

# networkMaryland™ Advisory Group Meeting

April 20, 2010  
Annapolis, MD



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S T A T E O F M A R Y L A N D  
D E P A R T M E N T O F I N F O R M A T I O N T E C H N O L O G Y



# Meeting Agenda

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



# Welcome

- Introductions
- Gregory Urban: Deputy State CIO - Operations
- Guests/Visitors



# New Business

- Meeting Minutes Approval
  - January 2010
- Announcements
  - Personnel



# New Business

- New Network Management Contract
  - Released October 21<sup>st</sup> using CATS II
  - Issued NTP February 22<sup>nd</sup>
  - Contract will be through May 2014
  - Skyline Network Engineering was the successful bidder
  - Transition has been completed (3/31)
  - Cost Model geared towards more Operations & Maintenance at a fixed price.





# New Business

- New Service - *Redundant ISP Connection*
  - Two connections to networkMaryland for ISP
  - Connections may be in different locations
  - Secondary connection only used when primary connection fails
  - Charges
    - Second ISP port (port charge per rate table)
    - \$100/month for redundant service





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# Operational Subscribers

- 75 Operational Subscribers
  - Two new customers
    - Maryland Energy Administration
    - Garrett County Public Schools
- Circuit Breakdown
  - 78 ISP Circuits (+1)
  - 82 SwGI Circuits (+1)
  - 1382 Layer 2 Circuits (+23)
  - 11 VPN Subscriber Connections (NC)



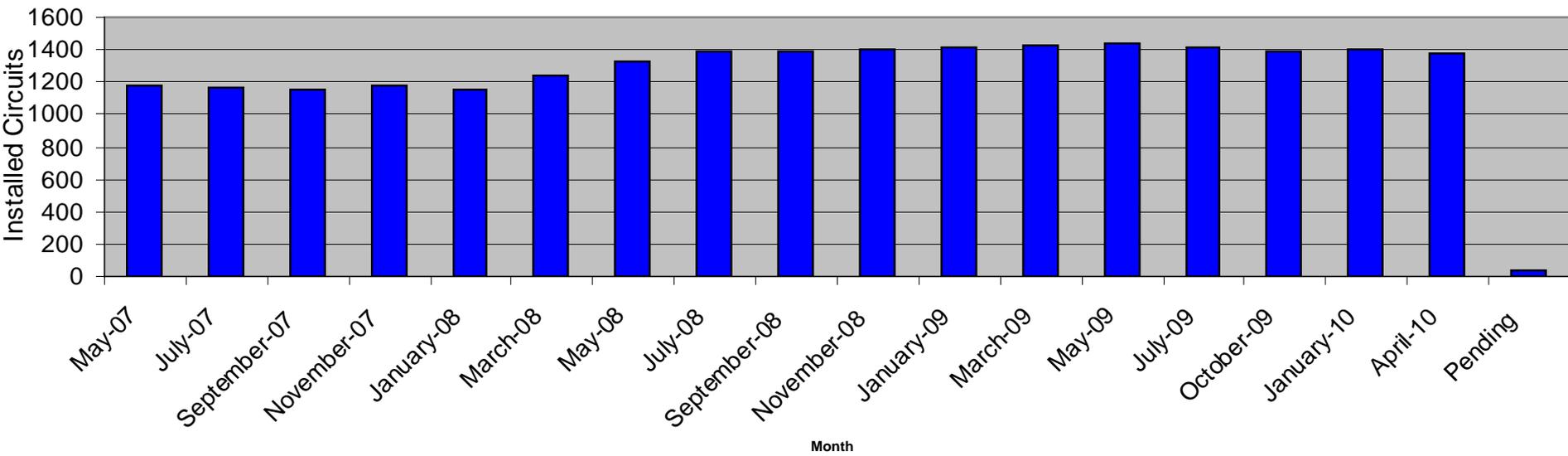
# Subscriber Provisioning

- 34 circuits are currently in the subscriber's testing/implementation phase
- 37 new circuits have been provisioned since the last meeting
- 29 circuits have been accepted by the subscriber since the last meeting





# Installed Circuits





# Executive Branch

## Executive Branch networkMaryland Subscribers as of April 20, 2010

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 *
Information Technology	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
								Maryland Energy Admin.	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 April 20, 2010

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

### Legend:

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Agency is in Process of Receiving networkMaryland Service (JCR submitted)
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Register of Wills Internet SwGI Layer 2
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# Non-State Customers

## Non-State entities\Counties\Municipalities networkMaryland Subscribers as of April 20, 2010

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

Allegheny County Board of Education	Internet
	SwGI
	Layer 2

Prince Georges County Government	Internet
	SwGI
	Layer 2

Baltimore County Government	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 Public Schools	Internet
	SwGI
	Layer 2



City of Annapolis Gov't	Internet
	SwGI
	Layer 2

Harford County Gov't	Internet
	SwGI
	Layer 2

**Legend:**

Agency Expressed Interest in Receiving networkMaryland Service
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St. Mary's County Gov't	Internet
	SwGI
	Layer 2

CAPWIN	Internet
	SwGI
	Layer 2

City of Laurel Gov't	Internet
	SwGI
	Layer 2

Washington County (BWA)	Internet
	SwGI
	Layer 2

College of Southern MD	Internet
	SwGI
	Layer 2



Garrett County Government	Internet
	SwGI
	Layer 2

Washington County Public Network (WCPN)	Internet
	SwGI
	Layer 2





# New Provisioning Activity

- Virtual Private Routed Network (VPRN)
  - Private Layer 3 (IP) routed network
  - Allows “many to many” connections
  - QoS will be supported
  - SwGI was the “template” configuration
  - DoIT is the first customer
  - DORS deployment is in progress
  - Other potential customers are considering this option





# Performance Standards & Service Levels – January 2010

RFP Section 2.9.1			
	Severity 1	Severity 2	Severity 3
Number of Cases relating to "outages"	5	26	16
Begin Diagnosis (5 min, 5 min, 5 min)	60%	100%	75%
Notification to State (10 min, 10 min, 10 min)	100%	100%	100%
Onsite Support with Parts (4 hours, 4 hours, NBD)	100%	100%	100%
1st Escalation to NetMD (2 hours, 4 hours, NBD)	80%	92%	100%
2nd Escalation to NetMD (2 hours, 4 hours, NBD) after 1st	100%	96%	100%
3rd Escalation to NetMD (2 hours, 4 hours, NBD) after 2nd	100%	96%	100%
Resolution Notification (10 min, 10 min, 10 min)	100%	100%	100%
RFP Section 2.9.2			
95% of service affecting outages repaired prior to 1st escalation	93.6%		
99% of service affecting outages repaired prior to 2nd escalation	100.0%		
RFP Section 2.9.3			
ISP 99.9% available	100.00%		
SWGI 99.9% available	100.00%		
L2 Services 99.9% available	100.00%		



# Performance Standards & Service Levels – February 2010

RFP Section 2.9.1			
	Severity 1	Severity 2	Severity 3
Number of Cases relating to "outages"	2	26	4
Begin Diagnosis (5 min, 5 min, 5 min)	100%	96%	75%
Notification to State (10 min, 10 min, 10 min)	100%	100%	100%
Onsite Support with Parts (4 hours, 4 hours, NBD)	100%	100%	100%
1st Escalation to NetMD (2 hours, 4 hours, NBD)	100%	100%	100%
2nd Escalation to NetMD (2 hours, 4 hours, NBD) after 1st	100%	100%	100%
3rd Escalation to NetMD (2 hours, 4 hours, NBD) after 2nd	100%	100%	100%
Resolution Notification (10 min, 10 min, 10 min)	100%	100%	100%
RFP Section 2.9.2			
95% of service affecting outages repaired prior to 1st escalation	78.1%		
99% of service affecting outages repaired prior to 2nd escalation	84.4%		
RFP Section 2.9.3			
ISP 99.9% available	100.00%		
SWGI 99.9% available	100.00%		
L2 Services 99.9% available	100.00%		





# Performance Standard & Service Levels – March 2010

RFP Section 2.9.1			
	Severity 1	Severity 2	Severity 3
Number of Cases relating to "outages"	3	29	2
Begin Diagnosis (5 min, 5 min, 5 min)	100%	97%	100%
Notification to State (10 min, 10 min, 10 min)	100%	100%	100%
Onsite Support with Parts (4 hours, 4 hours, NBD)	0%	100%	100%
1st Escalation to NetMD (2 hours, 4 hours, NBD)	67%	97%	100%
2nd Escalation to NetMD (2 hours, 4 hours, NBD) after 1st	67%	100%	100%
3rd Escalation to NetMD (2 hours, 4 hours, NBD) after 2nd	100%	100%	100%
Resolution Notification (10 min, 10 min, 10 min)	100%	100%	100%
RFP Section 2.9.2			
95% of service affecting outages repaired prior to 1st escalation	73.5%		
99% of service affecting outages repaired prior to 2nd escalation	85.3%		
RFP Section 2.9.3			
ISP 99.9% available	100.00%		
SWGI 99.9% available	100.00%		
L2 Services 99.9% available	100.00%		





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# Project Status

- Transition
  - Projects and other T&M activities were on hold from March 22<sup>nd</sup>
  - Provisioning activity re-started in mid-April
  - We are just beginning to re-engage projects
- Ethernet Everywhere
  - Purchased Overture 6000.
  - Working on getting contract in place for OC-3s
  - We are at capacity in several POPs





# Project Status

- ARRA Round 2
  - DoIT submitted a round 2 application to cover the entire State
  - Working with consortium of counties (oneMaryland) on broadband infrastructure deployment in central Maryland
  - Working with MdBC for deployment in rural counties



# Project Status

- Migration from ATM to Native IP
  - Phase VI: Last Mile (FRASI Replacement)
    - Agencies that have migrated: MDA, MSDE(DORS), DLLR(DUI)
    - In progress: MSP
  - Phase VII: Direct ATM Connections
    - Completed: Montgomery County; DJS, MSP, DPSCS (ISP/SwGI)
    - In progress: DJS; DORS
    - In planning: DHR; MDOT; DHMH; WCC; DPSCS





# Project Status

- Network Resiliency Initiative : Separate service delivery from core
  - Dedicated routers for upstream ISP connectivity (**Completed**)
  - Move Layer3 terminations off core routers
    - UMCP: **In progress**
    - Baltimore
    - Deliver L3 services at 6 Saint Paul as an MSC
    - Deliver L3 services at 301 W Preston as an MSC
    - Direct fiber connected buildings in Baltimore @ 6 Saint Paul
    - Direct fiber connected buildings in Baltimore @ 301 W Preston
    - Hagerstown
    - Easton





# Project Status

- Deployment of multi-cast capabilities on SWGI
  - Distribute CHART video feeds to non-MDOT subscribers
  - Established access to CHART application via SWGI
  - Distribute Flash video over SWGI (unicast): **completed**
  - Awaiting code fix for Juniper software bug.
- Akamai Agreement
  - Signed agreement with Akamai for caching servers located at UMCP
  - Expectation is we will reduce our bandwidth use by 25%
  - Implementation is in planning phase, expected completion is June





# Project Status

- Frederick MAN
  - Build a diverse fiber path through Frederick
  - Frederick County is dual connected to networkMaryland at diverse POPs (UMCP and Hagerstown)
- Cambridge MAN
  - Meetings with Bay Country to establish timeline for fiber installations at State offices
- Initiate Eastern Shore Fiber Backbone project
  - On hold pending ARRA funding





# Project Status

- Glen Burnie MSC: Bring MSC on-net
  - Fiber build and resource sharing with MTA
  - Project in progress, expected completion in May
- Redundant MSC Connections
  - Prince Frederick/Leonardtown: microwave link completed. Integration to network expected in February





# Fiber Projects

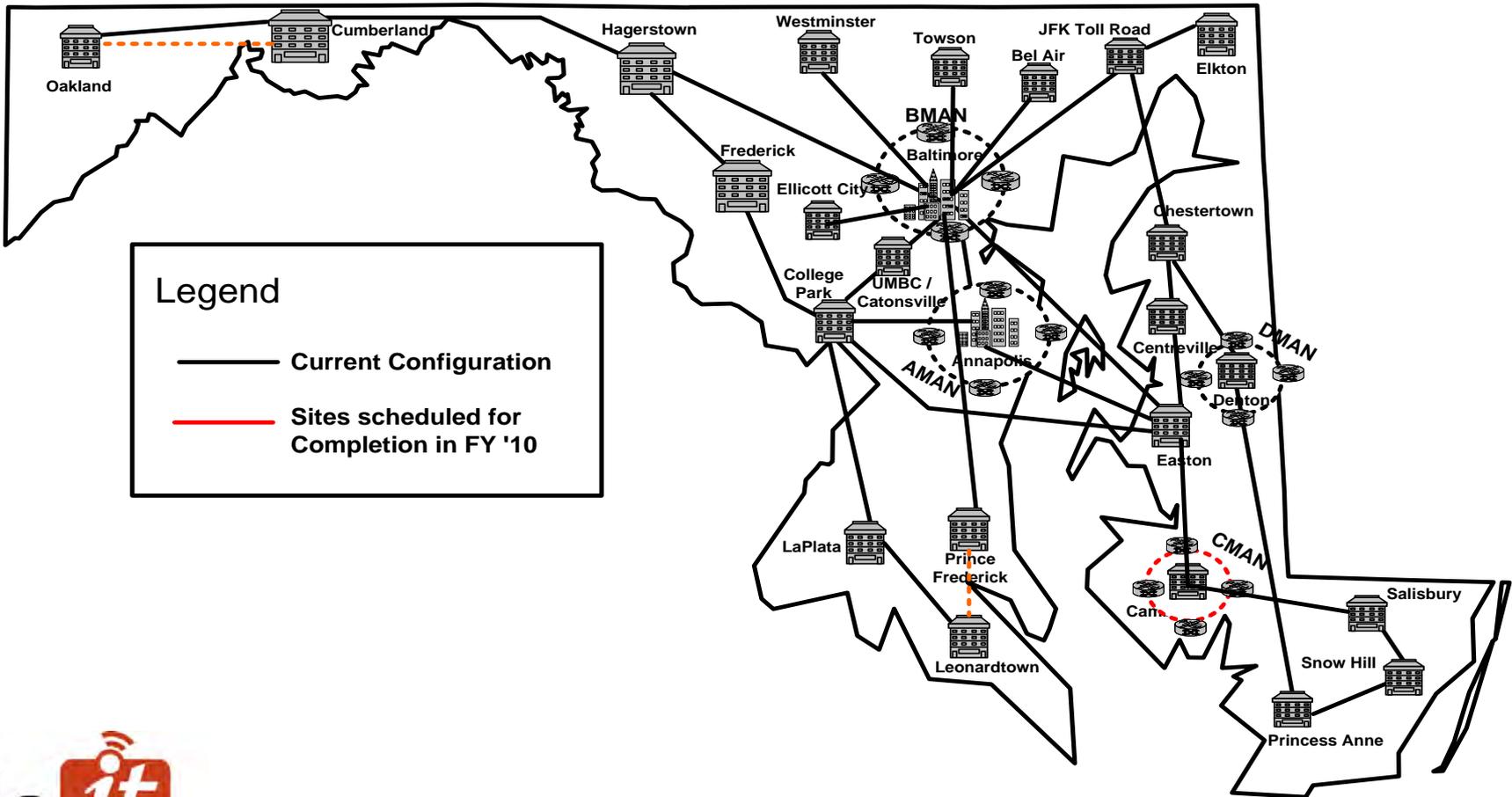
- Pikesville
  - Working with MSP, DPSCS, Baltimore County, and Baltimore City Police to build fiber along Reisterstown Rd near Pikesville
- Hagerstown: Fiber to DPSCS complex:
  - Looking for funding or partnership – part of ARRA proposal
- Fiber documentation and mapping project
  - Hagerstown: Next segment to be documented
  - Level3 fiber will be completed as a separate project





# Network Overview

(October 2009)





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# Other Business

- networkMaryland™ Engineering Committee meeting
  - June 14th, 2010, 1:30 PM @ UMBC Technology Center
  - Merged with UMATS engineering meeting
- Closing Questions or Comments





# Meeting Adjourned

