



MPSCS NEWSLETTER

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UPCOMING EVENTS

Training
Contact: Gloria Cline
(517) 336-6126

- May 18-21 (Livonia)
- June 15-19 (Petoskey)
- July 20-23 (Ionia)

QUICK STATS

- **TOTAL RADIOS:**
48,441
- **AMOUNT ADDED IN PAST TWO MONTHS:**
311

FUN FACT

- Scientists in Italy have been able to transmit wireless data at over **1.2 Terabits per second!**

Integrated Voice & Data: What Can it do for *Your* Agency?

The MPSCS offers an effective way to enhance every agency's productivity...the integration of data services into an agency's communication technology. By having this technology available, public safety officials are able to spend less time behind a desk and more time in the field.

As text messaging and wireless internet become staples of the American way of life, the desire for similar technology arises in the public safety sector. These features, in addition to many applications specifically designed for use by public safety officials, can improve agency efficiency and safety.

Departments start by providing officers with access to the Law Enforcement Information Network (LEIN), and then expand the capabilities to include access to record management systems, like jail records and court documents. This alleviates having to call a command unit or dispatching center for this information. They can interface Computer Aided Dispatch (CAD) systems, and even electronic ticketing and crash reporting.

Emergency Medical Services and Fire Departments are able to access important medical records, receive current traffic information, and utilize Automatic Vehicle Location (AVL) for more precise

event and disaster responding.

In addition, over-the-air voice communication time is decreased for all data users, as public safety officials are able to use queries and messaging features to communicate with others in the field and in the office.



The MPSCS provides Michigan's first-responders data capabilities like messaging features and access to LEIN.

The MPSCS' technology currently presents ways to run LEIN queries directly from the patrol car, and use a messaging feature similar to desktop email. These transmissions are fully encrypted and recorded. The MPSCS is working with vendors and engineers to incorporate additional applications, and as more agencies add data capabilities to their communications and as the demand for increased features arise, they will become available to all MPSCS subscribers.

Utilizing a common air interface, a P25 standard, the MPSCS and Motorola have certified two applications on

the MPSCS' data network. The first option, Premier Mobile Data Computing (PMDCC), provides a mobile LEIN interface; the second supplies the MPSCS with the ability to change the encryption key (rekey) of a radio by using an over-the-air-rekeying interface (OTAR). The local police, fire, and Sheriff departments in Calhoun County have their radios equipped with encryption modules and are programmed to take advantage of OTAR interface.

Both options provide the same amount of statewide coverage as voice, 97%. Transmission speed is limited to 9.6 kbps, but the current infrastructure allows for a rather seamless migration to High Performance Data, which offers speeds of 96 kbps without having to increase the tower density. A typical query will take less than 30 seconds for a response; a fully loaded query can take up to 1 minute and 40 seconds for response back from LEIN, SOS, NCIC, and a PPO.

With an Integrated Voice and Data (IV&D) radio, voice can be configured to take priority. Therefore, if a call or PTT came in while running a query, the data transmission pauses, and resumes after the voice communication has finished. This type of integrated technology eliminates the need to purchase a modem, and thereby drastically reduces cost.

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Tower Use: Co-Location Policies

In 1995, the State Building Authority issued bonds to the MPSCS for a large portion of its start-up costs, such as infrastructure construction and design. In order to maintain the bonds' underwriting, the State of Michigan decided to place multiple restrictions on the MPSCS' tower use.



Upon each tower, a limited amount of space is available for communications infrastructure, such as radio antennas, microwave dishes, etc. With each tower being worth over \$1 million, that space is very valuable...

not only to the MPSCS, but to public safety, commercial users, and amateur radio operators.

Recently, many individuals have contacted MPSCS personnel about the multiple uses of the system's 231 towers. In MPSCS policy 4.1.7 *MPSCS Member and Non-Member Co-Location Procedure*, there are clearly stated guidelines that manage tower usage.

All MPSCS towers are for public safety purposes only. If persons and agencies outside of the public safety realm wish to place equipment upon an MPSCS tower, qualified officials must provide written documentation, proving that the requestor is capable of providing a service to public safety. In addition, a degree of interoperability with the MPSCS must be established and maintained throughout the duration of tower use. All equipment must also abide by MPSCS standards. In total, sixteen requirements exist that must be met before a co-location is considered.

To find out more about Co-Locating with the MPSCS, view the above-mentioned form at MPSCS' website, under the *MPSCS Policies* link. Co-Location manager, Buzz Leach, is also available by email at:

LeachG@michigan.gov, or by telephone at (517) 333-5004.

The State of Michigan does offer leased space on many of its other towers. Joy Tiemeyer, Project Director for SBA Network Services, has information on these and more. She can be reached by email at:

jtiemeyer@sbsite.com, or by telephone at (517) 622-8448.

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Van Buren County: The First MPSCS Subscriber to Use IV&D

The summer of 2007 marked yet another milestone for the MPSCS in public safety communications. Van Buren County, a long-time member of the statewide system, took their communications to another level by implementing integrated voice and data (IV&D).

Purchasing sixty-five Motorola ML-850 ruggedized laptops, Van Buren County installed a data device in each of its state, county, local, and tribal vehicles.. The Central Dispatch Budget covered the cost of all equipment, coupled with an agreement with Motorola.

Each vehicle has a mobile messaging feature that is similar to desktop email, and access to the Premier Mobile Data Computer (PMD) LEIN application. Jeri Tapper, Director of Van Buren County Central Dispatch, said, "It's very cost effective for us to have this technology and mobile access to LEIN, compared with paying staff to run constant queries from the Dispatch Center."

The National Crime Information Center (NCIC) has encryption standards that the county was not meeting. By adding IV&D, the county not only meets the NCIC's standards, but also its goals in providing reliable, easy access to LEIN.

Desiring faster speeds than the state's system can currently provide, the county contemplated receiving its data through a private wireless carrier, as both the private companies and the MPSCS presented comparable costs. Van Buren County decided on the state's system because of one essential factor: coverage.

The larger carriers center their coverage at where the majority of people are. While convenient and cost-effective for them, this is not a realistic possibility for most public safety agencies. Mobile computing, messaging, and applications are needed throughout each county, not only in urban centers.

The MPSCS currently provides an equal amount of both voice and data coverage, 97% statewide.

"Being in a rural setting, the MPSCS' statewide infrastructure was a much more logical choice for data," stated Director Jeri Tapper, "and although what we've got is basic, it's very successful."

Content with its level of data applications and willing to expand, the



A Paw Paw city police officer uses Integrated Voice and Data in his patrol car. Van Buren County has installed 65 of these devices throughout the county.

county piloted an electronic crash and ticketing application, made available through an OHSP grant, over the last eighteen months. The program still has a few glitches that need to be smoothed out, but once completed, the county's efficiency and cost-savings will increase. This is only one of the many programs public safety data providers are beginning to assess.

Tapper expressed desire to have mobile CAD, imaging and Automatic Vehicle Locator (AVL) applications in use in Van Buren County.

The MPSCS' data capabilities will increase as more subscribers add data to their agencies' communication services. With those capabilities come higher speeds, larger bandwidth, and more availability of diverse public safety applications.

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The MPSCS' Data Know-It-All

One MPSCS employee knows all there is to know about data. Yet, his passion for knowledge and technology keeps him searching for not only solutions to data problems, but for the best, most efficient, secure solutions. That employee's name is Jerry Nummer.

Starting his career with the State of Michigan in 1997, Jerry took hold of a radio tech position with the State Police at the Rockford Radio Shop. After Brad Stoddard, current Director of the MPSCS, left the radio system for an MDIT position, Jerry took over management of the MPSCS' inventory database, MP2.

He then worked with Dave Doty, Radio Communications Tech 12, on numerous MSP projects, including the execution of various data applications and in the implementation of county-based Private Radio Networks.

Earning a B.S. in Electrical/Electronics Engineering Technology from Ferris State University in 2003, his increased knowledge and experience landed him much more responsibility.



Jerry Nummer is the man to go to for data questions.

When asked how he transitioned from radio tech to data guru, Jerry said, "I started asking questions, and had to find my own answers."

His primary involvement now lies in testing statewide data applications on mobile units, which is similar to what he would like to do in the future. He trusts that a position allowing him to analyze information, while focusing on research and development, is right for him.

Jerry's current goal for the system is, "to see utilization and better incorporation of AVL, CAD, RMS, E911, etc. by the public safety answering points (PSAPs) at an enterprise level."

These types of data applications will surely take effect in the near future, as Michigan's statewide infrastructure provides the perfect backbone to do so. With Jerry Nummer as the system's primary resource on data, all can rest assured that the MPSCS will provide reliable, consistent data to all public safety agencies, just as they have for voice communications.

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Data Checklist: What to Consider When Considering Data

If interested in adding data capabilities to your agency's communications, there are many things to consider.

- *What functionality does your agency require today? If those needs require applications different than what the MPSCS currently offers, who will develop and support those applications?*
- *What are your agencies potential future needs (AVL, RMS products, electronic citations and crash reporting, GPS and mapping, etc.)?*
- *Which types of hardware and accessories will you need (ruggedized laptops and docking stations, possibly video cameras, card readers, screen stabilizers, lights, etc.)? Who will maintain this equipment?*
- *Is there funding available for this project and monthly service fees?*

MPSCS Fee Structure Clarification

Recently, the MPSCS has received clarification inquiries on how it distributes fees amongst subscribing agencies.

In Policy 1.1.1 *MPSCS Fee Structure*, there are four clearly defined service levels. Each has its own set of parameters that distinguish it from the others, including things such as the number of additional system talkgroups, PTT's/radio/year, and Voice Talk Time/radio/per, as well as many others.

Depending on an agency's needs and specifications, they fall into one of the four levels. Which exact parameter is used to determine the level? This is where the confusion begins.

Unlike cellular phone companies, the MPSCS *does not* charge individual radios based on their amount of PTT's and/or voice talk time. Currently, the system *does not* have the resources nor the manpower to monitor each radio's use of PTT's or voice talk time. Eventually, this portion of the fee structure policy may be removed due to this billing misconception.

The MPSCS *does* charge for the number of *additional system talkgroups* programmed into each radio. Additional system talkgroups are an agency's private, proprietary talkgroups that they have access to because of an addition to a basic template.

For example, X-fire department has 14 additional system talkgroups in their radios, uses 1,000 PTT's a year, and 40 minutes of voice talk time a year. That fire department is in Level 3, and is billed \$100/year per radio.

If that same fire department has 28 additional system talkgroups in their radios, uses only 170 PTT's a year, and 10 minutes of voice talk time a year, that fire department is in Level 4, and is therefore billed \$200/year per radio.

For additional clarification, please see the *MPSCS Fee Structure* on the MPSCS' website under the Policies heading, or contact Dan Robinson, at (517) 336-6621, or at:

RobinsonD4@michigan.gov

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The MPSCS is available to help answer all data related questions, and aid you through the process. Jerry Nummer, the MPSCS' data specialist, will help to find the most cost-effective way to suit your agency's needs. He can be reached at:

NummerJ@michigan.gov.

Once your agency has decided to investigate data addition more seriously, initial interest requests are to be directed to MPSCS Project Manager, Theron Shinew, at:

ShinewT@michigan.gov.

EMAIL NOTICE

The MPSCS recently migrated to a new e-mail server. Some emails have changed.

Brad Stoddard's is now:
StoddardB@michigan.gov
(before, there was no 'd')

Michael McCarty's is now:
McCartyM@michigan.gov



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Comments or suggestions are appreciated!

Contact Robin Stremlow, Publications Specialist

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www.michigan.gov/mpscs

Usage Statistics

2009	Total Calls	PTTs	PTT Change From 2008
MAR	4,276,902	7,738,175	+473,378
APR	4,260,677	7,731,324	+84,552

REBANDING UPDATE: Frequencies have been Approved

RCC and Motorola have reviewed the frequencies issued by the Transition Administration, and all have been approved for use.

The Rebanding Plan and Budget are still in the process of being completed.

Updates will appear in each future issue of this Newsletter. However, detailed project information, upcoming events, and up-to-date progress reports can be found at the Rebanding Project's website: <http://www.rccpm.com/MI800MHz/default.aspx>

Want additional information?

Email: mpscs@michigan.gov

For topics of interest related to articles in this volume contact:

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There are many additional benefits for choosing IV&D over an external wireless data provider. The same eyes that monitor the MPSCS' voice transmissions are also monitoring data transmissions, aware of issues and fixing problems as they arise. The software and applications that come with the data service are also covered by MPSCS support, and therefore additional software support is not necessary. Finally, Motorola has one tool to add and remove users from data services, providing for a consistent and stable network. When a network ID is given out to a radio for data, that ID is essentially "locked down", completely secure from external eyes. All of this comes standard to users for \$50/month per radio.

Currently Van Buren County is has 67 IV&D radios in service. By June 1, the Michigan State Police will equip 250 vehicles, operating north of M-55, with IV&D radios and PMDC. An ongoing discussion is also taking place regarding improvements to security, data interoperability, connectivity, and federal requirements around data technology that would prove beneficial to all users of the state system.

All agencies have specific needs, and the MPSCS will try to meet all realistic goals, while answering questions and troubleshooting potential issues all the while. Data is where public safety communications is headed, and the MPSCS is working diligently to deliver this to all of Michigan's first responders.

Keep Your Eyes Open for UPCOMING ISSUES of the MPSCS Newsletter:

- Homeland Security Initiatives
- Point-To-Point Technology
- New Data Security Technology
- Grade-Of-Service
- MPSCS Performance Standards
- Improving Coverage with IGN's
- Project 25 Details
- MPSCS Engineering Overview
- MPSCS Staff Bio
- Rebanding Updates
- ...and more!