Maryland Statewide Communications and Interoperability Program (MSCIP)

Maryland Association of Counties
Annual Summer Conference

August 13 -16, 2008

MARYLAND

Maryland Statewide Communications and Interoperability Program (MSCIP)

Interoperable Communications

First responders in every region in Maryland should have access to a fully digital, trunked radio system which all response partners can access in order to transmit and receive voice and data."

Governor O'Malley's Homeland Security Goal #1

The Challenge

- What is the present challenge?
  - Define "operability" and "interoperability"
- How have the State agencies and local jurisdictions historically addressed operability and interoperability?
- How has the Governor proposed to identify and address operability and interoperability challenges?
  - People – Process – Technology – Funding

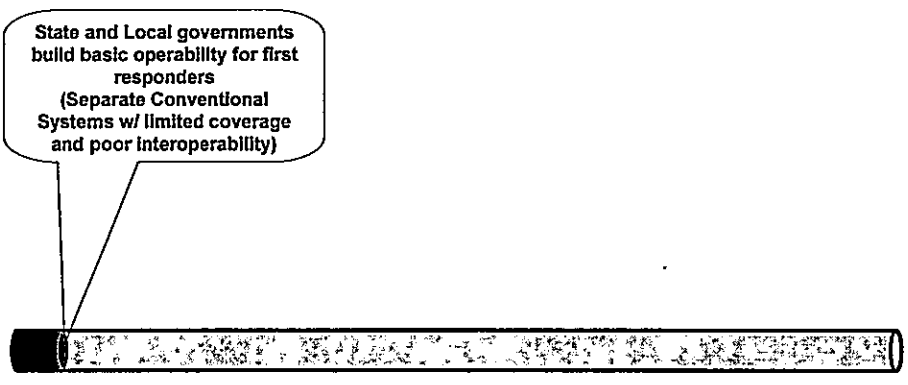
Maryland Communications and Interoperability Project (MSCIP)

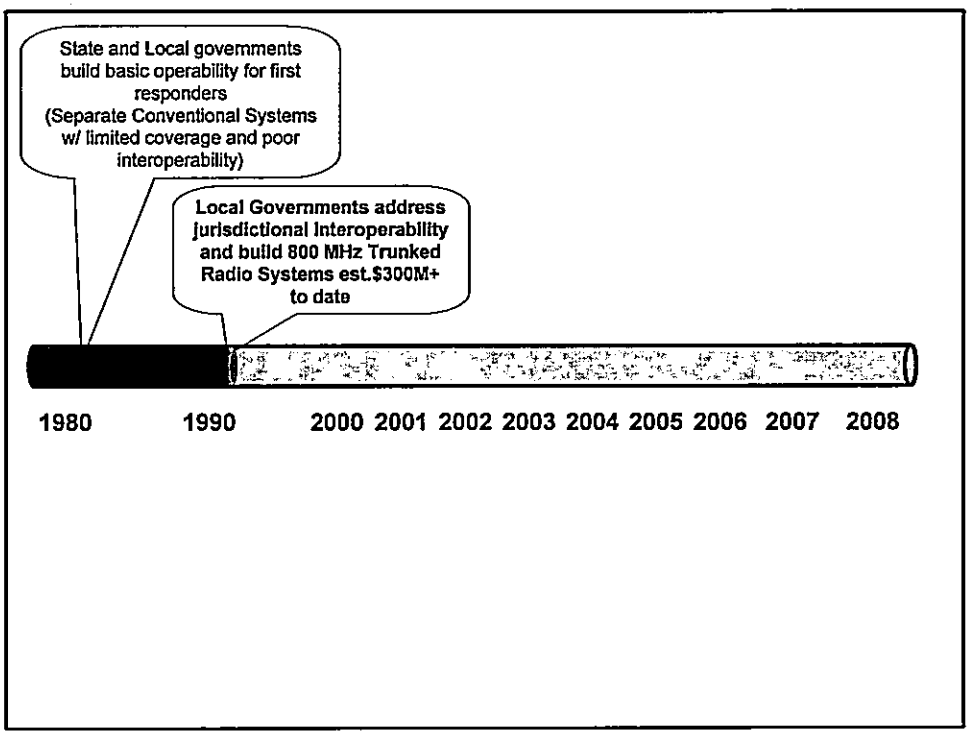
Communications: Defining Operability vs. Interoperability

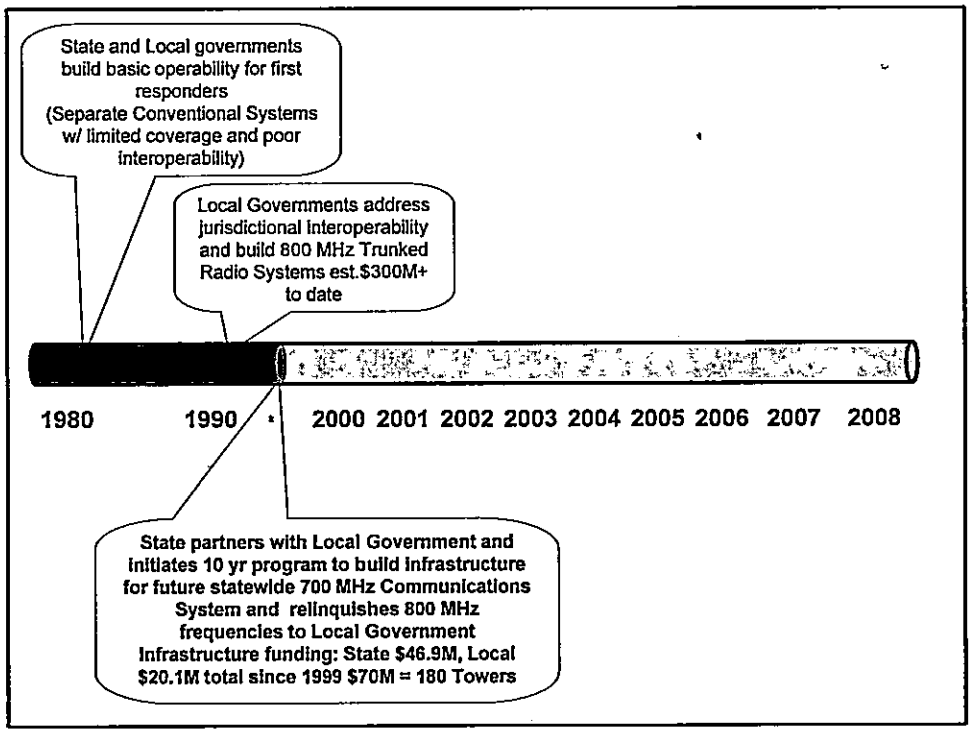
Operability: *The ability for an agency or jurisdiction's communications system to meet normal mission requirements within the agency or jurisdiction in a reliable manner.*

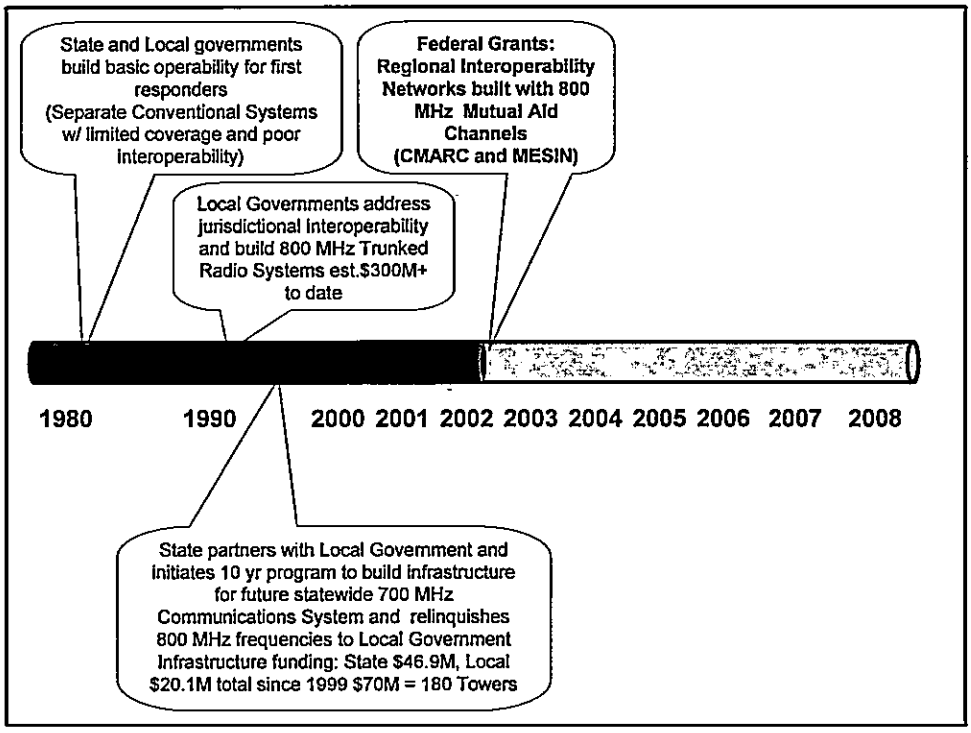
Interoperability: *The ability of emergency response officials to share information via voice and data on demand, in real time, when needed, and as authorized across agency or jurisdictional boundaries.*

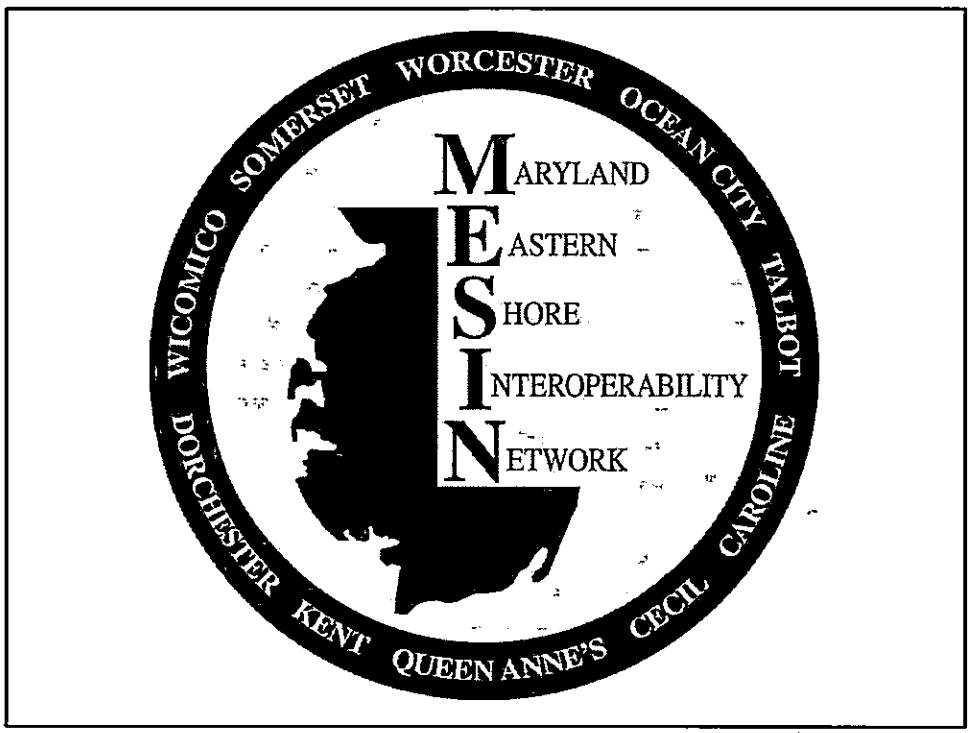
HISTORY

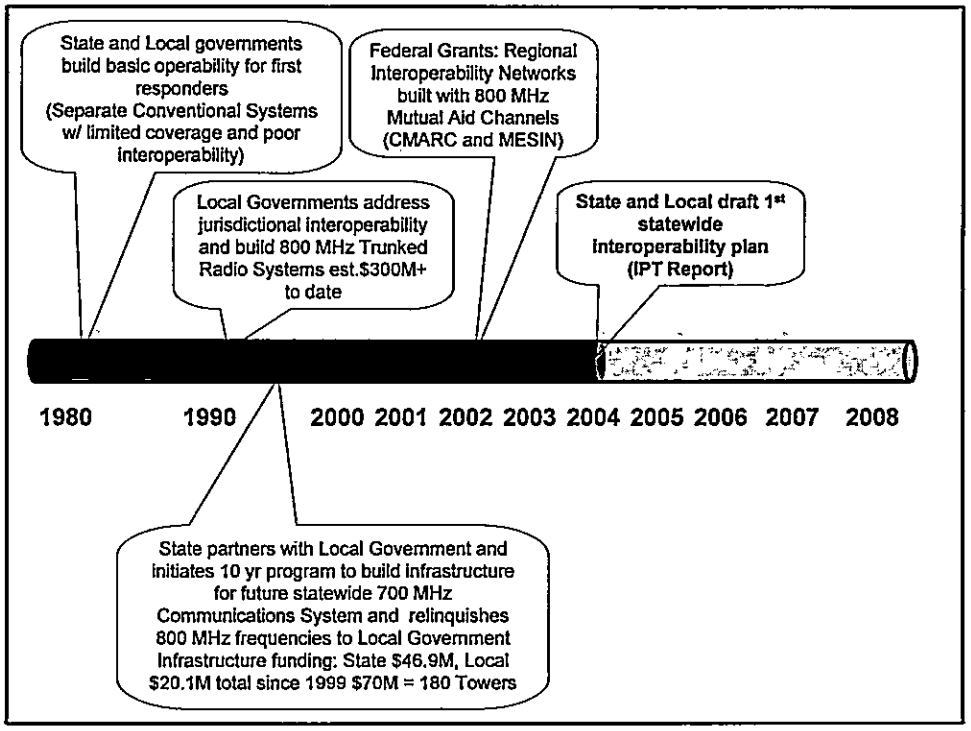

State and Local governments build basic operability for first responders (Separate Conventional Systems w/ limited coverage and poor interoperability)
1980
1990
2000
2001
2002
2003
2004
2005
2006
2007
2008

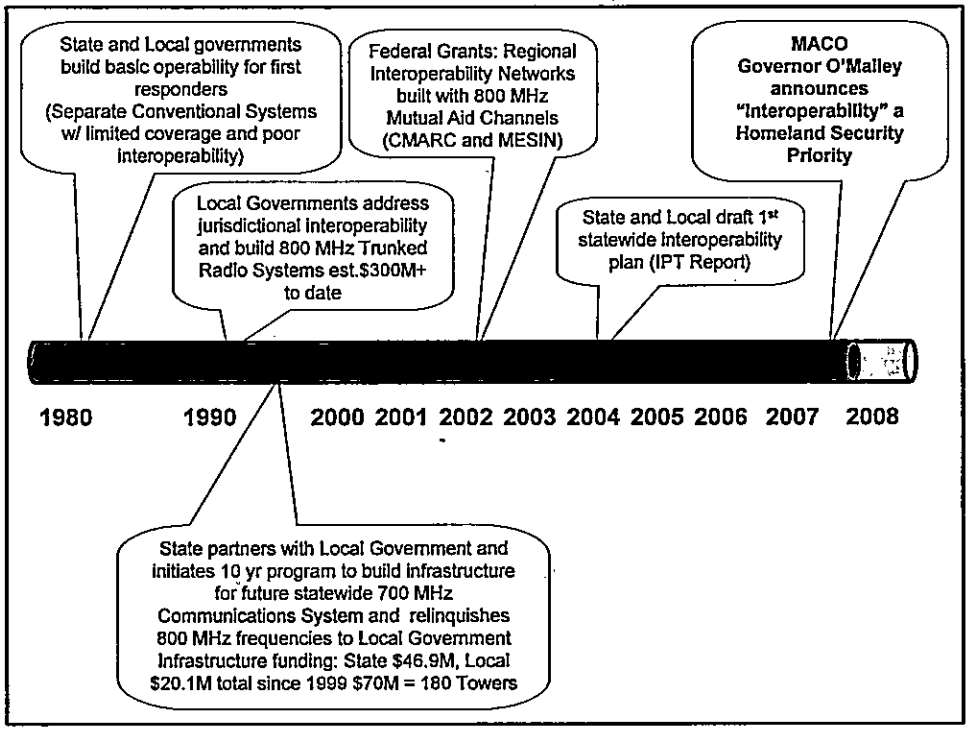

State and Local governments build basic operability for first responders (Separate Conventional Systems w/ limited coverage and poor interoperability)
Local Governments address jurisdictional interoperability and build 800 MHz Trunked Radio Systems est.$300M+ to date
1980
1990
2000 2001 2002 2003 2004 2005 2006 2007 2008


State and Local governments build basic operability for first responders (Separate Conventional Systems w/ limited coverage and poor interoperability)
Local Governments address jurisdictional interoperability and build 800 MHz Trunked Radio Systems est.$300M+ to date
1980
1990
2000 2001 2002 2003 2004 2005 2006 2007 2008
State partners with Local Government and initiates 10 yr program to build infrastructure for future statewide 700 MHz Communications System and relinquishes 800 MHz frequencies to Local Government Infrastructure funding: State $46.9M, Local $20.1M total since 1999 $70M = 180 Towers


State and Local governments build basic operability for first responders (Separate Conventional Systems w/ limited coverage and poor interoperability)
Federal Grants: Regional Interoperability Networks built with 800 MHz Mutual Aid Channels (CMARC and MESIN)
Local Governments address jurisdictional interoperability and build 800 MHz Trunked Radio Systems est.$300M+ to date
1980
1990
2000 2001 2002 2003 2004 2005 2006 2007 2008
State partners with Local Government and initiates 10 yr program to build infrastructure for future statewide 700 MHz Communications System and relinquishes 800 MHz frequencies to Local Government Infrastructure funding: State $46.9M, Local $20.1M total since 1999 $70M = 180 Towers


WICOMICO SOMERSET WORCESTER OCEAN CITY TALBOT CAROLINE CECIL QUEEN ANNE'S KENT DORCHESTER
MARYLAND
EASTERN
SHORE
INTEROPERABILITY
NETWORK


State and Local governments build basic operability for first responders (Separate Conventional Systems w/ limited coverage and poor interoperability)
Federal Grants: Regional Interoperability Networks built with 800 MHz Mutual Aid Channels (CMARC and MESIN)
Local Governments address jurisdictional interoperability and build 800 MHz Trunked Radio Systems est.$300M+ to date
State and Local draft 1st statewide Interoperability plan (IPT Report)
1980
1990
2000 2001 2002 2003 2004 2005 2006 2007 2008
State partners with Local Government and initiates 10 yr program to build infrastructure for future statewide 700 MHz Communications System and relinquishes 800 MHz frequencies to Local Government Infrastructure funding: State $46.9M, Local $20.1M total since 1999 $70M = 180 Towers


State and Local governments build basic operability for first responders (Separate Conventional Systems w/ limited coverage and poor interoperability)
Federal Grants: Regional Interoperability Networks built with 800 MHz Mutual Aid Channels (CMARC and MESIN)
MACO Governor O'Malley announces "Interoperability" a Homeland Security Priority
Local Governments address jurisdictional interoperability and build 800 MHz Trunked Radio Systems est.$300M+ to date
State and Local draft 1st statewide Interoperability plan (IPT Report)
1980
1990
2000 2001 2002 2003 2004 2005 2006 2007 2008
State partners with Local Government and initiates 10 yr program to build infrastructure for future statewide 700 MHz Communications System and relinquishes 800 MHz frequencies to Local Government Infrastructure funding: State $46.9M, Local $20.1M total since 1999 $70M = 180 Towers

PEOPLE

The Present "State Enterprise" Challenge

Challenges

- Individual state agencies have been maintaining separate, aging communications systems that do not fully meet needs for operability and were not designed to be interoperable.
- Individual agencies making separate approaches to County and municipal officials for operability or interoperability
- Horizontal interoperability across State agencies
- Fiscal constraints

Result

- State first responders have resorted to moving limited operations onto local jurisdiction trunked radio systems to meet operability demands, or by interconnecting aging State systems to those local systems.

State Agency	Primary Band	Agency Coverage	Interoperability Local	Interoperability State
MSP	VHF - Lo	Poor, Significant Gaps	Fair	Poor
NRP	VHF - High	Fair, Significant Gaps	Poor	Poor
MTAP	UHF - 450	Poor, Significant Gaps	Poor	Poor
MTA Police	VHF - UHF	Poor, Isolated Coverage	Poor	Poor
DPSC	Various VHF/UHF	Facilities-Fair, Trans-Poor	Poor	Poor
DGS Police	VHF - High	Poor, Significant Gaps	Poor	Poor
MDE	VHF - High	Poor, Significant Gaps	Poor	Poor
SHA	VHF - Lo	Poor, Significant Gaps	Poor	Poor
BWI	800 System	Good, New System 2005	Good	Poor

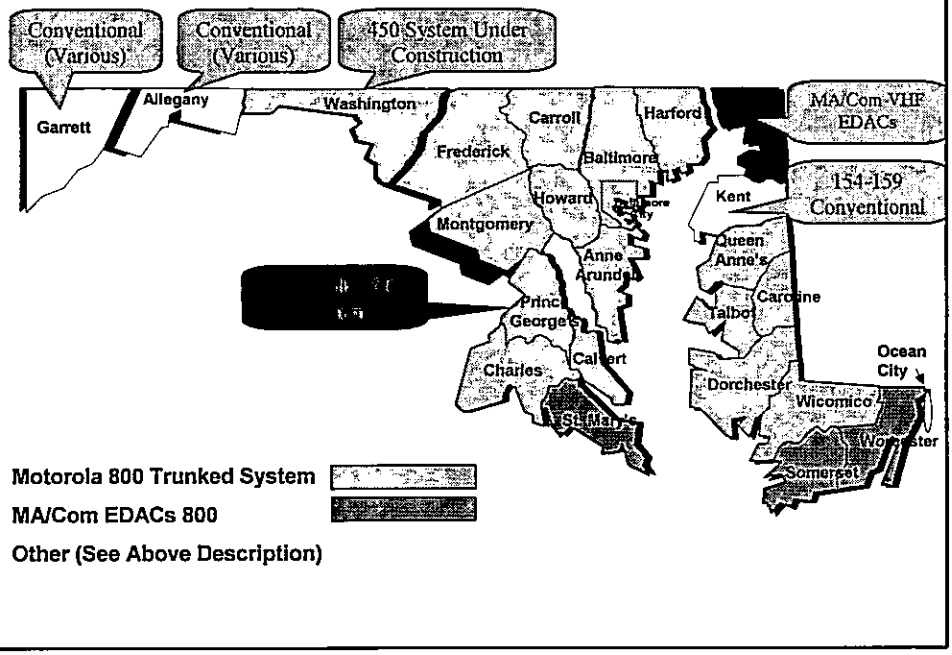
13 State Agencies and 12 University Campuses operating aged, separate, non-interoperable systems

The Present Local Challenge

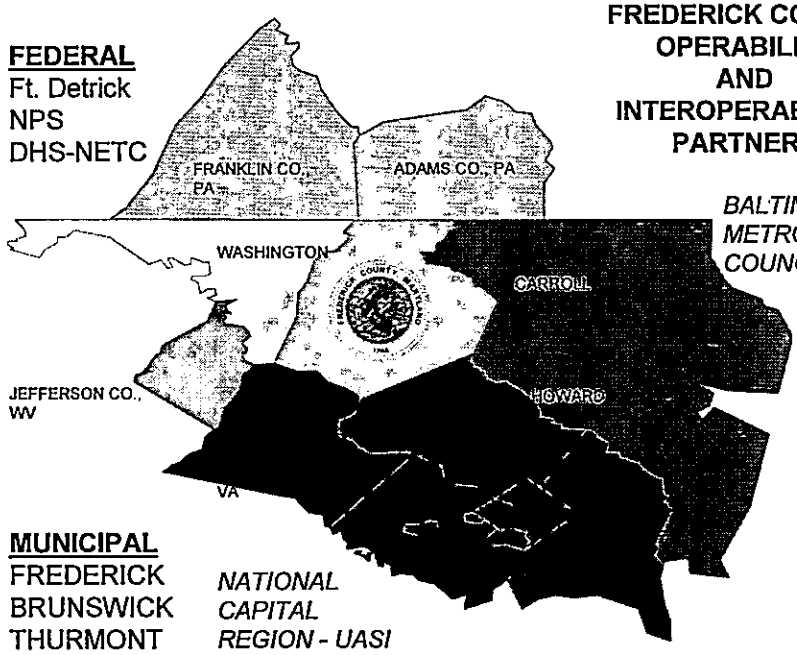
Challenges

- **Administering access for multiple State agencies operating in a local jurisdiction**
- **Administering access for multiple adjacent County agencies**
- **FCC-mandated 800 MHz frequency rebanding and narrow-banding requirements.**
- **Funding system expansion and upgrades**
- **Limited spectrum availability for growth**

Jurisdictional Communications Systems



FREDERICK COUNTY OPERABILITY AND INTEROPERABILITY PARTNERS



FEDERAL
Ft. Detrick
NPS
DHS-NETC

MUNICIPAL
FREDERICK
BRUNSWICK
THURMONT

NATIONAL CAPITAL REGION - UASI

BALTIMORE METROPOLITAN COUNCIL - UASI

STATE
MSP
SHA
DNR
MDE
MEMA

Examples...

Communication between State-Local Agencies

November 13, 2007 – (Laurel) A prisoner escape from Laurel Regional Hospital where an MSP Trooper was carrying a "home county "radio and did not have coverage and was forced to use a borrowed cell phone to call 9-1-1 for assistance.

December 20, 2007 – (Smithsburg) While responding to an unfortunate incident where a police officer was murdered, officers from different agencies could not communicate where at times they were caught in a cross fire.

Examples...

Communication between State-Local Agencies

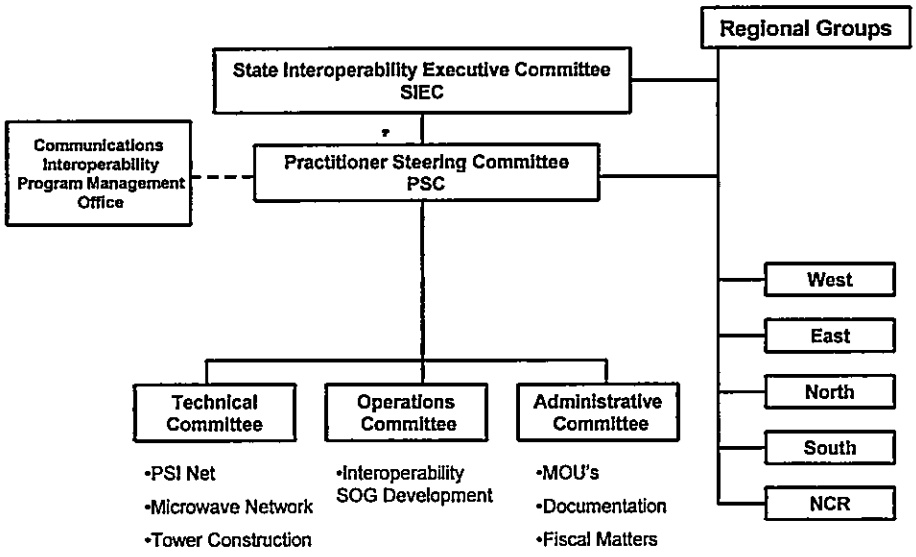
January 2, 2008 (Prince George's County) A prisoner serving a life sentence while being treated at Laurel Regional Hospital was able to escape his guards. Multiple law enforcement agencies were involved in a pursuit which crossed into DC and ended in Prince Georges County. The inability for police agencies to inter-operate using a joint channel to monitor each other proves to be a deficiency.

PROCESS

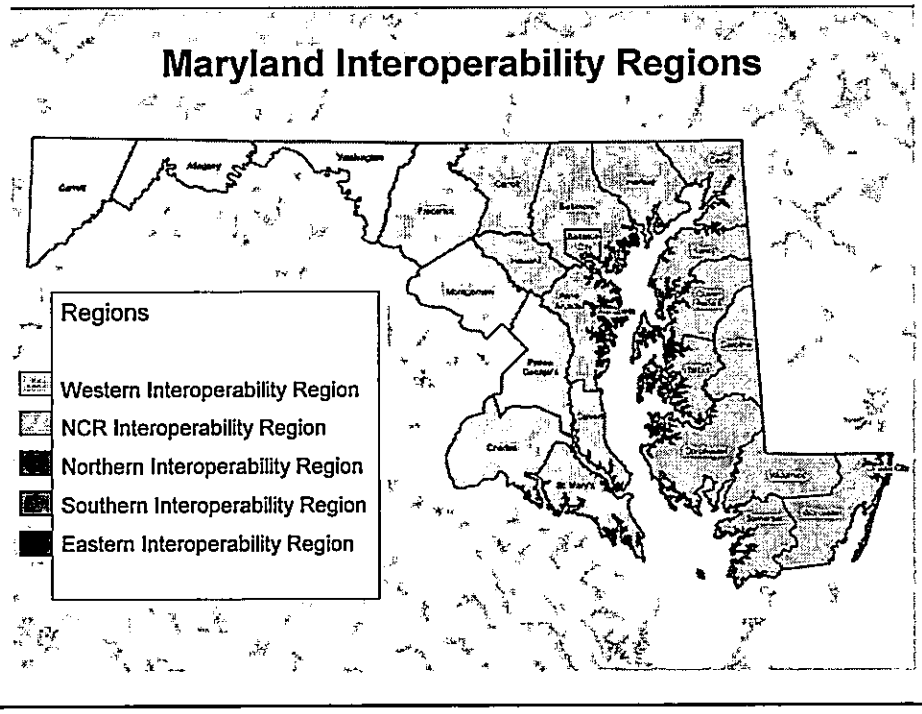
Executive Order

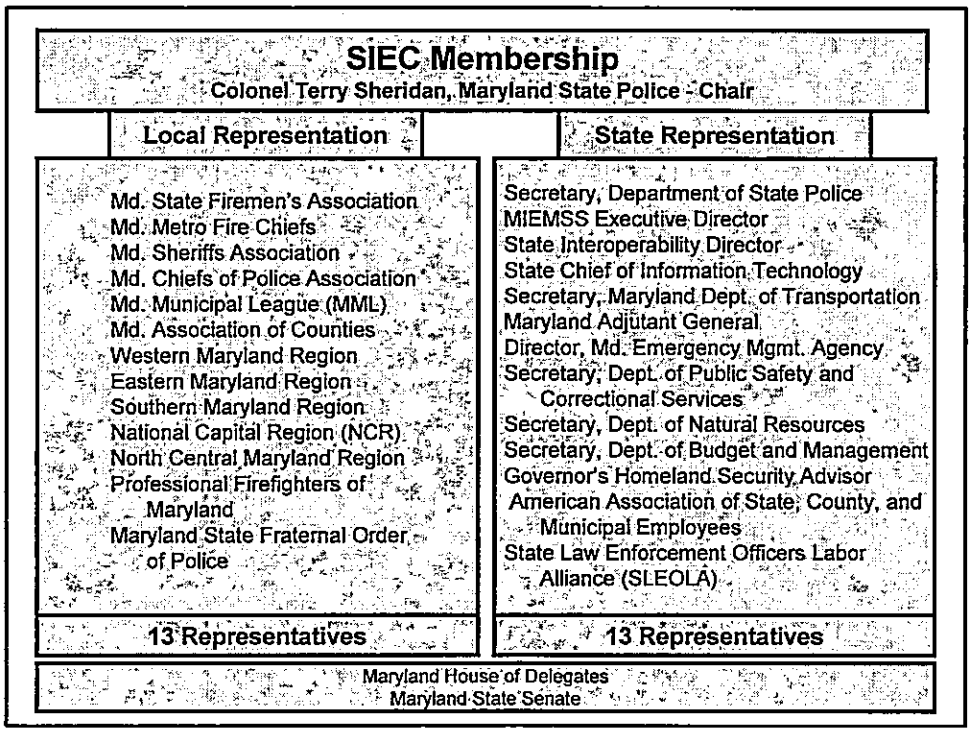
- Establishes a "Public Safety Communications Interoperability Program" and a Program Director/Deputy.
- Establishes the "Statewide Interoperability Executive Committee" as the oversight body to include representatives from all affected agencies/organizations and the legislature.
- Establishes a Program Management Office within the MSP to manage the program.

Statewide Interoperability Organization



Maryland Interoperability Regions





Statewide Communications Interoperability Plan [SCIP]

- This plan, drafted in 2007, outlines the technical approach to solving the interoperability problem to include:

  -deploying national mutual aid channels,

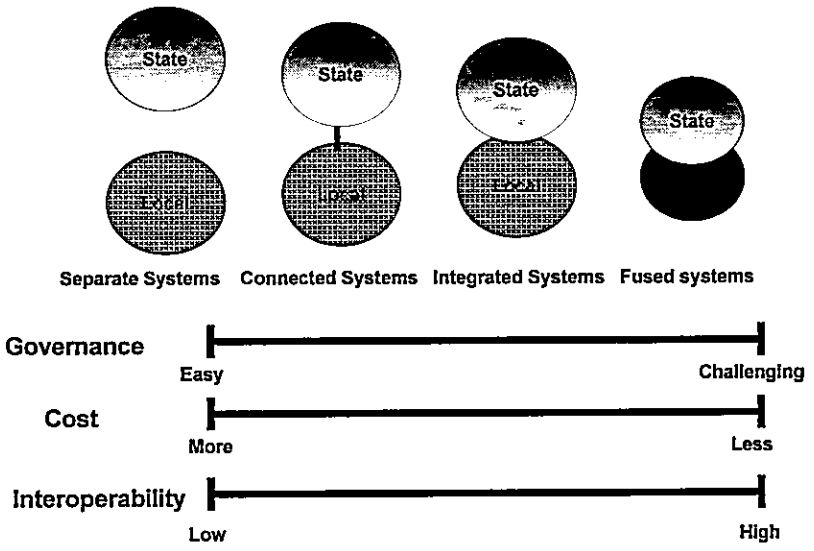
  -using "gateway devices" to interconnect systems, and

  -the construction of a statewide 700 MHz voice/data communications system.

Building a Statewide Communications System

- A statewide 700 MHz communications system will provide a common platform for all state agencies to begin migrating.
- The State has studied and developed the preliminary design of a statewide 700 MHz system
- An RFP has been developed over the last year with a team of state/local practitioners and consultants.
- Local governments who decide to partner in the use of the system will share in the system governance.
- The system will be designed to interoperate with existing local jurisdictions' systems.
- The RFP was released on July 9th with SHA, MTAP and portions of MSP being the first agencies planned to migrate.
- With a release of the RFP in July, an award is anticipated in Spring '09.

Statewide System Continuum



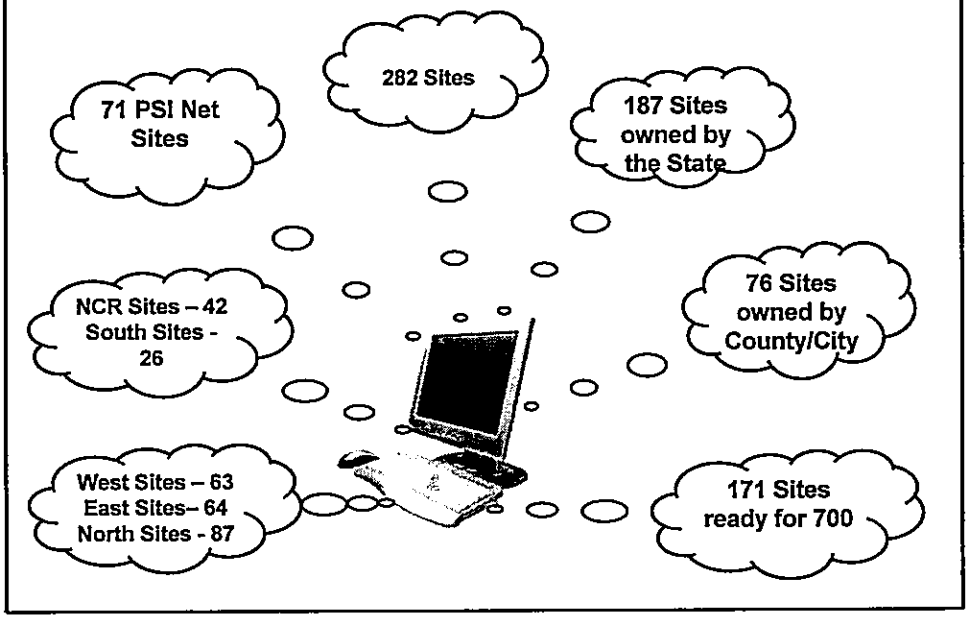
TECHNOLOGY

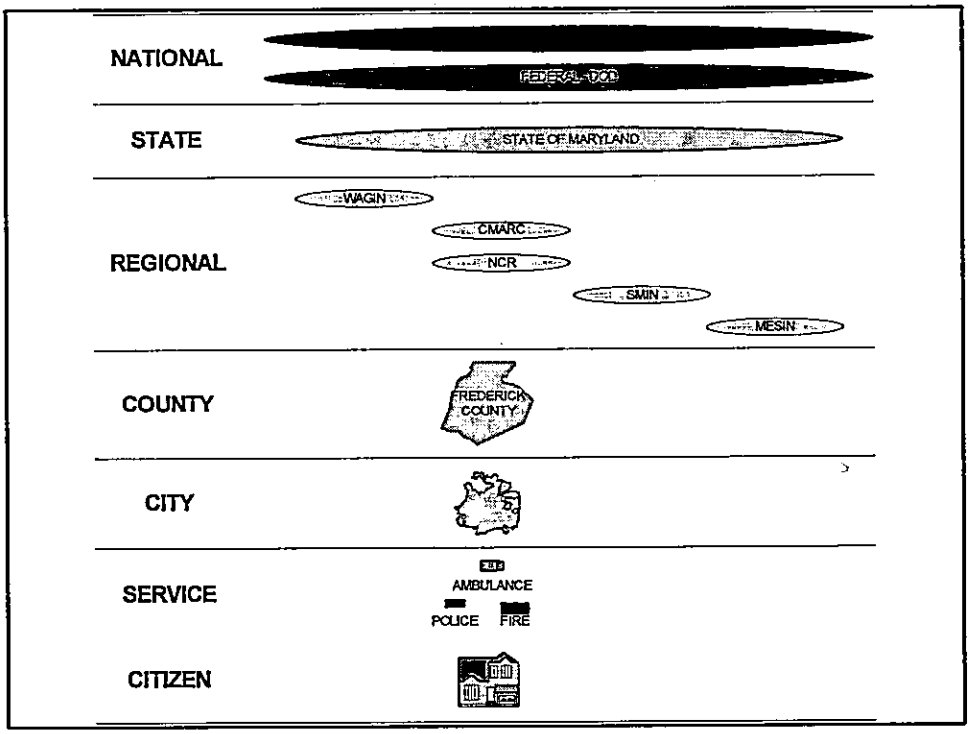
State Infrastructure Project

"A model for partnership between state and local governments"

- **In 1999 a state/local group was formed to evaluate building a statewide communications system.**
- **Over $70M dollars has been expended since 1999 resulting in the construction of 187 towers across Maryland this includes microwave/fiber connectivity, and a separate IP network known as the state/local public safety intranet (PSINET).**
- **In addition to supporting local communications the infrastructure will serve as the "back bone" for technologies such as a statewide 700 MHz communications system, secure web based software applications, etc...**

Current Infrastructure Sharing





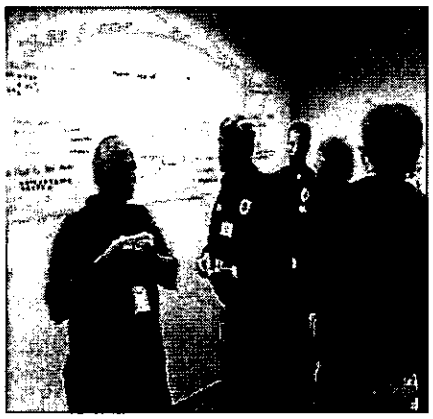
FUNDING

Building a Statewide Communications System

Funding Plan

- In order to issue the RFP, tens of millions of dollars were identified in grant funding and capital funds across MTAP, SHA and MSP agencies for the first phase of the statewide system.
- Subsequent phases are expected to be funded through a variety of sources [grants, capital funds, bonds, operating funds] in a strategy devised in conjunction with the General Assembly.

Public Safety Interoperable Communications Grant Program



- ✓ November 2007 Investment Justifications for project proposals were solicited...17 responses totaling 46 million from local agencies...5 state responses totaling 3.7 million.
- ✓ 21 Projects were selected addressing towers, fiber, equipment, and planning needs.
- ✓ December Investment Justifications were submitted
- ✓ DHS conducted a peer review and reported back to the states in May 2008
- ✓ Maryland notified of award in July 2008
- ✓ Projects must be completed by September 30, 2010

NCR Interoperability Region

Jurisdiction	Project	Funding Request
Frederick County, state partners	2 new communications towers for increased coverage	$ 1,000,000
Montgomery, Frederick, Prince George's, DC, Virginia	Fiber for data and GIS connectivity with NCR jurisdictions	$ 4,700,000
Montgomery, NCR, and State partners	Feasibility study to determine costs/benefits of an expansion of CMARC and 800 MHz mutual aid channels into the NCR region	$ 100,000
Prince George's county, DNR, state partners	1 communications tower and microwave for increased coverage	$ 900,000

Funding Request shown **does not include required 20% match**

Western Interoperability Region

Jurisdiction	Project	Funding Request
Allegany /Maryland Tower Partnership	3 towers	$1,100,000.00
Garrett County Tower Project	1 radio tower with 6 PSINET Switches/routers	$ 600,000.00
Washington County Fiber Connectivity	Fiber connectivity for Sheriff Office and PSAPs	$ 600,000.00

Northern Interoperability Region

Jurisdiction	Project	Funding Request
Baltimore County /Maryland Partnership	2 communications towers for increased coverage	$ 800,000
Baltimore Urban Area, CMARC footprint, state partners	Construction of a regional simulcast, trunked wireless overlay to allow regional roaming	$ 2,000,000
Howard County, regional (Northern/NCR) counties, and state partners	Fiber Project	$ 1,500,000

Southern Interoperability Region

Jurisdiction	Project	Funding Request
Charles, Calvert, St. Mary's and state partners	Regional connectivity and 800 MHz mutual aide channel deployment	$ 2,100,000

Eastern Interoperability Region

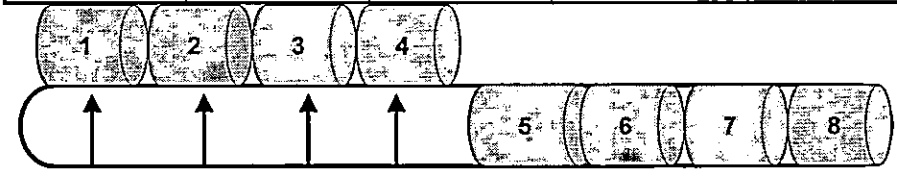
Jurisdiction	Project	Funding Request
MESIN footprint jurisdictions and state partners	Expansion of the 800 MHz mutual aid channels	$ 2,000,000
MESIN footprint jurisdictions and state partners	The installation of Maryland CHART in local EOCs	$ 250,000
Upper Eastern Shore Radio Continuum (UMDES)	2 communications tower to enhance coverage	$ 800,000

State Interoperability Projects

Jurisdiction	Project	Funding Request
MIEMSS and hospital partners	Connect Hospital EOCs (statewide) to PSI Net for VOIP and emergency data transfers.	$ 800,000
MIEMSS and EOC partners	Connect PSAPs statewide to PSI Net for VOIP and emergency data transfers.	$ 400,000
SIEC/GWG, state partners	Consultant support for planning and coordination	$ 600,000
Western Maryland Interoperability Network (WAGIN)	IPICS pilot for connectivity and VOIP.	$ 400,000

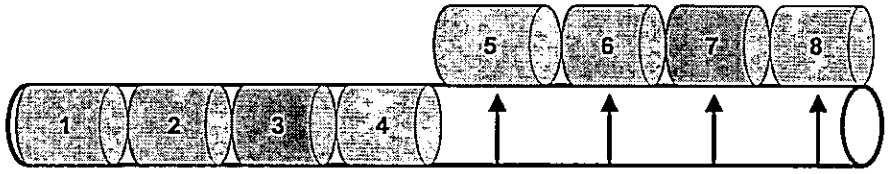
Statewide Communications Interoperability 2008 Quarterly Overview

Work Area	1st Quarter '08	2nd Quarter '08	3rd Quarter '08	4th Quarter '08
PSIC Grant	Project detail and MOU	Receive Funds	Initiate Projects	Monitor projects
SCIP Plan		Update		
Frequency Coordination	Meetings with surrounding states	Meetings with surrounding states	Meetings with surrounding states	
System RFP	Complete development	Advertise	-	-
Finance Plan	Identify funds	Secure phase one funding	Initiate budget request	
Tower Infrastructure	Continue build out plan	X	X	X
Governance	Executive Order	Establish revised SIEC	Draft legislation, establish regional groups	Submit legislation
Administrative	Complete task order to hire consultant	Establish program office		
Public Outreach	Regional Meetings	MML/MSFA	MACO	X



Statewide Communications Interoperability 2009 Quarterly Overview

Work Area	1st Quarter '09	2nd Quarter '09	3rd Quarter '09	4th Quarter '09
PSIC Grant	Monitor projects	Monitor projects	Monitor projects	Monitor projects
SCIP Plan		Update		
Frequency Coordination				
System RFP	Award/NTP	System Implementation	X	X
Finance Plan				
Tower Infrastructure	Continue Build Out Plan	X	X	X
Governance	Support Legislation			
Administrative				
Public Outreach	X	X	X	X



What Can I Do?

- Identify your jurisdiction's lead on the issue and have them brief you
- Review the Executive Order and become familiar with the Maryland SCIP
- Evaluate existing or planned local projects for opportunities for integration with the statewide system
- Identify local needs that might be able to be met by participating in or accessing the statewide system

Questions ?

John Contestabile:
410-865-1120
jcontestabile@mdot.state.md.us

Clay Stamp:
443-463-2614
cstamp@miemss.org

Daniel Meyerson:
410-865-1178
dmeyerson@mdot.state.md.us

Teresa Owens
410-632-1315
towens@co.worcester.md.us

Jack Markey
301-600-6790
jmarkey@fredco-md.net