Meeting of the STARCOMM Executive Board
with Technical Committee
April 13, 2016

STARCOMM **Executive Board** Members Present
Dave Drew, Sheriff, Woodbury County
Tom Everett, Fire Chief, Sioux City
Richard Headid, Police Chief, North Sioux City, South Dakota
Dan Limoges, Sheriff, Union County
Ed Mahon, Interin Police Chief, South Sioux City, Nebraska
Judy Oberg, Director of Communications, Union County Sheriff's Department
Scott Pack, Police Chief, Sergeant Bluff
Bob Scott, Mayor, Sioux City
Doug Young, Chair/Police Chief, Sioux City

Absent
Tracy Ellinger, Communications Supervisor, South Sioux City/Dakota Co. LEC
Chris Kleinberg, Sheriff, Dakota County
Mark Monson, Chairperson, Woodbury County Board of Supervisors

STARCOMM **Technical Committee** Members Present
Mark Aesoph, Fire Marshal, Sioux City Fire Rescue
Gary Brown, Director, Woodbury County Disaster & Emergency Services
Joe Durham, General Manager, Electronic Engineering
Don Groves, Jail, Woodbury County Sheriff's Dept
Greg Koinzan, Police Officer, South Sioux City Police Department
Roger Kriesler, Calhoun Communications
Lance Martin, Calhoun Communications
John Obermeyer, Communications Technician, Sioux City Police Department
Scott Pack, Police Chief, Sergeant Bluff
Glenn Sedivy, Director, Woodbury County Communications Center
Michelle Skaff, Coordinator, Woodbury County Emergency Management
Greg Stallman, Deputy, Woodbury County Sheriff's Dept
Bob Welte, Director of Operations, Siouxland Paramedics

Absent
Doug Bock, Network Manager, WCICC-IT
Tony Carpenter, Calhoun Communications
Paul Hansen, Electronic Engineering
Eric Larson, Electronic Engineering
Scott Main, Electronic Engineering
John Malloy, Information Services Director, WCICC-IT
Andrew Pattison, Electronic Engineering
Ray Roggow, Emergency Manager, Union County

Also Present
Dave Gordon, Motorola Solutions, Customer Support Manager, IA and NE
Wendi Hess, Ops Supervisor, Woodbury County Communications Center
Melvin Mercado, Project Director, Motorola Statewide Project
Shari Schmitz, Direct Account Manager, Motorola Solutions
Todd Wieck, Deputy, Woodbury County Sheriff's Dept

Call to Order
The April 14, 2016, meeting of the STARComm Executive Board was called to order at 1000 hours by Chairperson Doug Young. The meeting was held at The Security Institute, Western Iowa Tech campus.

Approve Minutes
The first order of business was to approve the minutes of the November 19, 2015, meeting.

Tom Everett made a motion to approve the minutes of the November 19, 2015 meeting, seconded by Dave Drew; all voting aye, motion carried.

Presentation by Motorola of a possible STARComm/Motorola/State of Iowa Partnership and Sharing Agreement

The background and history of STARComm was recited by Gary Brown. In 2004 Woodbury County was awarded a Federal Interoperable Communications Equipment (ICE) grant for approximately $6,000,000 to build a tri-state demonstration project to connect multiple jurisdictions in multiple states to a single radio system. The original concept of the grant was for the radio system to become an anchor or component to a larger system.

From 2004 to 2005, tower sites were secured. The Woodbury County Sheriff's Department came onto the system in December 2005 as beta testers due to the Departments county wide roaming. Sioux City Police and Fire joined in January and February 2006, followed by the remainder of the users.

STARComm was established with the Motorola LE (Limited Edition) system, of which, only a handful were sold across the United States. In 2005/06 Motorola planned to phase out support and parts for the LE system and provided the opportunity to upgrade to newest platform 7.6 within existing operating budgets, putting agencies on a path to be able to upgrade as time went by. The 7.6 upgrade was completed in 2006.

The System began with about 750 users and currently the system supports roughly 1,100 users.

Motorola Presentation
Melvin Mercado, Motorola Project Director, presented a PowerPoint detailing a partnership's impact on the STARComm radio system and cost analysis. Also included was the option of adding Time Dimension Multiple Access (TDMA) to the system.

Integration of STARComm into the Statewide system was outlined. The Iowa Statewide Interoperable Communications System (ISICS) consists of sites scattered throughout the state, and contains three, interconnected switching cores. The cores are geographically separated in the event of catastrophic failure; should one fail, the other cores take over. Triple redundancy would exist. The sooner the cores are up and operational the more reliability there is as the build out continues.

A prime site sits at the WIT tower site and then a microwave network that interconnects the systems together creating a ring and a spur.

To interface into the ISICS system, another redundant prime site would be added and parallel ISICS paths with STARComm paths. An intersect point between the ISICS system and STARComm system would be created so STARComm has diversity in terms of protection for prime sites and also path protection.

The structure of the current STARComm system consists of scattered sites, a single prime site and a core. The dispatch center is not physically wired to the core but is wireless, with network management terminals connected to the core.

To integrate with ISICS, the connection to the STARComm core would be broken and the prime site would interconnect to the ISICS cores. Once a connection to the ISICS cloud is established, access to any one of the three cores may be obtained; in the event of a catastrophic failure, two additional backups remain.

The core is the main point of coordination for access to all sites. The push-to-talk button on radio activates the core to confirm permission, confirmation of identity, access authorization, talk group access, and who the transmission is being directed to. The core locates all users, keys up all channels and is the main point of processing calls in the overall system, which is why many redundancies are so important.

Because STARComm has a simulcast cell, all of the sites work together as one, using the exact same frequencies. It would appear STARComm is one huge site, but instead it is comprised of many sites working together to make it look like one; the prime site coordinates that.

If the core failed today, operation would continue, but without certain services. Radio users could still reach out to other users and the dispatch center could still talk, but there would be no ability to log what's happening on the overall system, controller channels, reject users of the channels, etc. If the prime site fails, coordination with all sites is lost, and that would be a problem.

If STARComm was to integrate with ISICS, the network management terminal would be connected to the new core, basically redirecting the prime site and the network management to the new core, no longer needing the STARComm core. After integration is completed, another prime site would be added, that site would also become available to Woodbury County, the principle being, if that prime site failed, coordination continues because of the backup prime site and vice versa.

In addition, three channels, or capacity, will be added to every STARComm site. The channels are State assets and would roam throughout the STARComm coverage footprint without utilizing STARComm resources. The additional channels would be available to any of the STARComm users for interoperability. A STARComm user could utilize the ISICS system and communicate across the State. This system may improve existing coverage issues as well. STARComm users could use the ISICS platform to communicate with dispatch if roaming out of the STARComm coverage footprint but within ISICS.

Bob Scott mentioned STARComm users would have access to the Statewide system anyway.

The distinction, STARComm users would not have to switch systems, roaming would be enabled throughout the State; STARComm's coverage footprint would appear to be statewide.

STARComm currently does not have a direct connection to the system due to wireless dispatch. Motorola would provide a wired or direct connection into the system, which gives dispatch the highest priority, enabling an operator to preempt a user if necessary.

Bob Scott remarked that should STARComm choose not to participate, Motorola would still build a system for the State. Melvin explained if Motorola were to build on their own, all the STARComm sites would not be necessary, but rather are more an enhancement because STARComm is built for portable coverage as well as mobile; the State requires mobile, meaning fewer sites than what STARComm has would be necessary.

Motorola is looking at adding microwave and backhaul equipment (comparators for voting and three base stations) to all STARComm sites and well as adding GEO redundancy, which is the additional prime site, and reroute the prime site Ethernet and network management connections to the cores, and add microwave and Multiprotocol Label Switching (MPLS) routers to interconnect to the system.

DC power systems would be updated. The last assessment of DC power systems on the sites revealed some of the systems have been phased out; all DC systems would be updated and batteries replaced. This would enable eight hours of backup power, rather than four.

West High and Homer sites are not needed in order to satisfy coverage requirements for the State, but since Motorola would be touching STARComm's simulcast cell, consistency was desired throughout; therefore additional channel capacity and DC power systems would be added to these sites expanding them as well.

Savings would exist for annual software maintenance and no core to maintain or upgrade.

Motorola is currently working on colocation agreements, adjustment to the annual maintenance agreements, and an MOU.

Shari Schmitz, Motorola Direct Account manager, is the main point of contact for the current system as well as for decisions made regarding the potential upgrade.

A partnership with the state would entail STARComm foregoing tower and building rent revenue, about $80,400 a year; however, a partnership upgrade equates to over $750,000 dollars.

Bob Scott asked if all other participating communities are giving up tower rent.

Gary stated West Comm and Dallas County are foregoing tower rent. Bob would like to see those agreements. Gary will provide the information.

In the event a partnership occurs, it is proposed to add TDMA with funds currently budgeted for the 7.16 upgrade; the upgrade would then be covered by Motorola and the State. Currently STARComm has five talk paths on the system and Frequency Division Multiple Access (FDMA); each time a radio is keyed up, one path becomes busy. TDMA would split the path in two and is able to carry two sets of traffic on one path simultaneously, doubling capacity.

Gary mention when the system was built the number of talk paths was adequate; since then, the Drug Task Force, Siouxland Paramedics, and Sioux City Animal Control have come on line, new officers have been added, and new resources, like the Reserve Unit are using air time. The expense of adding a channel would be about $750,000 a pair for FDMA.

Motorola proposed a savings of nearly $97,000, currently tied to a date of May 12, 2016, for the TDMA addition, or $598,000, which is $100,000 less than what is budgeted for the 7.16 upgrade. This would enable a path to keep the radio system upgraded with an SUA and acquire TDMA, all within budget. Motorola will continue to work with STARComm regarding pricing.

Glenn provided statistics; since the first of the year, nearly 1,000,000 Push-to-talks have occurred, of those, there were 30,000 rejects/denials of service, or 3%.

<u>Advantages</u>
Upgrade to 7.16
Over-the-air programming
Over-the-air rekeying (for encryption capability)
Software Upgrade Agreement (SUA) on system and dispatch
8 hour run time on batteries
Statewide mobile coverage
Stable costs going forward
GPS upgrade available
Text upgrade available
2 prime sites
3 Cores

Dallas, West Des Moines and Pottawattamie counties are planning to join the State system at some point. There is potential to partner with the three counties and share the expense of a core if STARComm should desire to end the agreement with the State.

City and County attorneys are assisting with negotiations. Gary sent the tower leases to Nicole, City Attorney, a few months ago. An MOU from the State was very recently received. West Comm's response to the MOU was obtained, some of which is desired to be incorporated into STARComm addendums.

Gary is asking for direction to move forward to get the MOU in place to negotiate the agreements and to negotiate a TDMA upgrade.

Tom Everett asked if the TDMA may be added in the future. Joe Durham responded yes, it certainly can.

Bob Scott is uncomfortable not reviewing the State agreement; he is concerned financial responsibility will fall on local government if the State were to experience budget woes.

Bob Scott inquired as to whether the City Manager was aware of the proposal to change gears. Gary indicated negative.

Tom has issue with City and Council officials approving a $700,000 CIP for an upgrade and the Board having the ability to change course without discussion with the officials who represent the citizens. The next step should be to have City and County Legal review the MOU and meet with the STARComm Board for further input.

Tom Everett made a motion the MOU be forwarded to the proper legal representatives for this Board and at the next meeting, take a look at their recommendations; seconded by Dave Drew. Further discussion followed before voting.

Tom is not sold on spending the $700,000 on TDMA without more inspection.

The $84,000 savings from the core would be applied to an SUA every 18 months to two years; however, this would not cover expenses which may fall outside the operating budget, such as a generator failure.

The Capital Budget would decrease; the operating budget would decrease roughly $4,700 after core maintenance funds are invested in an SUA.

Tom Everett remarked that a partnership would basically result in a “break even” budget with an enhanced system, more redundant, more powerful, and a maintenance agreement to protect from substantial expenses in the future. However, caution should be taken in thinking “big money” won’t ever be necessary, as this is a “big money” system.

Mark Aesoph mentioned every agency currently has a cost for reprogramming and re-encrypting because the capability does not currently exist to accomplish this over the air. Over-the-air programming would be a savings for every jurisdiction from an individual budget level.

The State MOU is intended for all jurisdictions desiring to join the ISICS platform. Any requests will be negotiated and added in addendum format to the MOU. For example, Gary and Glenn would like a permanent seat for STARComm on the State Operations Committee for the statewide system. Also, an addendum stating STARComm shall never be charged anything by the State of Iowa to be a part of the system. Gary recommended an “out” clause addendum.

Suggestions and comments should be forwarded to Glenn and Gary. Gary will prepare addendums and call another meeting to review.

Tom asked if there were any other acceptable way forward besides the motion on the floor, to have the proper legal representatives review the MOU prior to another meeting.

Chairman Doug Young confirmed that members understood the direction which had been given in the earlier motion, which read, **Tom Everett made a motion the MOU be forwarded to proper legal representatives for this Board and at the next meeting, take a look at their recommendations, seconded by Dave Drew; all voting aye, motion carried.**

Bob Scott planned to meet with City Finance be certain officials have an understanding of what is proposed, and obtain further input from Police and Fire Chiefs.

Gary will update Denny Butler, County Finance.

Gary, Glenn and Joe Durham are available for questions and clarification should anyone desire.

A meeting will be scheduled as soon as feedback is received from everyone.

Open Items
None

Adjourn
Dave Drew made a motion to adjourn, seconded by Ed Mahon. All voting aye, meeting adjourned at 1056 hours.