

Subject: Audio Patch/Gateway Interoperability

Date Issued or Revised: Final June 15, 2006

Date Review:

4.1.6 Audio Patch/Gateway Interoperability

I. Subject and Purpose

The purpose of this policy is to define a Michigan Public Safety Communications System (MPSCS) Interoperability Patch (Patch) and the operation of a Patch.

An MPSCS Patch is defined as an interface between the MPSCS and any non-MPSCS radio or audio source to provide audio communications between the disparate systems.

Patches are a gateway of interoperability used by First Responders. An MPSCS Patch allows MPSCS First Responders to communicate with non-MPSCS First Responders.

Three types of approved MPSCS Patches are identified in this policy:

1. Permanently established Patch.
 - Established by a Dispatch console.
 - Established by an audio switching device.
2. Temporarily established Patch.
 - Established by a Dispatch console.
 - Established by an audio switching device.
 - Established by an Audio Gateway installed in a vehicle

When an Agency requests a Patch, an “Application for Audio Patch Gateway Interoperability with MPSCS Radio System” must be submitted to the MPSCS Director. When the application is approved by the MPSCS, construction of the Patch by the Agency may begin. The Patch must be tested and approved by the MPSCS prior to placing the Patch into operation.

The MPSCS may disable the patches operating on the MPSCS if there is a negative impact to the MPSCS. MPSCS will remotely disable the radios only after attempting to rectify the problem and then only upon 30 days advance written notice to the agency. However, in the event of an emergency, as determined by the MPSCS Network Communications Center (NCC), based on the MPSCS escalation process, the offending patches may be immediately disabled. The NCC will make a good faith effort to verbally advise the agency in the event of an emergency that necessitates disabling a Patch.

The implementation of the Patch hardware, interface, radio, labor, etc. is the responsibility of the requesting member. The State may invoice the member agency for any technical support supplied by State personnel.

Subject: Audio Patch/Gateway Interoperability

Date Issued or Revised: Final June 15, 2006

Date Review:

II. Procedures and Guidelines

The following guidelines shall be used for an MPSCS Patch deployment:

Permanent Patches

1. Permanent Patches will be approved after need has been demonstrated. The MPSCS Grade of Service will be considered in the approval of a permanent Patch.
2. Permanent Patches are to remain active at all times on the talkgroup specified within the Patch Agreement. This requirement is to provide the Public Safety users with a consistent and functioning communications path between the radio systems.
3. Only one proprietary talkgroup will be programmed into a permanently patched MPSCS interface radio to ensure the radio remains on the patched talkgroup.
4. A local jurisdiction may implement multiple permanent Patches if the MPSCS Grade of Service allows the additional traffic. If the MPSCS Grade of Service falls below an acceptable level of service by the additional Patches, the requesting agency will be required to purchase additional MPSCS infrastructure to support additional traffic load.
5. The patch must function in a technically and operationally consistent manner.
 - The activation time (key-up) of the patch shall be less than 2 seconds.
 - The release time between messages should be less than 4 seconds.
 - The audio quality should be a close representation of the original audio as heard on a typical subscriber radio.
 - The audio shall be free of hum, clicks, or other extraneous noise.
6. No radio may be used as a Patch radio without prior approval.
7. No console may be used to facilitate a Patch without prior approval.
8. MPSCS Event talkgroups cannot be permanently patched.
9. MPSCS Statewide talkgroups cannot be permanently patched.
10. The Patch and associated equipment shall remain fixed and be available for inspection by MPSCS personnel.
11. The permanent Patch shall be tested and approved by MPSCS prior to implementation.
12. Maintenance of a permanent Patch is the responsibility of the member agency.

Temporary Patches

1. A member must notify the NCC of any temporary Patch enabled and identify the talkgroup used in the Patch.
2. MPSCS Network Communications Center (NCC) may disable a temporary Patch if it causes communications problems for MPSCS subscribers.
3. If a Patch talkgroup is proprietary to a specific jurisdiction, the authority of that jurisdiction must sign a Memo of Understanding (MOU) granting use of the proprietary talkgroup(s).

Subject: Audio Patch/Gateway Interoperability

Date Issued or Revised: Final June 15, 2006

Date Review:

4. The Patch must function in a technically and operationally consistent manner.
5. The activation (key-up) of the Patch shall be less than 2 seconds.
 - The release time between messages should be less than 4 seconds.
 - The audio quality should be a close representation of the original audio as heard on a typical subscriber radio.
 - The audio shall be free of hum, clicks, or other extraneous noise.
6. No Radio may be used as a Patch radio without prior approval.
7. No console may be used to facilitate a Patch without prior approval.
8. MPSCS Event talkgroups may be temporarily patched with NCC approval.
9. MPSCS Statewide talkgroups may not be patched.
10. The temporary Patch facilities and associated equipment shall be available for inspection by MPSCS personnel.
11. The temporary Patch facilities shall be tested and approved by the MPSCS prior to implementation.
12. Maintenance of the temporary Patch and facilities is the responsibility of the member agency.
13. The agency shall continuously monitor and respond to calls on the Patch.

Responsibility	Action
Requestor	1. Submits application to MPSCS Director.
MPSCS Project Manager	<ol style="list-style-type: none"> 1. Meets with parties that may be impacted by the proposed patch interoperability. Purpose of meeting is to validate and define an interoperability plan. 2. Completes Project Charter.
Requestor	<ol style="list-style-type: none"> 1. Works through local service provider to deploy and test the patch. <ol style="list-style-type: none"> a) Agency is responsible for all project costs. b) Coordinates training from MSP for all public safety personnel that may use the patch.
Project Manager	<ol style="list-style-type: none"> 1. Obtain completed and signed Patch Functional Test. 2. Verify all documentation has been completed and close project.

Subject: Audio Patch/Gateway Interoperability

Date Issued or Revised: Final June 15, 2006

Date Review:

III. Responsible Party

A. Contact for Questions

MPSCS Director

MPSCS Project Manager

Network Communications Center

B. Phone, Fax and Email Addresses

517.336.6262, MPSCS Director, mpscs@michigan.gov

517.336-6188, Project Manager, shinewt@michigan.gov

517.333-5050, Network Communications Center

517.336-6222 (fax)

IV. Applicable Forms

Application for Audio Patch Gateway Interoperability

MPSCS Patch Agreement

Patch Functional Test

V. Termination or Review Responsibility

MPSCS Director

VI. Linkages to Other Relevant Data

MICHIGAN PUBLIC SAFETY COMMUNICATIONS SYSTEM (MPSCS) PATCH AGREEMENT

This Agreement is entered into between _____, and the State of Michigan, by the Michigan Department of Information Technology (MDIT), Michigan Public Safety Communications System (MPSCS).

- The purpose of this agreement is to authorize permanent voice communications interoperability between MPSCS and _____.
- The purpose of this agreement is to authorize temporary voice communications interoperability between MPSCS and _____.

I. MDIT Responsibilities

1. **Configuration** – MPSCS will configure the system talkgroup/s to provide interoperability within the operational area.
2. **Grade of Service (GOS)** - A permanent Patch is permitted when an acceptable GOS is maintained in the MPSCS. If the Patch causes a negative impact on the MPSCS GOS due to radio traffic, MPSCS may remotely disable a permanent patch only after attempting to rectify the traffic problem and only after 30 days written notice. However, in the event of an emergency, as determined by the MPSCS Network Communications Center (NCC), based on the MPSCS escalation process, the patch radio/s may be immediately disabled. The NCC will make a good faith effort to notify the agency in the event of an emergency that necessitates disabling the patch.
3. **MPSCS Radio Programming**- MPSCS is responsible for providing the MPSCS patch radio programming archive, as described in the MPSCS Subscriber Agreement, to facilitate this interoperability solution.
4. **MPSCS Audio Patch/Gateway Interoperability Policy** – MPSCS will develop the MPSCS Audio Patch/Gateway Interoperability Policy for interoperable communications between the MPSCS and Agencies needing the services provided by a Patch.

II. Joint Responsibilities

1. **Testing and Acceptance** - Jointly conduct the Patch Functionality Test. The Patch must pass the Patch Functional Test before the patch is enabled for use by subscribers. Both parties shall receive results of these tests.
2. **MPSCS Audio Patch/Gateway Interoperability Policy** – Operate Patches in accordance with MPSCS Audio Patch/Gateway Interoperability Policy Statement, Exhibit A.

III. Agency Responsibilities

1. **Radio/Patch Equipment** – The Agency shall purchase and provide all necessary Patch radio and/or dispatch equipment.
2. **Coordinate Dispatch Console Programming** – The Agency shall coordinate dispatch console programming necessary to patch the agency equipment to the MPSCS console radio.
3. **Establish the Communications Protocol** – The Agency shall establish an appropriate protocol for effective communications through the patch. The protocol will be in accordance with established National Incident Management System (NIMS) standards.
4. **Patch Maintenance** – The Agency has the sole responsibility for maintenance and repair work associated with agency equipment. Permanent patches shall be repaired and maintained within 24 hours response. Temporary patches must be repaired in time frame consistent with the Agency’s needs or requirements.
5. **Permanent Patch Operation** - The Agency continuously shall monitor and respond to calls on the patch .

6. **Temporary Patch Operation** - The Agency shall operate the temporary patch in accordance with the MPSCS Audio Patch/Gateway Interoperability Policy as found in Exhibit A.

IV. NOTICES TO MPSCS OR AGENCY

All notices given under this Agreement, except for emergency requests, shall be made in writing. All notices shall be sent to the parties as follows:

Agency: Name: _____
 Contact: _____
 Address _____
 Address _____
 City, State, Zip _____

MDIT: Michigan Department of Information Technology
 Michigan Public Safety Communications System
 Attention: Robert C. Tarrant
 4000 Collins Road
 P.O. Box 30631
 Lansing, Michigan 48909-8131

V. TERMINATION

Either party may terminate this Agreement by giving thirty (30) days' advance written notice to the other party.

SIGNATURE PAGE FOLLOWS

PATCH AGREEMENT SIGNATURE PAGE

AGENCY

By: _____

Its:* _____

Date: _____

*Execution of this Agreement by the Agency may only be made by a duly authorized representative of the local unit of government.

MICHIGAN DEPARTMENT OF INFORMATION TECHNOLOGY

By:

MPSCS Division Director

Date: _____

Please send signed Patch Agreement to:

Michigan Department of Information Technology
Michigan Public Safety Communications System
4000 Collins Road
P.O. Box 30631
Lansing MI 48909-8131
Attention: Division Director