



# MPSCS Newsletter

## Royal Malaysian Police Visit MPSCS to Learn Best Practices

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On November 11th, the Royal Malaysian Police made a trip to visit the MPSCS to find out how to use our statewide communication systems as a model for successful roll out and implementation of their new countrywide system. Motorola and the MPSCS met with 17 members of the Royal Malaysian Police who came to discuss best practices of their newly developed Motorola Astro 25 release 7.6 system. The agenda that was discussed included how to maintain ongoing operations and technology.



*The Royal Malaysian Police stop by the NCC to learn about system technology.*

The system will provide services countrywide with close to 200 tower sites and 50,000 radios. Some of the technology included will be console, voice



*Dave Hayhurst, Infrastructure Services Manager, gives members of the Royal Malaysian Police an overview of MPSCS best practices.*

logging and replay, and text messaging capabilities. The new system will be 100% secure and completely self-maintained, like the MPSCS.

Recently, director of DTMB John Nixon compiled a list of accomplishments

for the department for the year of 2011. Among them was the MPSCS hosted Royal Malaysian Police Project. The above mentioned stated that we "shared lessons of a learned governance approach, policies, and other effective system-wide support strategies from the MPSCS operations."

As the largest Public Safety communication system in North America, MPSCS is the model for many up and coming systems across the world. In more recent years, MPSCS has hosted visits to our system from other countries and organizations around the world including Latvia, Quebec, Pemex petroleum company in Mexico, and the Queensland Australia State Police. We were pleased to be able to provide an example for best practices for the new Malaysian communications system and numerous other government and private entities.

Join the MPSCS conversation on Twitter @ [www.twitter.com/mpscs](http://www.twitter.com/mpscs) and check out our videos @ [www.youtube.com/thempscs](http://www.youtube.com/thempscs)

**\*\*NPSTC\*\***  
**PUBLIC SAFETY**  
**BROADBAND SURVEY**  
**LINK ON Pg. VI**

**Did you know?**  
That over 25 countries from around the world have visited the MPSCS to learn from our system. The Kingdom of Saudia Arabia, Ministry of Interior will be visiting in Feb., 2012.



## Words From Our Director: Brad Stoddard

### D-Block: A Strategic Opportunity

We have witnessed through years of request and need for public safety spectrum a diverse area of frequency utilization, with equal parts passionate arguments and diversity. In the past communications primarily focused on one-way, two-way, voice, tones and limited data, but usually all in disparate bands. Now the nation is poised to strategically reevaluate a public safety communications approach across the entire nation that is again filled with opportunity. Those that can see through the clouds of diversity and focus on the long term strategic opportunity for the entire nation are looked upon as out of touch with reality, while those that can only see what they know of today as reality and question the validity of a nationwide system are looked upon as non-visionaries. The two polarized groups will soon merge in order to address a demand from the citizens that television and movies have painted an unnatural reality of technology capabilities available to public safety.

Much has already been accomplished by many groups, committees and partnerships creating the strategic vision but how well that has been widely shared is unknown across the country. The strategic vision isn't just the magic of television, but one of a known reality. This vision is unlike the X-ray glasses from the comic book pages when we were younger; this opportunity capitalizes on a technology direction with robust standards and strong governance.

As I see the parallel between the nationwide public safety broadband network and that of the Dwight D. Eisenhower National System of Interstate and Defense Highways, but widely referred to as the nation's interstates, or highways. The parallel between the interstate system and the nationwide public safety broadband network are so strong that the model of the former can set in motion the plans for the latter. The same foresight and persistence to create the interstate system, is the same type of passion and vision in place today to develop a wireless interstate of sorts for public

safety and homeland security utilization. Fortunately, there are many more that can visualize the opportunities of this new nationwide network than those that feel it is a fallacy. Television and movies have driven us to the edge of expecting real-time information, so why would we not utilize the new nationwide network to deliver digital health information to the responder when they arrive on scene with the patient or protect our countries borders with a technology solution that we have witnessed on screen.

The nation is filled with brilliant minds to think up new ideas and efficiencies, as well as many talents in the science, technology and engineering disciplines to turn those ideas into reality. First, the dots of this strategic plan must be connected, then the spectrum must be allocated then the network will be planned, once planned it is able to be constructed, once constructed it will be validated for use and once users begin to see the capabilities, new ideas begin to spawn and the cycles will continue across the nation. This is not the "Field of Dreams" as the nation already has the brilliant minds working on the technology and will be validating systems around the country soon.

This is no longer just a concept, as it is a feverish work in progress for some leading communities around the nation. Now is the time to embrace the capabilities of technology and think out-of-the-box to deliver public safety services to the citizens and re-look at the "crazy ideas" we witnessed within the pages of comic books as they may soon be a reality but will doubtfully be \$9.99 plus shipping and handling. The future holds many opportunities, and we can learn from our past to paint our strategic picture of tomorrow.



## Why Recreate The Wheel: Multi-State Meetings *by Brad Stoddard*

Many times we are pulled into or jump into situations not knowing that someone else has already dealt with an issue much like what we are experiencing. There have not always been easy or constructive avenues to share information with your peers, whether it is within the state, between bordering states or even across the nation. With Michigan's leadership in statewide interoperability, we have been contacted many times by peers around the world to learn from the success that Michigan has had, but in most cases these peers were just beginning construction so there may not have been much bi-directional sharing that could occur.

Within the State of Michigan, there have been some avenues of information sharing but not all were created equal. The same was true in other states around the nation but we all were faced with some of the same parallels; from technology issues, to policy constraints to funding gaps, but there has been little opportunity for peers to pose questions or even share creative solutions. Within Michigan, I am hopeful that some of the challenges that we have been faced to openly share information will soon be resolved to diffuse any misguided thoughts or untrue realities by bringing interoperability experts from around the state to share information with the intent of creating more efficient capabilities.

A similar stigma was in place with bordering states to Michigan, we did not share very much information as there wasn't an avenue to share information since it was unclear at times who to contact. We have since leaped this hurdle and in 2008 began holding multi-state meetings with Ohio's and Indiana's statewide communications system directors. Initially, these meetings focused on difficulties we faced within our respective states and how we may have successfully or unsuccessfully tackled them. As the meetings continued the discussions grew from issues within our states to opportunities between our states and sharing lessons learned and strategic opportunities that we may have learned along the way. As these meetings began they were very informal but

stayed close to a quarterly schedule and at times we were lucky enough to meet during breaks from regional or national federal meetings, but the focus for the three states was the same – how we can share information. Now with enough experience under our belt and a growing demand for discussions at our quarterly meetings, we have elected to break the meetings into two tracks, a managers/policy track and a technical track. The value this has provided at the state to state level has also aided the states with opportunities at the local to local cross border level. In many communities and counties along the border there had been regular and irregular dialog and meetings relating to interoperable communications, but there had to be an easier way to address many like needs across a larger geographic area. Information sharing amongst the three bordering states is growing and technical challenges and policy questions can now be sent to peers in bordering states to weigh in for help and resolution.



Future meetings of the bordering states of Indiana, Michigan, and Ohio may also include our counterparts in Ontario, Wisconsin or Illinois. We see the value in information sharing as the knowledge is greater amongst our states as we have developed the relationships of our colleagues to those of trusting peers all faced with related opportunities. I can envision a time in the not-so-distant future where we may have easy access to our peers of statewide or large municipal communications systems to pose candid questions for support and resolution. The need for information exchange isn't just here in the Midwest, but across the country as we have years of knowledge and experience with a mix of technology and policy. As I look into opportunities for 2012, statewide and large municipality communications systems leaders should have an outlet to exchange data. Anyone interested?

“We see the value in information sharing ...”



## New Employees

### Scot Theakston

Scot Theakston started his engineer experience working as a designer at U.S. Comm. Corp. / Telecommunication Engineers while attending college at Saginaw Valley State University. There he worked designing and implementing end to end Hybrid Fiber-Coax systems to deliver voice, video, and data.

In 2008 Scot began his career with the State of Michigan as an Unemployment Insurance Examiner. He stayed at this position until September of this year when the opportunity came to jump back into the engineering field. He now works as a Communications Engineer, discovering and implementing equipment and procedures which improve quality, reliability, and efficiency of our communication systems.

From all of us here at the MPSCS, welcome to our team Scot.

### Tobechi Obgonna

Tobechi Obgonna is currently completing the Electrical Engineering Master's Program at Wayne State University. Before coming to the MPSCS he worked at the University of Michigan Hospital in Ann Arbor for six years. He also held an internship with Harman International Automatic Division as a software testing intern. He monitored quality control by testing and validating Harman Bluetooth and HMI software for their Automotive Car Radios.

Tobechi has now recently filled an Engineer position with the MPSCS. He says he has had an interest in communications and the MPSCS has provided him with an opportunity to explore that within public safety radio communication. We are happy to have you join us Tobechi.

### John Cherney

John Cherney is our new in house Motorola resource at the MPSCS. His presence will provide the MPSCS with help for solving any system issues with Motorola and will also provide insight into future Motorola developments, so as we are able to offer updated service to our members.

John has been working at Motorola since 1994 as a development engineer, first working with subscribers and then with infrastructure devices. He has worked on the Key Management Facility (KMF), the Transport Network Configuration Tool (TNCT), on various zone level servers for DNS, Active Directory, and for syslog. He is a graduate from the University of Iowa, and married with 3 children.

We are looking forward to your additions to our staff John.

## MPSCS User Group Meeting set for Feb. 8 in Grand Rapids, MI

### *You're invited to the MPSCS USER GROUP MEETING.*

**WHERE:** 2012 MI Association of Chiefs of Police Mid-Winter Conference and Exposition, Grand Rapids at the Amway Grand Plaza Hotel.

**WHEN:** Wednesday, February 8th, 2012, from 9:00 am to 10:00 am.

Meet with our knowledgeable staff and bring any questions you may have for us on that day. Managers will be on hand to discuss any concerns, and to clarify issues that are important to our members. This is the MACP's largest annual training conference and a great turnout is expected.

**RSVP:** Kimberly Miller @ [millerk44@michigan.gov](mailto:millerk44@michigan.gov), or call 517-336-2041.

We will send you an agenda and the conference room location. We hope to see you there.



## Preventative Maintenance for MPSCS Radios *by Tommy Thompson*

A Preventative Maintenance schedule is important to assuring successful and continuing operation on MPSCS. The new technology utilized in Project 25 radios makes them much more reliable than radios that were in service 25 years ago, however to assure effectiveness, it is recommended that your radios are maintained at least once every two years. Your radios may exhibit some signs that preventative maintenance is overdue. These indicators include:

- *Radio Bonking out of Range, especially in areas where the radios once worked*
- *Increase of missing syllables on received audio*
- *Reduced battery life (batteries must also be maintained)*
- *Longer times to affiliate when turning radios on*

MPSCS technicians have been trained by the various subscriber radio manufactures to perform preventative maintenance on state owned radios. Some of the tools required to perform preventative maintenance include a service monitor capable of decoding and generating P25 digital audio, a watt meter, a low loss cable and an RF connector kit. The following operating parameters are measured and adjusted if necessary.

### -Alignments-

- *Reference Oscillator (It is really important that the reference oscillator should be less than 300 Hz off of the operating frequency.)*
- *Transmitter Deviation Balance*
- *Transmitter Deviation Limit*

### -Transmitter Tests-

- *Bit Error Rate (BER)*
- *Reference Frequency*
- *RF Output Power*
- *Voice Modulation (External)*
- *Voice Modulation (Internal)*

### - Receiver Tests -

- *Rated Audio*
- *Distortion*
- *SINAD Sensitivity*
- *Noise Squelch*

### - Power -

- *Grounding (Mobile)*
- *DC Power*
- *Battery (Portable)*
- *Capacity*
- *Physical Characteristics*

### - Physical Check -

- *Cabling*
- *Buttons*
- *Operational Check*
- *Correct Template*
- *Test call*

MPSCS now has automated maintenance software for our General Dynamics Service Monitors at our installation facility. This software for Motorola mobile radios allows radios that are scheduled for installation to be checked and aligned without having a highly skilled technician involved. This has resulted in a higher quality installation and greater reliability of the radio with less service calls.

## Tower Site Construction and Project Updates

### ~ Under Construction

- Chippewa Co. - Sugar Island - 1 Site
- Lapeer Co. - 6 Site Simulcast

### ~ Almost Completed

- City of Livonia - 1 Site
- Wayne Co. - 2 Site Simulcast

### ~ Adding Additional Channels For Capacity

- Genesee Co.
- City of Ionia
- Gratiot Co.





MICHIGAN'S PUBLIC SAFETY COMMUNICATIONS SYSTEM

Want additional MPSCS information?

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Rebanding Update - Rebanding Gathers Momentum

As reported in the last newsletter, the installation of the Back-2-Back (B2B) Mutual Aid (MA) system is underway. All but a handful of sites have had either new antennas installed or existing ones modified. As part of the effort, additional switching and transmitting equipment was installed in each of the antenna shelters and brought onto the air. Only 14 of the 176 sites are awaiting resolution of frequency conflicts (or blocking) so that they can be operates in the old frequencies (as they do now) as well as operate on the new MA frequencies. Field testing has been conducted to ensure that both the old and new frequencies are operational and meet or exceed MPSCS's stringent standards.

As the B2B system nears completion, MPSCS is negotiating for the next two phases: subscriber radio rebanding and rebanding the fixed network equipment at the 235 tower antennas and their associated transmission equipment in the tower shelter buildings. MPSCS expects to have the contract with Sprint signed by the time you read this newsletter. So what's next?

It appears that the "frequency blocking" issues will be resolved in the next month or so which will permit us to certify that the whole MA system is capable of operating on both the old and new MA frequencies.

As this is being resolved, the mobilization of the equipment and staffing to reband the radios will be underway - about a 90 day effort. We are anticipating Radio Techs being in the field and actually upgrading/rebanding radios by late spring or early summer at the latest. This year-long effort will begin in Southeast Michigan and move West and North over the next 10-12 months.

Now is a good time for you and your agency to recheck your radio inventory, making sure that you are able to identify who has each radio and where each one is kept. This will ensure that when the Rebanding Teams reach your area, they can provide you with complete and efficient rebanding services for your operation.

MPSCS and its rebanding partners, RCC consulting and Motorola, will be providing up-to-date information in the coming months, including scheduling of sites and how you can assist in this operation. We are looking forward to working with you.

For more info contact Dick Baker: baker4@michigan.gov

Check out our new website and let us know what you would like to see on there! www.michigan.gov/mpscs

michigan.gov/mpscs

700 MHZ BROADBAND SURVEY!

In 30 Minutes You Can Help Shape the Future of Public Safety Broadband. The National Public Safety Telecommunications Council's (NPSTC) Broadband Priority Parameter Questionnaire closes on Jan. 31, 2012.

Go to: http://www.surveygizmo.com/s3/625789/ NPSTC-Priority-QoS-Survey