Harris Project Team Meeting **Minutes**

Location/Date/Time	Comm/Data Center Conference Room, January 5, 2010/2:00 PM
Attendees	Director Deborah Lewis Lieutenant Claudia J. Morris Electronic Technician Supervisor David Go Tele Supervisor Debbie Wilichowski Captain Andra Williams Milwaukee Fire Department Chris Snyder (Excused) Milwaukee Fire department Chief Michael Payne(Excused) Harris Project Manager Fred Fitte Harris Program Manager Paul Crowe Harris Engineer Gary Kleiman Harris Engineer Ben Ramsey Harris Engineer John Denoon Durham Communications GM Brian Durham Federal Engineering Chuck Hnot (via phone) Federal Engineering John Murray (via phone) Federal Engineering Steve Zak (via phone) Federal Engineering Jim Frewin (via phone)
Recorder	Paul Crowe
Materials for Meeting	
Purpose	Open Sky Updates
Agenda Items	

Consoles

- P Crowe gave overall plan to test consoles this week with plan to prepare for 7-day burn-in. John Denoon described the plan to test the system with automated bunny testers that key up consoles and/or radios. Will use the three EOC consoles for tests, plus two fire training consoles if necessary, at PCD. Other tests will be run on consoles at PRS. Tests will not impact operations. Radio shop will provide PRS escort until 7PM Wednesday and Thursday.
- MPD request a minimum of 7 consoles for the 7-day burn-in to cover all 7 districts. This will minimize risk of problems related to combined analog/digital patches without impacting operations. Patches will be all-digital during the 7-day test.
- FE requested the test plan for this week's test. It was clarified that this and all documents will be provided to FE via Deborah Lewis' oversight.
- FE requested explanation of December 15, 2009 tests.

Sites

- Money has been budgeted by MPD for engineering analysis of the District 2 and 7 towers. Paul Crowe to provide Deborah Lewis with information regarding Fire funding status under the Agreement.

Fleet Mapping

- Lindsay Bromage will assist with MFD fleet mapping.

DPW Mobiles

- David noted that Sara needed to adjust some settings (volume, etc.) on the M-803 mobiles that are being prepared for DPW installations. Ben Ramsey will support as required.
- Need to add DVU ties to the MFD (~6) and DPW. MPD will wire them, and Harris will assist with level settings.

PAYNE, MICHAEL

From: Fitte, Fred [ffitte@harris.com]
Sent: Friday, January 08, 2010 11:36 AM
To: PAYNE, MICHAEL
Subject: RE: Consoles

Chief,

My holidays were great with time spent with family. I hope yours were also good.

We are in the process of performing dry run testing to determine if we have any issues prior to entering in to the 7-day test. I will be back in Milwaukee on Monday. I'll reach out to you
for your availability and meet with you to give you an update as to where we are going next week.

Have a good weekend,

Fred

Frederick E. Fitte

Sr. Program Manager
Harris Corporation, RF Communications
221 Jefferson Ridge Parkway
Lynchburg, VA 24501
T: +1-518-421-8837

E: ffitte@harris.com

www.rfcomm.harris.com

From: PAYNE, MICHAEL [mailto:MPAYNE@milwaukee.gov]
Sent: Friday, January 08, 2010 10:54 AM
To: Fitte, Fred
Subject: Consoles

Good Morning Fred,

Hopefully your holidays went well.

I am looking for an update on the state of the radios and the consoles. Is testing still being done with the consoles? I have not been in touch with the MPD this year concerning this issue. I will also contact Captain Williams for an update. Any info that you can provide will be appreciated. Thanks

Michael A. Payne
Deputy Chief
Bureau of Instruction & Training
Milwaukee Fire Department
414 286-8971 Cell: 414 397-9157
mpayne@milwaukee.gov

PAYNE, MICHAEL

From: JONES, MICHAEL
Sent: Monday, January 11, 2010 10:35 AM
To: PAYNE, MICHAEL
Subject: FW: Weekend Radio Failure

Mike, make sure you include this in your report.

Michael L. Jones
Acting Chief
Milwaukee Fire Department
Bureau of Administration
711 W. Wells Street
Milwaukee, WI. 53233
414-286-8947 (office)
414-397-9530 (cell)
mljones@milwaukee.gov

From: Lewis, Deborah
Sent: Monday, January 11, 2010 10:33 AM
To: JONES, MICHAEL; PAYNE, MICHAEL; Mantes, Jeffrey
Cc: Williams, Andra
Subject: FW: Weekend Radio Failure

If you have additional questions please contact myself or Captain Williams. This is a brief explanation of radio outage from this weekend.

Deborah E. Lewis
Director, Office of Police Information Systems | Office 414-935-7205 | Cellular 414-559-1456

From: Williams, Andra
Sent: Monday, January 11, 2010 9:52 AM
To: Lewis, Deborah
Subject: Weekend Radio Failure

Good morning,

On Saturday, we suffered a major radio malfunction. The "Emergency Government" Card locked up which caused the "communications bus" to lock up which affected all the cards in that bus (Approximate 124). There still is not an exact reason why this occurred. (See below) For redundancy, there is another "communications bus"; however when it switched over as it was designed to do, it did not do it properly and locked the secondary bus.

Normal radio system failure procedures fall into several parts that depend on the system affected.

Channel Failure

If we have a radio channel that becomes inoperable, communications personnel notifies the effected location and designates a backup channel; which may involve moving multiple district consoles to the same side channel to free up the channel for district operations.

Radio shop personnel are contacted, at which time they respond to the radio shop to restore normal radio operation. Upon notification that the situation has been resolved, Communications personnel contact the effected locations to notify them that normal radio operations have been restored.

Console radio failure

All Dispatchers have portable radios at their stations. If the console/s fail, the effected dispatcher/s continue operations via the portable radios.

Radio shop personnel are notified regarding the failure at which time, personnel respond to remedy the situation.

Complete radio system failure

As far as the radio shop or I know, this has not happened before. There are systems in place for redundancy; however, I would like to suggest that in the event of a persistent complete radio system failure, that all dispatch assignments received at the Technical Communications be routed to the respective district for dispatch. Squads would be required to report to the district for their assignments and coordination.

Captain Williams

From: Crowe, Paul [mailto:pcrowe01@harris.com]
Sent: Monday, January 11, 2010 9:10 AM
To: Lewis, Deborah; Wilichowski, Debbie; Williams, Andra; Go, David
Cc: Fitte, Fred; Fiesthumel, Thomas
Subject: Harris onsite staff this week

Everyone,

In light of the T5 outage on Saturday, we've changed our personnel plans for this week to focus on finding the root cause of the failure. We know that a LIC card was at fault, but we want to understand all the subsequent events.

Fred Fitte and Tom Fiesthumel will both arrive there this morning.
Scott Sievert (a senior engineer in Wisconsin) and Gary Kleiman will be there this morning.
John Denoon, Ben Ramsey, and Lindsay Bromage will arrive later today.
In addition, Dirk Young and Tom Dewitt-Rickards will be there tomorrow.

Fred will be the point person to coordinate the technical folks.

Best regards,
Paul

Paul Crowe
Program Manager
Harris Corporation, RF Communications

T: +1-434-455-9356
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F: +1-434-455-6815
E: paul.crowe@harris.com
www.rfcomm.harris.com

Harris Project Team Meeting **Minutes**

Location/Date/Time	Comm/Data Center Conference Room, January 12, 2010/2:00 PM
Attendees	Director Deborah Lewis Lieutenant Claudia J. Morris (Excused) Electronic Technician Supervisor David Go Tele Supervisor Debbie Wilichowski Captain Andra Williams Milwaukee Fire Department Chris Snyder (Excused) Milwaukee Fire department Chief Michael Payne(Excused) Harris Project Manager Fred Fitte Harris Program Manager Paul Crowe via Conference Bridge Harris Engineer Gary Kleiman Federal Engineering Chuck Hnot via Conference Bridge Federal Engineering Steve Zak via Conference Bridge
Recorder	Deborah Wilichowski
Materials for Meeting	
Purpose	Open Sky Updates

Agenda Items

Outage – 01-09-2010

- According to David Go the outage began at 10:03 AM. Dispatchers were unable to xmit or rcv from the consoles or portables. All radio channels were affected including Fire and DPW. Radio Shop personnel responded as well as Brian Durham from Durham Communications. A LIC card was found to be in trouble and was pulled, at which time the system returned to normal operation.
- Fred Fitte gave the sergeant in communications his home phone number in case this happened again and they could not reach him on his cell.
- The root cause has not been determined. Roy Aoun (Positron), Ben Ramsey (Harris), Tom Fiesthumal (Harris), Dirk Young (Harris), John Denoon (Harris), and Brian Durham (Durham Communications) are all on-site working on this problem.
- The suspect LIC card had been sent to Canada for analysis.
- Fred Fitte recommended that MPD program the state tactical channels to be used if this happens again.

Consoles

- According to Harris, the testing last week went very well. They pushed very hard on the consoles, setting up multiple, concurrent SAID patches every half to one and a half minutes during normal traffic times. The only anomaly was created by breaking down a patch during transmission.
- Positron has agreed to convert all 7 active consoles to OpenSky during the next 7-day burn-in.
- Positron will be on-site during the next test period.

Fleet Map

- Lindsay has been working on the fleet map for MFD. She will assist Sara in loading the fleet map into the UAS.
- Lt. Morris asks if the Super Users can get the new fleet map installed on their portables first.

Engineering Screen on Portables

- Fred Fitte said that Harris does not want to allow users access to the engineering screens. He believes that measurements/reports will not be useful, and that meaningful reading need to come from trained qualified people.
- David Go partially agrees with Fred saying that the readings can be taken out of context.
- Captain Williams believes that because of changing conditions, readings need to be taken at any time.
- Deborah Lewis said that the results will be used to indicate areas that may need coverage improvements. More thorough testing can be done if an area indicates a coverage issue.
- Fred says that he will discuss the issue with Paul again.

Miscellaneous Issues

- According to Lt. Morris more portables are coming in with "PA Failures". Paul and Gary state that they are aware of the issue.
- Gary Kleiman wants to be notified whenever a portable comes in with this type of failure.

Harris Project Team Meeting **Minutes**

Location/Date/Time	Comm/Data Center Conference Room, January 12, 2010/2:00 PM
Attendees	Director Deborah Lewis Lieutenant Claudia J. Morris Electronic Technician Supervisor David Go Tele Supervisor Debbie Wilichowski Captain Andra Williams Milwaukee Fire Department Chris Snyder (Excused) Milwaukee Fire department Chief Michael Payne(Excused) Harris Project Manager Fred Fitte Harris Program Manager Paul Crowe Harris Engineer Gary Kleiman Harris Engineer Ben Ramsey Harris Engineer John Denoon Durham Communications GM Brian Durham Federal Engineering Chuck Hnot (via phone) Federal Engineering John Murray (via phone) Federal Engineering Steve Zak (via phone) Federal Engineering Jim Frewin (via phone)
Recorder	Paul Crowe
Materials for Meeting	
Purpose	Open Sky Updates
Agenda Items	

Consoles

- P Crowe gave overall plan to test consoles this week with plan to prepare for 7-day burn-in. John Denoon described the plan to test the system with automated bunny testers that key up consoles and/or radios. Will use the three EOC consoles for tests, plus two fire training consoles if necessary, at PCD. Other tests will be run on consoles at PRS. Tests will not impact operations. Radio shop will provide PRS escort until 7PM Wednesday and Thursday.
- MPD request a minimum of 7 consoles for the 7-day burn-in to cover all 7 districts. This will minimize risk of problems related to combined analog/digital patches without impacting operations. Patches will be all-digital during the 7-day test.
- FE requested the test plan for this week's test. It was clarified that this and all documents will be provided to FE via Deborah Lewis' oversight.
- FE requested explanation of December 15, 2009 tests.

Sites

- Money has been budgeted by MPD for engineering analysis of the District 2 and 7 towers. Paul Crowe to provide Deborah Lewis with information regarding Fire funding status under the Agreement.

Fleet Mapping

- Lindsay Bromage will assist with MFD fleet mapping.

DPW Mobiles

- David noted that Sara needed to adjust some settings (volume, etc.) on the M-803 mobiles that are being prepared for DPW installations. Ben Ramsey will support as required.
- Need to add DVU ties to the MFD (~6) and DPW. MPD will wire them, and Harris will assist with level settings.

Harris Project Team Meeting **Minutes**

Location/Date/Time	Comm/Data Center Conference Room, January 19, 2010/2:00 PM
Attendees	Director Deborah Lewis (Excused) Electronic Technician Supervisor David Go (Excused) Tele Supervisor Debbie Wilichowski Milwaukee Fire Department Chris Snyder (Excused) Milwaukee Fire department Chief Michael Payne(Excused) Harris Project Manager Fred Fitte Harris Program Manager Paul Crowe via Conference Bridge Harris Engineer Gary Kleiman Harris Engineer Ben Ramsey via Conference Bridge Harris Analyst Lindsay Bromage Federal Engineering Steve Zak via Conference Bridge Positron – Bill Toth via Conference Bridge
Recorder	April Coleman
Materials for Meeting	
Purpose	Open Sky Updates
Agenda Items	Outage/01-09-2010 Consoles

Outage/01-09-2010

- According to Bill Toth (Positron), after completed analysis, the root cause of the outage was a chip component that failed on the LIC card. When the failure occurred, it did not switch over to the 2nd bus until the LIC card was pulled. Once the LIC card was taken out, CSC allowed the switch.
- The error has been corrected. No fail test has been done at this time.
- Deborah Wilichowski suggested we do a fail test during a low traffic time to ensure the CSC will react properly.
- The procedure for a fail test includes introducing a suspect card into a test system until failure occurs. Once the system fails, the card will be pulled. That should switch the CSC system to the 2nd bus.
- If the fail test is done on a live operation, the downside is a brief 5-second interruption of service.
- Paul Crowe suggested MPD do the fail test on C5 cabin. However, it would have to be off line and the DCD would not be operationally effective. He stated it is MPD's choice as to which system to do the fail test on.

Outage/01-09-2010 cont.

- Deborah Wilichowski suggested we do the fail test on live operation. She will recommend this to Director Deborah Lewis and the Radio Shop for scheduling.
- When doing the fail test on Open Sky or conventional, the system should still work.
- As far as the outage, Paul Crowe stated Roy Aoun (Positron) updated the LIC card to R2 and reviewed the system.
- Bill Toth stated the conversions and revisions on the LIC card are the same.
- Paul Crowe stated he is working towards a final report on the outage.

Consoles

- Paul Crowe recommended starting up the test period for Open Sky and its planning process as early as next week.
- Radio shop personnel will be involved during testing.
- Positron personnel will stay on site.
- It was discussed to do the fail test on Tuesday morning and the soak test on Wednesday, provided staffing availability.
- Regarding PA failures on portables, Paul Crowe stated the issue was taken in internally this week. He will soon have direction, aside from standard RMA's. He will have a report next week.
- Gary Kleiman stated Sara has equipment to be repaired. It needs an RMA before it is turned over. He knows Sara was working on one; however, he is not sure where she stands.

Fleet Map

- Fred Fitte stated he will have Sara go over everything on the fleet map and as MFD comes in, they can go over the same thing with them.
- Tactical channels on portables will change fleet map.
- Analog channels going into conventional mode will not affect fleet map. It is Open Sky only.
- Fred Fitte stated MPD has to get permission to use channels. An MOU/letter is needed. He gave a draft letter Captain Andra Williams.

Miscellaneous Issues

- Fred Fitte stated he would work with Sgt. Budenhagen and Linsay for VTACS police exercise. District One and the Neighborhood Task Force are participating in the exercise. They will be made aware of the pros and cons of vehicle repeater.
- Fred Fitte will not be in attendance during the next two meetings. He will list a contact person in his place.

Harris Project Team Meeting **Minutes**

Location/Date/Time Comm/Data Center Conference Room, January 26, 2010/2:00 PM

Attendees
Director Deborah Lewis
Electronic Technician Supervisor David Go
Tele Supervisor Debbie Wilichowski
Captain Andra Williams
Milwaukee Fire Department Chief Michael Payne
Milwaukee Fire Department Battalion Chief Sean Slowey
Harris Project Manager Fred Fitte (Excused)
Harris Program Manager Paul Crowe via Conference Bridge
Harris Engineer Gary Kleiman
Federal Engineering Steve Zak via Conference Bridge

Recorder April Coleman

Materials for Meeting

Purpose Open Sky Updates

Agenda Items
Outage/01-09-2010
PA Failures
Fleet Map

Outage/01-09-2010

- Paul Crowe agreed with Positron's completed analysis. The root cause of the outage was a chip component that failed on the LIC card. An older rev. LIC card was used, which caused it to send out error messages that overloaded the system. When the failure occurred, it did not switch over to the 2nd bus until the LIC card was pulled. Once the LIC card was taken out, CSC allowed the switch.
- Cause of LIC card failure was human error. The chip was inadvertently looked over and wasn't updated. Since the outage, every single chip has been adjusted.
- Everything at this point is resolved. The LIC card is now in Milwaukee as a demo to show the system failing.
- David Go will check with Sarah to ensure everything is at the latest release.
- Captain Williams and Debbie Wilichowski suggested we do a fail test during a low traffic time to ensure the CSC will react properly.
- The advantage of the fail test is on-site staffing to ensure the system is up and running as soon as possible in case the system fails to switch to the standby bus.
- During the failover test, dispatchers will have portables ready as stand by. David Go says that they have switched to stand by before without incident.

Outage/01-09-2010 cont.

- Paul Crowe stated that the next step would be for Harris and Positron to meet regarding the fail test. He recommends MPD fail test on Monday.
- Once Harris and Positron confirms date of fail test, Captain Williams agreed to send out notice of test for MPD, MFD and DPW.
- Fail test will likely occur on Monday between 10AM – 2 PM. 7-day burn-in test scheduled Tuesday.
- Paul Crowe recommended pulling of DVU cards to separate analog and digital. No wiring changes are required.
- The new recording system will become the production system for recording radio traffic. Analog system will still be recording all radio traffic through consoles. Only issue remaining with new recorder is that some traffic is incorrectly flagged as encrypted when it is not. This only affects playback and not recording. Only ramification is when digital recording is played back, it does not play correctly.
- Paul Crowe recommended any failure not related to UCC cards be considered independent of test cell.
- Paul Crowe and Radio personnel will be onsite.
- In case of emergency, a sergeant will contact Captain Williams immediately, especially if an immediate decision has to be made.
- Paul Crowe will handle Harris' side and come up with a person of contact as well.
- Harris and Positron will stay on site six hours after test begins.

PA Failures

- Paul Crowe was expecting answers to this issue last week; however, he does have a meeting for discussion tomorrow and he should have an answer by Thursday of this week.
- David Go will do inventory to ensure all cards that were out are back and that we have an extra supply on hand. He will update Captain Williams and Paul Crowe on his findings.

Fleet Map

- Paul Crowe had no updates or details to share.
- Terry Self is waiting on MFD's fleet map, because it has to be programmed before it is tested.
- Chief Payne stated the fleet map is ready and he will turn it in tomorrow.
- Chief Payne would like to contact Harris to discuss fleet map testing on an incomplete map.
- Someone will check with Joe Garrison at DPW regarding their fleet map. DPW is a customer and MPD is responsible for helping them maintain.

Miscellaneous Issues

- Dir. Deborah Lewis would like to discuss coverage with Chief Payne.

Harris Project Team Meeting **Minutes**

Location/Date/Time Comm/Data Center Conference Room, February 2, 2010/2:00 PM

Attendees
Director Deborah Lewis (Excused)
Electronic Technician Supervisor David Go
Tele Supervisor Debbie Wilichowski (Excused)
Captain Andra Williams (1st half of mtg.)
Milwaukee Fire Department Deputy Chief Michael Payne
Milwaukee Fire Department Battalion Chief Sean Slowey
Harris Project Manager Fred Fitte (Excused)
Harris Program Manager Paul Crowe
Harris Engineer Gary Kleiman
Harris Sales Manager Jim Anderson
**Federal Engineering Chuck Hnot, Steve Zak & guest waited to be connected via conference bridge, but were inadvertently overlooked.

Recorder April Coleman

Materials for Meeting

Purpose Open Sky Updates

Agenda Items
Result of Fail-over Test: Outage/01-09-2010
Open Sky Setup for MFD

Result of Fail-over Test: Outage/01-09-2010

- A fail-over test was conducted on Monday, February 1st to ensure the CSC's switch to the 2nd bus in the event of system failure.
- Over all, fail-over test was successful with the result of system switching to 2nd bus.
- System was unstable for about 3 minutes after attempt to put system back to primary path.
- Instability was caused by operator error.
- A procedure will be written up to prevent operator error when setting system back on primary path.
- As of current operations, DVU failure will not occur since the interface has been pulled out.
- MPD is completely digital on police channels 1,2,3,7,8,9,10,14, & 15. The first eight of these channels were converted to digital on 02-2-2010.
- Captain Williams asked how long the system would be stable and Paul's response was that they created a device to push talk and supply audio for consecutive hours (extremely longer than MPD would normally operate) and no problem occurred. However, in the event a problem would occur, the portables will work.
- MPD has all functionality under normal circumstances.
- Harris staff will be on site for first 24 hours until midnight. Harris staff will report back the following morning.
- David Go stated in the event an emergency occurs, MPD supervisors will contact On-Call Radio staff.

Open Sky Setup for MFD

- Paul does not recommend MFD convert to Open Sky the way MPD did, because DVU's were not able to keep up with tracking.
- Setup choices include putting MFD's fleet map as it stands and put DVU's into a talk group as needed or through LIC card.
- Paul prefers setup through LIC card. Patches can be created with fleet map. It can be identified with old talk groups and ties can be broken at any time.
- David Go agreed with Paul's suggestion of working with patches instead of dealing with DVU's.
- Chief Payne stated MFD is all one system and don't need many talk groups like MPD.
- Paul stated that he would work with Gary Kleiman and Lindsay Bromage to come up with a recommendation for setup.
- David stated MFD mobiles would be done at radio shop.
- Harris is to help MPD Communications Maintenance label and program MFD portables for deployment.
- In order to progress, MFD should send fleet map to Terry Self. All portables will be tested and mobile installation will occur at radio shop.
- A question was asked of Paul Crowe if MFD was to use the same mobile programming configuration as MPD. Paul was to respond after checking with his software department.

Miscellaneous Issues

- Chief Payne asked about a software presentation that took place at the Police Academy months ago.
- Paul explained during that time the company was 3 months into being Harris and they did not want to turn out software with increment changes. The software is now complete and has not been forgotten about.
- Chief Payne asked about background noise suppression built in radios.
- Paul stated newer versions are now in place and should address background noise suppression.
- Chief Payne stated building penetration is big for MFD and VTAC is a big issue as well.
- Jim Anderson stated testing will be done at a school soon and he will touch bases with Fred on testing building penetration.
- Once mobiles are up and running, Chief Payne would like the fleet map tested.

Harris Project Team Meeting **Minutes**

Location/Date/Time Comm/Data Center Conference Room, February 9, 2010/2:00 PM

Attendees
Assistant Chief Monica Ray
Director Deborah Lewis
Electronic Technician Supervisor David Go
Tele Supervisor Debbie Wilichowski
Captain Andra Williams
Milwaukee Fire Department Deputy Chief Michael Payne (Absent)
Milwaukee Fire Department Battalion Chief Sean Slowey (Absent
Harris Project Manager Fred Fitte
Harris Program Manager Paul Crowe via Conference Bridge
Harris Engineer Gary Kleiman via Conference Bridge
Federal Engineering Chuck Hnot
Federal Engineering Bradley Barber
Federal Engineering Steve Zak via Conference Bridge

Recorder April Coleman

Materials for Meeting

Purpose Open Sky Updates

Agenda Items

Harris
- 7 day test
- Consoles patching issues Due date
- Update regarding PA failures

Radio Communication
- Radio Problems
- Radio Repair delivery
- Round Robin

Topic for later discussion
- Radio Upgrade
- Console Upgrade 450/49

Consoles Patching Issues

- There has been a problem with console patching. It has to be reset in order to correct issue.
- Paul Crowe does not have a time frame of when the patches will be corrected.
- To temporarily fix patching issue, Paul agrees with Positron's suggestion to do the patch the way it was previously done rather than moving said based patch.
- Paul will check into T-5 console patching, which would be temporary software patching.
- Although patching would be done the way it previously was, the patch is now being created on the Open Sky side. Delays only occurred in the past when analog and digital ran together.

Consoles Patching Issues (Cont'd)

- Paul stated test patches confirm dispatchers were patching too fast. Chuck Hnot stated they have to be able to know if they're not patched in yet. Paul will talk to Positron about it.
- Debbie W. believes someone should be here with patching. Paul agrees with her recommendation and will have someone here, Roy most likely.

PA Failures

- David stated there have been 48 PA failures since tracking. There are still a number of them at the factory for repair. Locations are running short on spares.
- Paul stated 51 radios are sitting at Jet Com and they can be delivered immediately.
- There are 92 radios that have not been replaced in addition to the 48; however Captain Williams stated they have begun to replace a few from the 48 since yesterday.
- Paul stated 51 radios would be programmed and delivered.
- A/C Ray instructed David to hold the 51 radios upon delivery. Radios are to be inventoried properly and held separate from the other radios.

Radio Problems

- District Seven officers recently had trouble broadcasting. They had to use the portables instead of the mobiles.
- Paul does not have an update on that as of yet.
- Fred will look into why portables worked, but the mobiles did not.
- A/C Ray addressed Bloggers and the myths of the radios. Officers should continue to fill out service requests.
- Gary will look into radio issue and use a District Seven car.

Radio Repair Delivery

- Paul will check into the general turn around for repair; however, he did state that it would depend on the nature of the repair.

Miscellaneous Issues

- Paul clarified phrase "7-day Test" and stated it is a contract issue between Harris and Positron.
- MFD has not turned in their fleet map yet. A/C Ray asked Capt. Williams to contact Deputy Chief Payne in regards to the fleet map.
- Lindsay does have MPD's fleet map.
- MPD Harris Team was introduced to Brad Barber, who is another resource of FE.

PAYNE, MICHAEL

From: Go, David
Sent: Wednesday, February 10, 2010 11:01 AM
To: PAYNE, MICHAEL
Cc: Lewis, Deborah; Wilichowski, Debbie; Williams, Andra
Subject: P7200 Fire portables

Chief Payne,

At yesterday's Harris project meeting I was going to ask for your position on the impending use of your P7200 portables. Since Harris has offered to replace the Police P7200's, I am assuming that they have made your Department a similar offer as well. And since the point has been raised by Harris, it appears that your present inventory of P7200 portables would have to either be replace by Harris, or sent back to Harris for another ESD fix. With this said, do you have any suggestions as to how your Department might want to proceed with your P7200's?

Please let me know how you would like us to assist with the exchange/replacement of your P7200's. If it would be easier, you could simply send me your meeting notes from your last meeting with Harris and I will proceed from there.

Also, we are currently installing a Motorola radio into Code 3010. I have not received work back from Harris if we are to use the programming configuration that we use for the police mobiles for the fire mobiles. As soon as we receive this information, we would be able to begin installing your Open Sky mobile radios into your vehicles. However, since we have not received nor implemented your fleet map, we would have to wait until doing so before the new mobiles would be ready for use. Please let me know your thoughts about your mobile fleet implementation.

Thank you for your time.

Sincerely,

David Go
Electronic Technician Supervisor
Communication Systems Section
Milwaukee Police Department
414-935-7475
dsgo@milwaukee.gov

IN SOME JOBS, SUCCESS IS MEASURED BY WHAT DOESN'T HAPPEN.  **BE A FORCE**

From: Murray, Michael [mailto:mmurra01@harris.com]
Sent: Monday, February 15, 2010 5:05 PM
To: Flynn, Edward; Pal, Judy
Subject: Follow-up: Maestro / Positron Consoles and P7200

Chief Flynn and Judy,

As discussed, attached is a letter documenting our conversation on Friday (2/12/2010). Like you, I am anxious to move forward and put the challenges of the past behind us. Please let me know if you need any additional information.

Respectfully,

Mike Murray
Vice President, Global Program Management
Public Safety & Professional Communications
RF Communications
Harris Corporation
434-455-6408 office
321-271-1397 cell
michael.murray@harris.com

<<Harris Ltr to the City of Milwaukee.02.15.10.pdf>>

HARRIS CORPORATION

221 Jefferson Ridge Parkway
Lynchburg, VA 24501
Phone: 434 455 6408
Michael.Murray@Harris.com

February 15, 2010

BY E-MAIL (eflynn@milwaukee.gov; jpal@milwaukee.gov)
AND FEDERAL EXPRESS

Chief Edward Flynn
Chief of Police
City of Milwaukee Police Department
749 West State Street
Milwaukee, WI 53233

Ms. Judy Pal
Chief of Staff
City of Milwaukee Police Department
749 West State Street
Milwaukee, WI 53233

Re: Harris Upgrade and Replacement Offer

Dear Chief Flynn and Ms. Pal:

Thank you for speaking with me on Friday. This letter will confirm the equipment upgrade/ replacement offer that Harris Corporation, RF Communications Division (Harris) is making to the City of Milwaukee Police Department (City).

Harris is prepared to replace the City's current 51 dispatch consoles and provide the City, at no cost to the City, with an upgrade to 51 Harris C3 Maestro^{IP} Dispatch Consoles. Harris will provide, at no cost to the City, the equipment, shipping, installation, testing and training as described in the attached C3 Maestro^{IP} dispatch console offer. This is a $3 million benefit to the City. On or before Wednesday, March 3rd, Harris will provide the City with a more detailed implementation plan for the console upgrade and replacement including the installation and testing schedule to be completed by September 30, 2010. As we discussed, Harris will need to receive from the City a zero dollar purchase order for the console upgrade and replacement. Both the City and Harris will also need a mutually agreed upon contract amendment to extend the project completion date to September 30, 2010, while the upgrade work is performed.

In addition to the console offer, we also discussed the P7200 Upgrade/Replacement Program outlined in the Harris February 1, 2010 letter to the City. The City has 1,582 P7200 radios that are eligible to be returned to Harris and replaced as part of the Upgrade/Replacement Program (1,073 Police, 473 Fire and 36 Health). Harris can provide the City, at no cost to the City, with either:

(A) 1,109 latest version P7200 radios (to replace the Police and Health radios) within 6-8 weeks after receipt of the City's zero dollar order and 473 radios (to replace the Fire radios) on a mutually agreed upon schedule after receipt of the City's zero dollar order; or

(B) 80 latest version P7200 radios within two weeks and 1,582 P7300 radios on a mutually agreed upon schedule after receipt of the City's zero dollar order.

You indicated that the City would like additional time to consider the Harris radio offer. Please let us know on or before March 3, 2010, what the City would like to do. In the meantime Harris will hold a supply of latest version P7200 radios for the City until we hear further from you. Please contact Paul Crowe or Tom Fiesthumel if you have any questions or need additional information about the P7200 Upgrade/Replacement Program.

Please note that Harris reserves all of its legal rights and remedies under the terms of its contract with the City and applicable law. Nothing in this letter shall be deemed a waiver of any of Harris' rights and remedies.

Please let me know if you have any questions about our conversation on Friday or this letter. Harris appreciates this opportunity to satisfy the City's communication needs and upgrade and replace the consoles and radios in the City's radio system. As we discussed, Harris looks forward to working with the City and its consultant, Federal Engineering, to focus our efforts on a go-forward plan to complete the equipment upgrades/replacements and the radio system project in the next few months.

Like the City, critical communications and equipment performance is our focus. Harris values the City as a customer and is fully prepared to support the City's public safety communication needs. We look forward to hearing from you.

Sincerely,

Michael Murray
Vice President, Programs
Public Safety and Professional Communications

C3 MAESTRO^{IP} DISPATCH CONSOLE UPGRADE OFFER

Summary

Harris proposes to provide 51 C3 Maestro^{IP} dispatch consoles to the City at no additional charge to the City. Please see the attached product literature describing the consoles and their features.

C3 Maestro^{IP} Dispatch Console Upgrade / Replacement Description

- Harris will provide a total quantity of 51 C3 Maestro^{IP} dispatch consoles to be divided between the City's PCD and PRS locations. Two consoles have already been provided by Harris and are located in the City's radio shop and its Emergency Operations Center (EOC). Harris will be responsible for decommissioning and removing the City's existing dispatch consoles.

- C3 Maestro^{IP} dispatch console components and accessories will include the C3 Maestro^{IP} dispatch console computer, AES encryption, AMBE vocoder, monitor, speaker, footswitch and desktop microphone.

- Harris will create and execute a mutual agreed upon implementation plan and schedule with installation, testing and cutover to be completed on or before September 30, 2010.

- Harris will configure each C3 Maestro^{IP} dispatch console with the appropriate user screens.

- Harris will make connections to the conventional audio as determined by a site survey and evaluation of the current City specifications.

- Harris will provide the C3 Maestro^{IP} dispatch console with its standard features. Some of the conventional console features currently used by the City are not available in the C3 Maestro^{IP} dispatch console. Harris will perform a detailed site survey to identify these features. As these unavailable features are identified, Harris will provide the City with an assessment and operational recommendations. No new feature development is proposed for the C3 Maestro^{IP} dispatch console.

- Support to be provided by the City includes providing sufficient cabling and dedicated bandwidth for each console as well as a City technician to assist Harris and its subcontractors with the C3 Maestro^{IP} dispatch console upgrade / replacement effort during the planning, installation, testing and cutover phases.

- Harris will provide and execute a functional acceptance test plan (similar to the existing dispatch console functional testing plan) to complete the project.

- Harris will provide and execute a mutually agreed upon cutover plan and schedule.

- Harris will provide a one week Console Operators Training Course at the City's facility for the City's dispatch staff.

- Harris will provide all as-built drawings for the consoles together with the as-built drawings for the system and system interfaces.

- Harris will provide a one-year written warranty on all parts, material, workmanship, and labor related to the C3 Maestro^{IP} dispatch consoles.

- The console upgrade and replacement is subject to the terms and conditions of Contract No. B0000003141 dated July 29, 2003, between the City and Harris, as modified by this offer

HARRIS CORPORATION

RF Communications Division
221 Jefferson Ridge Parkway
Lynchburg, VA USA 24501
phone 1-434-455-6600
fax 1-434-455-6815

www.harris.com

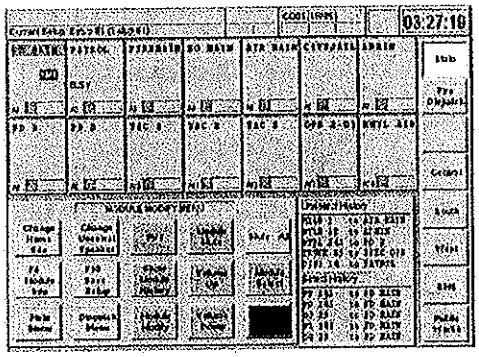
Quote For **Milwaukee Police Department**
Communications Division

Quote: MIL-022
Date: 15-Feb-10
Installation: Incl.
Delivery: FOB Dest.
Ship Via: Best Way
Quote Expires: 30 days
Submitted by: Paul Crowe

Qty.	Model	Description	Unit Price	Ext'd Price
51		C3 Maestro^{IP} Dispatch Consoles, Accessories, Installation, Testing, Training and Drawings	n/a	$3,060,262.65
		One time discount		($3,060,262.65)
			TOTAL:	**$ 0.00**

HARRIS
assuredcommunications®

C3 Maestro^{IP}™ Dispatch Console



The C3 Maestro^{IP} Dispatch Console

- Facilitates dispatch communications with complete control
- Allows users to configure their working environment to meet specific needs
- Uses Internet Protocol (IP) technology to connect directly from the dispatch position to Harris networks

The C3 Maestro^{IP} is the dispatcher's best weapon in the fight against time. Built upon the outstanding performance of the Enhanced Digital Access Communications System (EDACS®) C3 Maestro™ Dispatch Console, the C3 Maestro^{IP} continues the tradition for Harris OpenSky® and NetworkFirst™ networks. Simple, organized, and efficient, the C3 Maestro^{IP} is easy to learn to use, configure, and operate, maximizing productivity while minimizing training time. Large buttons and intuitive, easily customized layouts make maneuvering through the console functions easy and straightforward.

Powerful, Integrated Communications

In addition to classic dispatch functions such as Simulselect, Patch, Emergency, and Call History, the C3 Maestro^{IP} provides many advanced features such as receiving Status and Request-to-Talk messages (off duty, en route, etc.), Short Message Service (SMS), Emergency Alert with Unit location, and integrated Call Check Recorder. Tracking modules allow the dispatcher to review the calls received on a particular programmed talkgroup.

Communication modules for these features plus conventional channels, individual radios, and digital/encrypted talkgroups may be combined on the same screen.

Unmatched Flexibility

The C3 Maestro^{IP} allows users to configure their working environment with graphics and the features and functions that work best for them. Console screen setups can be configured to improve efficiency and productivity. Screen configurations can be created for scenarios ranging from crisis situations to shift/staffing changes. In addition to the standard mouse, dispatchers may select the trackball or touch-screen. Monitor sizes range from 15 to 21 inches.

The Power of IP

The C3 Maestro^{IP} uses the power of IP and Harris' OpenSky and NetworkFirst technologies to lead the way into the future of dispatch. IP technology provides unparalleled flexibility. The cumbersome dedicated Console Electronics Controller interface equipment is no longer needed.

Secure Communications

The C3 Maestro^{IP} uses digital audio technology to provide end-to-end secure communications that are free from unauthorized access.

Project 25

Project 25 support provides an additional layer of security for communications.

General Specifications

Computer Type:

The customized C3 Maestro^{IP} computer includes fully installed and tested software to support 24 x 7 dispatch operations. A Pentium® class microprocessor delivers the processing speed required. An internal CD-RW drive makes backing up critical data a snap. The installation of software releases and updates can be performed from the network interface.

Display Type:

Color Monitor: Flat Screen (Touchscreen options available)

Power Consumption:

Approx. 3.0A at 110 VAC

Physical

Mounting:

C3 Maestro^{IP} can be mounted on a desktop or optionally, in console furniture. Contact System Engineering for detailed information.

Typical Dimensions (H x W x D)

Computer:

5 x 16.5 x 15.75 in.
(12.7 x 41.9 x 40.05 cm)

Display:

15 x 14.5 x 16 in.
(38.1 x 36.83 x 40.64 cm)
17 in. touch display

Keyboard:

2 x 20 x 9 in.
(8.26 x 38.1 x 24.98 cm)

User External Interfaces

Speakers:

Select and Unselect

Headsets

Desktop Microphone

Footswitch

Environmental Specifications

Temperature

Operating:

+50 to +104°F
(+10 to +40°C)

Storage:

-30 to +122°F
(-34 to +50°C)

Humidity:

To 90% non-condensing

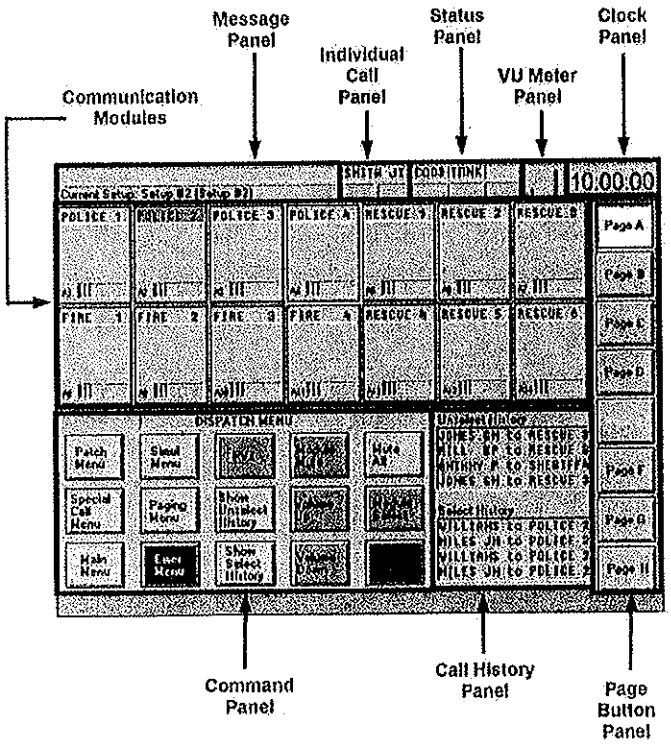
Radio Frequency Interference:

Meets requirements of FCC Part 15 and EN55022 for Class A Equipment

Electro-Magnetic Interference:

Operator console meets IEC 801 Parts 2, 3, and 4 for ESD, radiated RF immunity, and power line bursts

Screen Layout



RF Communications | P. O. Box 2000 | Lynchburg, VA USA 24501
www.harris.com | 1-800-368-3277 (+1-434-455-6403)

Printed in U.S.A. 06/09 ECR-7160D

Harris Project Team Meeting **Minutes**

Location/Date/Time Comm/Data Center Conference Room, February 16, 2010/2:00 PM

Attendees
Director Deborah Lewis (Excused)
Electronic Technician Supervisor David Go
Tele Supervisor Debbie Wilichowski (Excused)
Captain Andra Williams
Milwaukee Fire Department Deputy Chief Michael Payne (Absent)
Milwaukee Fire Department Battalion Chief Sean Slowey (Absent)
Harris Project Manager Fred Fitte
Harris Program Manager Paul Crowe via Conference Bridge
Harris Engineer Gary Kleiman
Federal Engineering Chuck Hnot via Conference Bridge
Federal Engineering Steve Zak via Conference Bridge
Harris Sales Manager Jim Anderson via Conference Bridge
Thomas Paoletta

Recorder April Coleman

Materials for Meeting

Purpose Open Sky Updates

Agenda Items

- Consoles patching issues
- Permanent Fix for Consoles
- Fleet Mapping

Consoles Patching Issues

- Paul stated said based patch went on Open Sky side on Wednesday, February 10th and it was successful.
- Gary stated there were several cases of lock-ups that have been resolved. For example, consoles indicted "transmit" on all talk groups. The system was restarted and the application was resolved immediately. And in another case, there were lock-ups in multiple positions and a restart in one position cleared them all.
- Capt. Williams explained one console locked up completely on 3rd shift. They tried to re-log in and it still didn't work. Harris was contacted and they attempted to try via remote, but were unsuccessful. Fred Fitte believes it may have been Roy Aoun who tried to assist MPD in this case, but he will verify.

Update on Permanent Fix for Consoles

- Paul stated they were still talking with Positron to come up with a solution.
- Capt. Williams inquired about the remaining channels moving to Open Sky. Paul stated it could be done, but people aren't cleared off the analog.
- Capt. Williams stated Channel 6 is the only one on analog.
- DUVs will always be available. It is up to the City to decide how they want to move forward.

Update on Permanent Fix for Consoles

- David will verify Channel 6's operation to see if it can be moved to Open Sky with the others.
- If Channel 6 were set up at the same time as a module, it could be used as a console in the future. A talk group would have to be setup and linked.
- With the exception of Channel 6, Capt. Williams would like to move the rest of the channels to Open Sky.
- Paul confirmed that it shouldn't be a problem.
- Capt. Williams stated some of the next steps to moving forward would include training for people logging on and fleet mapping.

Fleet Mapping

- Fred stated Sarah isn't available to assist in fleet mapping, however Lindsay should still be able to move forward with the project.
- When all of the remaining consoles are moved to Open Sky, MFD will remain analog.
- Once Fred gets a final count of all the consoles, they will put a plan in place to make sure remaining consoles are moved.
- Paul stated he will help implement move of consoles.

7-Day Test

- Capt. Williams inquired about discrepancies, if any (aside from patching), as a result of the test.
- Fred Stated there were no discrepancies.
- Capt. Williams talked about a few Trouble Shooting Reports involving no transmission.
- Gary and Fred will investigate.
- Capt. Williams will forward Fred an email, wherein one sergeant reported a completely locked up console.

Harris Project Team Meeting **Minutes**

Location/Date/Time Comm/Data Center Conference Room, February 23, 2010/2:00 PM

Attendees
Director Deborah Lewis
Electronic Technician Supervisor David Go
Tele Supervisor Debbie Wilichowski (Left mtg. early for appt.)
Captain Andra Williams
Lieutenant Claudia Morris
Sergeant Cherie Robertson
Milwaukee Fire Department Deputy Chief Michael Payne
Milwaukee Fire Department Battalion Chief Sean Slowey
Harris Project Manager Fred Fitte via Conference Bridge
Harris Program Manager Paul Crowe via Conference Bridge
Harris Engineer Gary Kleiman
Harris Engineer Thomas Paoletta
Federal Engineering Chuck Hnot via Conference Bridge
Federal Engineering Steve Zak via Conference Bridge

Recorder April Coleman

Materials for Meeting

Purpose Open Sky Updates

Agenda Items

- 7-Day Test
- Console Project
- Fleet Mapping

7-Day Test

- Paul reiterated from previous meetings that 7-day Test is a contract issue between Harris and Positron.
- Harris is waiting on software changes to make burn-ins more stable and then they will have a better (ATP) Acceptance Test Plan.
- Dir. Lewis asked if there were any problems as a result of the burn-in test and inquired about an effect analysis.
- Paul added clarification via email: During the initial testing of OpenSky dispatch on the T5 consoles it was found that a position could become unstable as a result of a system assigned (SAID) patch, but could be restored by restarting the application. A SAID patch is created by the OpenSky voice switch (VNIC) when a request is sent from a T5 console positron. Positron determined that it was possible for an operator to key their console prior to receiving a SAID acknowledgement from the VNIC, creating the instability. They have agreed to revise the T5 software to disable operator keying until the SAID acknowledgement has been received.
- Harris will complete a root cause analysis of the lock-ups and submit findings.

- April will forward minutes and pending assignment sheet to the entire Harris Project Team.
- Tom and Gary investigated the areas of 14th & North and Sherman & Capitol for interferences. The Issues were defined by trouble reports and they are working with the MPD radio shop to resolve the issues.
- Paul doesn't believe they found any error codes for recent console problems and there is no way to trouble shoot it.

7-Day Test (Cont'd)

- Capt. Williams sent Fred two e-mails regarding the lock-ups. Fred doesn't have any information on them yet; however he will do a cause and effect analysis when results are known.

Console Project

- Lt. Morris stated she hasn't received any complaints on the later shifts. Once said based patching was taken out, there hasn't been any more incidents.
- Lt. Morris stated Sgt. Robertson is taking over the User Group and she will be assisting behind the scene.

Fleet Mapping

- Fred stated Terry Self did receive MFD fleet map and he will work on it with Lindsay.
- David and Paul decided that it was best to hook up a DVU to an MFD channel for testing only. It will not be a permanent fix.

Miscellaneous Issues

- MPD channels: Capt. Williams will send out a memo informing people what channels to work on.
- Chief Flynn will be attending a conference in March for the 700 Megahertz frequencies vacated by television. David and Debbie will work together to gather information for him.
- Dir. Lewis stated the DUVs that will no longer be in use and were only intended as a stop gap measure during the transition to our digital trunked radio system. The DVUs may be sold, but MPD will have to get permission to get rid of them.
- David and Capt. Williams will coordinate a user group meeting 2nd week in March for DPW. Rhonda Kelsey should be involved for purchasing.
- Regarding the Maestro – Paul will provide MPD with a plan and a timeline next week.
- Fred spoke with David regarding training for Open Sky overview and Unified Administrative System at the Police Radio Shop. Lindsay and Sarah were going to do it, but due to recent changes in staffing, he plans to cross train all Radio Shop Electronic Technicians. Capt. Williams approved training at Radio Shop if there are no conflicts.

Miscellaneous Issues Cont'd

- Go inquired about usability of virtual consoles and Paul recommended he speak directly with Tom to ensure MPD has the correct hardware and software.
- Paul doesn't have a timeline as of yet on the sample of P7300. He stated he promised the software, but wants to test it more before it is delivered.
- Paul will check on Chuck's inquiry about the repair and return of radios.
- David did a report outlining the radios that were out for repair and he will send the information Paul.

Maestro^{IP}
Functional Acceptance Test
For the
City of Milwaukee

TABLE OF CONTENTS

1. *CUSTOMER APPROVAL*

This Functional Acceptance Test Procedure has been read and approved for use as the Maestro^{IP} acceptance test. The Acceptance test will be conducted after the installation of 16 Maestro^{IP} Consoles.

Customer Representative	Harris
Signature	Signature
Printed name and title	Printed name and title

2. *FUNCTIONAL ACCEPTANCE*

This Functional Test Procedure has been successfully completed.

Customer Representative	Harris
_____	_____
Signature	Signature
_____	_____
Printed name and title	Printed name and title
_____	_____
Date	Date

3. *MAESTRO^{IP} DISPATCH FEATURE SET*

These tests assume a valid LID/GID database with aliases defined for the test entities has been set up, privileged and programmed into the console under test. It also assumes radios have been programmed with the above test entities. Tests can be conducted first with the microphone/select speaker and then with the headset.

3.1 Transmitting With a Microphone (Group Calls, I Calls)

Setup

Choose a group to use as a test group

Program a radio with the test group.

Program a console module with the test group.

Review Console User Profile settings for Console under Test (i.e. Audio Indicators).

3.1.1 Group Call

Execution

1. Press the INSTANT TX function (for example right mouse button) on the module with the test group. Verify that a channel access tone is heard, the XMT indicator is displayed and that the call is heard at the radio. Release the Instant TX key.

2. Press the SELECT button on the module with the test group. Verify that the SELECT indication for that module becomes highlighted.

3. Press the SELECT TX function. Verify that a channel access tone is heard, the XMT indicator is displayed and that the call is heard at the radio. Release the SELECT TX function.

4. Press the PTT foot pedal. Verify that a channel access tone is heard, the XMT indicator is displayed and that the call is heard at the radio. Release the foot pedal.

3.1.2 Individual Call

Execution

1. Program a module with the ID of the test radio. Select the console module with the test unit ID.

2. Press the SELECT TX function. Verify that a channel access tone is heard, the XMT indicator is displayed and that the call is heard at the radio. Release the SELECT TX function.

3.1.3 Alert Tones

Execution

1. Press the SELECT button on the module with the test group. Verify that the SELECT indication for that module becomes highlighted.

2. Press and hold the foot pedal or 'Selected Transmit' key. The test radio will receive the call. While still transmitting, press one of the three alert tone keys (Alert, Pulse, Warble). Verify the alert tone is received by the radio and also heard on the console.

3. While not transmitting, press and hold one of the alert tone keys. Verify the console transmits on the selected group, the test radio receives the call, and the alert tone is heard by the radio and console. When the Alert tone key is released, verify the call drops.

Results	(Pass/Fail) _____
Tester: _____	Date: _____
Comments: _____	
_____	
_____	

3.2 Receiving Calls (show ID, alias, & Call History)

Setup

Program the test group into a module.

Set a radio to the test group.

3.2.1 Group Call

Execution

1. Unselect the console module with the test group. Key the radio and verify that the call is heard at the Unselect speaker and that the calling radio ID and the Call Indicator are displayed.

2. Select the console module with the test group. Key the radio. Verify that the call is heard at the select speaker and that the calling radio ID and the Call Indicator are displayed.

3. Key the radio. Verify that the module call light is on, the call is heard at the Select speaker and the calling radio ID is displayed.

3.2.2 Individual Call

Execution

1. Program a module with the ID of the test radio.

2. Select the console module with the test unit ID. Call the console from the radio (ICALL with Console ID). Verify that the call is heard at the select speaker and that the calling radio ID and the Call Indicator are displayed.

3.2.3 Call History

Setup

This tests compares programmed module call activity to the history scroll lists. Utility page, dispatch menu will be selected. Select either the "Select History" or "Unselect History".

Execution

1. Press the 'Scroll Up' and 'Scroll Down' buttons to scroll through the Unselect call history list. Compare these calls with known activity.

2. Press the 'Scroll Up' and 'Scroll Down' buttons to scroll through the selected call history list. Compare these calls with known activity.

3. Press the 'Esc' button to exit the history scroll mode.

4. To monitor call history on a single group use the 'module history' button (on the 'module modify' menu. Use the 'scroll up' and 'scroll down' buttons to scroll through the calls for the picked module. Compare these calls with known activity.

Results		(Pass/Fail)	_____
Tester:	_____	Date:	_____
Comments:	_____		
	_____		
	_____		

3.3 Emergency Call

Setup

This test requires a test radio capable of generating and clearing an emergency (i.e. Supervisor Radio).

Execution

1. UNSELECT the test group. Using the test radio, declare an emergency on the test group.

2. Verify the module turns red, the 'EMER' flag is briefly displayed in the module, the ID/Name of the test radio is displayed, the emergency message is displayed in the message window, and the emergency alert tone is heard on the console.

3. Pick the module with the emergency and depress 'Alarm Reset'. Verify the alert tone is silenced on the console, but the emergency is still displayed.

4. Select and transmit on the group with the emergency. Verify the test radio receives the call, and is still in emergency mode.

5. Clear the emergency using the 'EMER CLR' key. Verify the module no longer indicates an emergency.

6. Transmit on the test radio and verify the emergency is cleared and normal group calls have resumed.

7. With the test group selected on the console, declare an emergency on the test group. Verify the console and radio have the same indications as steps 2 to 4.

8. Clear the emergency with the console.

Results	(Pass/Fail) _____
Tester: _____	Date: _____
Comments: _____	
_____	
_____	

3.4 Patch

Setup

Program four test groups.

Have on hand, 2 radios programmed with 2 of the test groups and logged on to sites.

Execution

1. Create a 4 group patch on PATCH 1. Verify that the ACTIVE indicator for PATCH 1 (i.e. P1 indicator in each module) comes ON and the four modules are included in the patch.
2. De-activate PATCH 1 and verify that the ACTIVE indicator goes OFF.
3. Re-activate PATCH 1. Verify that the ACTIVE indicator comes back ON.
4. Modify PATCH 1 by removing two of the groups in the patch. Verify this results in a two group patch. Verify that the patch indicators of the two remaining groups are ON and the patch indicators of the two deleted groups are OFF.
5. Set each radio to a different test group in the patch and turn scan off.
6. Activate and Select PATCH 1.
7. Key one of the radios on its test group. Verify that the call is heard at the other radio and at the select speaker.
8. Repeat the previous step, except key the other radio.
9. Key the console by pressing the transmit bar. Verify that audio is heard at both radios.

Results		(Pass/Fail)	_____
Tester:	_____	Date:	_____
Comments:	_____		
	_____		
	_____		

3.5 Simulselect

Setup

Program four test groups.
Have on hand 2 radios programmed to 2 of the test groups and logged on to site.

Execution

1. Create a 4 group Simulselect on the 4 test group modules. Verify that the ACTIVE indicator (i.e. S1 displayed in each module) for SIMULSELECT 1 comes ON and the SELECT indicators of the 4 group modules are ON and highlighted, respectively.

2. Un-select SIMULSELECT 1 and verify that the active indicator goes OFF.

3. Re-activate SIMULSELECT 1. Verify that the ACTIVE indicator comes ON.

4. Modify SIMULSELECT 1 by removing two of the groups in the Simulselect. This results in a two group Simulselect. Verify that the ACTIVE and SELECT indicators of the two remaining groups are ON and highlighted, respectively and the ACTIVE and SELECT indicators of the two deleted groups are OFF.

5. Set one radio on each of the test groups in the Simulselect and turn scan off. Activate and select SIMULSELECT 1. Key one of the radios on its test group. Verify that the call is heard at the select speaker and **not** at the other radio.

6. Repeat the previous step, except key the other radio.

7. Transmit from the console on SIMULSELECT 1. Verify that audio is heard at both radios.

Results	(Pass/Fail) _____
Tester: _____	Date: _____
Comments: _____	
_____	
_____	

3.6 Console Pre-Empt

Setup

Choose a group to use as a test group

Program two radios with the test group.

Program a console module with the test group.

3.6.1 Clear Voice Dispatch

Execution

1. Key the first radio on the test group and hold the call up. Verify that audio is heard at the second radio and the console.

2. Key the console on the test group and hold the second, pre-empting call up. Verify that the XMT indicator is displayed along with the pre-empted caller ID and CALL indicator. Verify that the second radio begins to hear the console

audio and not the first radio call. Verify that the pre-empted radio audio is still heard on the pre-empting console.

3. Unkey the first radio. Verify that the pre-empted caller ID and CALL indicators are removed and the pre-empted radio audio is no longer heard on the pre-empting console.

4. Unkey the console. Verify that the call drops.

Results	(Pass/Fail) _____
Tester: _____	Date: _____
Comments: _____	
_____	
_____	

3.7 Console to Console Interaction (Intercom and Crossmute)

3.7.1 Console Intercom

1. On Console A, program a module with the console ID of Console B. On Console B, program a module with the console ID of Console A. Select this module on both consoles. Transmit from Console A on the module for Console B.

2. Verify on Console A that 'XMIT' is displayed in the module. Verify that on Console B, 'BUSY' is displayed in the module. Release the transmit from Console A.

3. Answer the call at Console B by transmiting from Console B on the module for Console A.

4. Verify on Console B that 'XMIT' is displayed in the module. Verify that on Console A, 'BUSY' is displayed in the module. Release the transmit from Console B.

3.7.2 Console Crossmute

Setup

Establish two consoles (A and B) to test the Crossmute function. The Consoles must be on the same NSC. Program and select a test group on both consoles.

Execution

1. Place a call on console A on the test group.

2. Verify that console B can hear console A in the select speaker.
3. At console B, mute console A.
4. Place a call on console A on the test group and verify that it cannot be heard at console B.
5. Restore the desired cross mute setup.

Results	(Pass/Fail) _____
Tester: _____	Date: _____
Comments: _____	
_____	
_____	

3.8 Conventional Interface (CI) Patch

Setup

Program the conventional channel under test at a console. Obtain a conventional radio with the capability to operate on the channel under test. Have a trunked radio set to Talkgroup A, ensuring Talkgroup A is also programmed into the console.

Execution

1. Transmit on the conventional radio and verify that the call is heard at the console.
2. Transmit from the console and verify that audio is heard at the radio. For multiple frequency stations, repeat the test for each Tx frequency selected on the console.
3. Again transmit from the conventional radio. At the console, patch the conventional channel to Talkgroup A.
4. Verify that the trunked radio can transmit and receive to the conventional radio via the patch.

HARRIS CORPORATION, RF COMMUNICATIONS DIVISION

STATEMENT OF WORK

TO ADD MAESTRO^{IP} CONSOLES TO THE

CITY OF MILWAUKEE POLICE DEPARTMENT OPEN SKY RADIO SYSTEM

1 Introduction

This Statement of Work (SOW) describes the delivery, installation, and cutover of 51 Maestro[IP] dispatch consoles for the City of Milwaukee (City).

2 Description

Current Configuration:

The Milwaukee Public Safety Dispatch System currently consists of an Intrado/Positron T5 Dispatch switch, a Harris OpenSky/VIDA IP-based radio network, NICE logging recorders, and PC-based dispatch positions.

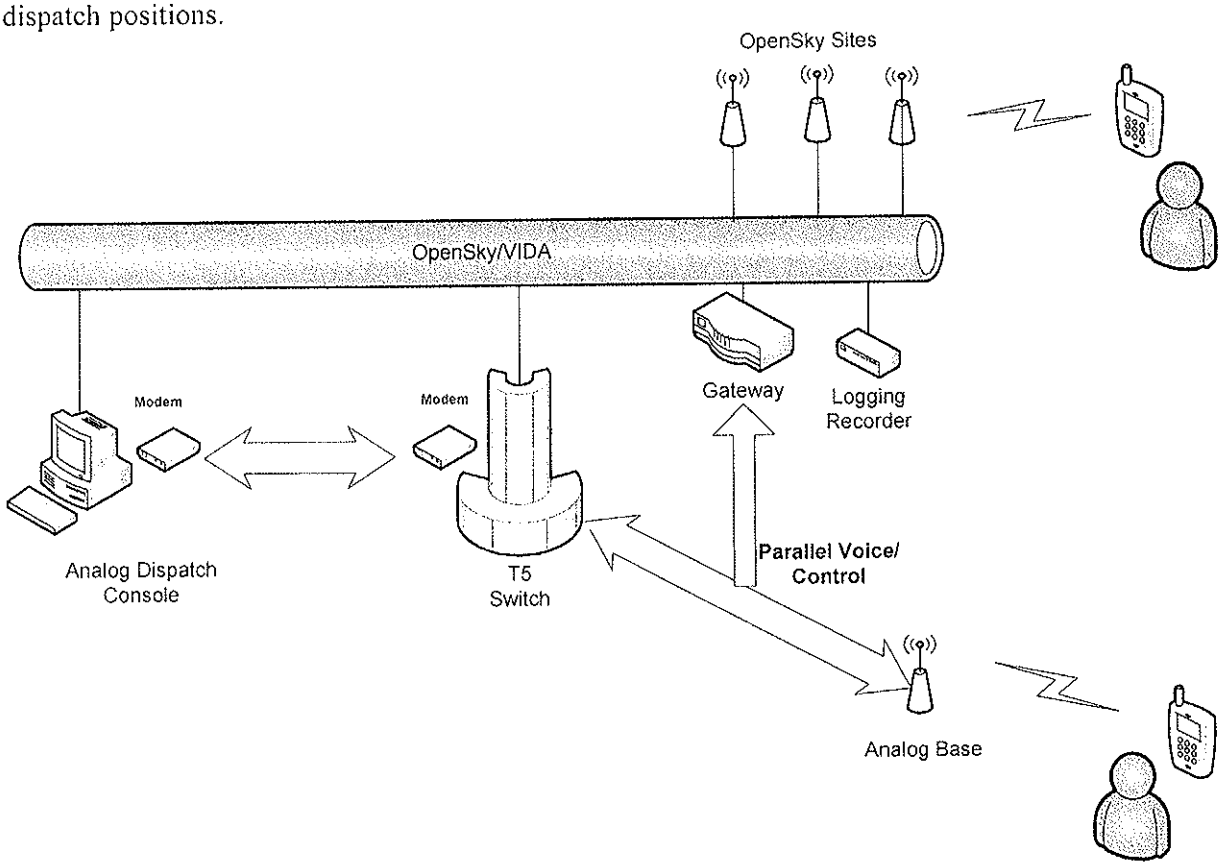


Figure 1. Current Dispatch Configuration

MaestroIP Configuration:

The Intrado/Positron T5 Dispatch switch will be replaced with Harris Maestro^{IP} dispatch consoles. These standalone units will be directly connected to the VIDA network as shown in the following diagram:

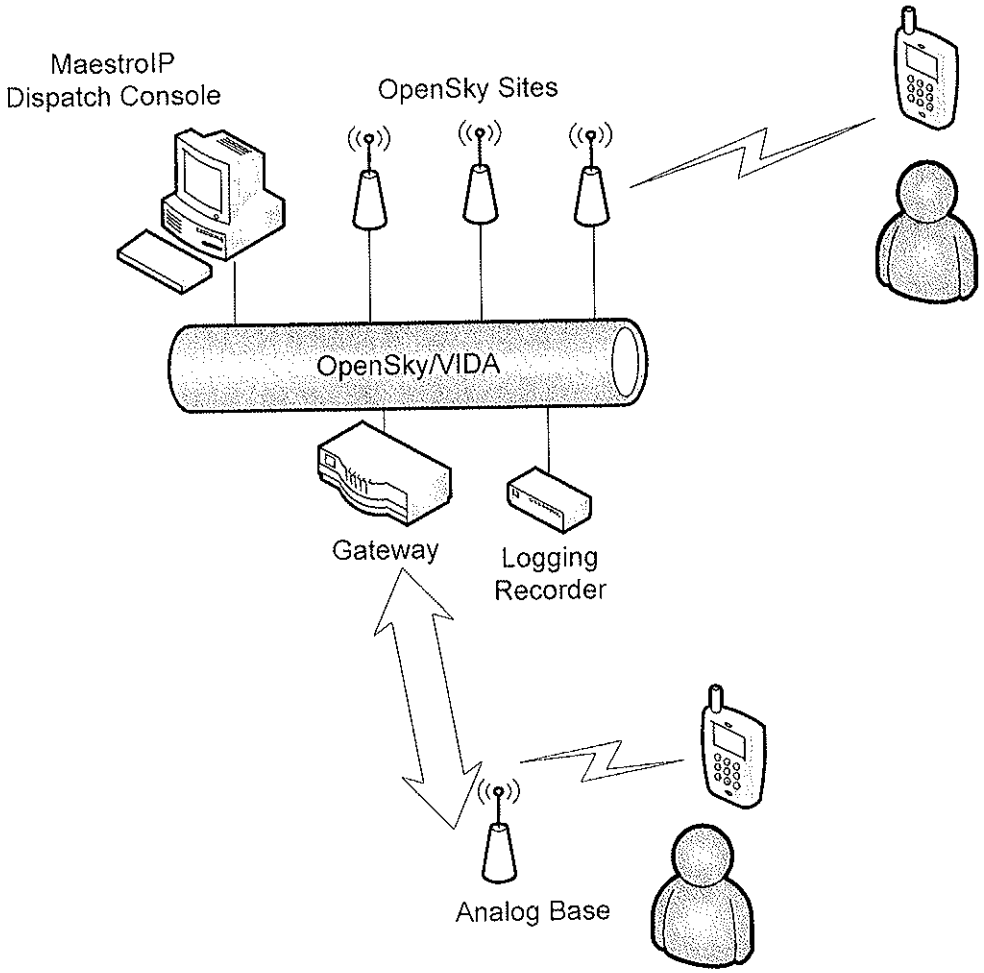


Figure 2. Maestro^{IP} Dispatch Configuration

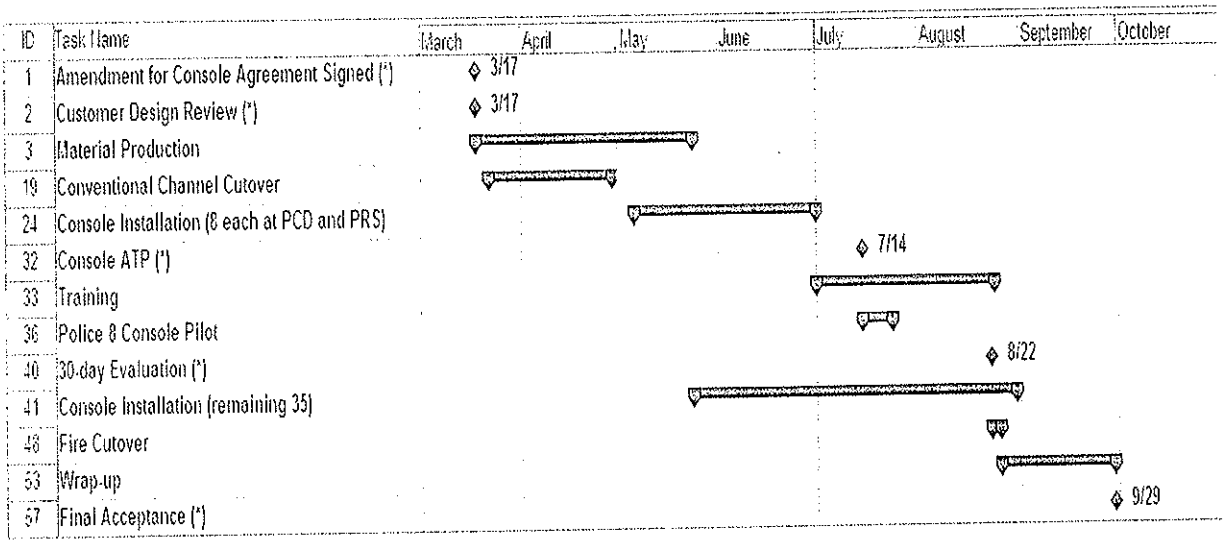
3 Implementation

3.1 Summary

Implementation will begin once this SOW has been adopted by the City of Milwaukee and the Customer Design Review (CDR) has been completed and mutually agreed upon.

3.2 Project Schedule

A preliminary project schedule is shown below. A detailed implementation schedule will be presented during the Customer Design Review. The milestones noted by (*) require a customer approval to move to the next phase, and meeting subsequent dates is dependent on these approvals.



3.3 Customer Design Review

After Harris receives the City's agreement to move forward with the console upgrade and replacement project, the Harris team will work with the City team to schedule the date for a Customer Design Review (CDR). Harris will present the detailed project plan for the Harris Maestro^{IP} consoles. This will include a review of this statement of work, the functional features of the Maestro consoles, the implementation schedule and cutover plan.

3.4 General Project Responsibilities

The following statements define the respective general responsibilities of Harris and the City.

3.4.1 Harris will:

- Provide a Program Manager to work with the City for project implementation and deployment of the system design as described in the System Description section of this proposal.
- Provide a System Engineer who will be responsible for design and testing of the new system
- Provide a total quantity of 51 Maestro^{IP} dispatch consoles to be divided between the City's PCD and PRS locations. Two consoles have already been provided by Harris and are located in the City's radio shop and its Emergency Operations Center (EOC). Components and accessories will include the Maestro^{IP} dispatch console computer, AES encryption, AMBE vocoder, monitor, speaker, footswitch and desktop microphone.
- Create and execute a mutual agreed upon detailed implementation plan and schedule.

- Provide requirements for site AC/DC power loads, BTU calculations, and network connectivity.
- Configure each Maestro^{IP} with the appropriate user screens.
- Make connections to the conventional audio as determined by a site survey and evaluation of the current City usage.
- Provide the MaestroIP dispatch console with its standard features. Some of the conventional console features currently used by the City are not available in the MaestroIP dispatch console. Harris will perform a detailed site survey to identify these features. As these unavailable features are identified, Harris will provide the City with an assessment and operational recommendations. No new feature development is proposed for the MaestroIP dispatch console.
- Decommission and remove the City's existing T5 dispatch consoles and cabinets.

3.4.2 The City of Milwaukee will:

- Assign a Project Manager to represent the City on all dispatch system details and who will be the primary point-of-contact for Harris.
- Identify the efforts required by the City and ensure they are completed per the project schedule.
- Work with the Harris Program Manager to incorporate the City's tasks into the overall project schedule.
- Participate in the Customer Design Review and all other scheduled Project Review meetings.
- Provide access to equipment locations for Harris and its authorized subcontractors. At times extended workdays may be required to complete tasks and minimize conflicts with the City's operations.
- Obtain temporary IDs for the Harris team and passes, as required, for access to the City facilities.
- Provide a City technician to assist Harris and its subcontractors with the MaestroIP dispatch console upgrade / replacement effort during the planning, installation, testing and cutover phases.
- Provide timely responses to issues related to project progress. Milestones requiring customer signature will not be delayed more than 2 business days when a signature is reasonably expected. If delays by the City affect the project schedule, Harris may seek a modification to the original schedule.
- Install any remaining infrastructure equipment not specifically identified in the Harris-provided services and required for the dispatch consoles, including protected AC power (UPS/Battery backup, Generator) and adequate HVAC.
- Provide sufficient cabling and dedicated LAN bandwidth for each console.

- Provide QOS across the LAN suitable for voice operation.
- Provide suitable electrical power to each console.

4 Training

Harris will provide on-site console operator training for the MaestroIP consoles as installed and configured in Milwaukee. It is estimated that each dispatch operator will attend a 4-hour training session to be held at the back-up dispatch center at PRS. Who pays? How many days provided

5 Acceptance Test Plan

The console acceptance test plan (ATP) is attached. This is the functional Maestro^{IP} ATP and will be performed jointly by Harris and the City.

6 Evaluation Period

Upon completion of the ATP, 8 consoles positions at the Police Dispatch Center will be used for a 30-day evaluation period. This will allow the City to gain confidence in the console performance and stability, and provide opportunity for Harris to make minor adjustments in the configuration to improve the user experience. This evaluation period will end once 30 continuous calendar days of operation are completed without a critical failure. "Critical failure" is defined as a failure event when there is a simultaneous loss of communications by 25% or more of the active console positions.

7 Cutover

Upon completion of the ATP, Harris and the City will begin the mutually agreed upon cutover process including the installation of the remainder of the consoles. Harris and the City will use a mutually agreed upon installation checklist to be jointly completed when each additional console has been installed.

8 Documentation

After completion of all project tasks, Harris will provide a final Maestro console documentation package of "As-Built" documentation to the City. The console documentation package will include:

- Console system "as-built" documentation.
- ATP results.
- Instructions with regard to warranty and warranty repair work.
- Project Acceptance/Completion Letter.

9 Final Acceptance

Final Acceptance for the console upgrade and replacement project will occur at the end of the console 30 day evaluation period, the installation of the last console and the delivery of the console system documentation.

10 Warranty

Harris will provide the one-year written warranty set forth in the Harris City radio system contract for the Maestro consoles. Warranty for the initial 16 consoles will begin upon successful completion of the ATP. Warranty for the remaining 35 consoles will begin for each console upon completion of the individual console installation checklist.

3-16-10

City of Milwaukee Radio Network Maestro Upgrade

Customer Design Review

Delivered By Ben Ramsey

HARRIS®

Upgrade Overview

- VIDA SR9 Server Upgrade
- 51 MaestroIP Consoles
- 3 Additional UAC interoperability chassis
- VIDA Transcoder
- Simplified Network

Server Upgrade

- Harris will install 2 new VIDA NSS Network Switching Servers (Sun T5120) as Primary and Secondary voice switches
- Harris will install 2 new VIDA RVM – Regional VIDA Manager servers (Sun T5120)
- Units will be preconfigured with VIDA SR9 for use in the Milwaukee system.

Maestro Upgrade

- Harris will install 51 Maestro consoles with Call Director interface.
  - CPU with attached interface box (ECE)
  - 19" Monitor
  - Select/Unselect speakers 1 EACH
  - Mouse
  - Desk MIC
  - Single Foot Switch
  - 6 wire Jack Box mounted under desk
- Harris will reconfigure the BSS1 router and will utilize a new ~~24~~ 48 port Cisco switch to allow the Maestro consoles to be installed using a newly defined vlan.

Maestro Upgrade – Install Locations

- Comm/Data
  - 13 - Dispatch Floor
  - 1 - Supervisor
  - 3 – EOC
  - 11 – Fire
  - 1 – Training

29

= 51

- Radio Shop
  - 8 – Police
  - 4 – Fire
  - 6 – Calltaker or Dispatcher
  - 2 – Supervisor
  - 2 – Test

22

Interoperability Upgrade

- Harris will install 3 additional UAC chassis in addition to the 3 already installed at Radio Shop.
- Results in 72 channels of interoperability.
- Harris will configure the units into the network.
- MPD personnel will be required to work with Harris to define audio interfaces for each unit.
- Harris will reconfigure the BSS1 router and will utilize an existing Cisco switch to allow these interfaces to be installed using a newly defined vlan.
- Harris will provide punch block interfaces for MPD radio shop personnel.
- These interfaces will replace all superseded DVU units currently installed.

VIDA Transcoder install

- Harris will install a VIDA Transcoder server (Windows server 2008) in the Radio Shop server room.
- This allows direct interoperability from ADPCM vocoder to the AMBE+ vocoder.
- Improved voice quality via the UAC card to conventional radios and while patching between Fire and Police talk groups.

KEEP INTEROP TALK GROUPS

Network modifications

- Harris will modify the existing BSS1, BSS2 routers and ESW1, ESW2 switches to allow for vlan additions
- Current configurations do not have vlans segregated which makes modifications cumbersome.
- Harris will remove the routers for the existing NetworkFirst interfaces.
- Harris will remove the routers/switches for the UCC/Logging recorders and replace them with direct 10/100mbit Ethernet connections to the ESW switch via vlan.

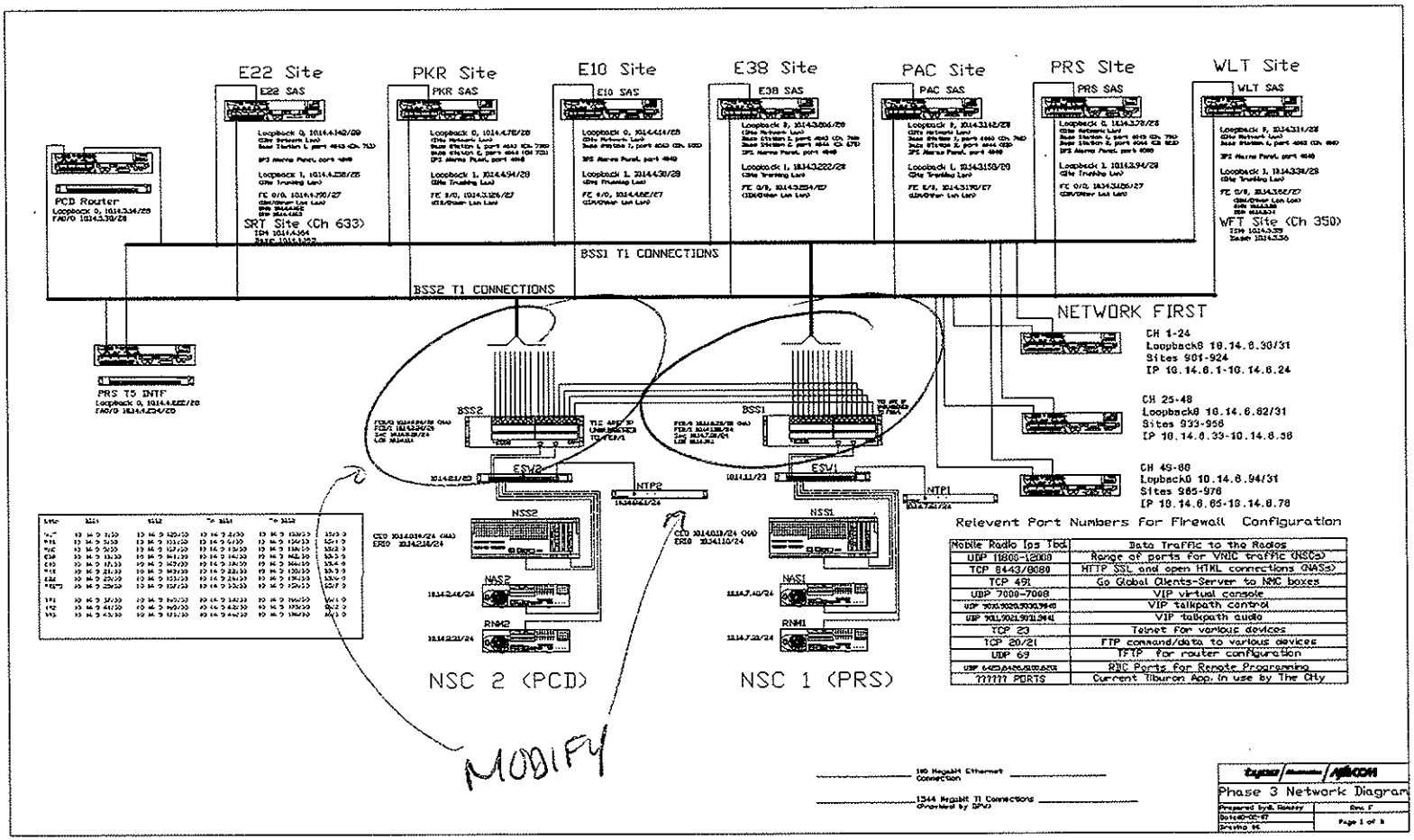
Network modifications

- Harris will provide 1 new 24 port switch at radio shop for the console upgrade.
- Harris will provide 1 new 48 port switch at Comm/Data for the console upgrade.
- Switches will connect directly to ESW1/2 via Ethernet on separate VLANs.
- Harris will create a separate vlan for the UAC switch at PRS.
- Harris will create a separate VLAN for the UCC/Logging interfaces.

Network Modifications

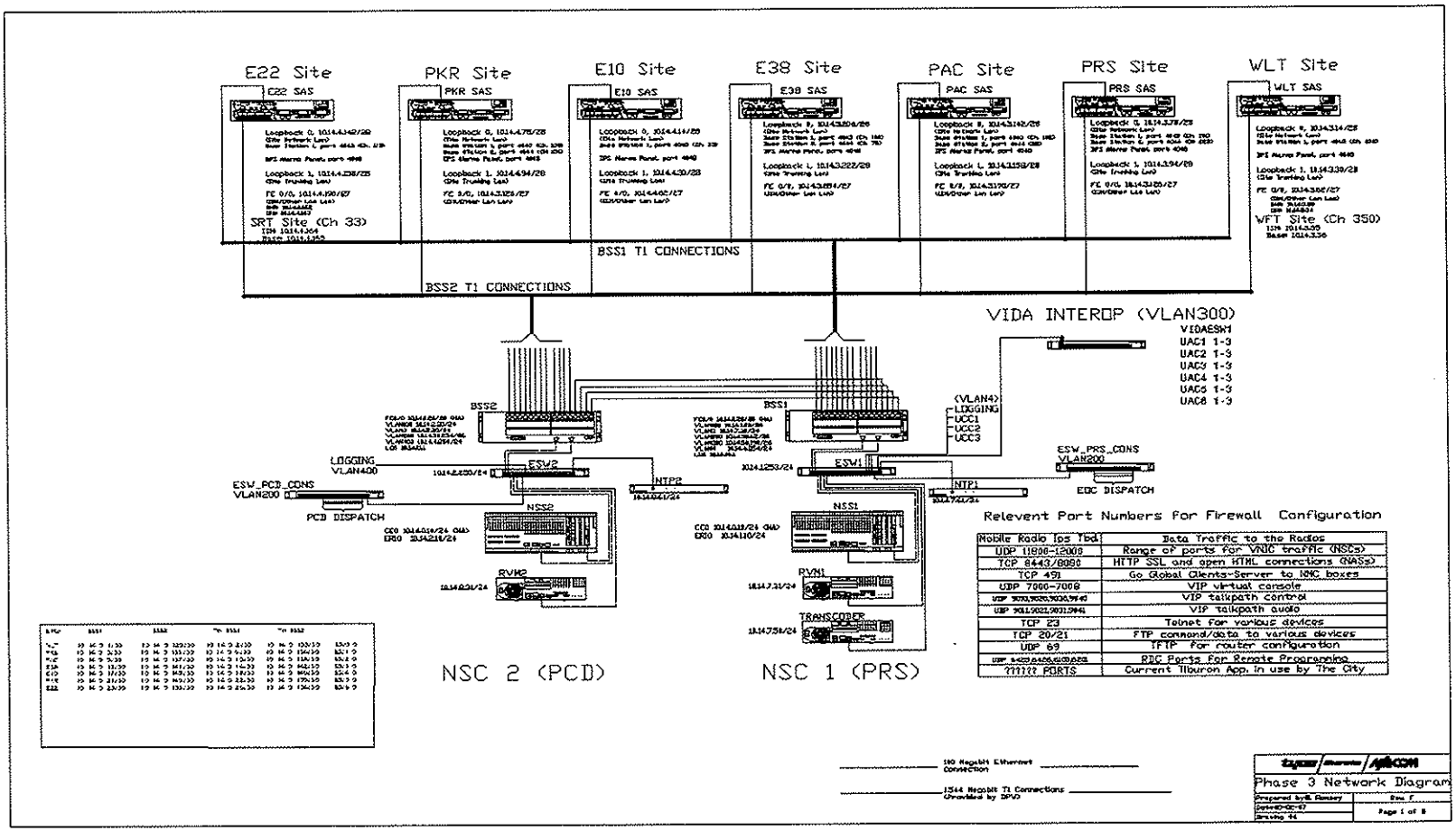
- Harris will validate router configuration changes on an offline mirror of the Milwaukee system to validate changes before implementing.
- Dispatch redundancy is created via the existing network with an aggregation of 4 T1s between switching centers.

Existing Network

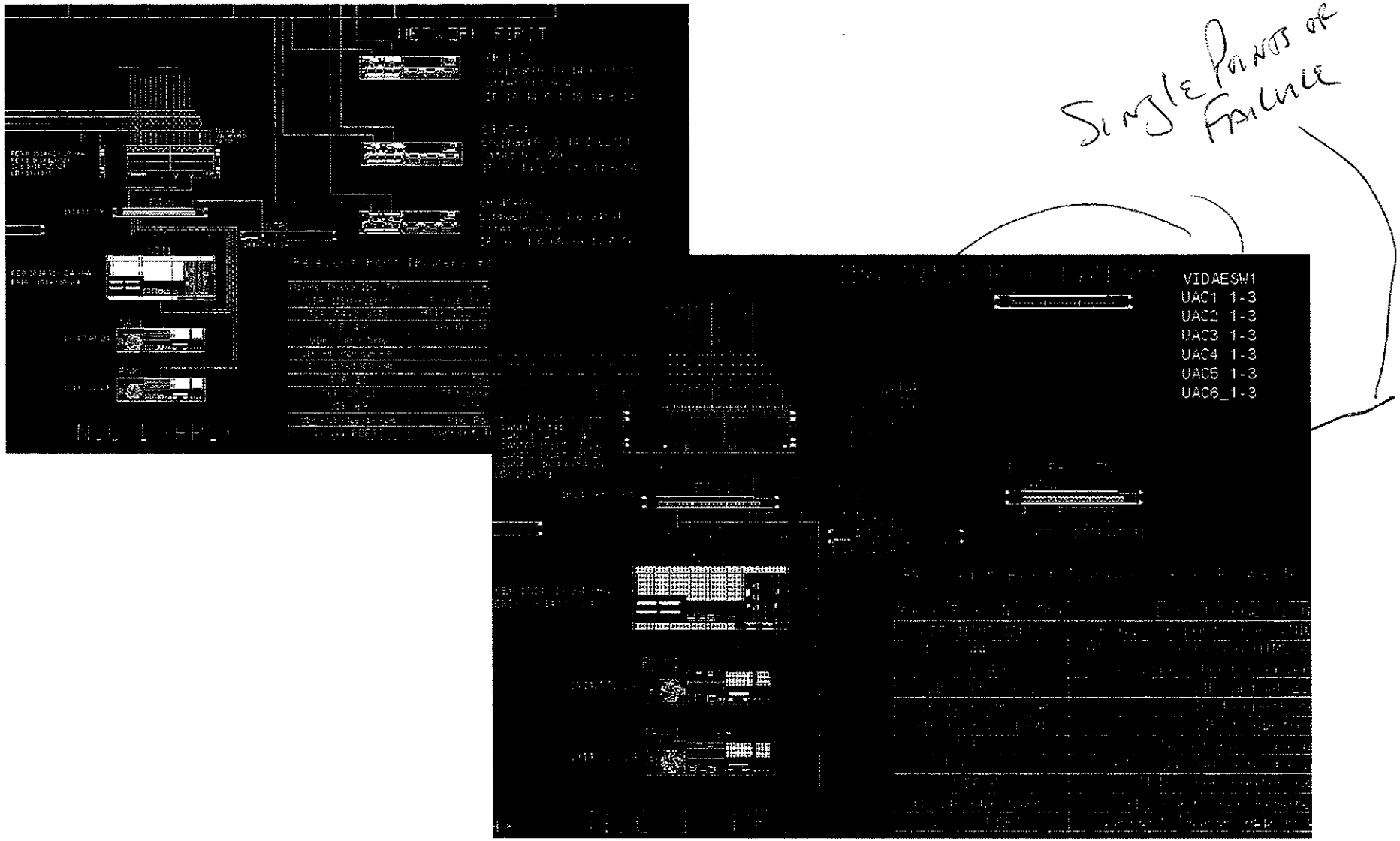


Some NETWORK FIRST ARE NOT WORKING

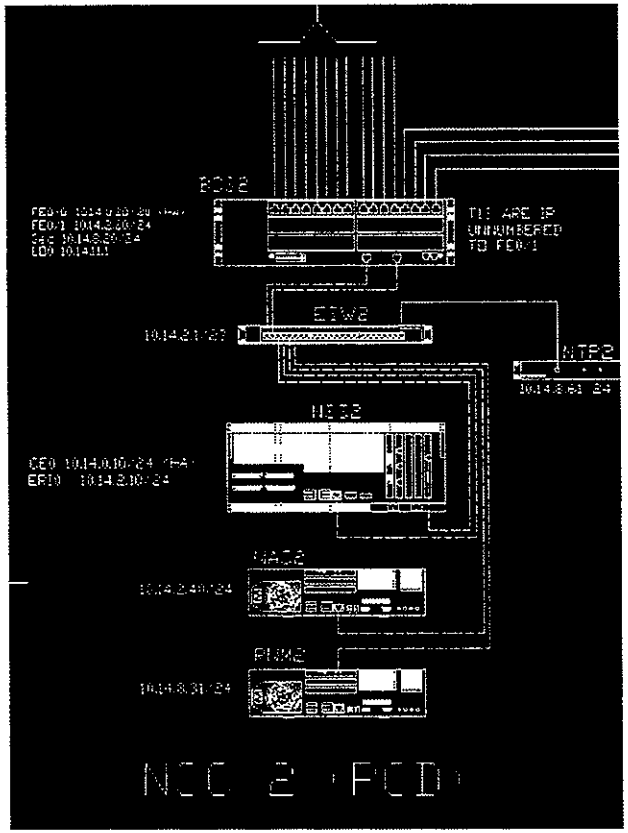
Modified Network



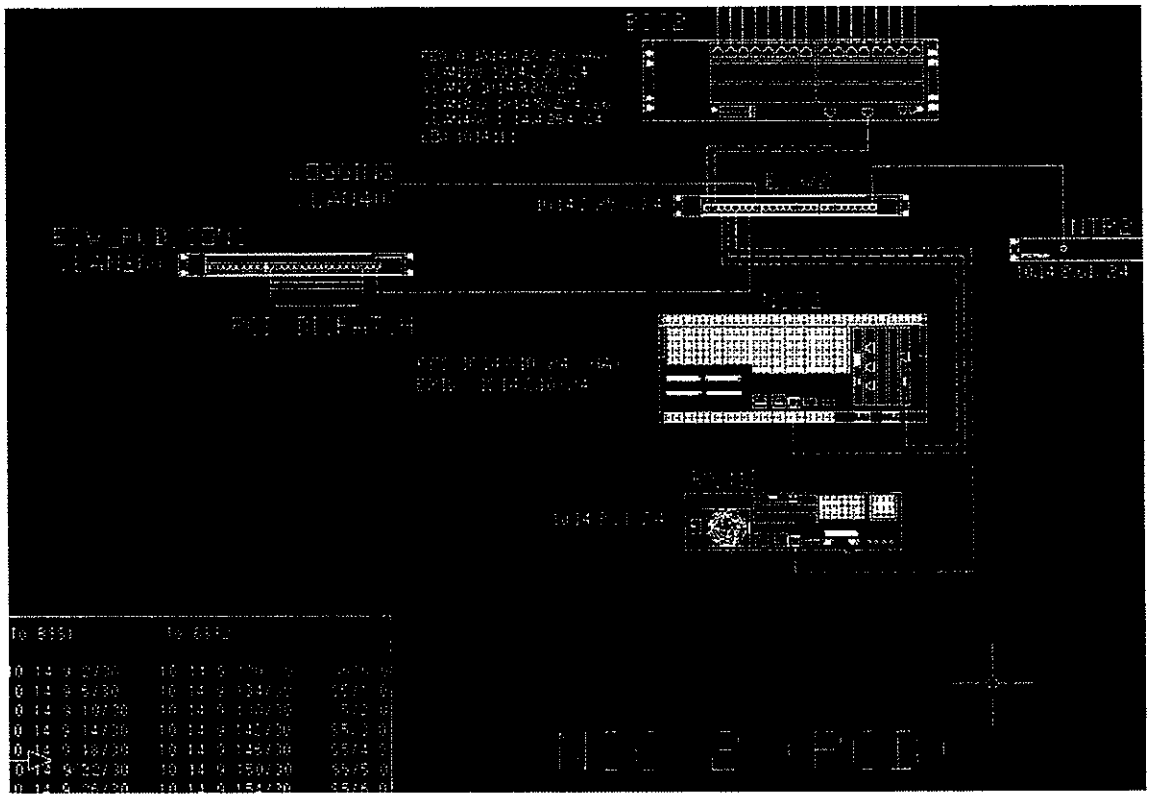
PRS Network Changes



PCD Network Changes



Single Point of Failure



HARRIS

HARRIS CORPORATION
RF COMMUNICATIONS DIVISION

STATEMENT OF WORK

TO ADD
MAESTRO^{IP} DISPATCH CONSOLES
TO THE

CITY OF MILWAUKEE POLICE DEPARTMENT
OPENSKY RADIO SYSTEM

CITY/FE COMMENTS IN RED
HARRIS COMMENTS IN BLUE

- Site upgrade plans for District Two and Seven should be included in the SOW.
- Please include a glossary of acronyms. This document will be read by non-technical MPD/MFD Staff.

1 Introduction

This Statement of Work (SOW) describes the delivery, installation, and cutover of 51 Maestro^{IP} dispatch consoles for the City of Milwaukee (City).

2 Description

Current Configuration:

The Milwaukee Public Safety Dispatch System currently consists of an Intrado/Positron T5 dispatch switch, a Harris OpenSky/VIDA IP-based radio network, NICE logging recorders, and PC-based dispatch positions.

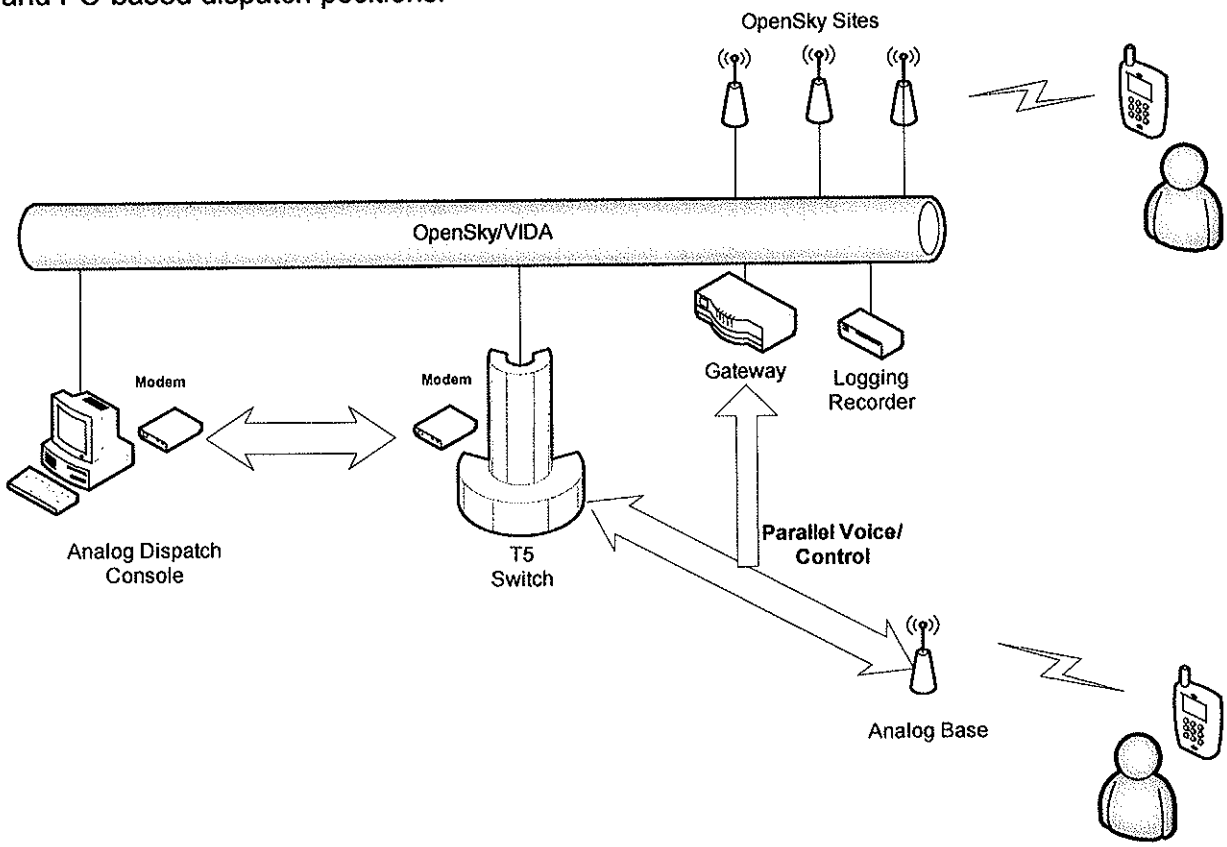


Figure 1. Current Dispatch Configuration

Maestro^{IP} Configuration:

The Intrado/Positron T5 Dispatch switch will be replaced with Harris Maestro^{IP} dispatch consoles. These standalone units will be directly connected to the VIDA network as shown in the following diagram:

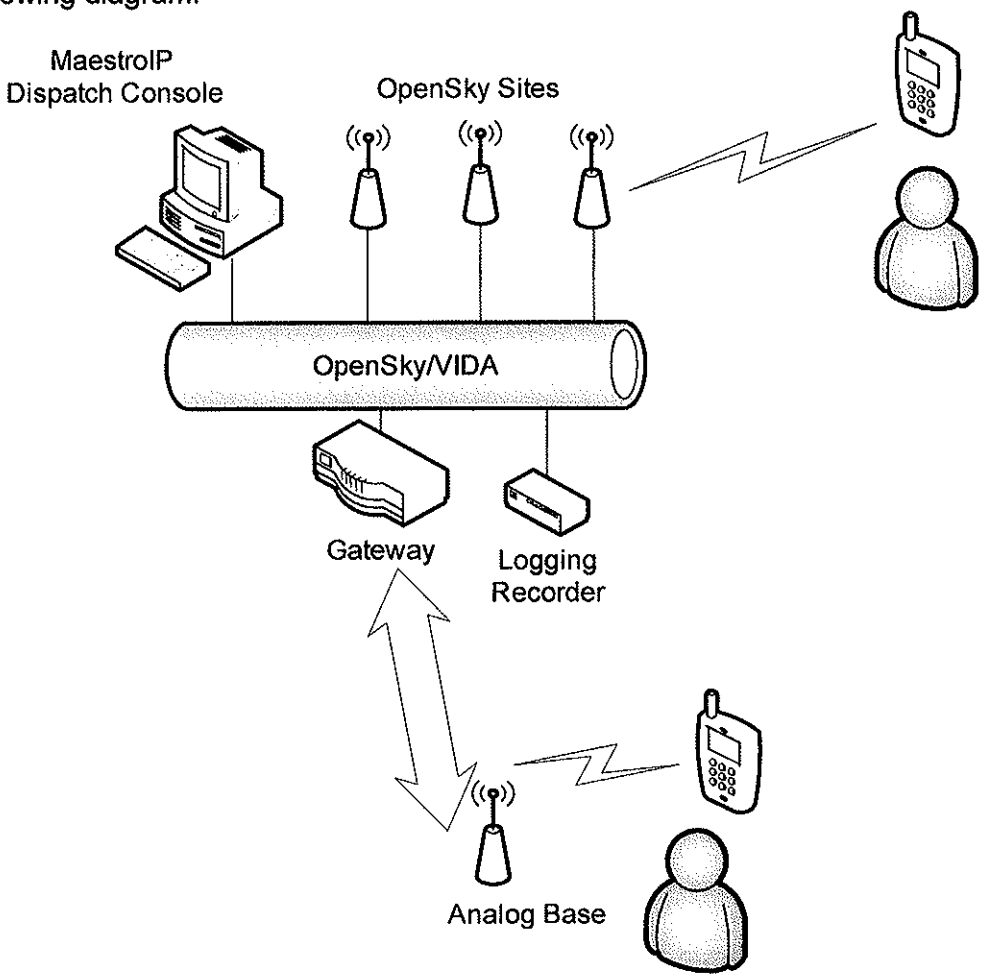


Figure 2. Maestro^{IP} Dispatch Configuration

3 Implementation

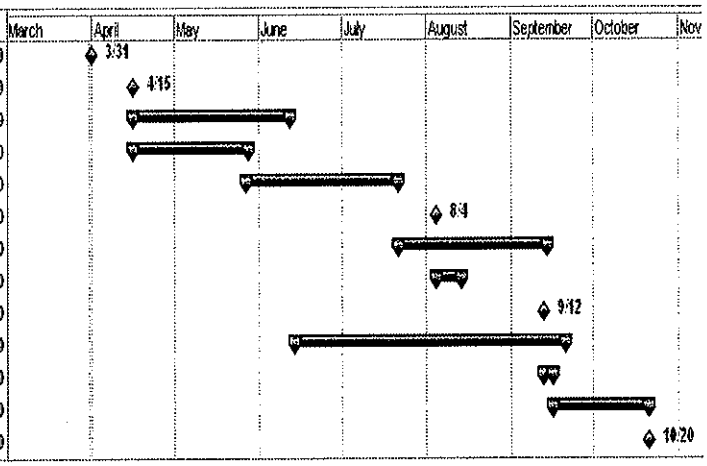
3.1 Summary

Implementation will begin once this Statement of Work has been adopted by the City and the Customer Design Review (CDR) has been completed and mutually agreed upon.

3.2 Project Schedule

A preliminary project schedule is shown below. A detailed implementation schedule will be presented during the Customer Design Review. The milestones noted by (*) require a customer approval to move to the next phase, and meeting subsequent dates is dependent upon these approvals.

Task Name	Start	Finish
Amendment for Console Agreement Signed (*)	Wed 3/31/10	Wed 3/31/10
Customer Design Review (*)	Thu 4/15/10	Thu 4/15/10
Material Production	Fri 4/16/10	Fri 6/11/10
Conventional Channel Cutover	Fri 4/16/10	Thu 5/27/10
Console Installation (17 at PRS)	Thu 5/27/10	Wed 7/21/10
Console ATP (*)	Thu 7/22/10	Wed 8/4/10
Training	Thu 7/22/10	Mon 9/13/10
Police 8 Console Pilot	Thu 8/5/10	Fri 8/13/10
30-day Evaluation (*)	Fri 8/13/10	Sun 9/12/10
Console Installation (remaining 34)	Mon 6/14/10	Mon 9/20/10
Fire Cutover	Mon 9/13/10	Wed 9/15/10
Wrap-up	Thu 9/16/10	Wed 10/20/10
Final Acceptance (*)	Wed 10/20/10	Wed 10/20/10



Please provide a more detailed schedule as a separate attachment that breaks the tasks down. Some of the things that need to be included are:

- CDR documents and project schedule should be delivered one week ahead of CDR.
- Maintenance/Technical Training for Radio Shop needed to be added.
- Punch List Resolution should be listed instead of Wrap-Up.
- What is the Police 8 Console Pilot? Where/Why is it being run? Why 8 consoles?
- How will the ATP and console Pilot be run at the same time there is training?
- Has Harris taken into account the 8 holidays and furlough days that will occur during the time period when they set up their schedule?

3.3 Customer Design Review

The Harris Technical Team met with the City and Federal Engineering on March 16 and 17, 2010, to review the initial console design, the gap analysis between the current Intrado/Positron consoles and the Maestro^{IP} consoles, the implementation plan, and the

City's planned network connectivity between the PRS and PCD. After Harris receives the City's agreement to move forward with the console upgrade and replacement project, the Harris team will work with the City team to schedule the April date for the final Customer Design Review (CDR), in which Harris will present the detailed project plan for the Maestro^{IP} dispatch consoles. This will include a final review of this statement of work, the functional features of the Maestro^{IP} dispatch consoles, the implementation schedule, the installation checklist, the testing plan, and the cutover plan.

Harris will submit a compliance matrix for the Maestro Console based on the original RFP along with the other CRD documents.

3.4 General Project Responsibilities

The following statements define the respective general responsibilities of Harris and the City.

3.4.1 Harris will:

- Provide a Program Manager to work with the City for project implementation and deployment of the system, as described in the Implementation Details section of this statement of work.
- Provide a System Engineer who will be responsible for design and testing of the new system.
- Provide a total quantity of 51 Maestro^{IP} dispatch consoles to be divided between the City's PCD and PRS locations. Two dispatch consoles have already been provided by Harris and are located in the City's Police Radio Shop and its Emergency Operations Center (EOC). Each Maestro^{IP} dispatch console will include console computer, AES encryption, AMBE vocoder, video monitor, speaker, footswitch and desktop microphone.
- Create and execute a mutually agreed upon detailed implementation plan and schedule.
- Provide requirements for site AC/DC power loads, heat loads, and network connectivity.
- Configure each Maestro^{IP} dispatch console with the appropriate user screens.
- Make connections to the existing conventional audio channels as determined by a site survey and evaluation of the City's current usage.
- Provide Maestro^{IP} dispatch consoles with standard features. Some of the console features currently used by the City are not available in the Maestro^{IP} dispatch console. Harris will perform a detailed survey to identify these features. As these unavailable features are identified, Harris will provide the City with an assessment and ~~with~~ operational recommendations. No new feature development is proposed for the Maestro^{IP} dispatch console.

- Decommission and remove the City's existing T5 dispatch consoles and cabinets for use and/or disposal by Harris. Provide an inventory list of removed equipment to the City.

- Provide necessary information to the City on all employees and subcontractors who will be performing work on the radio system
- Participate in weekly or bi-weekly project status meetings as agreed upon by Project Managers. Harris and the City will have involved stakeholders available for the meetings.
- Harris will keep the City appraised of date, times, and work locations of the personnel to facilitate access to secure sites.

3.4.2 The City of Milwaukee will:

- Assign a Project Manager to represent the City on all dispatch system details and who will be the primary point of contact for Harris.
- Identify the efforts required by the City and ensure they are completed per the project schedule.
- Work with the Harris Program Manager to incorporate the City's tasks into the overall project schedule.
- Participate in the Customer Design Review and all other scheduled Project Review meetings.
- Provide access to equipment locations for Harris and its authorized subcontractors. Occasionally, extended workdays may be required in order to complete tasks and to minimize conflicts with the City's operations.
- Obtain temporary IDs for the Harris team and entry cards, as required, for access to the City facilities.
- Provide a City technician to assist Harris and its subcontractors with the Maestro^{IP} dispatch console upgrade / replacement effort during the planning, installation, testing, and cutover phases.
- Provide timely responses to issues related to project progress. Milestones requiring customer signature will not be delayed more than 2 **(5)** business days when a signature is reasonably expected. If delays by the City affect the project schedule, Harris may seek a modification to the original schedule.
- Install any remaining infrastructure equipment not specifically identified in the Harris-provided services and required for the dispatch consoles. This includes, but is not limited to, protected AC power (UPS/battery backup, generator) and adequate HVAC.
- Provide sufficient cabling for each console. (Remove this – Harris' Responsibility)
- Provide suitable electrical power to each console.

Add this section:

3.4.3 Change Order Requests

- The City may submit a Change Order to Harris at any time. Harris will respond within 10 working days with a written cost estimate with any needed adjustments to the project price, schedule, Statement of Work, and Acceptance Testing as applicable.
- Conversely, Harris may propose a Change Order involving additions, deletions, or revisions to the work in writing to the City for their written approval within 10 working days.

4 Implementation Details

4.1 Network Infrastructure

This upgrade will consist of bringing the OpenSky radio system network up to current network IP addressing standards. A new IP addressing plan will be provided under separate cover after completion of the final CDR. In addition, a new management map for the RNM will be developed to reflect the network IP addressing changes.

4.1.1 Comm/Data

BSS2 Router

Reconfiguration

A new Cisco configuration shall be installed into the BSS2 router that will include new VLANs for the additional equipment. It will also segregate existing equipment in VLANs to bring the system up to current standards.

Down time: approximately 2 hours.

Dark fiber interconnection

The existing aggregation of four T1s will remain in place until the completion of the Police Radio Shop NSC upgrade.

ESW2 Switch

Reconfiguration

A new Cisco configuration shall be installed into the ESW2 switch that will include new VLANs for the additional equipment. It will also segregate existing equipment in VLANs to bring the system up to current standards.

A managed media converter (FibroLan S.CON1M/SM) will be added to convert fiber signals to copper signals and allow backhaul to the ESW1 at PRS. This will replace the aggregated T1 backhaul.

Down time: approximately 2 hours (concurrent with BSS2).

Logging Recorder Interface

Remove T1 connection and move to ESW2

The router/switch currently connecting the NICE logging recorder to the BSS2 router will be removed and the logging recorder Ethernet connection will be moved to a port on the ESW2 switch.

Equipment Description	Location	
FibroLan S.CON1M/SM	PCD Equipment Room	MC_CONS1_ESW2
FibroLan S.CON1M/SM	PCD Equipment Room	MC_CONS2_ESW1
FibroLan S.CON1M/SM	PCD Transmitter Room	MC_ PCD_PRS_BH

- Regarding downtime – Please expand on this with information regarding impact on operations. Will redundancy be lost? Are these concurrent outages? Will logging interface be affected?
- Included with the CRD documents will be a detailed plan for the upgrade, along with testing used to verify connectivity and correct operation. A fall back plan will also be included.

4.1.2 Police Radio Shop

BSS1 Router

Reconfiguration

A new Cisco configuration shall be installed into the BSS1 router that will include new VLANs for the additional equipment. It will also segregate existing equipment in VLANs to bring the system up to current standards.

Down time: approximately 2 hours.

Dark fiber interconnection

The existing aggregation of four T1s will remain in place until the completion of the Police Radio Shop NSC upgrade.

ESW1 Switch

Reconfiguration

A new Cisco configuration shall be installed into the ESW1 switch that will include new VLANs for the additional equipment. It will also segregate existing equipment in VLANs to bring the system up to current standards.

A managed media converter (FibroLan S.CON1M/SM) will be added to convert fiber signals to copper signals and allow backhaul to the ESW2 at PCD. This will replace the aggregated T1 backhaul.

Down time: approximately 2 hours (concurrent with BSS1).

Logging Recorder/T5 Interface

Remove T1 connection and move to ESW1

The router/switch currently connecting the NICE logging recorder and T5 interfaces to the BSS1 router will be removed, and these Ethernet connections will be moved to ports on the ESW1 switch.

Equipment Description	Location	
FibroLan S.CON1M/SM	PRS Transmitter Room	MC_ESW1_PCD_CONS
FibroLan S.CON1M/SM	PRS Transmitter Room	MC_PRS_PCD_BH

- Regarding downtime – Please expand on this with information regarding impact on operations. Will redundancy be lost? Are these concurrent outages? Will logging interface be affected?
- Included with the CRD documents will be a detailed plan for the upgrade, along with testing used to verify connectivity and correct operation, and a fall back plan.

4.2 Upgrade to Conventional Audio Interfaces

Harris will install an additional three chassis of conventional audio interface equipment (UAC). These will be located directly underneath the three chassis already in place at the Police Radio Shop.

- Harris needs to define the impact of the work on current operations.
- Harris will discuss with the City the current uses of these channels, along with standardized naming connections.

Harris shall provide patch panels for all 72 channels of interoperability. The City shall provide a technician to provide wiring help and assistance setting levels during this installation. The City will be responsible for all connections on the patch panel as well as defining proper audio levels. Harris will provide interconnection on either tone or E&M circuits only.

The City shall configure the new equipment into the management server (UAS) and assign User IDs and Site IDs as required. Harris shall configure the modules with the supplied data and set all audio parameters with assistance from a city technician. Harris and the City will verify audio levels together and the city will provide a person with authority to sign off acceptance of the audio levels.

Equipment Description	Location	
MANG-GTWY	PRS Transmitter Room	UAC Gateway (3 ea)
MANG-NAA3E	PRS Transmitter Room	UAC Module (9 ea)
MANG-NC7P	PRS Transmitter Room	Punchblock panel (6 ea)

The City should not be responsible for defining proper audio levels. Definition should be set by Harris and the City jointly.

4.3 Maestro^{IP} Dispatch Console Installation

4.3.1 Police Radio Shop

Initially 17 Maestro^{IP} dispatch consoles will be installed in the Police Radio Shop Alternate Dispatch Site. The installation will consist of installing two Cisco 2960 24-port Ethernet switches connected to the radio system network, two media converters connecting the Police Radio Shop Alternate Dispatch Site to the PCD switching center, and Maestro^{IP} computers as described in the table below.

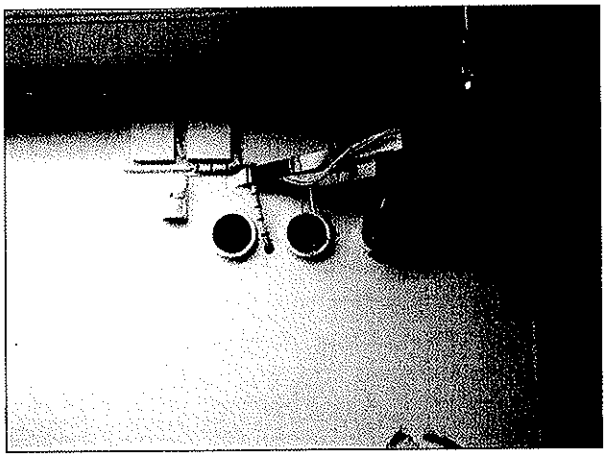
Harris will configure and install two new Cisco 2960 24-port Ethernet switches for console interfaces. The first switch will be configured and installed with all ports dedicated to the console VLAN and will be connected directly to the ESW1 switch in the transmitter room.

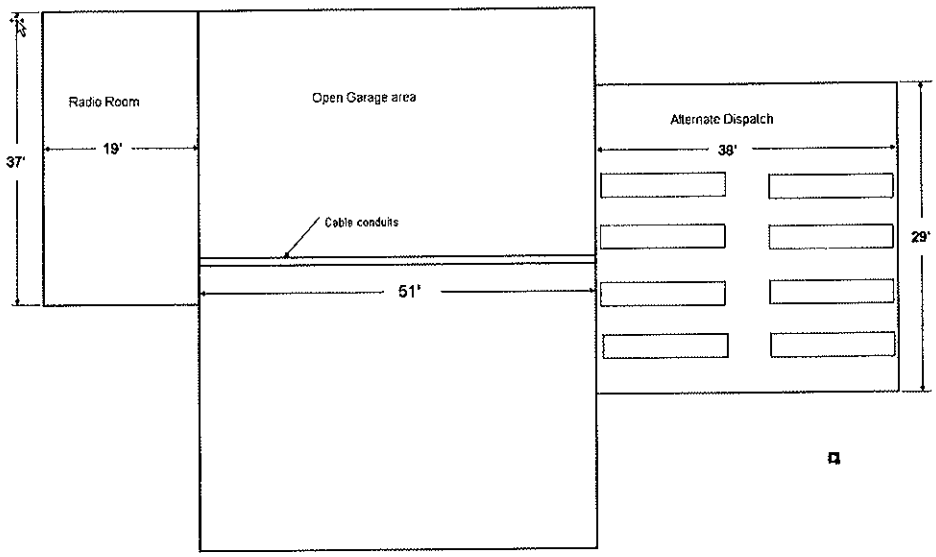
The second switch will be connected to ESW2 in the switch room at PCD via dedicated fiber and managed media converters. The media converters will be configured such that link traps are sent to the closest management server.

- Clarify when the remaining 5 consoles at the Radio Shop will be installed.
- You have an ATP to verify functionality of the console configuration. There must also be a test of each console to verify that all components are operating, as they should be. i.e., headset jacks, speakers, recorders, monitors, etc. Is this the Installation test that is referred to in Section 8?

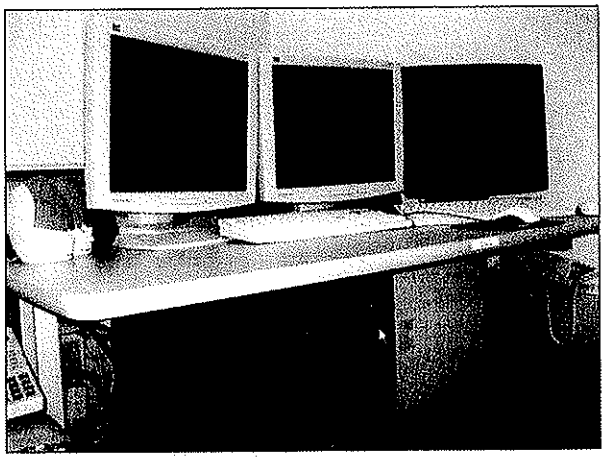
Each console computer will be connected to an Ethernet port on the wall currently occupied by the SIP computer. The 110 patch field currently in use will be redirected to the patch panel being installed in the telco room. Harris will install two lengths of CAT6 plenum-rated cable between the telco room and the transmitter room. These runs will utilize conduits already installed in the Police Radio Shop which are shown below. The patch panel will then terminate into the Cisco switches being installed in the telco room. A wall-mounted bracket will be installed to accommodate the switches and patch panel.

Ben needs to call Debbie on this. Paragraph not clear.





- Harris will remove the Intrado T5 SIP interface boxes, monitors, and any other peripheral devices associated with the Intrado T5 dispatch consoles. Harris will install the consoles as shown below in the order and locations determined by the Milwaukee Police Dispatch and Fire Dispatch. The consoles will be preconfigured to work on the Milwaukee radio network and will come preloaded with an approved user configuration specific to and approved by MPD or MFD.



A total of 22 dispatch consoles will be deployed at the Police Radio Shop. The MPD and MFD must determine which 17 units are to be deployed first. The current configuration is:

8 – Police
4 – Fire
6 – Call taker or Dispatcher
2 – Supervisor
2 – Test

Equipment Description	**Location**	
Cisco 2960 4 port router	PRS Telco Room	ESW_CONS_PRS_1
Cisco 2960 4 port router	PRS Telco Room	ESW_CONS_PRS_2
FibroLan S.CON1M/SM	PRS Transmitter Room	MC_CONS2_ESW2
48 port patch panel	PRS Telco Room	L-COM MRP110C6-48 or similar
Rack mount bracket	PRS Telco Room	CDW 189402 or similar
Maestro^{IP} Dispatch Console	PRS Alternate Dispatch	QTY 22

- CPU with attached interface box (ECE)
- 19" monitor
- Select/unselect speakers
- Mouse
- Desk microphone
- Single foot switch
- 6-wire jack box mounted under desk (should be two at each location)
- 5-outlet power strip

4.3.2 Comm/Data Dispatch Center

Twenty-nine Maestro^{IP} Dispatch Consoles will be installed in the Comm/Data Dispatch Center. The installation will consist of installing two Cisco 2960 24-port Ethernet switches connected to the radio system network, two media converters connected to the Police Radio Shop transmitter room switching center, and Maestro^{IP} computers as described in the table below.

Harris will configure and install two new Cisco 2960 24-port Ethernet switches for console interfaces. The first switch will be configured and installed with all ports dedicated to the console VLAN and will be connected directly to the ESW2 switch.

The second switch will be connected to ESW1 in the transmitter room at PRS via dedicated fiber and managed media converters. The media converters will be configured such that link traps are sent to the closest management server.

Harris will remove the Intrado T5 SIP interface boxes, monitors and any other peripheral devices associated with the Intrado T5 dispatch console.

Each console computer will be connected to an Ethernet port installed by Harris behind the left kick panel under the dispatch work station. Harris will run CAT6 plenum-rated cable between each workstation and a new patch panel. The patch panel will be installed near the OpenSky equipment racks and all console Ethernet runs will terminate there. Patch cables will then connect to the newly installed 2960 switches.

Harris will install the dispatch consoles in the order and locations determined by the Milwaukee Police Dispatch and Fire Dispatch. The consoles will be preconfigured to work on the Milwaukee radio network and will come preloaded with an approved user configuration specific to and approved by MPD or MFD. Additional configurations may be developed by the customer after acceptance.

The current dispatch console configuration is:

13 - Dispatch Floor
1 - Supervisor
3 – EOC
11 – Fire
1 – Training

Equipment Description	Location	
Cisco 2960 4 port router	PCD Switch Room	ESW_CONS_PCD_1
Cisco 2960 4 port router	PCD Switch Room	ESW_CONS_PCD_2
48 port patch panel	PCD Switch Room	L-COM MRP110C6-48 or similar
Jack Box	PCD Switch Room	L-Com SMB110C6S-S or similar
Maestro^{IP} Dispatch Console	PCD Dispatch Center	QTY 29

- CPU with attached interface box (ECE)
- 19" monitor
- Select/unselect speakers
- Mouse
- Desk microphone
- Single foot switch
- 6-wire jack box mounted under desk (should be two at each location)
- 5-outlet power strip

4.4 Unused Equipment

After completion of the Maestro^{IP} upgrade and all training is complete, Harris will remove all materials provided with the T5 console system including, but not limited to the following components:

~~Empty~~ T5 consoles and accessories

- T5 cabinet installed in the equipment room at PCD
- Three T5 ~~equipment racks~~cabinets installed in the transmitter room at PRS

~~All~~

The following Harris equipment will also be removed:

- All DVU equipment replaced by UAC equipment.
- Any unused routing equipment

4.5 Upgrade of Servers to SR9 Software

Harris shall replace the two currently installed Network Switching Servers with new servers using version SR9 software. Harris shall also provide two new RVM servers to replace the current RNM/UAS computers.

Harris will configure and test all equipment prior to installation into the Milwaukee radio system. During this configuration phase, Harris will require the City to lock down the administration server so that no modifications are made to the database during the upgrade process. This period should be less than 5 working days.

When installation begins, Harris will force the existing server at the PRS location to be the active server, and will verify that it is working properly by placing test calls and verifying that voice and data is being routed. The existing voice server, RNM and UAS located at PCD will then be taken off line and powered down. The equipment will be removed from the equipment racks and set aside.

Harris will then install the new, pre-configured NSS and RVM at the PCD location and connect all power, Ethernet, and auxiliary connections. This machine will be set to hot standby in anticipation of switching to primary during the next phase. The RVM map will be verified and all ping targets will be tested prior to moving to the next phase.

A second team of technicians will be sent to the transmitter room at PRS. When given the go ahead, the NSS at PCD will become the primary voice server for the system. After being satisfied that the system is performing normally, the technicians at the PRS will power off the NSS at the Police Radio Shop and perform the upgrade in the same order as was performed at PCD.

After the PRS upgrade is complete a new failover test shall be performed to verify that the system is performing properly. The RVM at PRS will also exercise the Management portion by performing user additions and deletions to a test agency. A full VNIC provisioning will also be performed to validate the installation.

Harris will then remove all replaced equipment.

- Could Harris please discuss possible system impacts? Over what period of time will these changes occur and what are the fall back plans?

Equipment Description	Location	
SUN T5120 (Solaris 10)	PCD Switch Room	NSS2
SUN T5120 (Solaris 10)	PCD Switch Room	RVM2
SUN T5120 (Solaris 10)	PRS Transmitter Room	NSS1
SUN T5120 (Solaris 10)	PRS Transmitter Room	RVM1

5 Training

Harris will provide on-site dispatch console operator training for the Maestro^{IP} dispatch consoles as installed and configured in Milwaukee. It is recommended that each dispatch operator attend a four-hour training session to be held at the Alternate Dispatch Site at PRS.

- Training will occur at a time mutually agreed upon by Harris and the City (depending on staffing levels). Some training may be required to be done outside of normal business hours.

6 Acceptance Test Plan

The dispatch console acceptance test plan (ATP) is attached. This is the functional Maestro[IP] ATP and will be performed jointly by Harris and the City. Additional tests may be added by mutual agreement no later than the final Customer Design Review (CDR).

- How many consoles are to be included in the ATP? In order to perform the tests already suggested, two with the Police configuration and two with the Fire configuration will be needed.

7 Evaluation Period

Upon completion of the ATP, the 17 dispatch console positions at the Police Radio Shop Alternate Dispatch Site will be used for a 30-day evaluation period. This will allow the City to gain confidence in the performance and stability of the consoles, and it will provide an opportunity for Harris to make minor adjustments to the configuration to improve the user experience. This evaluation period will end once 30 continuous calendar days of operation are completed without a critical failure. A critical failure can be defined as a major loss of functionality that renders over 25% of the consoles or the entire Console System inoperable. Inoperable means that the PSAP is unable to properly perform its duties and no work-around is available.

- As discussed in the previous meeting, this definition of "failure" is unacceptable. Listed below is some is an acceptable definition:

  The Maestro consoles must run for 30 days without error that causes a degraded level of service provided to the dispatcher, interfering with dispatch functions. There should be no alarms, warnings, or errors being generated on the system.
  Written notification will be furnished to Harris if any item is determined unacceptable to the City based on the failure to meet specifications. Harris will then have five (5) business days to correct or replace the defective item and notify the City that all such errors have been remedied. The City will have three (3) additional business days to recommence the acceptance test. This process will be repeated if necessary until the system meets the thirty consecutive day acceptance test. If Customer does not deliver a written certificate of acceptance or written notice of non-conformity within 30 days after Cutover, Harris may submit documents for system acceptance. System will not be accepted without signatures from both parties.

8 Cutover

Upon completion of the ATP, Harris and the City will begin the mutually agreed upon cutover process, which will include the installation of the remainder of the dispatch consoles. As each additional console is installed, Harris and the City will jointly complete a mutually agreed upon installation checklist to document correct installation and accepted performance. Please provide installation checklist with CDR document.

9 Documentation

After completion of all project tasks, Harris will provide a final documentation package to the City for the Maestro^{IP} dispatch consoles. The console documentation package will include:

- Dispatch console system "as-built" documentation.
- ATP results.
- Instructions with regard to warranty claims and warranty repair work.
- Project Acceptance/Completion Letter.

10 Final Acceptance

Final Acceptance for the dispatch console upgrade and replacement project will occur when the testing, console 30-day evaluation period, ~~the~~ installation of the last console, and the delivery of the dispatch console system documentation have been completed.

11 Warranty

Harris will provide the one-year written warranty set forth in the existing radio system contract. Warranty for the initial 17 dispatch consoles will begin upon successful completion of the ATP. Warranty for the remaining 34 dispatch consoles will begin for each console upon completion of the individual console installation checklist.

- Warranty period for Radio Shop consoles should start with completion of Radio Shop console installation.
- Warranty for Comm/Data Consoles should start with completion of Comm/Data console installation.
- At the end of the warranty period, the City requires that concurrent billing be established, so that all components are covered under one maintenance contract that bills annually.

Lewis, Deborah

From: Yung, Kim
Sent: Tuesday, March 30, 2010 12:42 PM
To: Gaglione, Donald
Cc: Lewis, Deborah
Subject: FW: Bid 2371 Award Recommendation - Mobile Law Enforcement Automated License Plate Recognition
Importance: High

Status report on the license plate reader Bid.

From: Cutts, Karen
Sent: Tuesday, March 30, 2010 12:23 PM
To: Butler, Barbara
Cc: Yung, Kim; Kelly, Steven J; Cutts, Karen
Subject: Bid 2371 Award Recommendation - Mobile Law Enforcement Automated License Plate Recognition
Importance: High

Good afternoon Barb,

Please note that the Award Recommendation for Bid 2371, bid tab and copy of bid submitted by Federal Signal Corp. has been forwarded to your attention at Budget & Finance Division via interoffice mail (police courier). Please ensure this packet is forwarded to Kim Yung for his review and recommendation.

Attached is the PDF format of the Award Recommendation as well as the Bid Tab for Bid 2371. If you have any questions, please do not hesitate to call or email me.

Karen L. Cutts, Purchasing Agent
DOA-Business Operations Division
Procurement Services Section
200 E. Wells St. - Room 601
Milwaukee, WI 53202
Phone: (414) 286-3508 Fax: (414) 286-5976
Email: Karen.Cutts@milwaukee.gov

City of Milwaukee

Department of Administration
Business Operations Division

Tom Barrett
Mayor

Sharon Robinson
Director of Administration

Rhonda U. Kelsey
City Purchasing Director

INTERDEPARTMENTAL MEMO

TO: Kim Yung
Information Technology Division

FROM: Karen L. Cutts, Purchasing Agent
DOA-BOD/Procurement Services

DATE: March 30, 2010

SUBJECT: Bid 2371 – Mobile Law Enforcement Automated License Plate Recognition Systems
(Rebid of Bid 2352)

Attached for your review and approval is the bid tabulation and the only complying bid received for the Mobile Law Enforcement Automated License Plate Recognition Systems. Recommend award to Federal Signal Corp. (University Park, IL) in the amount of $155,309.99 as the only complying bidder.

Two bids were received by the 3/25/2010 posted deadline of 2:00PM-CST. The bid received from MVTRAC, LLC, was deemed non-compliant as the vendor did not complete and include required Attachment A with their bid submittal.

Please review the Federal Signal Corp. bid submission for specification compliance and determine if the Police Department concurs an award should be made to Federal Signal Corp. for the Mobile Law Enforcement Automated License Plate Recognition System. If the bid does not comply or meet the bid or specification requirements, provide written documentation identifying the criteria not in compliance and the section of the bid/specification/addendum that applies and why their bid is being rejected.

Should the Police Department require additional information from Federal Signal Corp., submit a written request (via email or fax) detailing the information required for your review to my attention. DOA-Procurement Services will submit the request with a deadline stated to the bidder to furnish the additional information.

Just this award recommendation letter with the Police Department's approval signature or rejection(s) noted needs to be returned. You can forward your decision on the award of Bid 2371 to me at your earliest convenience via fax (preferred) or interoffice mail. The fax number in Procurement Services is 414-286-5976. The award notification, contract and purchase order will not be issued without written approval from the Police Department.

If you have any questions, please e-mail karen.cutts@milwaukee.gov or call me at 286-3508 Thank you.

By signing below, you acknowledge that an award will be made to **Federal Signal Corp.** for Bid 2371. If you disagree, **DO NOT SIGN** below, but provide written documentation as to why their quote is being rejected.

_____ _____

Acknowledgment Signature Date

Ref: Bid 2371-Mobile Law Enforcement Automated License Plate Recognition Systems (klc)

City of Milwaukee

Department of Administration
Business Operations Division

Tom Barrett
Mayor

Sharon Robinson
Director of Administration

Rhonda U. Kelsey
City Purchasing Director

INTERDEPARTMENTAL MEMO

TO: Kim Yung
Information Technology Division

FROM: Karen L. Cutts, Purchasing Agent
DOA-BOD/Procurement Services

DATE: March 30, 2010

SUBJECT: Bid 2371 – Mobile Law Enforcement Automated License Plate Recognition Systems (Rebid of Bid 2352)

Attached for your review and approval is the bid tabulation and the only complying bid received for the Mobile Law Enforcement Automated License Plate Recognition Systems. Recommend award to Federal Signal Corp. (University Park, IL) in the amount of $155,309.99 as the only complying bidder.

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Please review the Federal Signal Corp. bid submission for specification compliance and determine if the Police Department concurs an award should be made to Federal Signal Corp. for the Mobile Law Enforcement Automated License Plate Recognition System. If the bid does not comply or meet the bid or specification requirements, provide written documentation identifying the criteria not in compliance and the section of the bid/specification/addendum that applies and why their bid is being rejected.

Should the Police Department require additional information from Federal Signal Corp., submit a written request (via email or fax) detailing the information required for your review to my attention. DOA-Procurement Services will submit the request with a deadline stated to the bidder to furnish the additional information.

Just this award recommendation letter with the Police Department's approval signature or rejection(s) noted needs to be returned. You can forward your decision on the award of Bid 2371 to me at your earliest convenience via fax (preferred) or interoffice mail. The fax number in Procurement Services is 414-286-5976. The award notification, contract and purchase order will not be issued without written approval from the Police Department.

If you have any questions, please e-mail karen.cutts@milwaukee.gov or call me at 286-3508 Thank you.

By signing below, you acknowledge that an award will be made to **Federal Signal Corp.** for Bid 2371. If you disagree, **DO NOT SIGN** below, but provide written documentation as to why their quote is being rejected.

_____ _____

Acknowledgment Signature Date

Ref: Bid 2371-Mobile Law Enforcement Automated License Plate Recognition Systems (klc)

Lewis, Deborah

From: Yung, Kim
Sent: Tuesday, March 30, 2010 8:59 AM
To: Lewis, Deborah
Subject: FW: RFP 2367 - Video/Audio Recording System Timeline/Additional Information

Status update.

From: Winston, Darryl
Sent: Monday, March 29, 2010 5:07 PM
To: Gnas, Peter; Yung, Kim; Pierce, Peter; Jessup, William; Olson, Nancy; Henke, David
Subject: RFP 2367 - Video/Audio Recording System Timeline/Additional Information

ALL

Some of you already have this information and some of you do not. My reason for sending this to you now is so that you can plan accordingly as the scheduled time nears for (***1) vendor reviews, (2) customer interviews, (3) site visits, etc.***, not all of you will be participating in all of these task but I thought it would be good for you all to stay in the loop as things continue to progress. One again thanks to each of you for agreeing to participate in this very important review.

A summary of the overall schedule is in the first attachment above titled - ADD BID 2367-1

Inspector WINSTON
CIB (x7802)

The reduction of crime in our city is the responsibility of every citizen - Be a Force!

IN SOME JOBS, SUCCESS IS MEASURED BY WHAT DOESN'T HAPPEN.  **BE A FORCE**

Harris Project Team Meeting **March 30, 2010**

Comm/Data Center Conference Room
2:00 p.m.

Agenda Items

1. **In-building Testing/Audit Updates**

2. **Positron Console Update (SOW)**

3. **Fleet Testing Update**

4. **Region 54 Frequency Coordination Update**

Consoles with DVU

MFD concerns
- Hand held Registration
- DVU and consoles working
- VTAC

Harris Project Team Meeting **Minutes**

Location/Date/Time Comm/Data Center Conference Room, March 23, 2010/2:00 PM

Attendees
Director Deborah Lewis (Excused)
Electronic Technician Supervisor David Go
Tele Supervisor Debbie Wilichowski
Captain Andra Williams (Excused)
Lieutenant Claudia Morris
Sergeant Cherie Robertson
Milwaukee Fire Department Deputy Chief Michael Payne (Excused)
Milwaukee Fire Department Battalion Chief Sean Slowey (Excused)
Milwaukee Fire Department Captain Christopher Snyder
Harris Project Manager Fred Fitte
Harris Program Manager Paul Crowe via Conference Bridge
Harris Engineer Gary Kleiman (Excused)
Harris Engineer Thomas Paoletta
Federal Engineering Chuck Hnot via Conference Bridge
Federal Engineering Steve Zak via Conference Bridge
Federal Engineering Bradley Barber via Conference Bridge

Recorder April Coleman

Materials for Meeting

Purpose Open Sky Updates

Agenda Items

- In-Building Testing
- SOW
- Tower Sites
- Replacement Radios
- Trouble Report Summary
- Console Firmware Boards
- Positron Patch Testing
- Frequency Coordination

In Building Testing

- Paul has people on the ground and will be ready to conduct testing whenever MPD is ready. Paul and Fred will coordinate with David.
- It is possible to get the site audits done this Friday and the following Monday. After the site audits are complete the audio quality testing can be done. The DAQ 3.0 audio wave files used for training need to be agreed upon. The samples sent by Harris are not acceptable

SOW

- Contract currently ends on the 31st of March.
- Ben is going to include 3 fibers between direct connection and sites and 3 connections using DPW's Ethernet Core. Debbie updated Paul on the discussion of the Dark Fiber.

Tower sites

- David stated says Rainic never got back to him. One Vendor was $9.000.
- Debbie wants to get the tower work done using Jump Start. Chuck Hnot may have a vendor contact from Chicago.

Replacement Radio

- Harris will get more 7200's on site.
- By accepting the 7270's, MPD is afraid it is getting locked in to that model. Paul will work it out internally if MPD decides to change to the 7300's.
- Paul will check into the turn around time of mobiles.

Summary of Trouble Report

- Fred has the Trouble Report Summary and he will give it to MPD. He has not extracted the trouble reports that may not be valid. Fred's intent was to look at comparative issues rather than quantity. The information was compiled from radio trouble reports.
- Captain Williams assigned David's team to print out radio trouble reports for Fred.

Console Firmware Boards

- David stated everything is back and in stock.

Positron Patch Testing

- Paul stated Vegas finished testing, loaded it onto their live system, and it looks pretty good. After 2 weeks of testing they feel comfortable to put it on Milwaukee system.
- MPD would go back to said based patching once patch is put in. Harris expects great improvement.
- Testing Results: Paul will give an update.
- Implementation plan should be on next weeks' agenda along with suggestion dates.

Frequency coordination

- Fred spoke with consultant today and they will be accepting offer to assist. Once SOW is in place they will meet with City.
- One frequency from Chief Bruce Resnik looks better than the other.
- Regarding post re-banding, nothing will be ready for the Region 54 meeting. Engine 38 has to be shut off in two weeks.

Misc.

- The 7200 software for radios: VTAC MFD rigs are going to be replaced and are in transition.
- Paul was holding off on testing. He has the 7300 Model presentation. Capt. Snyder will give a couple of dates to Paul for the presentation.
- Harris has the software, but it's not the final version.
- The purpose of Friday is to review fleet mapping. It will be train the trainer. All changes have been done and they will have to implement it. Lindsay will give the on-the-job training. Friday is just an overview. Location: Police Academy, 218.

Harris Project Team Meeting **Minutes**

Location/Date/Time Comm/Data Center Conference Room, March 16, 2010/2:00 PM

Attendees
Director Deborah Lewis
Electronic Technician Supervisor David Go
Tele Supervisor Debbie Wilichowski
Captain Andra Williams
Sergeant Cherie Robertson (Excused)
Police Dispatcher Trina Crimes
Police Dispatcher Nancy Ray
Police Dispatcher Shirley Glover-Johnson
Milwaukee Fire Department Deputy Chief Michael Payne
Milwaukee Fire Department Battalion Chief Sean Slowey
Milwaukee Fire Department Captain Christopher Snyder (Excused)
Milwaukee Fire Department Dispatcher Bob Ryan
Harris Project Manager Fred Fitte
Harris Program Manager Paul Crowe (Excused)
Harris Engineer Gary Kleiman (Excused)
Harris Engineer Thomas Paoletta (Excused)
Harris Lead Engineer- Implementation Ben Ramsey
Harris Regional Programs Manager Thomas Fiesthumel
Harris Product Manager - Dispatch Chris Barker
Federal Engineering Chuck Hnot
Federal Engineering Steve Zak via Conference Bridge
Federal Engineering Bradley Barber via Conference Bridge

Recorder April Coleman

Materials for Meeting

Purpose Open Sky Updates

Agenda Items

- Maestros

Harris Product Manager Chris Barker presented:

Intrados T5-Harris Maestro/Radio Dispatch Comparison

- Benefit: Maintenance. Connect directly to system to Application.
- Difference: Harris has communication modules and menus at the bottom of the screen while Positron are spread across the screen.
- Supports up to 10 unique setups on 14pages (140 configurations).
- Patches can be setup, but are not predefined. It will still exist if you disable a patch.
- Configuration not set up as per logon basis, based on software.
- Software update to allow available one year from now.
- Chris will look into playing audio over the air.

Harris Lead Engineer Ben Ramsey presented:

City of Milwaukee Radio Network Maestro Upgrade/ Customer Design Review

- Microphone can be used in addition to footswitch and head phone. 48 switch would be located at Comm/Data Center and 48 at radio shop for configurations (or two 24's).
- Configuration for redundancy…(dark fibers from DPW is available)
- Three network connections are needed between sites. Ben will configure them in and make sure they work properly. MPD should make sure channels are set up properly (8-hr. days for at least 2 weeks).
- They will probably be re-cabling to positions and consoles.
- Debbie says there might be a room to terminate additional fiber to provide diverse route on fiber. Whole DVU chasse comes out.
- VIDA transmitter fire will cover analog channel.
- Fire wants to know when they will see this program. Capt. Williams says it's still in negotiations.

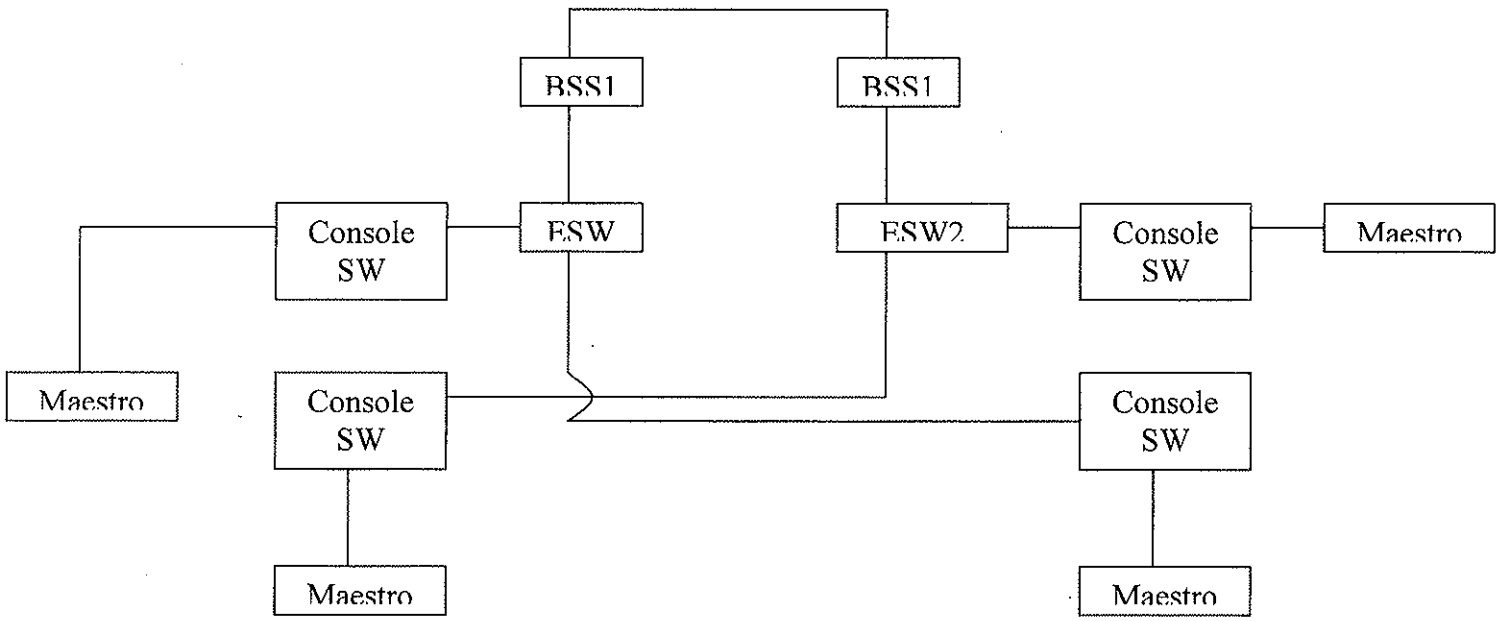
**Network modifications

- System not designed with VLAN's.
- Interface can be set up at any point. Since MPD will loose T1's, why not change them all to dark fiber? There will be short outage within in 4-5 minutes. If they go to portables they would be fine. Ben agrees to do it; he just needs approval.
- Single points of failure – console comes with dual NICS. Debbie stated IT people don't like working with them.
- Discussion occurred over whether dual NICs would have different IPs and be on different subnets while on the same machine.
- Action item: Get measurements into transition time and Technical guys should discuss Scope of Work (SOW) and Acceptance Test Plan (ATP).
- Chris B. will check with Harris networking staff for duel NICS configuration.
- Debbie doesn't recommend using the Ethernet ring. It's unreliable.
- Tom F. suggested MPD focus on console system first, connectivity second.
- There has to be a cutover plan.
- Conventional system has to be tested.
- BOLO procedures should be discussed.
- Harris recommends officers only receive messages over City-Wide Talk group.
- Capt. Williams proposed recording the BOLOS.

Implementation

- Ben suggested an option for redundancy.

Figure 1 ***(Picture will be drawn in SOW)***



- MPD currently have base routers and base switches that are hooked together. Two console switches could be added to each one. Half of the consoles would be on one switch, the other half on the second switch. This option creates redundancy using 3 dark fibers without using dual mix.
- Debbie agreed with Ben's recommendation.
- Recommendation would take care of redundancy piece.
- Redundancy repairs could be handled by putting different interface on switched. It would be controlled by GRP.
- Debbie will find out capacity of diverse route.
- Ben has not seen switches as being standard with internal redundancy; however, it can be bought separately.
- Ben also stated the programs will be VLAN. If a switch was lost, it could be plugged into a different one.

BOLO's

- Currently, dispatchers have to patch all channels, which means sometimes waiting for channels to be freed before taking the air to announce a BOLO.
- New operational procedure of conducting BOLO's over a Citywide talk group is a better use of trunk resources, deserves further exploration, and could possibly be tried on a limited basis.

BOLO's Cont.'d

- Limitation to proposed procedure: Everyone would be able to hear the BOLO as long as no one interrupts and starts talking on their perspective channels. If the BOLO is interrupted, it cancels out the broadcast for the entire channel.
- Although an announcement could be made to stand by for the BOLO, Dispatcher Regan does not like the idea, because everyone isn't hearing the BOLO if the channel is interrupted.
- There is no guarantee that an officer could talk over the City-wide channel due to factors such as frequencies; however, Capt. Williams agreed that new procedure could cause potential problem of officers interrupting the City-wide channel, especially if BOLO doesn't pertain to their District.
- Fred suggested MPD might have to weigh which operational procedure is more beneficial.

Judy Pal Question: Gap analysis

- Off the shelf consoles will be provided.
- Harris will configure the consoles before bringing them over
- The setup will be tested- Harris has a snapshot of MPD's database on PRS site.
- System will be updated as MPD comes online.

Judy Pal Question: Stabilization of Positron Consoles

- Positron identified software change, which is currently being tested in Las Vegas.
- Software change is not fully loaded in Las Vegas. There is a Positron test system tied to Opensky network in Vegas, but they are not live. Tom F. was not sure of traffic; however, he believes they are road simulating.
- OrbiNet and 6.3 based patching are unique to Milwaukee.
- Oakland County has 27 PSAPS they are running and dispatching to Opensky, but they are not doing 6.3 patching.
- Orbi Net has been functioning for about 6 years dispatching simultaneously through Opensky and it is different than what Harris has now. Harris did not wasn't to introduce anything that is unstable.
- Capt. Williams spoke of an issue that occurred last night involving the pedal.
- Tom F. stated if something happens in the future, MPD should be able to back the system out to the last configuration.
- It is possible that MPD may want to get the amendment to contract for Maestros date of March 31st extended.
- Dir. Lewis stated the Chief's office would be setting up the contract extension.
- Dir. Lewis asked Paul about the T&C's a couple of weeks ago and will check with him for an update.

Console Testing

- Testing of the consoles will be done at the Radio Shop first for training.
- AT&T will be providing trunks for test calls.
- Tom F. stated they have some hardware they are working on and have 15-16 consoles, but are short on a few components.
- Ben stated Positron has not informed them on the details of the Positron software update, but he understands it is a software change on fix and UCC.

SOW Agreement

- The current SOW is based on what Harris could provide; however MPD's timelines could be folded into schedule.
- Dir. Lewis stated it would be hard for MPD to turn around any document in 2 days and suggested an extension to 5-6 business days (SOW – p. 4).
- Dir. Lewis instructed David to look through the items (SOW – p. 5) and put names next to items for staffing purposes.
- Dir. Lewis asked for names and résumés of project team members. A background check is now needed for new members who will have access to various MPD locations.
- Currently, there are 4 entry points of MPD Contact: Dir. Lewis, David, Debbie, and Capt. Williams. Dir. Lewis has agreed to be the main point of contact from now on.
- Debbie found capacity fiber between NTF and Radio Shop fibers, but they are not being transmitted. To get a diverse route, it needs to be transmitted. There are 24 fibers at NTF to District Seven and 72 fibers from District Seven to the Communications Division. The 24-fiber route may not be a diverse route.
- Ben stated Harris could do a mix using SHRP and the same network; however, it does add complexity.
- Testing for redundancy piece could be added to SOW.

Acceptance Test Plan (ATP)

- ATP is standard for consoles. Harris has functionality HHA system teardown.
- Failover test is not in ATP.
- Standby is running all of the time, but only one will be serving voice at a time.
- Failover time is less than 2 minutes. High availability failover will be done in the middle of a radio call on live system.
- Tom F. expressed concern with extending console testing beyond scope of console operations.
- Capt. Williams will put a timeline on MPD members reviewing SOW. Tom F. is requesting input by middle of next week.
- There are 3 speakers (Intercom, radio channel & Mac), plus the keyboard speaker.
- Harris equipment does not feature keyboard speakers.
- Harris could put 4 speakers on console, but the speakers are big.
- Ben has a plan to use 2 speakers and route them to speakers handled by the audio enclosure part of console programming. If more speakers need to be added they have to be added through configuration.
- The SOW does have time for training (4 hour class per student).
- Dispatcher Regan asked for terminology coordination.

Judy Pal Question: Spare parts

- Off-the-shelf computers are added (standard PC). The only thing enhanced is the audio.
- Unlike the T5, there are no cards.
- Harris will handle maintenance (fix or replacement). They don't believe MPD has to "stash" computers.
- Maintenance is not in SOW; it is part of the original contract. Harris believes the warranty is for a year.

Judy Pal Question: Spare parts Cont.'d

- Debbie suggested Harris conduct maintenance for at least 2 years, which allows a cushion for tech training.
- Tom F. stated that Harris could propose a standard for maintenance.

Console Testing

- There will be a pilot of 16 consoles for 30 day testing. The pilot was Harris' plan. When Harris met Chief Flynn back in January, they focused on 8 dispatched positions online and 8 back-ups at the radio shop. The 30-day was supported by Positron until MPD is up and running. Upon stabilization, they will take.
- A requirement in wanted in RFP.
- Debbie stated 25% failure is too high. If Harris, in ATP period and beyond, continue to have issues like phantom patching, she wouldn't feel comfortable accepting it. ATP should be based on reliability and not a major failover. Definition of threshold has to be defined.
- Ben's stance: if you have to reboot a computer, it's a failure.
- Harris will define critical software failure and MPD will come up with a list.

Tech Assistant

- Ben will need help hooking up interfaces. It all comes down to how much escorting MPD wants to do when Harris is in town.
- Harris will mimic current T5. They are capable of modifying our databases and running the map for new switches and configurations. They will walk both Sarah and David through it.
- GenCom? will be testing cables. They shouldn't be limited to two weeks to work. The system will not be interfaced with T5 as it is now. They will be taken down.

Misc.

- Ban width is not an issue now that Dark Fiber is a potential choice. New racks will not be added. Fewer racks would actually be used.
- In regards to spare parts for spare cards, Harris' intent is to take them when they pull the T5.
- Harris could give us contacts of their customers who may have a use for them.
- Things to Do:
  - MPD has to review Acceptance Test Plan (ATP)
  - Harris will define words on 30-day test
  - Graph shown in *Figure 1* will be added in SOW
  - Failover test will be added to ATP
  - 1 diverse route is needed for Maestros
  - Develop form for background checks

Harris Project Team Meeting **Minutes**

Location/Date/Time Comm/Data Center Conference Room, March 17, 2010/7:30 AM

Attendees
Director Deborah Lewis
Electronic Technician Supervisor David Go
Tele Supervisor Debbie Wilichowski
Captain Andra Williams
Police Dispatcher Nancy Regan
Sergeant Cherie Robertson (Excused)
Milwaukee Fire Department Deputy Chief Michael Payne
Milwaukee Fire Department Battalion Chief Sean Slowey
Milwaukee Fire Department Captain Christopher Snyder (Excused)
Harris Project Manager Fred Fitte
Harris Program Manager Paul Crowe (Excused)
Harris Engineer Gary Kleiman (Excused)
Harris Engineer Thomas Paoletta (Excused)
Harris Lead Engineer- Implementation Ben Ramsey
Harris Regional Programs Manager Thomas Fiesthumel
Federal Engineering Chuck Hnot
Federal Engineering Steve Zak via Conference Bridge
Federal Engineering Bradley Barber via Conference Bridge

Recorder April Coleman

Materials for Meeting

Purpose Open Sky Updates/Maestro

Agenda Items

- Implementation
- BOLO's
- Acceptance Test Plan (ATP)
- SOW Agreement

Implementation Review from March 16, 2010 Meeting

- Once MPD provides the dark fiber, interfacing between them has to be configured.
- Debbie agrees to the recommendations of Chuck and her consultant to go with the dark fiber. T-1's will have to be moved anyway. She is currently in contact with DPW personnel to justify the decision.