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# Maryland

Statewide Communication Interoperability Plan (SCIP) Implementation Report

October 2012

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The following sections ask that States provide an update on the implementation of their SCIP. States will first provide an overview of their current interoperability environment ("State Overview") and then identify their vision and mission statements ("Vision and Mission"). The remaining sections in Part I ask that States consider their progress along the five lanes of the SAFECOM Interoperability Continuum (Governance, Standard Operating Procedures [SOP], Technology, Training and Exercises, and Usage).

For each lane of the Continuum, States are asked to provide a brief narrative explaining their efforts related to the identified lane. For each lane of the Continuum, States are also asked to address initiatives identified in the NECP as well as any additional initiatives identified within their State. NECP-related initiatives appear pre-populated in the "NECP Initiatives" section of each table below. Additional initiatives identified by States can be addressed in the "Additional State Initiatives" section of each table below. States are not limited to the number of fields provided in the template and should add additional rows as needed to accurately address all applicable initiatives. States are also encouraged to develop and add initiatives pertaining to public safety wireless broadband. When completing these tables, the following information must be provided for each initiative:

- **Gap:** Identify the gap that this initiative will address.
- **Owner:** Identify the State owner of this specific initiative.
- Milestone: List the date that this initiative was or is scheduled to be completed.
- Status: Identify whether this initiative is complete, in progress, or not started.

### The following is an example of how the charts in Part 1 should be completed:

<b>Initiative</b> (Name / Purpose)	<b>Gap</b> (Brief Description)	<b>Owner</b> (Agency, Department, and/or POC)	Milestone Date (Month/Year)	Status (Complete, In Progress, Not Started)
NECP Initiatives				
Establish a full-time statewide interoperability coordinator or	No full time SWIC in place	Governor	2/2009	Complete
equivalent position.	_			

### Part 1 is to be completed by the SWIC or SCIP POC.

State Name

### State Overview

### Overview of the State and its interoperability challenges:

Maryland is a densely populated, but geographically small, State located in the center of the Atlantic Seaboard. Maryland's total area is 12,407 square miles, but with a population of more than 5 million residents it is the 19<sup>th</sup> most populous State in the Nation. The State is approximately 250 miles long and 90 miles wide. A large portion of the square mileage in Maryland is covered by water. Maryland is bordered on the north by Pennsylvania, the south and west by West Virginia and Virginia, the north and east by Delaware, and the south by Washington, DC. Maryland is also bordered by the Atlantic Ocean and the Chesapeake Bay. Maryland's largest city is Baltimore. A significant number of the State's largest communities are in the surrounding suburban areas of Washington, DC.

For most of Maryland, the units of local government are county governments. Twenty-three counties and Baltimore City make up the twenty-four main local jurisdictions found in Maryland. Baltimore City, although a municipality, has been considered on par with county jurisdictions since the adoption of the Maryland Constitution in 1851. Maryland is divided into five interoperability regions. 1) the Western Interoperability region consisting of Washington, Allegany, and Garrett Counties, 2) the NCR Interoperability region consisting of Prince George's, Montgomery, and Frederick Counties, 3) the Northern Interoperability Region consisting of Baltimore City and the City of Annapolis, Baltimore, Carroll, Harford, Howard, and Anne Arundel counties, 4) the Southern Interoperability region consisting of Charles, Calvert, and St. Mary's Counties and 5) the Eastern Interoperability Region consisting of Cecil, Kent, Queen Anne's, Caroline, Talbot, Dorchester, Wicomico, Somerset, Worcester counties and the town of Ocean City. These regions, along with the Statewide Interoperable Executive Committee (SIEC), are responsible for developing and implementing regional strategies to provide radio communications interoperability within the regions in accordance with the technical requirements of the Maryland Statewide Communication Interoperability Plan. Maryland does not have any federally recognized tribal nations.

Maryland employs a network approach for interoperability solutions. Every part of the State can communicate through gateways; however, only certain portions of the State have shared channels or proprietary shared systems. Long-term voice interoperability is currently on its way to being achieved with a phased-in implementation of a statewide 700 megahertz (MHz) radio system. The first phase will be full operation by December 31, 2012. This system is a standards-based, shared system that will provide seamless operations statewide and the ability to connect with other regional and local systems. This system is building on past and current infrastructure and requires Project 25 (P25) compliance statewide.

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Data communications standards in Maryland are based on the use of proprietary shared systems with relatively open architectures such as WebEOC, Capital Wireless Information Net (CapWIN), and OSPREY, the State's GIS mapping system for emergency mangers and other public safety users as well as a version for the general public.

The statewide capabilities assessment survey results identified the following challenges to interoperability:

- Funding limitations,
- Systems with limited interoperability capabilities,
- Aging systems in need of replacement,
- o Insufficient availability of frequencies,
- o System coverage limitations,
- Underutilization of mutual aid channels,
- o Lack of a statewide common frequency band,
- o Limited use of wireless data systems,
- And the requirement for a robust statewide infrastructure.

### Vision and Mission

### Overview of the interoperable communications vision and mission of the State:

The Maryland Statewide Communication Interoperability Plan (SCIP) has a timeframe of **six years** (December 2007 – December 2013), with annual scheduled updates.

**Vision:** Achieve a statewide system that will support communications interoperability and will facilitate real-time communications across agencies, jurisdictions, levels of government, and ultimately, across State boundaries with Maryland's neighbors. Interoperable communications will ensure that Maryland's public safety providers can coordinate with one another, share information, and provide a consolidated response.

**Mission:** In the short-term, develop and implement a reasonable and feasible solution framework that provides statewide, secure, coordinated, real-time voice and data communications that can span jurisdictional and organization boundaries. In the long-term, establish a statewide public safety communications system that will be a standards-based open architecture that will address the needs of all stakeholders from the enterprise level.

### Governance

Overview of the governance structure, practitioner-driven approaches, and funding:

Maryland established a governance structure that facilitates the development of a statewide, locally driven interoperability plan that meets the needs of public safety first responders. On July 10, 2008, Governor Martin O'Malley signed an Executive Order formally establishing Maryland's Statewide Interoperability Executive Committee (SIEC), along with its Practitioner Steering Committee (PSC).



The SIEC is comprised of senior elected and appointed officials from State, county, and municipal governments appointed by the Governor. The SIEC has the responsibility to provide policy-level advice regarding public safety communications interoperability and to promote the efficient and effective use of resources for matters related to public safety communications and interoperability.

The order also establishes the position of Statewide Interoperability Director (Maryland's SWIC) who is responsible for the Interoperable Communications programs within the State. He will direct a Program

Management Office (PMO) to provide oversight and direction to these programs.

The PSC was established to provide recommendations and advice to the SIEC and the Governor's Office of Homeland Security (GOHS) on all matters pertaining to communications interoperability including assessment, acquisition, standardization, planning, management, use, and oversight of communications. The PSC is comprised of senior communications practitioners from all fields of public safety. These individuals represent Federal, State, county, and municipal governments, as well as non-governmental organizations. The PSC established the following three permanent subcommittees that provide the subject matter expertise required to implement public safety communications and interoperability projects: 1) Administrative and Budgetary Support Subcommittee, 2) Technical Subcommittee, and 3) Operations Subcommittee. With the passage of the Federal legislation establishing FirstNet, the board that will build out the Nationwide Public Safety Broadband Network, Maryland has established a Broadband Committee as a subcommittee of the SIEC. Governor O'Malley has designated Ray Lehr, the Maryland SWIC, as the FirstNet point of contact for Maryland.

The PMO is responsible for arranging and supporting meetings between State, local and Federal entities, as well as assisting in drafting a variety of MOUs to advance communications sharing and interoperability. These agreements provide for a range of practices, from exchanging codes to sharing frequencies in times of emergencies to sharing tower infrastructure.

Public safety NGOs are also involved in policy development and outreach efforts. NGOs include, but are not limited to, hospitals, volunteer fire companies, utilities, Radio Amateur Communications Emergency Services (RACES), the American Red Cross, passenger and freight railroad, port facilities, and mass-transit entities. They are involved through public meetings and exercises, Web-based information sharing, media and public awareness efforts, legislative outreach, and collaborative activities with partners and stakeholders. Additionally, the PSC Outreach Program has been documenting their needs through workshops and regional interoperability executive committees.

The Governor selected the Superintendent of the Maryland State Police and the Director of GOHS, as the people responsible for supervising and championing the cause of interoperability throughout the State. In 2010, the Governor appointed Ray Lehr as the Statewide Interoperability Director and primary point of contact for interoperability in Maryland.

Ray Lehr, Statewide Interoperability Director

Maryland State Police 410-533-4610 ray.lehr@maryland.gov

### **Governance Initiatives**

The following table should outline the strategic governance initiatives, gaps, owners, and milestone dates [State] outlined in its SCIP to improve interoperable communications.

<b>Initiative</b> (Name / Purpose)	<b>Gap</b> (Brief Description)	<b>Owner</b> (Agency, Department, and/or POC)	<b>Milestone Date</b> (Month/Year)	<b>Status</b> (Complete, In Progress, Not Started)
NECP Initiatives				
Establish regional interoperability committees.	Regional Interoperability Committees (RICs) needed for enhanced governance and Standard Operating Procedures (SOPs).	SIEC / PSC	Fall 2009	Complete
Establish an Interoperability PMO to manage statewide projects.	Statewide system implementation requires project management.	MSP, DoIT	Summer 2009	Complete
Participate in multistate baseline assessment of interoperability capabilities.	Need to identify opportunities for integration / linkage to improve communications regionally.	PMO, All Hazards Consortium	Completed Spring 2010.	Complete
Additional State Initiatives (	include public safety v	vireless broadban	d related initiatives	, as applicable)
Develop Governance for Statewide initiatives (700 MHz Communications System and CAD/RMS System)	Currently agencies operate and maintain individual systems.	SIEC, PMO, and other agencies with radio and/or CAD systems	Spring 2013 (to be introduced in Maryland's General Assembly Session which runs from Jan to April)	In Progress

State of Maryland

<b>Initiative</b> (Name / Purpose)	<b>Gap</b> (Brief Description)	<b>Owner</b> (Agency, Department, and/or POC)	Milestone Date (Month/Year)	<b>Status</b> (Complete, In Progress, Not Starte <u>d</u> )
Staff Program Management Office with sufficient resources to manage major statewide projects: (700MHz, and Computer Aided Dispatch [CAD]/Records Management System [RMS]).	Lack of expert project management.	PMO/SIEC and PSC	Summer 2012	Complete. Positions added for Governance support, PM and Technical support, Scheduling and Quality Assurance and CCTV Manager.
<ul> <li>Establish Radio Control Board through legislation to:manage:</li> <li>Operations and maintenance of new statewide 700 MHz voice and data interoperable communications system.</li> <li>Technology refreshment and replacement.</li> </ul>	Need to establish guidelines and standards to ensure consistent and appropriate maintenance of technical architecture. Lack of capacity and upgrades.	PMO, SIEC, Governor's Office, Supporting State Agencies	12/2014	In Progress; FY13 funding obtained. FY14 funding pending legislative approval.
Establish Public Safety Broadband Committee for coordination of Maryland activities with FirstNet	No unified group to address the NPSBN	PMO/SIEC	7/2013	In Progress. Several workshops held to identify stakeholders.

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### **Standard Operating Procedures**

### Overview of the shared interoperable communications-focused SOPs:

Maryland has several regional sets of SOPs for communications, including SOPs for each interoperability region in the State. Maryland has SOPs that govern the use of the National Public Safety Planning Advisory Committee (NPSPAC) allocated 800 MHz channels (currently in revision), Mobile Command Post/Unit Mobilization, NCR Radio Cache Deployment, mutual aid channels, and Central Maryland Radio Tower "Sites on Wheels." The objective of these SOPs is to achieve interoperability with all participating Federal, State, county, and local agencies, as well as volunteer fire and rescue and

emergency medical services (EMS) agencies.

Mutual aid agreements with neighboring States are also common in Maryland for specific events and incidents in many locales. Agencies across the Eastern Shore of Maryland have mutual aid agreements with each other and with agencies in Delaware and Virginia. Maryland's counties in the NCR have mutual aid agreements with their counterparts in Washington, DC and Virginia, and counties in Western Maryland have mutual aid agreements with their public safety counterparts in Pennsylvania and West Virginia.

Additionally, the State of Maryland was instrumental in establishing the All Hazards Consortium (AHC), which is comprised of the nine Middle Atlantic States (Delaware, Maryland, New Jersey, New York, North Carolina, Pennsylvania, Virginia, Washington, DC, and West Virginia). The AHC is very active in promoting and coordinating regional interoperability efforts (see <a href="https://www.ahcusa.org">www.ahcusa.org</a> for more information).

### **SOP Initiatives**

The following table should outline the SOP strategic initiatives, gaps, owners, and milestone dates [State] outlined in its SCIP to improve interoperable communications.

<b>Initiative</b> (Name / Purpose)	<b>Gap</b> (Brief Description)	<b>Owner</b> (Agency, Department, and/or POC)	Milestone Date (Month/Year)	<b>Status</b> (Complete, In Progress, Not Started)
NECP Initiatives				
Tactical planning among Federal, State, and local governments occurs at the regional interstate level.	Understanding of interoperability methods.	PCS, Regional Interoperability Committees	12/2013	In progress
All Federal, State, local and tribal emergency response providers within UASI jurisdictions implement the Communications and Information Management section of the National Incident Management System (NIMS).		PCS, Regional Interoperability Committees	Fall 2012	In progress
Incorporate the use of existing nationwide interoperability channels into SOPs.		PCS, Regional Interoperability Committees	Summer 2011	Complete
Update SCIP to reflect	Plain language	MSP and	Winter 2011	Complete

<b>Initiative</b> (Name / Purpose)	<b>Gap</b> (Brief Description)	<b>Owner</b> (Agency, Department, and/or POC)	Milestone Date (Month/Year)	<b>Status</b> (Complete, In Progress, Not Started)
plans to eliminate coded	SOP developed.	MDTA		agencies are
substitutions throughout	-			following suit
the Incident Command				-
System (ICS).				
Define alternate/backup		PSC	Summer 2012	In progress
capabilities in emergency				
communications plans.				
Additional State Initiatives (	include public safety	wireless broadban	d related initiativ	es, as applicable)
Rewrite SOPs for the	SOPs needed to be	PMO, MEMA,	Fall 2012	In progress.
existing nationwide	updated	MSP, local		OEC
interoperability channels		agencies		Workshop held
		-		May 2012

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### Technology

Overview of the technology approaches, current capabilities, and planned systems:

Nine State agency systems identified in the SCIP use conventional analog systems in very high frequency (VHF) low band, VHF high band, and ultra high frequency (UHF) band. Radio systems operated by local agencies throughout the State utilize frequency bands in VHF low band, VHF high band, UHF, 800 and 700 MHz. System types include conventional, Motorola 800 and 700 MHz trunked, M/A-COM EDACS 800 MHz, and M/A-COM EDACS UHF systems. The majority of the counties in the central region of the State, including the City of Baltimore, use 800 MHz radio systems. Three counties in the far west end of the State and two counties in the far northeast corner of the State operate on UHF or VHF systems.

P25 is not currently mandated; however, the State's vision is to establish a common statewide open architecture standard for newly acquired communications equipment and systems. Some State and local agencies are voluntarily purchasing P25-compliant radios to use on their local and neighboring agency systems.

The State's long-term strategy is currently being implemented with the construction of a statewide P25 700 MHz system for voice communications to will be used by all disciplines in State agencies, with local government agencies invited to join. Kent County, on the Eastern Shore, is the first county to join the system called Maryland FiRST (First Responders Radio System Team). The system is being constructed in five phases and, when completed by the end of 2016, will allow first responders in every region of the State to communicate with each other using a single radio. The Maryland Transportation Authority Police

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(MDTA) and the JFK Highway barrack of the Maryland State Police will be the first to operate on the system in an area called Region 1-A. This is the MDTA's service area and covers a portion of Central Maryland that is home to about one-third of the State's population and much of its critical infrastructure, including the Port of Baltimore, the Interstate 95 corridor, BWI Airport, and the Chesapeake Bay Bridge. Region 1-A will be operational by December 31, 2012.

This graphic shows the project schedule by region with the entire system scheduled to be operational by the end of 2016.



Regional radio systems in the State are used for interoperability and mutual aid communications as opposed to day-to-day operations. The significant regional interoperability networks operating in Maryland include the NCR, MESIN, CMARC, and SMIC. The Washington Allegany Garrett Interoperability Network, or WAGIN, is an IPICS (Internet Protocol Interoperability and Collaboration System) solution that has been recently completed in Western Maryland. The Southern Maryland Interoperable Communications (SMIC) network was operational in the Fall of 2012.

An initiative referred to as the TAC-Stack concept is being deployed to bridge mutual aid channels on VHF, UHF, 800 MHz, and eventually 700 MHz. The use of nationally dedicated interoperability channels in each of the primary frequency bands provides additional radio channel capacity during mutual aid operations. Utilizing these Nationwide Interoperability Channels, the original repeater stack concept has evolved into a device referred to as the "TAC-Stack" or "Band Bridge." This device will be capable of linking together multiple frequency bands independent of the subscriber equipment manufacturer's protocol. As 700 MHz systems and hardware begin deployment, the 7TAC interoperability channels could also be incorporated into any TAC-Stacks already in service.

Additionally State agencies and many of the county jurisdictions have cooperated in the installation of a statewide digital microwave system overseen by the Maryland Institute for Emergency Medical Services Systems (MIEMSS). The microwave provides connectivity between the County Public Safety Answering Point (PSAP) locations and the many radio communications towers throughout the State. Bandwidth on the microwave is used to provide point-to-point connectivity for the State and County radio systems. The infrastructure includes towers, shelters, generators, and digital microwave and serves State agencies as well as County public safety communications systems. The Maryland Broadband project (One Maryland Broadband Network), managed by the Department of Information Technology, is providing fiber connectivity to MD FiRST tower sites and dispatch locations. This provides secure, reliable network connectivity to critical elements of the public safety communications network. Through a combination of fiber and microwave, nearly all of the MD FiRST remote sites have dual paths to assure a single failure will not impact the system operationally. Work is current underway on Maryland's Eastern Shore to complete the second phase of the Statewide 700 MHz system and the OMBN is coordinating fiber deployment to sites identified by the MD FiRST project for inclusion in this build-out.

## **Overview:** Purpose



- The One Maryland Broadband Network (OMBN) project, will build over 1,300 miles of new fiber-optic cabling enabling access to broadband for 1,006 community anchor institutions (CAIs) and other points of interest in Maryland
- The project will foster economic development, improve public safety interoperability and extend and interconnect <u>existing</u> networks; State (networkMaryland), 9 County networks, and the Maryland Broadband Cooperative.

All first responders in the NCR can communicate either directly or through patched communications and 800 MHz interoperability exists throughout the region. The Washington, DC tri-band radio system provides interoperability with the Washington Metropolitan Area Transit Authority (WMATA) and Federal agencies using UHF and VHF systems. Interoperability gateways are deployed throughout the region to connect disparate radio systems. The Police and Fire Mutual Aid Radio Systems (PMARS & FMARS) provide connectivity between the region's dispatch centers. The Washington Area Warning Alert System (WAWAS) was established to broadcast warnings and situational awareness on a 24/7 basis.

Several data systems and projects are in various stages. Mobile data systems are widely used in the metropolitan areas; however, lack of funding is the primary obstacle for more widespread use. Most Maryland State law enforcement agencies use CapWIN, the mobile solution developed by the University of MD, DC and Virginia. The CAD/RMS/AVL/AFR system will incorporate CapWIN and expand the ability to use mobile data for dispatch, information sharing and report writing. The network core for the Statewide CAD/RMS is currently being developed. A pilot CAD implementation is scheduled to be

operational by early 2013. The aviation component, that allows SYSON and MSP Aviation to track State Police Medevac helicopters was deployed in March 2012. Last year Maryland updated its State Geographic Information System (GIS) mapping data system. OSPREY uses next generation GIS technology to provide public safety and emergency managers with a variety of tools to monitor and manage emergencies. It was used extensively during the last year's earthquake to monitor regions without power as well as to show flooding during the aftermath of Hurricane Irene. A public view was placed in service in time for both of these events

(http://mema.maryland.gov/current/Pages/Osprey.aspxhttp://www.mema.state.md.us/MEMA/MAP.html)



While awaiting FirstNet to begin the Nationwide Public Safety Broadband Network, Maryland is working with FEMA Region III to develop plans for a regional deployment of the network. The consortium, known as MACINAC (Mid-Atlantic Consortium for Interoperable Nationwide Advanced Communications) has held several meetings with the Region III SWICs to assure interoperability is

addressed during the planning and deployment of this new technology.

In conjunction with OEC, we held a Broadband workshop in March to introduce the new Broadband Network to State and local agencies and to begin planning our approach.

On August 20, 2012, the Federal Communications Commission ("FCC") issued the State a waiver of its rules to permit aircraft flying in the State to use 700MHz secondary trunking interoperability channels for first responder air-to-ground communications. This will allow seamless communications with public safety and commercial aircraft supporting Maryland's first responder community. It supports a particularly critical need in establishing direct on-ground State Trooper to the airborne pilot communications during landings and take-offs into and from improvised landing zones to promote safety in operations during these dangerous phases of flight. The State will extend this capability to all first responders statewide with radios supporting 700 MHz P25 Phase I operations. The Order also extends to all Maryland local governments operating public safety aircraft and wishing to use these 700 MHz channels.

Maryland was the first state to receive such a waiver enabling this unique capability. Maryland received support for this important initiative from the National Public Safety Telecommunications Council, Airborne Law Enforcement Association, Telecommunications Industry Association, Motorola Solutions, Inc., and all of our neighboring states as well as other entities filing supportive responses to the FCC's Public Notice. NPSTC has filed a Petition for Rule Making to the FCC that parallels the Maryland waiver and asks that these frequencies be extended for nationwide air-to-ground use, a goal sought by the major public safety communications organizations and the ALEA. It is anticipated that the FCC will release a Public Notice seeking public comments on this and other 700 MHz issues in the fall.

Pursuant to the FCC's Order, Maryland has started the process of coordinating the use of these eight 700 MHz frequency pairs with its neighbors. Additionally, Maryland is working with NPSTC to incorporate the names of these 700 MHz interoperability channels in the nationwide channel name protocol established by the Association of Public Safety Communications International. NPSTC, and the American National Standards Institute. While the waiver is currently limited to the State of Maryland, the Maryland State Police and Maryland Institute for Emergency Medicals Services Systems ("MIEMSS") are already coordinating with Delaware and other states that routinely fly critically injured trauma patients into emergency medical facilities within the state. The Order permits these out-of-state first responders to use the frequencies when communicating to Maryland EMS services such as SYSCOM.

Redundancy is a key component for future voice and data communications systems. A wide array of Strategic Technology Reserve (STR) resources is available and includes radio caches, transportable gateways, portable repeaters, equipment to support in-building or below-grade/tunnel communications, mobile radio frequency "Sites on Wheels," several mobile command vehicles, and caches of analog/digital/satellite telephones. Maryland is one of only eight States that demonstrated they had fullyfunctioning Strategic Technology Reserves in place to gain a waiver for PSIC funds to be used for other needs like OSPREY and establishing fiber connectivity to critical facilities.

### Major Systems

The following tables should list the major systems in [State] and include those used for solely interoperable communications, large regional systems specifically designed to provide interoperability solutions, and large wireless data networks.

Shared	Shared Statewide System1Description(Name)(Type, frequency, P25 compliance, etc.)		<b>Description</b> (Type, frequency, P25 compliance, etc.)	(Existing	<b>Stat</b> g, pla	us inned, etc.)	)
Maryland System	Statewide	Radio	700 MHz, P-25 compliant public service grade system.	Operational 10/15/2012.	in	Region	1-A

State Systems	Description	Status
(Name)	(Type, frequency, P25	(Existing, planned, etc.)
	compliance, etc.)	
TAC-Stack	Equipment placed at sites	In progress. Currently deploying
	throughout the State configured	along Maryland waterways to
	for mutual aid channels on very	improve maritime
	high frequency (VHF), ultra high	communications. An internet
	frequency (UHF), 800 MHz, and	protocol (IP) addressing scheme
	eventually 700 MHz. Designed	has been developed and
	to link mutual aid channels	sufficient bandwidth has been
	between different frequency	secured to transport the signals to
	bands transparent to users.	the control points.
NetworkMaryland and One	Standards-based data network	In progress. Maryland was
Maryland Broadband Network	infrastructure, consisting of a	awarded \$115M in BTOP
(OMBN)	combination of State-owned	funding to expand the State's
	fiber optic networking and leased	fiber network to all regions.
	circuits, which will ultimately	
	interconnect health, business,	

<sup>&</sup>lt;sup>1</sup> Shared statewide radio systems are typically designed to consolidate the communications of multiple State agencies onto a single system, thereby providing strong interoperability. Many States also make these systems available to Federal, local, and tribal agencies on a voluntary basis. In this case, local governments either chose to use the shared statewide radio system as their primary system, or they decided to interface their system to the shared statewide radio system creating a system of systems.

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State Systems (Name)	<b>Description</b> (Type, frequency, P25 compliance, etc.)	<b>Status</b> (Existing, planned, etc.)
	education, government, and public access via a high-speed, standards-based network of networks.	

Regional Systems	Description	Status
(Name)	(Type, frequency, P25	(Existing, planned, etc.)
	compliance, etc.)	
National Capital Region (NCR)	Allows first responders in the	Complete
	NCR to communicate either	
	directly or through patched	
	communications. 800 MHz	
	interoperability exists throughout	
	the region. The DC tri-band	
	radio system provides	
	interoperability with Washington	
	Metropolitan Area Transit	
	Authority and Federal agencies	
	using UHF and VHF systems.	
	Interoperability gateways are	
	deployed to connect disparate	
	radio systems. The police and	
	fire mutual aid radio systems	
	provide connectivity between the	
	region's dispatch centers.	
Maryland Eastern Shore	MESIN utilizes National Public	Phase I Complete
Interoperability Network	Safety Planning Advisory	Phase II adding additional 800
(MESIN)	Committee (NPSPAC) 800 MHz	MHz UHF and VHF sites
	mutual aid channels combined	
	with an IP-based network	
	consisting of gateways, routers,	
	and a fully redundant switch.	
	Users are automatically	
	connected to legacy system users	
	whenever the dispatch center	
	activates the designated talk	
	groups and provides capabilities	
	for cross-band inter-system	
	operation.	
Central Maryland Area Regional	CMARC involves the	Existing. Phase I and II
Communications (CMARC)	deployment of the NPSPAC 800	completed. Phase III underway
System	MHz mutual aid calling and	to expand coverage.
	tactical channels throughout the	
	region. MEMA serves as the	
	control point and monitors the	

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	calling channel on a 24/7 basis.	
Washington Allegany Garrett	WAGIN is using Cisco IP	In Progress
Interoperability Network	Interoperability and	Phase I completed June 2010.
(WAGIN)	Collaboration System (IPICS)	Phase II in progress.
	technology to bridge existing	Future expansion of the program
	communications systems.	is hoped to link WAGIN to
		Pennsylvania and West Virginia
		as well as expand TAC-stack
Southern Maryland Interoperable	SMIC involves the deployment	Gap solution installed in late
Communications network	of the NPSPAC 800 MHz	2011 and operational Fall 2012.
(SMIC)	mutual aid calling and tactical	
	channels throughout the region.	
	MEMA serves as the control	
	point and monitors the calling	
	channel on a 24/7 basis.	

### **Technology** Initiatives

The following table should outline the technology strategic initiatives, gaps, owners, and milestone dates [State] outlined in its SCIP to improve interoperable communications.

<b>Initiative</b> (Name / Purpose)	<b>Gap</b> (Brief Description)	<b>Owner</b> (Agency, Department, and/or POC)	Milestone Date (Month/Year)	<b>Status</b> (Complete, In Progress, Not Started)
NECP Initiatives				
Program nationwide interoperability channels into all existing emergency responder radios.	Not all radios are capable of having this set of channels.	PMO, Statewide Radio Committee	Region 1-A; Fall/Winter 2012	Complete. MD FiRST Fleet Map includes National Interoperability Channels.
Additional State Initiatives	s (include public safe	ty wireless broad	band related initiat	tives, as applicable)
Construct statewide wireless infrastructure in anticipation of statewide 700 MHz voice and data communications system.	Lack of sufficient infrastructure configured to support new Statewide 700 MHz communications system.	PSC Technical Subcommittee	12/2010	Complete
Construct Phase I of a statewide 700 MHz voice and data interoperable communications system.	Lack of statewide standards-based shared system for voice and data interoperable communications.	PMO, SIEC, PSC, DOIT	2011 - 2016	In Progress; Region 1-A operational 10/15/12
Procure and construct a CAD/RMS system for	Lack of adequate CAD system for	PMO, CAD Steering	12/2012	In Progress Core System being

		Expiration Date: 9/30/2013			
<b>Initiative</b> (Name / Purpose)	<b>Gap</b> (Brief Description)	<b>Owner</b> (Agency, Department, and/or POC)	Milestone Date (Month/Year)	<b>Status</b> (Complete, In Progress, Not Started)	
State agencies with interoperable linkage to local agencies.	state agencies. No CAD data sharing with locals.	Committee		deployed. Operational by 6/1/2013.	
Expand HC Standard, the statewide health and medical data platform for alerting, system status monitoring (EMS, hospitals), and patient tracking.	Lack of complete coverage of appropriate health care providers / institutions with the existing deployment.	Maryland Institute for Emergency Medical Services Systems (MIEMSS)	Spring 2011	Complete	
Complete data connectivity Public Safety Intranet (PSINET) to all 9-1-1 centers, hospitals, local health departments.	Lack of complete coverage of appropriate health care providers / institutions and 9- 1-1 centers with the existing deployment.	PMO, SIEC, MIEMSS	Winter 2011	Complete	
Develop video integration project	Lack of interoperability amongst surveillance systems and jurisdictions / agencies.	PMO, Maryland Department of Transportation (MDOT)	Winter 2013	In Progress PM appointed August 2012 to manage project.	

Expiration Data: 0/20/2012

### Training and Exercises

Overview of the diversity, frequency, and inter-agency coordination of training and exercises:

Maryland is developing interoperability-focused training and exercise plans that will be joined with the State's broader emergency response training and exercise program. It will build on resources, tools, and programs that already exist. These current capabilities include the Maryland Exercise and Training Integration Committee (MD ETIC), the annual Training and Exercise Planning Workshops and subsequent Three Year Exercise and Training Plan, current capability-based planning initiatives, the Homeland Security Exercise and Evaluation Program (HSEEP) to include the Corrective Action Program, and current programs to train and exercise components of the Statewide Communications System.

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Maryland's training and exercise program is NIMS-compliant. MD ETIC is a statewide governance group that ensures statewide NIMS compliance and builds and supports the self-sustaining statewide exercise and training program that strengthens Maryland's all-hazards preparedness capabilities as defined by the National Preparedness Goal. The MD ETIC focuses on implementing activities and initiatives to ensure integrated and effective exercise and training-related activities throughout the State. The committee also helps coordinate exercise evaluation and training-related activities and provides outreach to jurisdictions and agencies to ensure support and participation. The MD ETIC will be used to provide guidance and coordination for all interoperability training and exercises. It will also assist in the coordination of training and exercise activities.

Maryland uses a comprehensive capabilities-based training and exercise planning process. This three-year training and exercise plan incorporates the needs identified by State and local stakeholders. Documented needs are based on recent investments such as equipment, plan revisions, and training as well as after action reports and improvement plans. Workshops are conducted in every region and for Federal and State partners. These workshops foster regional-based exercises that evaluate capabilities such as interoperable communications. A statewide workshop is held annually to discuss and approve the draft three-year plan.

### Training

Emergency response professionals in Maryland receive a combination of classroom and on-the-job training for the component systems and equipment they use. Training is offered regularly, provided upon hiring and on a monthly to annual basis thereafter. Refresher training is also offered for CMARC and MESIN. Additionally, MEMA offers monthly training for WebEOC and Maryland's Mapping Application (OSPREY) GIS platform.

MEMA coordinates and facilitates NIMS/ICS training throughout the State. MEMA, along with county emergency management agencies and statewide training partners, has transitioned the State to plain language communications and achieved common terminologies for an all-hazards emergency response approach.

In fall 2011 and 2012, Regional workshops were conducted by the WAGIN group with their counterparts in West Virginia and Pennsylvania to talk about interoperability gaps and solutions.

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With the support of OEC's ICTAP, in May 2012 the State offered an "Introduction to Project Management" for State and local participants to learn more about how to manage communications projects. This proved to be a valuable class with the implementation of the statewide radio system and various other initiatives happening around the State and counties. Also in May 2012, the State offered a SOP Development Workshop which we used to rewrite the State's SOP for the National Interoperability Channels.

### **Exercises**

Several of Maryland's interoperability regions held interoperability exercises during the past year. All exercises proved valuable in measuring participants' familiarity with interoperable equipment, plans, and procedures. After-action reports have captured valuable data on gaps and next steps.

In May 2012, the NCR held a Communications Interoperability Tabletop Exercise to discuss plans and procedures in the NCR jurisdictions of Maryland, DC, and Virginia. A full-scale exercise involving the NCR Radio Cache is planned for spring 2013. In July 2012, WAGIN held a fullscale exercise involving a terrorism response to test and measure participants' tactical interoperability communications. In October 2011, the Eastern Shore Communications Alliance held a two-day command rally to test interoperability procedures, personnel, and equipment.

Multiple components of the statewide communications system are exercised on a regular basis. Many of these systems are included in larger local or statewide exercises. These larger exercises provide opportunities for multiple systems to exercise together. Interoperability exercises are often multi-agency tabletop exercises for key field and support staff. All exercises conducted in Maryland, including interoperable communications exercises, are to utilize the HSEEP construct.

On an annual basis, the Maryland Emergency Management Agency (MEMA), through its Active Learning and Exercise Branch, conducts six regional Training and Exercise Planning Workshops (TEPWs) and one State TEPW. During a TEPW, MEMA gathers information on known and planned training and exercises for the next two calendar years and plans for the training and exercises that the Regions and the State would like to see MEMA lead over the next two calendar years. This information is reported in the State Training and Exercise Plan (TEP). MEMA has completed five of the six regional TEPWs, which cover training and exercises for

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2013 and 2014. In all of the five TEPWs, the core capability Operational Communications has been identified as a training need. Thus, MEMA will be providing training related to Operational Communications throughout the State. Also, all of MEMA's exercises are based on core capabilities, and most exercises include the Operational Communications core capability. MEMA predicts the majority of the exercises it conducts in 2013 and 2014 will have an Operational Communications component. To date, MEMA will lead and/or support 17 known exercises for 2013.

Additionally, the Maryland State Police Annual Polar Bear Plunge held every January in Anne Arundel County on the western shore of the Chesapeake Bay allows multiple agencies to exercise voice, data and video interoperability Systems and to use different initiatives of interoperability never tried before. Each year the multiple agencies that participate with this event are the Maryland State Police, Maryland Transportation Authority Police, Department of Natural Resources, Maryland Emergency Management Agency, National Security Agency, Department of Homeland Security, Anne Arundel and Howard Counties, and Baltimore City. The exercise has allowed the agencies to practice with voice interoperability such as the TAC-Stack systems and CapWIN for data, allowing time for practice and to train personnel along with finding the weaknesses in the existing pool of interoperability systems.

### Training and Exercises Initiatives

The following table should outline the training and exercises strategic initiatives, gaps, owners, and milestone dates [State] outlined in its SCIP to improve interoperable communications.

<b>Initiative</b> (Name / Purpose)	<b>Gap</b> (Brief Description)	<b>Owner</b> (Agency, Department, and/or POC)	Milestone Date (Month/Year)	Status (Complete, In Progress, Not Started)
NECP Initiatives				
Incorporate the use of existing nationwide interoperability channels into training and exercises.		MEMA	12/2013	In Progress
Complete disaster communications training and exercises.		MEMA	12/2013	In Progress
Additional State Initiatives (include public safety wireless broadband related initiatives, as applicable)				

<b>Initiative</b> (Name / Purpose)	<b>Gap</b> (Brief Description)	<b>Owner</b> (Agency, Department, and/or POC)	Milestone Date (Month/Year)	Status (Complete, In Progress, Not Started)
Conduct events to allow DHS/OEC to validate NECP Goal 1 compliance.	Need to establish interoperable communications within 1 hour of event.	PMO, UASIs, MEMA	Ravens football game in Baltimore City.	Complete
Develop plan for State verification of NECP Goal #2 within all regions.	Need to establish interoperable communications within 1 hour of event.	PMO, Regional Interoperability Groups, MEMA	Winter 2010	Complete

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### Usage

Overview of the testing of equipment and promotion of interoperability solutions:

The number of times that interoperability is required for regional incidents varies greatly across the State and from year to year. The most frequent need for interoperability occurs during major weather events. Additionally, real-world events, such as major sporting events, festivals, concerts, protests, National Special Security Events (e.g., January 2009's Presidential Whistle-Stop Tour and Inauguration) and largescale incidents like the Washington, D.C. sniper attacks, remind leaders of the importance of interoperability and force agencies to explore continual improvements.

Maryland has made it a priority to promote interoperable communications. At the State level, the SIEC developed an outreach component. Every locality across the State has been made aware of the importance of interoperability, as well as the statewide interoperability vision and its eventual capabilities. Additionally, a representative from each of Maryland's five interoperability regions has been appointed by the Governor to a seat on the SIEC to bring expert local perspective and input to State projects. In the past year, interoperability leadership has briefed members of the legislature, representatives from every county, every state agency involved with radio communications, and NGO representatives from every spectrum of public safety and emergency management representation. On local levels, interoperability is addressed during joint exercises, radio committee meetings, and training sessions.

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The SIEC's collaborative planning effort will continue to encourage local cross-jurisdictional and crossdisciplinary participation in the evolution of the SCIP through an outreach and public affairs plan. The Outreach Plan includes a set of goals, objectives, key messages, and list of target audiences. The plan is designed as part of a long-term effort for outreach and stakeholder communications in support of SIEC and SCIP goals and objectives. The plan proposes outreach activities such as public meetings and workshops, interactive Web-based information, media and public awareness efforts, and legislative awareness. The outreach effort will target all government and non-government public safety agencies and organizations in Maryland. Statewide Interoperability Director Ray Lehr was a presenter at the summer 2012 Maryland State Firemen's Convention that covered statewide communications efforts.

### Usage Initiatives

The following table should outline the usage strategic initiatives, gaps, owners, and milestone dates [State] outlined in its SCIP to improve interoperable communications.

<b>Initiative</b> (Name / Purpose)	<b>Gap</b> (Brief Description)	<b>Owner</b> (Agency, Department, and/or POC)	Milestone Date (Month/Year)	Status (Complete, In Progress, Not Started)
Design a website dedicated to statewide interoperability and post communications tools, educational and support materials, and power point presentations.	Lack of web presence for interoperability program.	PSC, Interoperability Coordinators, PMO	July 2010	Complete