layer 2	Dept. of Military Internet SwGl Layer 2
Workers' Compensation Commission Internet * SwGl * Layer 2 *	State Retirement Agency Internet SwGl Layer 2	Maryland State Retirement Plan Internet SwGl Layer 2	MD Auto Insurance Fund Internet SwGl Layer 2	State Board of Contract Appeals Internet SwGl Layer 2
MD Higher Education Commission Internet SwGl Layer 2	College Savings Plans of Maryland Internet SwGl Layer 2	Office of Crime Control & Prevention Internet SwGl Layer 2	Maryland Emergency Management Agency Internet SwGl Layer 2	MD Stadium Authority Internet SwGl Layer 2
Public Service Commission Internet SwGl Layer 2	Office of Admin Hearings Internet SwGl Layer 2	MD Insurance Administration Internet SwGl Layer 2	Office of State Prosecutor Internet SwGl Layer 2	

Legend:

Agency Expressed Interest in Receiving networkMaryland Service
Agency is in Process of Receiving networkMaryland Service (JCR submitted)
Agency is Receiving networkMaryland Service
Size of Agency is small and does not realize a significant cost savings by connecting to networkMaryland or the service is not required

* networkMaryland Provisioning has been completed, Department is in process of migrating to service

** Agency is receiving networkMaryland service through parent, primary agency

* - denotes a change in service since the last Advisory Group Meeting



Non-State Customers

Non-State entities\Counties\Municipalities networkMaryland Subscribers as of November 16, 2007

Baltimore City	Internet
	SwGI
	Layer 2

Charles County Government	Internet
	SwGI
	Layer 2

University System of Maryland	Internet
	SwGI
	Layer 2

Frederick County Government	Internet
	SwGI
	Layer 2

Baltimore City State's Attorney Office	Internet
	SwGI
	Layer 2

Carroll County Gov't	Internet
	SwGI
	Layer 2

Maryland School for the Deaf	Internet
	SwGI
	Layer 2

Montgomery County Government	Internet
	SwGI
	Layer 2

Baltimore City Community College	Internet
	SwGI
	Layer 2

Caroline County Gov't	Internet
	SwGI
	Layer 2

Alleghany County Board of Education	Internet
	SwGI
	Layer 2

Prince Georges County Government	Internet
	SwGI
	Layer 2

College of Southern MD	Internet
	SwGI
	Layer 2

Ocean City Gov't	Internet
	SwGI
	Layer 2

Anne Arundel County Government	Internet
	SwGI
	Layer 2

Howard County Government	Internet
	SwGI
	Layer 2

MD Public TV (MPT)	Internet
	SwGI
	Layer 2

Garrett County Gov't	Internet
	SwGI
	Layer 2

St. Mary's County Gov't	Internet
	SwGI
	Layer 2

CAPWIN	Internet
	SwGI
	Layer 2

Legend:

Agency Expressed Interest in Receiving networkMaryland Service
Agency is in Process of Receiving networkMaryland Service (JCR submitted)
Agency is Receiving networkMaryland Service
Size of Agency is small and does not realize a significant cost savings by connecting to networkMaryland or the service is not required

* networkMaryland Provisioning has been completed, Department is in process of migrating to service

** Agency is receiving networkMaryland service through parent, primary agency

* - denotes a change in service since the last Advisory Group Meeting

City of Laurel Gov't	Internet
	SwGI
	Layer 2

Washington County (BWA)	Internet
	SwGI
	Layer 2

MD Environmental Service	Internet
	SwGI
	Layer 2

Washington County Public Network (WCPN)	Internet
	SwGI
	Layer 2

NCRnet	Internet
	SwGI
	Layer 2

Women, Children & Infants Program(WIC)	Internet
	SwGI
	Layer 2



New Customers



- Department of Agriculture – Internet service
- Washington County Government – Hagerstown
- Women, Infants & Children (WIC) Program – L2 connection to their Data Center in Beltsville, MD
- Caroline County – ISP & SwGI



Operations



- Consulting Services Engagements
 - DPSCS: turn up networkMaryland on-net connections
 - OPD: turn up networkMaryland on-net connections
 - WCC: migrate HQ connections from a leased line to fiber
 - MSP: migrate from DPSCS's WAN
 - SBE: set up a syslog server for security logging
 - MSLA: network integration with their key partner
- Working with agencies to update WAN architecture
 - MSP
 - DPSCS
 - MDOT
 - JUD/JIS



Operations



- DNS servers: hardware installation at POPs by December
- Re-provisioned Archive's 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 & gather legacy network equipment for trade in or for surplus
 - DC Power Plant maintenance contract up for renewal



Meeting Agenda



- Welcome & Introductions
- State of the Network
- **Status of Project**
- Financial Review
- Other Business



Project Status



- Migration from ATM to Native IP
 - Realize reduction in management/maintenance costs
 - Use MPLS to provision Layer2 circuits
 - Use Ethernet over TDM (EoTDM) for MSC connectivity
- Schedule
 - Phase I : AMAN - *Completed* in October
 - Phase II: UMCP/Annapolis/Baltimore core – November
 - Phase III: Western Maryland – December
 - Phase IV: Southern Maryland – January '08
 - Phase V: MultiService Centers – June '08



Project Status



- **UMBC POP**
 - UMBC POP Completed
 - Connects to backbone @ UMCP and 6 St. Paul
 - Archives has been migrated to permanent networkMaryland equipment and services re-provisioned
- **Catonsville MSC**
 - Fiber between UMBC and Catonsville MSC completed
 - Equipment deployed, punch list items remain



Project Status



- **Towson POP**
 - Will connect to the backbone via the UMBC POP
 - Baltimore County fiber splicing completed
 - networkMaryland awaiting fiber splicing along I-695
 - Completion expected in December
 - No ATM will be deployed at this POP

- **Salisbury MSC**
 - Initially connect to network via leased line
 - PMP is in development
 - DS3 clear channel circuit (to Easton) completed
 - No ATM will be deployed at this POP



Project Status



- 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
 - Preparing WAN request forms for subscribers to assist in transition from off-net leased services to on-net circuits



Project Status

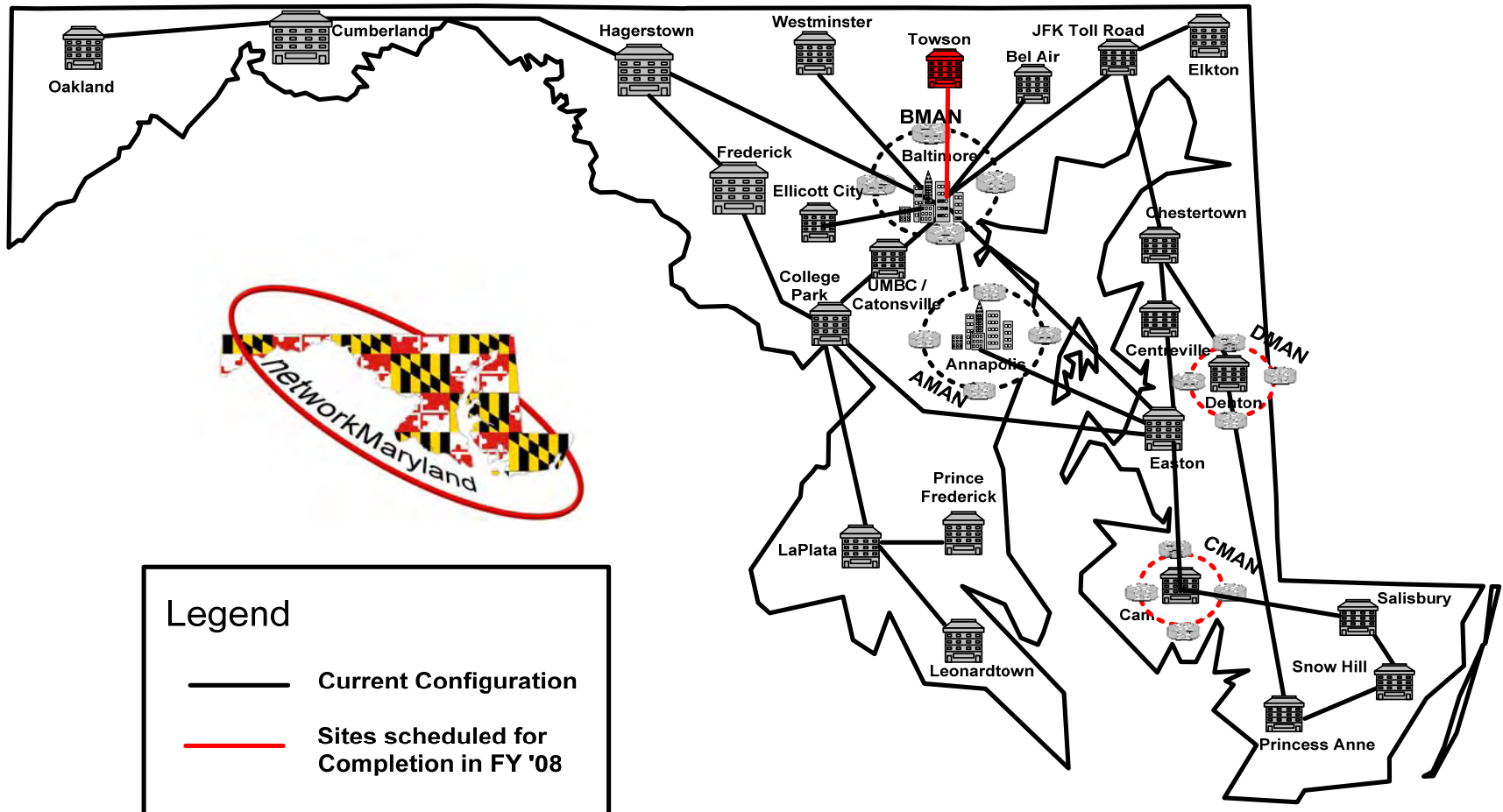


- Cambridge MAN
 - Resource Share with Bay Country Communications
 - Install equipment in 4 buildings in Cambridge
 - Serve 17 agency connections
 - PMP completed and approved
 - Equipment has been received
 - Fiber installation by Bay Country Communications in progress



Network Overview

(November 2007)





Projects in Planning



- Western Maryland Microwave
 - Partnership with UMATS and Sailor
 - Re-evaluation has caused this project to be discontinued
- Washington County Connectivity
 - MOU with WCPN
 - networkMaryland will establish POP in Hagerstown
 - WCPN will receive SWGI and Tower access
 - networkMaryland will receive last mile access to subscribers



Projects in Planning



- Fiber Projects

- St. Mary's County: Receive one pair of fiber from Leonardtown MSC to US301 connecting to LaPlata and last mile subscriber access
- Resource sharing agreement with Fibergate: Additional fiber in Montgomery County, Prince George's County, 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.



MEETING AGENDA



- Welcome & Introductions
- State of the Network
- Status of Project
- Other Business



Additional Services



- **Transport Services**
 - Ethernet Everywhere: Support Ethernet handoff for non-MSA locations
 - Clear channel (non-ATM) access: Provide greater than T1 bandwidth and support QoS
- **Network Services**
 - VPN: Support small/remote offices and tele-workers
 - Voice: Circuit Emulation; PBX Trunking; VoIP



Additional Services



- Application Services
 - Consolidated directory services
 - Hosted email
 - Meeting Collaboration / Video conferencing
- Data Center Services
 - Remote storage (SAN)
 - Remote backup
 - Data center colocation
 - Managed servers
 - Managed web hosting / application hosting



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 build and being analyzed
 - Agency allocations due at the end of the month



Other Business



- networkMaryland™ Engineering Committee meeting
 - December 10th, 2007, 1:30 PM @ UMBC Technology Center
 - Merged with UMATS engineering meeting
- Closing Questions or Comments



Thank You



- Meeting Adjourned