

FY15

PSAP GRANT PROGRAM APPLICATION



VIRGINIA INFORMATION
TECHNOLOGIES AGENCY
Integrated Services Division



FY15 PSAP GRANT PROGRAM APPLICATION

HOW TO APPLY/DEADLINE

The grant application is available and accessible from VITA's Integrated Services Program's website

(<http://www.vita.virginia.gov/isp/default.aspx?id=8578>). Upon completion of the application, it is to be submitted to the PSAP Grant Manager, Lisa Nicholson, at lisa.nicholson@vita.virginia.gov. Any supporting documentation must also be submitted along with the application, including mandatory budgets for projects (if applicable).

After submission, the PSAP Grant Manager will assign a Grant ID and send an e-mail notification to the project contact e-mail address listed on the application received.

All funding requests must be submitted using the grant application. Technical assistance is available from VITA's Public Safety Communications (PSC) staff throughout the grant process. The FY15 PSAP Grant Application Cycle starts July 1, 2013 and concludes on September 30, 2013 at 5:00 pm.

ALL APPLICABLE SECTIONS MUST BE COMPLETED IN ITS ENTIRETY OR THE APPLICATION WILL BE CONSIDERED INCOMPLETE AND NOT ACCEPTED FOR CONSIDERATION.



FY15 PSAP GRANT APPLICATION

PROJECT TITLE

Training Simulator

GRANT APPLICANT PROFILE/PROJECT CONTACT

PSAP/HOST PSAP NAME: Tazewell County 9-1-1

CONTACT TITLE: Chief Dispatcher

CONTACT FIRST NAME: Shannon

CONTACT LAST NAME: Yost

ADDRESS 1: 315 School Street

ADDRESS 2: Suite 9

CITY: Tazewell

ZIP CODE: 24651

CONTACT EMAIL: shannon.yost@tazewellcountysheriff.org

CONTACT PHONE NUMBER: 276-988-0914

CONTACT MOBILE NUMBER: 276-979-7537

CONTACT FAX NUMBER: 276-988-5012

REGIONAL COORDINATOR: Tim Addington

HOST PSAP AND PARTICIPATING PSAPS/LOCALITIES

Tazewell County 911

_____	_____
_____	_____
_____	_____
_____	_____

GRANT TYPE

Individual PSAP

Regional Initiative

Consolidation

Secondary Consolidation



GRANT PROGRAM TYPE

- Continuity and Consolidation
 Enhancement

TIER

- Out of Service
 Non-Vendor Supported*
- Technically Outdated*
 Strengthen
- Not Applicable

If technically outdated or non-vendor supported, application MUST include age and/or version of hardware/software.

VERSION:

YEARS of HARDWARE/SOFTWARE:

PRIORITY/PROJECT FOCUS PSAP INDIVIDUAL TRAINING PROGRAM

If "Other" selected, please specify: 1T

FINANCIAL DATA

Amount Requested: \$ 14,700.00

Total Project Cost: \$ 14,700.00

STATEMENT OF NEED

The Tazewell County 911 Center is requesting \$14,700 in grant funding to create a multi-discipline Communication Dispatcher Simulator Training Program. Current economic trends continue to be a battle with acquiring funding to maintain current operational levels but this project will be investing in our future. This project campaigns to produce better, prepared, well skilled, and equipped dispatchers that will promote job preservation and retention. This will be a long-term project that will initiate as new dispatchers are hired. This project will also continue to be a great training ground allowing for changes and prioritizing as technology continues to revolutionize how we do business.



Describe how the grant will be maintained and supported in the future, if applicable.

This would be a one-time request for a grant for this technology. The grant would be maintained by the Tazewell County Sheriff's Office - Communications Division, by the Chief Dispatcher and a designated Shift Supervisor.

COMPREHENSIVE PROJECT DESCRIPTION

The training simulator would provide real world training to prepare dispatchers for real-time 9-1-1 calls, providing computer IT friendly training with CAD, mapping use, reading skills, ANI/ALI, telephone answering skills, TDD communications, radio paging, and radio etiquette. The goal is to allow the dispatcher to experience real life hands-on scenarios, and allow them to focus on building their multi-tasking skills by hearing, seeing, speaking, and interacting with all required equipment. By improving their training skills before they actually answer calls would surpass and allow the dispatcher to be better prepared. This will retain those that truly have the unique skills this profession requires. Work plan will involve managing and allocating resources, which are one of the dispatcher's most challenging responsibilities. We will have two trainers dedicated solely to this purpose where there is attention focused on the trainee, as well as our veteran dispatchers as technology excels over time.



FOR CONTINUITY AND CONSOLIDATION OR ENHANCEMENT PROJECTS:

PROJECT TIMELINE – Select each applicable phase of the project and indicate the estimated completion date. Sample activities for each phase can be found in the PSAP Grant Program Guidelines as well as on the addendum to this form.

PROJECT PHASE	ESTIMATED COMPLETION DATE
<input type="checkbox"/> INITIATION (Project approved by appropriate stakeholders)	07/25/2014
<input type="checkbox"/> DESIGN/PLANNING (Project, system, or solution requirements are developed)	08/29/2014
<input type="checkbox"/> ACQUISITION (Selected system or solution is procured)	09/26/2014
<input type="checkbox"/> IMPLEMENTATION (Selected system or solution is configured and installed)	10/20/2014
<input type="checkbox"/> TESTING/COMPLETION (Selected system or solution is tested and put in production)	11/21/2014

Identify the longevity or sustainability of the project.

Our center would use this tool for years to come for training our dispatchers. We would sustain this tool by getting computer updates and update software for the simulator by maintaining a maintenance agreement with the vendor. This grant project will continue to be supported year after year, as new dispatchers are hired and trained. This project will also continue to be a great training ground as technology continues to revolutionize. Whether it be a new product or upgrade to a program, or feature that already exists this projects' future and capabilities will continue to be an asset to our PSAP, agency, county, region, first responders and the public. This project will be maintained with the most up to date programs and protection software. This project will make a difference in the future of our dispatchers, our PSAP and our training programs as well as any other agencies that would benefit from it.



Describe how this project supports the Virginia Statewide Comprehensive 9-1-1 Plan.

This project will support the Virginia State comprehensive 9-1-1 service and functionality across the county, region and state. The project will increase the efficiency of our dispatch ensuring the continuing change and technology improvements. Planning for the future including prioritizing technological updates and vitality to the sustainability of the PSAP. Dispatchers along with their 40 hours from the Southwest Virginia Criminal Justice Academy will experience and learn call taking techniques and multi-tasking skills together. Learning how to determine the nature and priority of the call and effectively use the CAD, RMS, Mapping, Paging and Radio to the proper assistance responding.

REGIONAL INITIATIVE (if applicable)

Our center would like to have a facility available for all of Southwest Virginia dispatch centers. We would like to work with all agencies in our area, not to only better ourselves, but also offer help to outside agencies, that lack funding to initiate this type of training. Dispatchers have an enormous responsibility and there are many skills and techniques required to do their job. Creating an environment with real world experiences would make a great impact on this profession, with better prepared and experienced dispatchers, not only using their knowledge and training skills obtained from the SWVCJA and sit-a-longs but skills with hands on training from experienced dispatchers applied with multi-tasking skills. Offering call taking skills along with EMD, RMS, Mapping, and Radio Etiquette working together.

Intended collaborative efforts:

Our intention is to collaborate with all agencies in Tazewell County, as well as adjoining counties, to offer this training tool to help other agencies train their dispatchers, and also use as a pre-employment tool. This will not only help with training purposes, it would also create communication between all agencies to share ideas and thoughts on the future changes of 9-1-1, new training ideas, pre-employment ideas, education opportunities, and also leadership tools. The intended effort is produce a more thoroughly and better prepared dispatcher, capable of applying their learned skills and techniques while understanding and using the tools of the trade to its capacity. Better preparing the dispatchers for live dispatch.



Resource sharing:

As mentioned before we would like to share the simulation tool with outside agencies. The intended use for this dispatch training equipment is to be able to have a facility to better prepare dispatchers for live dispatch. Once implemented and mandated in our SOP's training program, this equipment will be available to any other jurisdiction to help them also better prepare their dispatchers with the knowledge needed to perform this job.

How does the initiative impacts the operational or strategic plans of the participating agencies:

Per our SOP's, our dispatchers currently observe in dispatch, then slowly followed by some hands on interaction with supervision. This technology will offer newly hired dispatchers hands on training before actually being allowed to dispatch. It will offer processing and interaction with CAD, RMS, Mapping, Paging, and Radio Etiquette. This will allow the dispatcher to be familiar with priority handling of calls, response areas of our county, paging and dispatching calls.

CONSOLIDATION (Primary or Secondary) - (if applicable)

How would a consolidation take place and provide improved service:

Not Applicable

How should it be organized and staffed:

Not Applicable



What services should it perform:

Not Applicable

How should policies be made and changed:

Not Applicable

How should it be funded:

Not Applicable

What communication changes or improvements should be made in order to better support operations:

Not Applicable



BUDGET AND BUDGET NARRATIVE

List the planned expenditures to be made with grant funds. (NOTE: In lieu of a line item breakdown, an itemized cost schedule or detailed vendor prepared quote may be submitted as an attachment. However, budgetary quotes received from a particular vendor(s) during the application process do not commit the PSAP to use that vendor(s) once the grant is awarded.) Briefly explain the reason for each requested budget item and provide the basis for its cost:

Starz Plus 9-1-1 simulator- Dispatchers have an enormous responsibility, having a simulator to provide real world training for a new dispatcher would be an asset to our PSAP as well as to the dispatcher. This simulator will be put into place in our training center and provide simulations, along with learned call taking and processing skills, and techniques. Interacting with CAD, RMS, GIS Mapping, Paging and Radio Etiquette all while working with a skilled experienced dispatcher.

\$10,000.00

(5) Monitors (provided)

PC Towers (provided)

CAD and RMS training software provided by Southern Software

EMD-Powerphone license-addition EMD software is needed to provide additional licenses for dispatcher training, this software provide training based on an automated system once the call taker receives initial call. EMD provides and information gathering process, recommending a response level coaching the dispatcher needs to determine the severity of call and response needed.

\$ Provided

GIS-GEO Comm Mapping – County Mapping provided through t Sheriff’s Office 9-1-1 Communications Center-this provides that the employee can use to become familiar with the response areas.

\$ Provided

Telex-Paging Radio Software- familiarizing the dispatcher of the PSAP’s channels, where to locate the proper channel vs agency and the use of them. These monitors will not actually broadcast but will appear to simulate so the dispatcher will know how to set of paging of first responders.

\$ Provided

Sentinal- Phone system to be a mock screen only in interaction with the simulator head set.

\$ Provided

EVALUATION



How will the project be evaluated and measured for achievement and success:

This project will be evaluated as per the new SOP guidelines. When the dispatcher has completed the simulation training, he or she will be evaluated by the trainer; this will find both weaknesses and strengths. The trainer will then work with the shift supervisor, and dispatcher to work on weaknesses. The success will be to produce better trained dispatchers with confidence in their call taking skills, and multi- tasking skills, which in turn will provide a better service to our citizens as well as our first responders.



FINANCIAL AND PROGRAMMATIC REPORT

PROJECT PHASES

SAMPLE ACTIVITIES

PHASE

SAMPLE ACTIVITIES

INITIATION

(Project approved by appropriate stakeholders)

- Project concept is documented
- Local Board or governing authority approval or endorsement is received
- PSAP grant application is filed
- Local budgets are obtained
- Appropriated grant funds are approved
- Budgetary estimates are obtained

DESIGN/PLANNING

(Project, system, or solution requirements are developed)

- Requirements are documented
- Components to be purchased are identified
- General design is documented

ACQUISITION

(Selected system or solution is procured)

- RFP (or other bid related processes) are drafted
- Proposals are evaluated
- Contract is signed
- Purchase orders are issued
- Quotes are obtained/grant funds draw down

IMPLEMENTATION

(Selected system or solution is configured and installed)

- Purchased components are delivered and installed
- Training is performed

TESTING/COMPLETION

(Selected system or solution is tested and put in production)

- Performance of system/solution is validated
- System/solution goes "live"



PO Box 1090
 Sumner, WA 98390
 Fed ID# 91-1777543

Quote

Date	Estimate #
9/12/2013	5197

Name / Address
Tazewell County 911 315 School St Ste 9 Tazewell, VA 24651

Quote Expires
60 days

Item	Description	Qty	Price Each	Total
StarZ PLUS Packa...	StarZ III Call Taking and Dispatch Simulator & Classroom Training Package		9,845.00	9,845.00
Shipping	Shipping/Handling		150.00	150.00

Customer Signature _____ Date _____

Professional Pride - Fed Tax ID# 91-1777-543 _____ Date _____

Subtotal	\$9,995.00
Sales Tax (8.8%)	\$0.00
Total	\$9,995.00

Phone #	Fax #	E-mail	Web Site
800-830-8228	253-863-3568	christine@911trainer.com	www.911trainer.com

2013



PROFESSIONAL PRIDE
TRAINING COMPANY INC

To: Whom It May Concern

From: Donna Ferris

Ref: Sole Source

Regarding your inquiry into all products regarding a sole source.

All products that are represented in the Professional Pride cataloge and on the website www.911Trainer.com are represented and created and sold in the United States solely by Professional Pride, Inc.

Professional Pride, Inc is the sole source for simulators, training material and DVDs, a full policy is covered on the website in "About Us".

In addition, there are no authorized resellers or maintenance/repair centers available for any of our products other than Professional Pride Training Inc.

Professional Pride Training Inc. Federal ID # 91-1777-543 Questions please contact Professional Pride, 1.800.830.8228 or 253.891.9084, email info@911trainer.com.

Sincerely,

Donna Ferris
CSR/Instructor
Professional Pride

1.800.830.8228 • F 263.863.3568 • www.911Trainer.com



Tazewell County Sheriff's Office



BRIAN L. HEATT, SHERIFF
315 SCHOOL STREET, SUITE 3
TAZEWELL, VA 24651
276-988-5966
FAX 276-988-5790

September 12, 2013

To Whom it May Concern,

Please accept this letter as a statement of need for a 9-1-1 Training Simulator. Preparedness and training has come to be the key of having a successful 911 Center. Often times the responsibilities of a Dispatcher are not fully seen until someone is in the middle of a true emergency and unfortunately we have seen people who have had to leave their job once they see the full scope of what they are responsible for. Having a Training Simulator would allow us to take potential Dispatchers and newly hired Dispatchers and train them in "real life" scenarios before being put into the middle of a true emergency. They would be able to get a true understanding of what their duties and responsibilities would be and be more at ease when they actually take on emergency situations.

A Training Simulator within our department would also be useful to various departments throughout Southwest Virginia as well as the Law Enforcement Training Academy. The importance of having well trained Dispatchers is an absolute necessity to competently run a 911 Emergency Center. We would appreciate any consideration to assist us in obtaining this equipment.

Sincerely,

Brian L Heatt

Brian Heatt
Sheriff



SOUTHWEST VIRGINIA CRIMINAL JUSTICE TRAINING ACADEMY

330 Bonham Road
Bristol, Virginia 24201
Tel. (276) 645-3700
Fax (276) 645-3719

September 10, 2013

To Whom It May Concern:

It is my pleasure to write a letter in support of the proposal that the Tazewell County Sheriff's Office Communications Division 9-1-1 Center is submitting for a Communications Simulator.

The Tazewell County Sheriff's Office has been a member agency of the Southwest Virginia Criminal Justice Training Academy from the establishment of the Academy in 1972. The academy has worked in conjunction with the Tazewell County Sheriff's Office throughout the years in making every effort to ensure that communication officers receive the most up to date and realistic training possible. As with every area of criminal justice, trainers nationwide recognize that realistic training is the most effective training that officers can receive and this type of training improves their abilities to perform their jobs which results in a better response to the citizens of the community that they serve.

In conclusion, I fully support the effort of the Tazewell County Sheriff's Office as they seek to obtain a 9-1-1 Training Simulator which will allow communication officers the ability to experience real life hands-on situations and allow them to improve their abilities to serve the citizens of their communities and the officers of their department.

Sincerely,

Doug Cooley
Executive Director

/dh

Tazewell County, Virginia



Department of Emergency Management
108 E. Main Street, Tazewell, VA 24651
(276) 988-0491

September 6, 2013

To whom it may concern:

In my capacity as Emergency Management Coordinator for Tazewell County, Virginia please accept this letter as full support of the Tazewell County Sheriff's Office Communications Division 9-1-1 Center and their application to receive grant funding for a 9-1-1 Training Simulator.

From my position as the Emergency Management Coordinator, I feel that the 9-1-1 Training Simulator and all it implements will be used to better prepare the dispatchers for "real life" – Real-time 9-1-1 calls which in turn will increase the level of public safety that Emergency Services is able to provide. I feel that the 9-1-1 Training Simulator will not only be a great asset to Tazewell County but the region due to the willingness of Tazewell County Sheriff's Office Communications Division to provide their training room and equipment as needed to help other agencies.

I strongly support the Tazewell County Sheriff's Office Communications Division and their application for grant funding for this project. If I may of any further assistance please do not hesitate to contact me at (276) 988-0491.

Thank you,

A handwritten signature in cursive script that reads "David W. White".

David W. White
Emergency Management Coordinator
Tazewell County, Virginia



TAZEWELL POLICE DEPARTMENT

P.O. Box 608 – 201 Central Avenue
Tazewell, Virginia 24651-0608
website: www.townoftazewell.org

Emergency: (276) 988-2503
Fax: (276) 988-0972

Administrative: (276) 988-1892
email: tazpolchf@taztown.org

DeWitt Cooper, Chief of Police

September 11, 2013

To whom it may concern:

Please accept this letter as full support of the Tazewell County Sheriff's Office Communications Division 9-1-1 Center and their application to receive grant funding for a 9-1-1 Training Simulator.

I feel that the 9-1-1 Training Simulator and all it implements will be used to better prepare the dispatchers for "real life"- Real-time 9-1-1 calls which in turn will increase the level of public safety that Emergency Services is able to provide. I feel that the 9-1-1 Training Simulator will not only be a great asset to Tazewell County but the region due to the willingness of Tazewell County Sheriff's Office Communication Division to provide their training room and equipment as needed to help other agencies.

I strongly support the Tazewell County Sheriff's Office Communications Division and their application for grant funding for this project. If I may be of any further assistance please do not hesitate to contact me at (276) 988-0491.

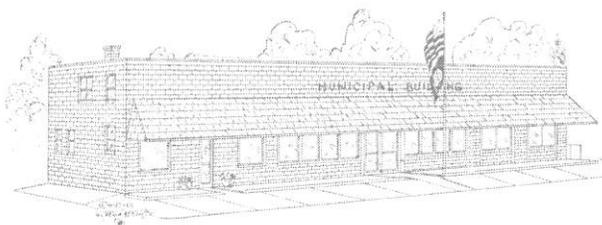
Thank you,



DeWitt Cooper

Chief of Police

Town of Tazewell, Virginia



CEDAR BLUFF POLICE DEPARTMENT

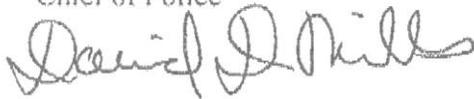
115 Central Avenue
P. O. Box 807
Cedar Bluff, Virginia 24609-0807
David D Mills, Chief of Police

276.963.3975
Fax: 276.964.-2045

September 16, 2013

This letter is in support of the Tazewell County Sheriff's Office Communication center application for a grant. That department dispatches for our agency along with several others. The need for the equipment they are asking for in said grant would help assure the current and future employees to be better trained to handle the large amount of incidents. Dispatching is one of the hardest and most important jobs associated with law enforcement. The advantage of having a better trained dispatcher to assist the officer and emergency workers is a win win situations for all involved.

Chief of Police



BLUEFIELD VIRGINIA RESCUE SQUAD, INC.

PO Box 170
714 Virginia Ave
Bluefield, VA 24651
Phone (276)326-3763
Fax (276)326-6573

September 10, 2013

Derrick Ruble, Director
Tazewell County Sheriff's Office – Communications Division
315 School Street, Suite 9
Tazewell, VA 24651

Mr. Ruble,

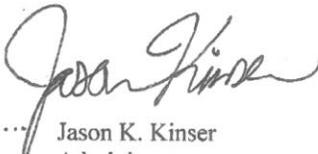
Please accept this letter as an expression of our support of the 911 center request for a Training Simulator and its associated equipment. Additionally please consider this letter as equal support from the Jeffersonville Rescue Squad, where I serve as Administrator as well as Bluefield Rescue Squad.

The 911 center provides our community their first access to the local emergency medical services system. I personally view the concept of providing realistic, real-time interaction in a simulated environment as a paramount benchmark in the initial and continuing education of the communications staff. As all public safety agencies grow and mature, we must continually seek out opportunities to transition from an "on-the-job" training environment towards a monitored/preceptor type situation.

I am excited for this potential addition to your office's capabilities, and can easily envision the future benefits your staff, our staff, and the community at large will receive by the funding and implementation of the training stimulator project.

If I may be of any service regarding this endeavor, please do not hesitate to contact me.

In kindest regards,



Jason K. Kinser
Administrator

**BLUEFIELD VIRGINIA FIRE DEPARTMENT
PO BOX 1026
BLUEFIELD, VA 24605
(276) 326-1360**

September 12, 2013

To Whom It May Concern,

Please accept this letter as a statement of need for a 9-1-1 Training simulator. Dispatchers have enormous responsibilities, and having dispatchers trained with real time – real world scenarios would be a great asset to all first responders and to the public.

We strongly support the Tazewell County Sheriff's Office - Communications Division and their application for the grant funding for this project.

Sincerely,

A handwritten signature in black ink, appearing to read "D. S. Ruble", written in a cursive style.

Derrick S. Ruble
Training Officer
Bluefield Virginia Fire Department



Town of Tazewell Fire Department

P.O. Box 608
Tazewell, VA 24651
(276)988-5888

September 8, 2013

To whom it may concern:

The Town of Tazewell Fire Department understands that the TCSO is applying for a grant for a 911 training simulator. We feel this training simulator will not only benefit the TCSO, but will benefit our agency as well.

By placing trained dispatchers in the chair after training, our agency will be able to have a more appropriate response based on information given to us by the dispatcher. With better trained dispatchers, pertinent information will be obtained prior to our departure from the building allowing us to respond appropriately to the scene, know what equipment will be needed to effectively mitigate the incident, allow the equipment needed arrive to the scene in a timely manner, and know if mutual aid assistance will be needed. With this information we can respond more effectively thus increasing our chances of saving the lives and property we are sworn to protect.

We would urge you to grant the TCSO access to this grant funding.

Sincerely,

Josh Roberts
Chief

FY15

PSAP GRANT PROGRAM APPLICATION



VIRGINIA INFORMATION
TECHNOLOGIES AGENCY
Integrated Services Division



FY15 PSAP GRANT PROGRAM APPLICATION

HOW TO APPLY/DEADLINE

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After submission, the PSAP Grant Manager will assign a Grant ID and send an e-mail notification to the project contact e-mail address listed on the application received.

All funding requests must be submitted using the grant application. Technical assistance is available from VITA's Public Safety Communications (PSC) staff throughout the grant process. The FY15 PSAP Grant Application Cycle starts July 1, 2013 and concludes on September 30, 2013 at 5:00 pm.

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FY15 PSAP GRANT APPLICATION

PROJECT TITLE

Twin County Regional E911 GIS Data Management

GRANT APPLICANT PROFILE/PROJECT CONTACT

PSAP/HOST PSAP NAME: Twin County Regional E911

CONTACT TITLE: 911 Coordinator

CONTACT FIRST NAME: Jolena

CONTACT LAST NAME: Young

ADDRESS 1: PO Box 510

ADDRESS 2: 353 N Main St

CITY: Galax

ZIP CODE: 24333

CONTACT EMAIL: jyoung@galaxva.com

CONTACT PHONE NUMBER: 276-236-5122

CONTACT MOBILE NUMBER: 276-233-3231

CONTACT FAX NUMBER: 276-236-2956

REGIONAL COORDINATOR: Tim Addington

HOST PSAP AND PARTICIPATING PSAPS/LOCALITIES

Twin County Regional E911

Galax City

Carroll County

Grayson County

Cities/Towns within Counties

GRANT TYPE

Individual PSAP

Consolidation

Regional Initiative

Secondary Consolidation



GRANT PROGRAM TYPE

X Continuity and Consolidation

Enhancement

TIER

Out of Service

Non-Vendor Supported*

Technically Outdated*

Strengthen

X Not Applicable

If technically outdated or non-vendor supported, application MUST include age and/or version of hardware/software.

VERSION:

YEARS of HARDWARE/SOFTWARE:

PRIORITY/PROJECT FOCUS GIS: HIGH PRIORITY

If "Other" selected, please specify: 1T

FINANCIAL DATA

Amount Requested: \$ 20,000

Total Project Cost: \$ 20,000



STATEMENT OF NEED

This statement should reference the relationship to the current funding priorities established by the Grant Committee and include evidence of any financial need, along with additional information on the impact on operational services; consequences of not receiving funding; inclusion of project in a long-term or a strategic plan; and local sustainability:

This is an individual Continuity and Consolidation Program application for funding to primary PSAP serving the financially handicapped populations of Carroll and Grayson Counties and the City of Galax. This project will validate the centers RCL, ESN, MSAG, and Boundary data. Twin County's map was created in 2004. To my knowledge, formalized validation has not occurred since. Our center is in the process of implementing a quality assurance program. This project would ensure maps are in compliance with recommended quality metrics. Our quality assurance program would maintain the quality level going forward.

The purchase services for this project directly supports the continuity and enhancement of wireless E-911. As a high GIS category, this data management project is the number sixteen funding priority for the Continuity and Consolidation Program in the 2015 grant cycle.

The project is perfectly aligned with long-term strategies for NG911 by updating GIS data to NG911 standards and the impact on operational services is significant. According to the Virginia Statewide Comprehensive Plan and the perspective of all citizens, "the establishment and adoption of 9-1-1 service ensured that in an emergency any caller throughout the country could dial three easily memorized digits and quickly have local first responders come to his or her aid." However, quality GIS data is critical to this vision. This project would restore GIS data accuracy, and brings us reliable geographic data that citizens expect when they dial 9-1-1.

Twin County E-911, a primary PSAP serving all the City of Galax and the Counties of Carroll and Grayson, serves nearly 1,000 square miles of rugged mountainous terrain along the Blue Ridge in the Southwest corner of the Commonwealth. Our citizens are financially handicapped and under-employed. It may be hard to imagine a place where 31% of the individuals live below poverty level (triple the state average); where unemployment doubles the state rate; and where the median household income is \$22,105 which is nearly two-thirds less than the average Virginia household income of \$61,126. But these hard facts do define us.



The PSAP Coordinator maintains the maps along with other center duties. A project of this magnitude is not feasible without funding for external assistance and grant funding.

COMPREHENSIVE PROJECT DESCRIPTION



Provide a thorough, concise, and complete description of the project, including an outline of the goals and objectives, implementation strategy, and a work plan.

The project will compare local RCL data to the State RCL to ensure alignment, and check integrity of RCL data (e.g., directional arrows, # ranges, classification, etc). The MSAG will be validated against RCL and ESN layers for inconsistencies, gaps, missing records. The Boundary Layer will be compared and agreed with participating and surrounding jurisdictions. Based on agreed upon Boundary, RCL, ESN and BLDG layers will be edge matched to Boundary and surrounding county maps.

See the detail workplan below:

Phase/Task	Assigned	End Date
<u>Initiation</u>		
Document Project Concept	J Young	9/1/2013
Obtain Budgetary Estimates	J Young	9/27/2013
File PSAP grant application	J Young	9/30/2013
Receive grant funding decisions	J Young	1/31/2014
<u>Acquisition</u>		
Obtain Bids	J Young	7/30/2014
Agree Statement of Work	Team	8/30/2014
Sign Contract(s)	J Young	9/15/2014
Issue Purchase Orders	J Young	9/15/2014
Request Grant Fund Draw Down	J Young	3/31/2015
<u>Implementation</u>		
Execute Statement of Work	Team	2/28/2015
Train users on ongoing validation techniques	Team	3/15/2015
<u>Testing/Completion</u>		
Measure and report on critical success factors	Team	3/31/2015



PROJECT PHASE	ESTIMATED COMPLETION DATE
<input type="checkbox"/> INITIATION (Project approved by appropriate stakeholders)	01 / 31 / 14
<input type="checkbox"/> DESIGN/PLANNING (Project, system, or solution requirements are developed)	08 / 30 / 14
<input type="checkbox"/> ACQUISITION (Selected system or solution is procured)	09 / 15 / 14
<input type="checkbox"/> IMPLEMENTATION (Selected system or solution is configured and installed)	2 / 28 / 15
<input type="checkbox"/> TESTING/COMPLETION (Selected system or solution is tested and put in production)	3 / 31 / 15

Identify the longevity or sustainability of the project.

The PSAP is implementing a Quality Assurance program. Standard Operating Procedures will be defined to include ongoing, periodic GIS data validation. Additionally, the PSAP is in discussions with one or more local jurisdictions to fund a shared, trained GIS resource.



Describe how this project supports the Virginia Statewide Comprehensive 9-1-1 Plan.

This project supports both goals of the Virginia Statewide Comprehensive 9-1-1 Plan and seeks to fulfill an important initiative. There are only two goals in the Virginia Statewide Comprehensive 9-1-1 Plan. The first goal is provide a standard level of 9-1-1 emergency dispatch services to the public. *When achieved, this goal will provide consistent 9-1-1 emergency dispatch services to anyone residing in or passing through the Commonwealth, at any time of day, and during any event. Consistent service means that all 9-1-1 centers can receive, process, and dispatch "calls" in a dependable and repeatable manner.* Data integrity is key to fulling this objective. This project would restore or validate that predictability and reliability to our 9-1-1 emergency dispatch services.

The second goal of the Virginia Statewide Comprehensive 9-1-1 Plan is to position 9-1-1 centers to continuously meet the public's expectations. *When achieved, this goal will allow Virginia to keep up with the rapid pace of technology innovation and therefore the constant changes in customers' expectations.* However, again as reflected in the statement of our need for this project, public expectations are clearly not met unless data meets required standards. Missing or incorrect geographic data could cause delays in our 9-1-1 emergency service responses to Galax, Carroll and Grayson citizens.

The 2011 Virginia Statewide Comprehensive 9-1-1 Plan envisions that 911 Centers will maintain certain Service and Capabilities per the excerpt below:

9-1-1 centers throughout the Commonwealth must provide a consistent, seamless, and comprehensive level of 9-1-1 dispatch services statewide using an IP-enabled system that is dependable and reliable. 9-1-1 centers accept "calls" from all devices and in all forms, in any language, and from special needs populations, such as the hearing impaired, to ensure that no request for assistance goes unanswered.

This project will allow Twin County to bolster their ability to provide consistent and seamless service by ensuring reliability of our GIS data.



REGIONAL INITIATIVE (if applicable)

The relationship of the initiative to the participating PSAPs:
N/A Not a regional grant.

Intended collaborative efforts:
N/A Not a regional grant.

Resource sharing:
N/A Not a regional grant.



How does the initiative impacts the operational or strategic plans of the participating agencies:

N/A Not a regional grant.

CONSOLIDATION (Primary or Secondary) - (if applicable)

How would a consolidation take place and provide improved service:

N/A Not a consolidation grant.

How should it be organized and staffed:

N/A Not a consolidation grant.



What services should it perform:

N/A Not a consolidation grant.

How should policies be made and changed:

N/A Not a consolidation grant.

How should it be funded:

N/A Not a consolidation grant.

What communication changes or improvements should be made in order to better support operations:

N/A Not a consolidation grant.



BUDGET AND BUDGET NARRATIVE

List the planned expenditures to be made with grant funds. (NOTE: In lieu of a line item breakdown, an itemized cost schedule or detailed vendor prepared quote may be submitted as an attachment. However, budgetary quotes received from a particular vendor(s) during the application process do not commit the PSAP to use that vendor(s) once the grant is awarded.) Briefly explain the reason for each requested budget item and provide the basis for its cost:

This request is for funds to procure professional services to validate and cleanse Twin County PSAP GIS data in order to meet GIS Data Standards. The reasonable order of magnitude quote was provided by Twin County's GeoComm support vendor.

- Professional Services \$20k
- 50 % time of 1 internal resource

EVALUATION



How will the project be evaluated and measured for achievement and success:

Our performance measures will begin with proper purchases of services. Procurement will be in accordance with all federal, state and local procurement standards. After implementation of the services, the vendor will prepare a report of key data accuracy measures pre/post data cleansing. These performance measures will be included on the final report.



FINANCIAL AND PROGRAMMATIC REPORT

PROJECT PHASES

SAMPLE ACTIVITIES

PHASE

SAMPLE ACTIVITIES

INITIATION

(Project approved by appropriate stakeholders)

- Project concept is documented
- Local Board or governing authority approval or endorsement is received
- PSAP grant application is filed
- Local budgets are obtained
- Appropriated grant funds are approved
- Budgetary estimates are obtained

DESIGN/PLANNING

(Project, system, or solution requirements are developed)

- Requirements are documented
- Components to be purchased are identified
- General design is documented

ACQUISITION

(Selected system or solution is procured)

- RFP (or other bid related processes) are drafted
- Proposals are evaluated
- Contract is signed
- Purchase orders are issued
- Quotes are obtained/grant funds draw down

IMPLEMENTATION

(Selected system or solution is configured and installed)

- Purchased components are delivered and installed
- Training is performed

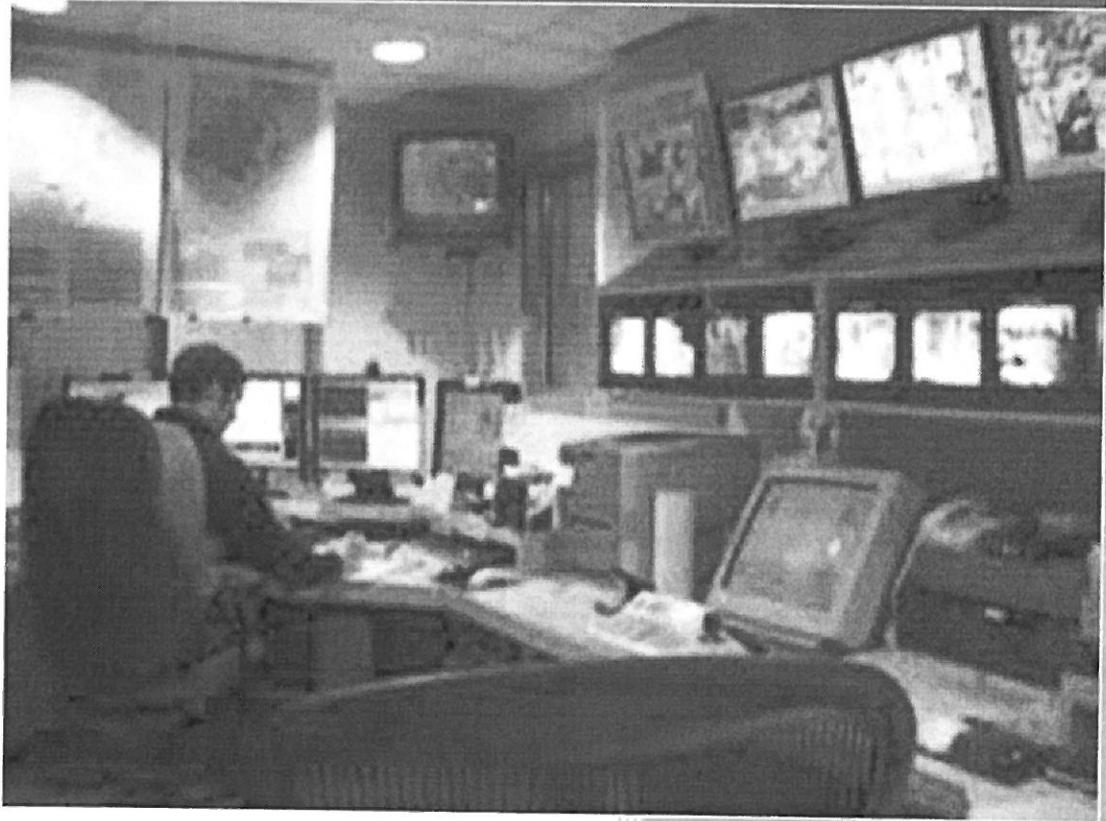
TESTING/COMPLETION

(Selected system or solution is tested and put in production)

- Performance of system/solution is validated
- System/solution goes "live"

FY15

**PSAP GRANT PROGRAM
APPLICATION**



VIRGINIA INFORMATION
TECHNOLOGIES AGENCY
Integrated Services Division



FY15 PSAP GRANT PROGRAM APPLICATION

HOW TO APPLY/DEADLINE

The grant application is available and accessible from VITA's Integrated Services Program's website

(<http://www.vita.virginia.gov/isp/default.aspx?id=8578>). Upon completion of the application, it is to be submitted to the PSAP Grant Manager, Lisa Nicholson, at lisa.nicholson@vita.virginia.gov. Any supporting documentation must also be submitted along with the application, including mandatory budgets for projects (if applicable).

After submission, the PSAP Grant Manager will assign a Grant ID and send an e-mail notification to the project contact e-mail address listed on the application received.

All funding requests must be submitted using the grant application. Technical assistance is available from VITA's Public Safety Communications (PSC) staff throughout the grant process. The FY15 PSAP Grant Application Cycle starts July 1, 2013 and concludes on September 30, 2013 at 5:00 pm.

ALL APPLICABLE SECTIONS MUST BE COMPLETED IN ITS ENTIRETY OR THE APPLICATION WILL BE CONSIDERED INCOMPLETE AND NOT ACCEPTED FOR CONSIDERATION.



FY15 PSAP GRANT APPLICATION

PROJECT TITLE

BTW2 Regional CPE Grant – 2nd Connectivity

GRANT APPLICANT PROFILE/PROJECT CONTACT

PSAP/HOST PSAP NAME: Twin County Regional E911

CONTACT TITLE: 911 Coordinator

CONTACT FIRST NAME: Jolena

CONTACT LAST NAME: Young

ADDRESS 1: PO Box 510

ADDRESS 2: 353 N Main St

CITY: Galax

ZIP CODE: 24333

CONTACT EMAIL: jyoung@galaxva.com

CONTACT PHONE NUMBER: 276-236-5122

CONTACT MOBILE NUMBER: 276-233-3231

CONTACT FAX NUMBER: 276-236-2956

REGIONAL COORDINATOR: Tim Addington

HOST PSAP AND PARTICIPATING PSAPS/LOCALITIES

Twin County Regional E911

Bland County 911

Carroll County

Grayson County

Cities/Towns within Counties

GRANT TYPE

Individual PSAP

Consolidation

Regional Initiative

Secondary Consolidation



GRANT PROGRAM TYPE

X Continuity and Consolidation

Enhancement

TIER

XX Out of Service

Non-Vendor Supported*

Technically Outdated*

Strengthen

Not Applicable

If technically outdated or non-vendor supported, application MUST include age and/or version of hardware/software.

VERSION: Patriot Sentinel 3 # YEARS of HARDWARE/SOFTWARE: <1

No longer performs at an established minimum functional standard to sustain an acceptable level of service to the public

PRIORITY/PROJECT FOCUS Click to select a project focus from the drop down list

If "Other" selected, please specify: Click here to enter text

FINANCIAL DATA

Amount Requested: \$ 250,000

Total Project Cost: \$ 250,000

STATEMENT OF NEED



This statement should reference the relationship to the current funding priorities established by the Grant Committee and include evidence of any financial need, along with additional information on the impact on operational services; consequences of not receiving funding; inclusion of project in a long-term or a strategic plan; and local sustainability:

This is a regional Continuity and Consolidation Program application for Out of Service funding to primary PSAPs serving the financially handicapped populations of Bland, Carroll, Grayson and the Cities of Galax along with additional Townships.

Bland, Twin are requesting funding to connect Wythe County and Twin County's existing microwave infrastructures and to add microwave equipment to connect Bland County PSAP. The microwave will be interfaced with the CPE equipment as secondary connectivity. **Cassidian requires that Geo-diverse Patriot Sentinel solutions have secondary connectivity. (See attached vendor statement).** The need for secondary connectivity has been validated as a true need through **five** outages at the Bland PSAP and **one** at the Grayson County secondary PSAP since going live on the geo-diverse network in April 2013. The outages have occurred during maintenance events even though the fiber connection has redundant paths.

The original project created a new regional cooperation to reduce acquisition costs across the three PSAP's. The purchase of equipment and services for this project directly supports the purpose of continuity and enhancement wireless E-911 projects. The Board will provide funding to primary PSAPs for projects designed to replace or upgrade wireless E-911 equipment and services that are out of service, without vendor support, technically outdated, **or can no longer perform at an established minimum functional standard to sustain an acceptable level of service to the public.** This regional CPE project to enable stability is the number one funding priority for the Continuity and Consolidation Program in the 2013 grant cycle.

The project is perfectly aligned with long-term strategies for regional improvements and the impact on operational services is significant. According to the Virginia Statewide Comprehensive Plan and the perspective of all citizens, "the establishment and adoption of 9-1-1 service ensured that in an emergency any caller throughout the country could dial three easily memorized digits and quickly have local first responders come to his or her aid." However, that does not always happen in our region of Southwest Virginia. This project would restore predictability that citizens expect when they dial 9-1-1.



The new project in this proposal is not currently being supported by a local, state or federal grant and applicants can demonstrate dire financial need.

The host applicant is Twin County E-911, a primary PSAP serving all the City of Galax and the Counties of Carroll and Grayson. Twin County E-911 serves nearly 1,000 square miles of rugged mountainous terrain along the Blue Ridge in the Southwest corner of the Commonwealth. Our citizens are financially handicapped and under-employed. It may be hard to imagine a place where 31% of the individuals live below poverty level (triple the state average); where unemployment doubles the state rate; and where the median household income is \$22,105 which is nearly two-thirds less than the average Virginia household income of \$61,126. But these hard facts do define us.

By comparison to Twin Counties and Galax, the economic statistics in Bland County are vastly improved, but they still fall far short of state and national figures and clearly express financial need. In Bland County, the median household income is \$42,231, nearly one-third less than the average Virginia household income.

Likewise, our local governments have not been immune to the financial constraints of their taxpayers and tax base. The applicant localities have suffered by making budget cuts in many areas where it can, including personnel and not filling vacancies. Despite the urgent and compelling need for 911 services, the reality is simply that we cannot afford to do this without grant assistance.

Without grant funding, the PSAPs in this regional project will not be able to address their needs. There is no other source of funding for this project. The applicants, their localities and the citizens they serve are at a crippling financial disadvantage. The PSAPs covering Bland, Carroll and Grayson Counties and the City of Galax will continue to be at risk to provide continuous uninterrupted 9-1-1 service to their communities which include several miles of interstate highway prone to high volume accidents such as the 96 multiple vehicle crash on Easter Sunday.



Describe how the grant will be maintained and supported in the future, if applicable.

This regional project will be maintained and supported in the future from the regional long-term plan for sustainment. Dealing with current equipment obsolescence issues constantly and sometimes daily, the PSAPs are acutely and painfully aware of the need for maintenance and support. They have the experience and frustration of what happens when you have equipment that is technically outdated and no longer has vendor support.

This approach utilizes an existing infrastructure for Twin and Wythe resulting in minimal increase in ongoing costs. It will also open a connectivity channel for future regional projects.

COMPREHENSIVE PROJECT DESCRIPTION

Provide a thorough, concise, and complete description of the project, including an outline of the goals and objectives, implementation strategy, and a work plan.

The project objective is to establish redundant connectivity for the BTW2 geodiverse Patriot Sentinel to stabilize connectivity by expanding existing microwave infrastructure:

- a. Establish Satellite for Wythe/Wytheville PSAP*
- b. Create a link from Wythe/Wytheville Microwave to Sand Mtn
- c. Create a link from existing Twin County Microwave to Sand Mtn
- d. Upgrade Twin County from 50 MG to 100 MG**
- e. Establish Satellite for Bland County PSAP
- f. Establish link between Big Walker to Sand Mtn
- g. Create connection in Patriot Sentinel Network (5 locations)

The workplan follows:



Phase/Task	Assigned	End Date
<u>Initiation</u>		
Document Project Concept	J Young	9/1/2013
Obtain Budgetary Estimates	J Young	9/27/2013
Document Regional Agreement	All	9/30/2013
File PSAP grant application	J Young	9/30/2013
Receive grant funding decisions	J Young	1/31/2014
<u>Design and Planning</u>		
Document detail requirements	Team	6/30/2014
Define Critical Success Factors	Team	6/30/2014
Develop detail design	Team	6/30/2014
Review design with stakeholders	Team	6/30/2014
ID components to be purchased based on final design	Team	6/30/2014
Develop test and training plans	Team	6/30/2014
<u>Acquisition</u>		
Issue RFP	J Young	7/30/2014
Perform site assessments at each tower/site	Team	8/30/2014
Review and Score Proposals	Team	9/15/2014
Sign Contract(s)	J Young	9/30/2014
Issue Purchase Orders	J Young	9/30/2014
Request Grant Fund Draw Down	J Young	8/15/2015
<u>Implementation</u>		
Finalize site environmental assessments	Team	3/31/2015
Finalize microwave licensing	Team	3/31/2015
Determine delivery and installation dates	Team	3/31/2015
Develop implementation plan	Team	3/31/2015
Review implementation plan with stakeholders	Team	4/30/2015
Excute implementation against plan	Team	6/15/2015
Train users	Team	6/15/2015
<u>Testing/Completion</u>		
Execute the test plan	Team	6/30/2015
Validate system performance	Team	7/31/2013
Develop a fail-back strategy	Team	6/15/2015
Go Live	Team	6/30/2015
Measure and report on critical success factors	Team	7/31/2015



FOR CONTINUITY AND CONSOLIDATION OR ENHANCEMENT PROJECTS:

PROJECT TIMELINE – Select each applicable phase of the project and indicate the estimated completion date. Sample activities for each phase can be found in the PSAP Grant Program Guidelines as well as on the addendum to this form.

PROJECT PHASE	ESTIMATED COMPLETION DATE
<input type="checkbox"/> INITIATION (Project approved by appropriate stakeholders)	09 / 30 / 13
<input type="checkbox"/> DESIGN/PLANNING (Project, system, or solution requirements are developed)	06 / 30 / 14
<input type="checkbox"/> ACQUISITION (Selected system or solution is procured)	09 / 30 / 14
<input type="checkbox"/> IMPLEMENTATION (Selected system or solution is configured and installed)	06 / 15 / 15
<input type="checkbox"/> TESTING/COMPLETION (Selected system or solution is tested and put in production)	06 / 30 / 15



Identify the longevity or sustainability of the project.

This project continues a regional cooperation and collaboration that will sustain continuity for the project and its partners. The project increases stability in the Ethernet connection among the regional partners.

This approach utilizes an existing infrastructure for Twin and Wythe resulting in minimal increase in ongoing costs. It will also open a connectivity channel for future regional projects.

Any increases in maintenance and capital replacement costs will be agreed via the BTW2 Steering Team and incorporated into the MOU and capital/grant planning processes.



Describe how this project supports the Virginia Statewide Comprehensive 9-1-1 Plan.

This project supports both goals of the Virginia Statewide Comprehensive 9-1-1 Plan and seeks to fulfill an important initiative. There are only two goals in the Virginia Statewide Comprehensive 9-1-1 Plan. The first goal is provide a standard level of 9-1-1 emergency dispatch services to the public. *When achieved, this goal will provide consistent 9-1-1 emergency dispatch services to anyone residing in or passing through the Commonwealth, at any time of day, and during any event. Consistent service means that all 9-1-1 centers can receive, process, and dispatch "calls" in a dependable and repeatable manner.* However, as reflected in the statement of our need for this project, that does not always happen in our region of Southwest Virginia. This project would restore that predictability and bring reliability to our 9-1-1 emergency dispatch services.

The second goal of the Virginia Statewide Comprehensive 9-1-1 Plan is to position 9-1-1 centers to continuously meet the public's expectations. *When achieved, this goal will allow Virginia to keep up with the rapid pace of technology innovation and therefore the constant changes in customers' expectations.* However, again as reflected in the statement of our need for this project, public expectations are clearly not met with our outdated and obsolete equipment. Equipment failures caused suspensions of our 9-1-1 emergency dispatch services to Carroll and Grayson secondary PSAPs and the obsolete equipment aggravated and prolonged the suspension of these services. With elapsed vendor support, County of Bland faces this real and costly risk day-to-day.



REGIONAL INITIATIVE (if applicable)

The relationship of the initiative to the participating PSAPs:

The host applicant is Twin County E-911, a primary PSAP serving all the City of Galax and the Counties of Carroll and Grayson. Twin County E-911 covers 942 square miles along the Blue Ridge Mountains bordering North Carolina. Twin County E-911 is the fiscal agent responsible for fulfilling all grant requirements including reports, control of and accounting for funds, and distribution and control of equipment purchased with this grant award. Twin County E-911 has been instrumental in the formation of this regional project and has facilitated the development and concurrence of the project and partners. Twin County E-911 will continue to take the lead role on this regional project through its completion.

The City of Galax is a jurisdiction served by Twin County 9-1-1 for Fire and EMS 9-1-1 calls.

The County of Carroll is a jurisdiction served by Twin County 9-1-1 for Fire and EMS 9-1-1 calls.

The County of Grayson is a jurisdiction served by Twin County 9-1-1 for Fire and EMS 9-1-1 calls.

Carroll County Sheriff's Office is a secondary PSAP in that Twin County transfers 9-1-1 calls to the Sheriff's Office for dispatch.

Grayson County Sheriff's Office is a secondary PSAP in that Twin County transfers 9-1-1 calls to the Sheriff's Office for dispatch.

The applicant, the County of Bland PSAP, covers 359 squares miles bordering West Virginia has experienced five interruptions in 911. The County of Bland has a vested interest in the improvement of its CPE and this regional endeavor.

A letter of participation from localities to this regional grant application is attached along with the regional MOU.



Intended collaborative efforts:

The region is sharing in the development and maintenance of a regional Patriot Sentinal Ethernet network. This collaborative effort will establish a secondary link serving multiple purposes: 1) increase stability in CPE during fiber maintenance events; 2) serve as a pilot to determine if microwave is feasible as a secondary link in NG911 networks; 3) create a connectivity link to enable future collaborations.

Resource sharing:

The Patriot Sentinal Server and Software is being shared and utilized by all the jurisdictions. By connecting existing, separate microwave infrastructures, this project expands the jurisdictions ability to pursue other, future regional collaborative efforts e.g., mapping, site disaster recovery planning.

How does the initiative impacts the operational or strategic plans of the participating agencies:

This project will enable County of Bland to satisfy a Strategic Goal to have a stable NG 9-1-1 capable CPE.

This project will enable Bland, Wythe and Twin County to satisfy a Strategic Goal to enable a NG911 network with secondary connectivity.

CONSOLIDATION (Primary or Secondary) - (if applicable)

How would a consolidation take place and provide improved service:

N/A Not a Consolidation Project



How should it be organized and staffed:

N/A Not a Consolidation Project

What services should it perform:

N/A Not a Consolidation Project

How should policies be made and changed:

N/A Not a Consolidation Project

How should it be funded:

N/A Not a Consolidation Project



What communication changes or improvements should be made in order to better support operations:

N/A Not a Consolidation Project

BUDGET AND BUDGET NARRATIVE

List the planned expenditures to be made with grant funds. (NOTE: In lieu of a line item breakdown, an itemized cost schedule or detailed vendor prepared quote may be submitted as an attachment. However, budgetary quotes received from a particular vendor(s) during the application process do not commit the PSAP to use that vendor(s) once the grant is awarded.) Briefly explain the reason for each requested budget item and provide the basis for its cost:

Based on discussions with vendors, equipment and labor to establish a secondary connection using microwave will cost approximately \$25k / link except for Sand to Beamers which will require more sophisticated equipment due to distance. This link is estimated at \$80k. The CPE support vendor provided the estimate for the microwave to CPE connectivity.

• Establish Satellite for Bland County PSAP (w 1 Hops)	\$50k
• Establish link between Big Walker to Sand Mtn	\$25k
• Create a link from Wythe/Wytheville Microwave to Sand Mtn	\$25k
• Create a link from existing Twin County Microwave to Sand Mtn	\$80k
• Upgrade Twin County from 50 MG to 100 MG**	\$50k
• Create connection in Patriot Sentinel Network (5 Cisco Switches/labor)	\$20K
Total	\$250k



EVALUATION

How will the project be evaluated and measured for achievement and success:

Our performance measures will begin with proper purchases of equipment and services to achieve a new regional network. Procurement will be in accordance with all federal, state and local procurement standards. After installation of the equipment and implementation of the services, each PSAP will be able to process 9-1-1 calls as determined by a detailed evaluation plan. Additionally, each PSAP will be able to process 9-1-1 calls with parts of the network disabled to simulate equipment failures. Each PSAP will record these performance measures and report them to the host applicant for inclusion on the final report.



VENDOR REQUIREMENT

- 2 IP-routed WAN connections between a VESTA/Sentinel host site and remote agencies. IP-routed WAN must be engineered to:
 - ◆ Provide sufficient bandwidth
 - ◆ Support QoS characteristics
 - ◆ Converge in three seconds or less
- 3 WAN connections between a VESTA/Sentinel site and a CommandPOST or a remote Console. In order for a CommandPOST to function within a VESTA/Sentinel network, it must be able to access a host site, typically through a public network such as the Internet. In most cases, a Digital Subscriber Line (DSL) is a viable and cost effective option for this purpose. A remote position that accesses the VESTA/Sentinel site through unsecured public networks needs to employ a Virtual Private Network (VPN) in order to ensure payload confidentiality and share a common address space. In order for the remote position to experience acceptable voice quality and performance, it is crucial that the CommandPOST connection is engineered to:
 - ◆ Provide sufficient bandwidth
 - ◆ Meet the required QoS characteristics

For more information, see “VESTA/Sentinel CommandPOST,” page 7-2.
- 4 As shown in earlier diagrams, every VESTA/Sentinel host site must be equipped with Internet connections that provide remote access to a Network Operations Center (NOC) or to certified Help Desk personnel. Remote access is generally realized by a standard VPN technology such as IP Security (IPSec) over a DSL connection with at least 1 Mbps of bandwidth. Such remote access points must:
 - ◆ Provide at least 1 Mbps worth of bandwidth
 - ◆ Support IPSec-based VPN

**Note**

The term WAN is used in this document to mean any data network that extends beyond the confines of a single site.

Physical path redundancy of a VESTA/Sentinel WAN

It is good practice to provide redundant physical paths for WAN connections between a host site and a remote agency. However, physical path redundancy is critical for inter-host site links. The redundant paths should terminate on a pair of redundant network equipment at each site in order to avoid single points of failure. Ideally, the redundant WAN connections also traverse disparate physical facilities and enter a building through different conduits.

Route redundancy for inter-host sites

While a geo-diverse VESTA/Sentinel deployment offers many benefits, it is designed to operate with redundant links between the host sites. If the network connections between the host sites are severed, some anomalies may occur when the host sites are re-connected:

- ◆ Consoles that are connected to the backup DDS lose the ability to process certain calls and must be logged off and logged on again to regain full capabilities.
- ◆ Calls that are parked and calls that are destined to voice mail or an auto attendant on MDS-B are lost.

Therefore, in a geo-diverse deployment, it is crucial to inter-connect the host sites by redundant network connections that are designed to fail in three seconds or less.

Route-redundancy for remote sites

In a multi-site architecture, remote agencies are usually equipped only with call-taking positions, and possibly local gateway(s), that are managed by servers located at a host site. If the WAN is severed at a remote site, the remote agency will lose the ability to process calls and will essentially be out of commission. WAN redundancy at the host sites is even more important in a multi-site deployment. If the host sites lose their WAN connectivity, all remote agencies will lose the ability to process calls. It is therefore important to maximize network availability by providing redundant WAN connections at all sites in multi-site deployments. Occasionally, though not advisable, a customer or channel partner may choose to forego route-redundancy to reduce costs. In which case, it is important that the customer or channel partner fully understands the associated risks and is willing to assume any liability that may result from WAN failures.

As a backup measure, it is always prudent to implement another layer of redundancy beyond that which is provided by the IP network, whenever feasible, by enabling alternate routing at the selective router. This added layer of resiliency allows an agency to complement IP network redundancy by leveraging its selective routers' ability to alternate route between agencies. Thus, if an agency's connections to host sites are completely severed, the selective router may automatically reroute the failed agency's calls to a designated backup site.

The following list provides some suggestions for improving physical route redundancy:

- ◆ Increase WAN resiliency through diverse carriers that are not using the same network facilities and circuits.
- ◆ Improve local loop diversity by using different service provider or technologies whenever possible.
- ◆ The circuit should enter the building through different points of entry whenever possible.

IP-routed WAN

Like all IP networks, a VESTA/Sentinel WAN requires routers to route IP packets between different sites, which are typically assigned their own subnet. As such, a router needs to be aware of the routes it can use to send packets destined for networks to which it is not directly connected.



PARTICIPATION LETTERS

To: Dorothy Spears-Dean and Wireless Board Grant Committee

From: Bland County PSAP

Date: 9-30-13

Ref: FY 15 Regional Grant

BTW2 regional CPE, which was developed with Wireless PSAP Grant funding, has been a success for the four counties and one city involved in it. Bland 9-1-1 is supportive of participating in a regional grant with Wythe/Wytheville Consolidated and Twin County PSAPs for the planning, design and implementation of secondary connectivity for the BTW2 network. This project will directly improve the stability of the NG911 type network, and therefore, the consistency of the participating PSAP's ability to process Wireless 9-1-1 calls.

Our network was not funded as a NG911 pilot project, yet is clearly a pilot in collaborative networking. The jurisdictions are funding the ongoing connectivity costs of \$4,700 per month or \$56,400 annually. We cannot afford a secondary connection at these rates. As such, we believe it would benefit us and the State to expand on existing microwave infrastructures to prove viability as secondary connectivity. There is no monthly service fee. Maintenance and replacement costs are already required and covered for existing microwave equipment. The jurisdictions are willing to fund the incremental maintenance and replacement costs for the new microwave links.

Thank you very much for considering this request.





MEMO OF UNDERSTANDING

**MEMORANDUM OF UNDERSTANDING BETWEEN
THE COUNTY OF BLAND, VIRGINIA, THE TWIN COUNTY E-911
COMMISSION, VIRGINIA, AND THE COUNTY OF WYTHE, VIRGINIA for
REGIONAL SHARED 9-1-1 CUSTOMER PREMISE EQUIPMENT (CPE)**

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (MOU) is entered into this Day, DATE between the County of Bland, Virginia, the Twin County E-911 Commission, Virginia, and the County of Wythe, Virginia (collectively known as the BTW2) for regional collaboration on the procurement, design and implementation of shared 9-1-1 Customer Premise Equipment (CPE).

PURPOSE

Background

The BTW2 Region was awarded grant funds from the Virginia Wireless E-911 Services Board in the amount of \$325,000 from the FY 2013 PSAP (Public Safety Answering Point) Grant Program based on a regional grant submission for integrated Customer Premise Equipment (CPE). Twin County E-911 Commission is the fiscal agent for the grant award. The BTW2 Region will utilize the Public Safety Answering Program Grant Program awarded funds totaling \$325,000 from the Wireless E-911 Services Board to implement a geo-diverse CPE solution.

Purpose

The purpose of this memorandum of understanding is to establish a cooperative agreement among the BTW2 Region for a shared CPE solution. This MOU will outline the responsibilities, commitment and funding requirements from each participant to ensure success. The BTW2 Region will plan for appropriate connectivity among the public safety answering points (PSAPs) in each locality and implement a shared solution with mutual benefits such as redundancy and backup capabilities.

SCOPE OF WORK

CPE, Support, Maintenance, and Connectivity

The BTW2 Region Group has acquired and agreed upon a CPE solution which supports a hosted/remote environment for call processing to ensure maximum redundancy and disaster recovery. The CPE vendor will provide bandwidth requirements for proper connectivity for the shared solution based upon accurate data collection from each participant as an output of the project design. The BTW2 Region Group has mutually agreed upon the following configuration and connectivity:

Twin County E-911 (City of Galax site) and W2 (Wythe County/Township of Wytheville Consolidated Center) will install a Patriot Host CPE at each PSAP location. Twin County E-911 will act as the Primary

Host with W2 County as the Secondary Host. Because maintenance is necessary for all locations, each site agrees to share the cost of support and maintenance based on the number of workstations at each site.

Bland County and Twin County E-911 (Carroll County and Grayson County sites) will install Remote Patriot Equipment (routers and workstations) at each PSAP location. Bland County will have Primary connectivity to the W2 Patriot Host location and Secondary connectivity to the Twin County E-911 Patriot Host location. There will also be connectivity between the two host Patriots to allow for transfers of calls and switching of primary to secondary Patriot operations. Because connectivity is necessary for all locations, each site agrees to subscribe to a minimum Ethernet bandwidth as determined by the bandwidth study, and pay their connectivity as long as they are a BTW2 Regional participant. Appendix A stipulates the requirements and responsibilities of the BTW2 Virginia localities with respect to CPE and is incorporated into and made part of the MOU by reference.

FUNDING REQUIREMENTS

The Twin County E-911 Commission has been designated as the fiscal agent to receive the grant funding and will be required to provide all necessary documentation such as invoices and payments.

Subject to appropriation, the BTW2 Region or an individual site will be responsible for any costs of CPE upgrades or additional features beyond the original design and implementation. The BTW2 Region localities will need to plan and budget for these costs since they are not included within the scope of this MOU.

Appendix B (attached spread sheets) show funding from Grants to fund this project and funding each locality must assume and is incorporated into and made part of the MOU by reference.

PERIOD OF AGREEMENT AND MODIFICATION

This MOU will become effective when signed by all parties.

Any amendments to this MOU must be mutually agreed upon by all parties. If any locality within the BTW2 Region decides to terminate this MOU, they must provide a one hundred and twenty (120) day written notice to all parties. Any additional costs incurred by the locality to terminate this Agreement and implement a separate CPE solution as described in this Agreement and incorporated Appendices will be the responsibility of the terminating party.

This MOU will be for a period of five (5) Years.

TERMS OF CONTRACT

TERMINATION OF LICENSES OR SUPPORT AGREEMENT

If a Locality or Localities should terminate its License or Support contract with either of the Safety Systems which are incorporated in the BTW2 Virginia Project, the agency will provide written notice to the other Locality/s at least one hundred and twenty (120) days prior to the contract's termination unless the License or Support contract is terminated under a provision permitting termination without one hundred and twenty (120) days' notice. The site maintaining the License or Support contract with the Safety Systems reserves the right to keep its own License and/or Support contract with the vendor as well as all system data belonging to the agency. Termination of the License or Support agreement will effectively terminate this BTW2 Region Agreement at the same time as the License or Support agreement is terminated.

TERMINATION OF INTERLOCAL AGREEMENT BETWEEN SERVER SITEIS AND CONNECTED SITE

This Agreement may be terminated upon mutual agreement of the Localities by providing written notice of such termination. Termination will be effective on the date stated in the notice so long as the notice is properly given at least One Hundred Twenty (120) days prior to such date. To the extent allowed by law, this agreement may be terminated upon an event of default. Should an event of default occur, the defaulting Locality must be notified and will then have a thirty (30) day period to remedy the situation prior to Agreement termination. After the thirty (30) day period, if the default has not been remedied, this Agreement shall be effectively terminated unless the defaulting party obtains a Court order prohibiting such termination. Events of default include but are not limited to the following:

1. One Locality wrongfully uses data provided by the other Locality.
2. Unauthorized copying of data.
3. In the event the Agreement is determined to be in conflict with federal or state law, City resolutions, or ordinances which are in effect at the time of this Agreement or may be imposed in the future.
4. One Locality uses or attempts to use information provided in such a manner as to violate a person's right to privacy or to create an unfair competitive disadvantage for any person or entity.
5. One Locality sells, gives, leases, or loans access to the screens of the data contained therein to any person without the express written approval of the other Locality.
6. One Locality allows access to the screens or data contained therein or any part thereof, to be used as a list of individuals for commercial purposes.
7. One Locality allows the connection of a computer network operated by any entity that is outside of the Server Site's influence.
8. One Locality violates any of the conditions set forth in the Written Acceptable Use Policy adopted by the Standards Committee.

LIMITATION OF LIABILITY

The information supplied by the Server Site/s described herein is provided on an "as is" basis "with all faults."

The obligations of the Primary Server Site/Secondary Server Site and the rights and remedies of the Connected Site set forth in this clause are exclusive and in substitution for all the warranties, obligations, and liabilities of the Server Site. To the extent allowed by law, all localities hereby releases and holds the Server Sites (Twin County E-911 Primary and W2 County Secondary) harmless from any rights, claims, and remedies of the Connected Site against the Server Sites, expressed or implied, arising by law or otherwise, with respect to any data provided hereunder, including but not limited to any implied warranty arising from course of performance, courses of dealing or uses of trade, and any obligation, liability, right, claim or remedy for tort, or for any actual or alleged infringement of patents, copyrights or similar rights of third Localities, or for any other direct, incidental or consequential damages.

GOVERNMENTAL IMMUNITY

Nothing in this Agreement is intended to be a waiver of any governmental or sovereign immunity of a locality. To the extent allowed by law, each Locality shall be solely responsible for any and all claims or liabilities that may arise from its actions in connection with the operation of this Agreement. Nothing in this Agreement is intended to impose any liability on one Locality for the actions of another.

ALTERATIONS TO THIS AGREEMENT

Any changes to this Agreement must be made in writing and agreed upon by all localities.

ACCEPTANCE

Each Locality hereby mutually acknowledges and accepts the terms and conditions of this Agreement.

This MOU agreed this 22nd day of May, 2012.

County of Bland, Virginia, Twin County E-911 Commission, Virginia, and the County of Wythe, Virginia.

County of Bland, Virginia

Henry M. Blessing
Vice Chairman of the Board of Supervisors

Twin County E-911 Commission, Virginia

J.R. Young Jr. 7/31/12
Chairman of the Commission

County of Wythe, Virginia

Danny M. Daniel
Chairman of the Board of Supervisors

Appendix A

THE COUNTY OF BLAND, VIRGINIA, THE TWIN COUNTY E-911 COMMISSION, VIRGINIA, AND THE COUNTY OF WYTHE, VIRGINIA for REGIONAL SHARED 9-1-1 CUSTOMER PREMISE EQUIPMENT (CPE)

The County of Bland, Virginia, Twin County E-911 Commission, Virginia, and County of Wythe, Virginia, here after referred to as the (localities or BTW2) acknowledge they have read and understand the terms and conditions contained therein. This Agreement sets forth provisions identifying the distribution of responsibilities, system management, and software services to be performed by the BTW2 Region and all affiliated agencies pertaining to the Cassidian Patriot CPE software project.

DEFINITIONS

For the purposes of this Agreement, the following definitions will be understood between all localities:

Localities - The County of Bland, Virginia, Twin County E-911 Commission, Virginia, and the County of Wythe, Virginia are the entities directly associated with the BTW2 Regional Project. All technical responsibilities and negotiations between the organizations will be managed through the Standards Committee. These Localities will herein be referred to as the Primary Server Site, Secondary Server Site and the Remote Sites.

Server Sites - The Twin County E-911 Center – Galax Site (Primary Server Site) and W2 Consolidated 911 Center (Secondary Server Site) will herein be referred to as the Server Sites. As such, the dedicated servers for the software application will be maintained and stored at the Server Sites and associated facilities.

Connected Sites - The County of Bland and Twin County E-911 Carroll and Grayson sites being Government agencies residing in the Commonwealth of Virginia will herein be referred to as the Connected Sites. As a shared entity utilizing the servers located at the Twin County E-911 Center and the W2 Consolidated 911 Center, the software owned and operated by the Connected Site will use the servers at the Server Sites.

Cassidian Patriot System - All references to the system, software, or Patriot refer to any version of the public safety software application provided by Cassidian.

Authorized Individual - An Authorized Individual is one who has been given a unique username and password login to the Patriot System. Any Authorized Individual must be a current employee with one of the agencies involved in the BTW2 Region, including all affiliated IT, GIS, and other related departments.

Applications Administrator - This individual is responsible for the administration of the local network/system in regards to day to day operation and configuration of the network/system. Can also be the person conducting the day to day operations of the E-911 Operation Center or Sheriff's Dispatch.

Assistant Applications Administrator - This individual assists in the administration of the local network/system in regards to day to day operation and configuration of the network/system. Can also be the person conducting the day to day operations of the E-911 Operation Center or Sheriff's Dispatch.

Connectivity - The method of transmitting data from one location to another location. The methods available at this time are Copper strands via local teleco companies, Fiber strands via local teleco companies and or internet providers, and or Microwave Radio transmissions private and or Government owned.

Agreement

1. STANDARDS COMMITTEE

This committee shall during the first meeting of the members establish the bylaws by which they will operate for the terms of this MOU. The Committee shall appoint a chair, vice chair, and a secretary to officiate the meetings. Minutes of each meeting will be taken and distributed to each member in a timely manner. The Committee shall adopt Rules and Procedures by which the Committee will operate their meetings. During the first meeting the members will determine the number needed for a quorum to be able to conduct business. (i.e. a majority of the total membership). The quorum must have at least one member from the Chair, Vice-Chair and or Secretary and one member from each Locality to be able to conduct business. The Committee shall also set the intervals of meetings (i.e., quarterly, semi-annually, yearly). The actual dates for the next meeting will be set at the end of each meeting for the next meeting. The purpose of this Standards Committee will be to oversee the operations of the network/system to ensure compatibility and compliance among all Localities.

Any locality wishing to become a member of this network/system must submit a request in writing of their intentions and present this written request to the Standards Committee in person at a regularly scheduled meeting. Any locality wishing to become a part of this network/system in the future must agree to this MOU, and future amendments, before becoming a member. The Standards Committee must have a majority vote to allow additional members. In case of emergency needs a new locality can request an emergency meeting be held of the Standards Committee to facilitate emergency connectivity to this network/system to allow 911-continuity for that locality.

1.1 STANDARDS COMMITTEE MEMBERS

A Standards Committee will be formed consisting of participants from all Localities. These members must be appointed by each locality's 911 Commission, Board of Supervisors, or City Council. The

members will be appointed and sworn in by each respective entity to sit on the Standards Committee for a period of two (2) years. Members may serve as many consecutive terms as the locality chooses but they must be re-appointed every two (2) years. Each locality must appoint two members as follows:

Bland County E911 Center

- Applications Administrator
- A Bland County Board of Supervisors Member or designee

Twin County E-911 Center

- Applications Administrator
- A Twin County E-911 Commission Member or designee

W2 Consolidated E911 Center

- Applications Administrator
- A Wythe County Board of Supervisors Member or designee
- A Wytheville City Council Member or designee

1.2 STANDARDS COMMITTEE VOTING

Should members of the Standards Committee disagree on any standard for the Patriot System, each committee member will vote, with a simple majority of the quorum needed to decide the issue. In the event of a tie vote between the members the pending issue shall not be approved and shall be considered a no vote.

2. DATA ENTRY

Prior to the system implementation at the Connected Site/s, the Standards Committee will meet to define mutually-agreeable written standards for system consistency between all Localities. Terms of consistency are to include consistent vocabulary and references throughout the Patriot System as well as definitions for all tables throughout the system. Previous to and during system implementation at the Connected Sites, the Standards Committee will meet weekly unless otherwise agreed to by all localities.

After system implementation at the Connected Site, the Standards Committee will meet as necessary unless otherwise agreed to by all Localities to review necessary changes and to ensure continuous consistency between the vocabulary and definitions between all Localities' systems. Any Locality may change information for their locality at any time as long as said change does not affect the overall system.

2.1 DATA AVAILABLE

The Server Site/s shall allow the Connected Site to maintain separate records and data specific to each Locality's Patriot System. Because data for each Locality is stored on the same server, each Locality will

have access to computer programs and stored data within the Patriot System. Access to the Connected Site's data will be established and directed by the Server Site and in cooperation with the Connected Site's participation and approval. Data entered into the system by any Locality becomes a part of the server database and will be subject to maintenance or archival procedures as determined by the Server Site. Access to the servers at the Server Site/s shall be limited only to the retrieval, modification, and use of information contained in the Patriot System.

Extent of access shall conform to the regulations set forth in applicable federal, state, and local law.

Localities are prohibited and it would be considered an act of Default to sell, give, loan, lease, or otherwise transfer title, possession, or allow access or use of any of the data or screens by any person, firm, corporation, or association without prior written approval of the locality that has collected or input data pertaining to any locality unless written permission is obtained from said locality prior to the dissemination of such material.

Dissemination of data or information is the responsibility of the agency recording the data or information in accordance with this Agreement and the Virginia Freedom of Information Act, if applicable. All requests for information made pursuant to the Virginia Freedom of Information Act shall be forwarded to all localities for further review. Other localities will not disclose data except through specific written contracts and agreements with application and data owners.

2.2 PROPRIETARY INFORMATION

Proprietary information disclosed by either locality to the other for the purposes of this Agreement, which is clearly so identified in writing as proprietary, shall be protected by the recipient in the same manner and to the same degree that the recipient protects its own proprietary information. Such information will be disclosed only to those employees of the recipient requiring access thereto in order to perform this Agreement. All information or data on the Server Site's network shall be treated as proprietary regardless of ownership.

2.3 AUTHORIZED USE

The Agreement is intended for use by current employees of the BTW2 Regional Group Members, including all affiliated IT and other related departments. The Standards Committee must approve all user accounts. Each locality must submit the requested level of access, the name of the individual, and job title of each individual before a user name and password is issued to that individual.

2.4 INDIRECT ACCESS

Each Locality will take measures to prevent unauthorized indirect access to the shared Patriot System. Examples of this would be gateways, dial-up, or cascaded Telnet sessions where the

originator is not an Authorized Individual of the Server Site's network, but whose resultant IP address would appear to the network as being an Authorized Individual's address. Should unauthorized access occur, any damages or costs shall be determined by appropriate legal action and assessed accordingly.

2.5 USER ACCOUNT ACCESS TO PATRIOT SYSTEM

Each user of the Cassidan Patriot system shall have a unique user account with a unique password, thereby identifying the user as an Authorized Individual. This account is used within the Cassidan Patriot system to determine system rights of the user and to provide a method of accounting for access to information. Sharing of accounts within an agency for any purpose is expressly prohibited.

3. SECURITY

3.1 SECURITY PRIVILEGES

All Localities reserve the right to make all decisions and establish all security privileges pertaining to the individual locality's data stored in the Patriot System. Each agency is entitled to full system access to administer the Cassidan Patriot system and the specifications for each Authorized Individual user. Each agency is prohibited from modifying any part of the other Locality's data without written consent. Each server site will have at least one Security Administrator with rights through their password to be able to administer the overall system in the event the vendor requires onsite assistance.

3.2 AUTHORIZED INDIVIDUAL USERS

Each Locality has full authorization to add, modify, and delete any information or system access for the Locality's own users. Each agency is prohibited from modifying any aspect of an Authorized Individual's access rights and privileges for the other agency without written consent.

3.2 USER PERMISSIONS

Each Locality reserves the right to establish the permissions granted to each individual user employed by the Locality. Authorized Individual permissions include accessibility to specific modules and applications, ability to view, modify, delete, and print any aspect of the Patriot as defined by the Localities' approved permissions for the Authorized Individual. Each Locality also maintains the right to partition specific records and information within any record that is deemed private and inaccessible by the other Locality.

4. EQUIPMENT & CONNECTIVITY

4.1 EXISTING EQUIPMENT AT THE SERVER SITE

The Server Site already maintains a network server, firewall, backup devices, etc. Upon installation of the Patriot System, the Connected Site is authorized to access said equipment to maintain the Patriot for the Locality's individual system and to produce any minor modifications that do not directly affect the Server Site or its data. The access permitted by this agreement for the Connected Site is limited solely to the access necessary for the purposes of utilizing the Patriot System.

4.2 SERVER AND CLIENT CONNECTIVITY

All Localities are responsible for maintaining connectivity to the server in a shared network and will equally divide any and all approved costs associated with the purchase and or maintenance of this network connectivity. Each locality is individually responsible for maintaining connectivity and hardware specific to the individual agency within that locality.

4.3 HARDWARE MAINTENANCE

The BTW2 Regional Group agrees to either obtain or maintain a maintenance contract with all hardware vendors at all times. Additional equipment including backup generator(s) or reserved power supplies at the server sites will be maintained by the respective sites as normal operating equipment. The BTW2 Regional Group is responsible to renew these hardware contracts as necessary with all involved entities. These contract costs will be submitted to the Standards Committee to be reviewed and submitted in their respective budgets. If a server is damaged by lightning, or anything covered by insurance the server site with the damaged equipment will submit for compensation from their insurance company

If a server or any equipment necessary for the normal operation of the overall system ceases operation for any reason the cost of replacement will be shared equally between the members of the BTW2 Regional Group.

If any components within a locality ceases operation, and said component is only used in the operation of that locality's operation, it is the responsibility of that individual locality to replace said equipment at its own expense.

4.4 HARDWARE SPECIFICATIONS

Connected computers (laptops or PCs) with access to the Patriot will comply with the "Minimum Specifications" document provided by Patriot Technologies, Inc. Each Locality will be responsible to maintain hardware to meet these specifications. Such "Minimum Specification" document is herein incorporated by reference and attached as Exhibit C.

4.5 ACCESS TO PATRIOT SYSTEM

The Server Site/s will take reasonable steps to ensure that the Connected Site retains access to the Patriot 24 hours a day, 7 days a week. Should availability to the Patriot be terminated for any reasons

whatsoever, the Connected Site will immediately notify the Server Site of the lapse in system access. Each Locality is responsible for the agency's access to the server. Should access to the server lapse for a Locality, the individual Locality is responsible to work with appropriate Localities to restore system availability, and to further provide notification to the other Locality when system availability is restored. The Server Site's will maintain contact names and numbers which will be updated as needed to ensure continual and reliable operation of the system. Patriot Applications Administrator will be contacted by one representative from either of the server sites. The contact at the server sites will communicate with all agencies when Patriot Support contact is necessary and will inform all agencies of all communications that result from that contact.

4.6 PATRIOT SYSTEM/NETWORK AVAILABILITY.

The Patriot availability objective is 99.8%, 24 hours a day, seven days a week.

4.7 PATRIOT SYSTEM/NETWORK MAINTENANCE

The Patriot and the Server Site networks will be available as set forth in this section with the following exceptions:

4.6.1 SCHEDULED MAINTENANCE

The Server Site reserves the right to schedule preventative maintenance on all systems. Preventative maintenance will be scheduled with a minimum two week notice in advance in order to minimize impacts to the Connected Site. The Server Site must provide written notice of any scheduled maintenance to the Connected Site a minimum of two weeks in advance. The Connected Site must notify the Server Site's IT Department one week prior to the scheduled maintenance window if the Connected Site requires the Patriot to be available or "live" during scheduled maintenance. All Localities agree and acknowledge that scheduled maintenance may result in loss of service to the Patriot for a period of time.

4.6.2 SOFTWARE AND HARDWARE UPGRADES OR MODIFICATIONS

A Technology Review Committee will be appointed by the Standards Committee. This committee will meet regularly (at least semi-annually) to jointly determine which upgrades, additional module purchases, or hardware acquisitions the localities will implement. This Committee will coordinate and discuss any and all prospective purchases, upgrades, and or additions with their respective finance administrators and present any such request in a timely manner during the annual budget or with sufficient notice to the Board of Supervisors/City Council for consideration when additional monies are expected to be needed to facilitate any prospective purchases, upgrades, and or additions. In addition, if upgrades, additional modules, or new hardware are determined necessary and acceptable by all localities, the committee will determine the most appropriate time for scheduled modifications to minimize the impact to all localities.

Software and hardware upgrades or modifications differ from normally scheduled maintenance, in that the Patriot will be unavailable for the duration of the upgrade. It is conceivable that an upgrade may

take a couple of days. In the event that the Technology Review Committee agrees to an upgrade for all Localities, the Server Site will notify the Connected Site of the scheduled upgrade at least one month prior to the scheduled upgrade time. The Server Site/s will make every reasonable attempt to schedule the upgrade to minimize impacts to the Connected Site.

4.6.3 EMERGENCY MAINTENANCE

The Server Site/s will coordinate emergency maintenance with the Connected Site whenever necessary.

4.6.4 SERVER SITE'S TECHNICIAN AVAILABILITY

The Server Site's will provide a Technician during regular business hours. The telephone number for the primary site is 276-236-5122 and the telephone number for the secondary site is 276-xxx-xxxx. After-hours support will be obtained by calling 276-236-6349 and a technician will be contacted. The Technician will log computer, network problems and dispatch problems to the appropriate personnel. Patriot users may also contact [contact name] at [contact phone numbers] on problems relating specifically to the Patriot application. The Connected Site is responsible for providing a current contact list to the Server Site's IT Department.

4.6.5 CONFIGURATION MANAGEMENT

All configuration changes to the Cassidan Patriot system will be made by the Server Site's IT Department in coordination with the Connected Site and Patriot, when necessary. The Connected Site will provide the Server Site's IT department with a primary and alternate contact name of authorized personnel who can coordinate/request changes to the current network. None of the localities having access to the system shall have authorization to perform any configuration changes to the servers that will affect another Locality without written consent from the other Locality prior to performing the configuration or modification.

4.6.6 DISASTER RECOVERY, BACKUP, & ARCHIVING

Nightly backups will be made and maintained by the Server Site IT Department. This backup will be stored onsite at the Twin County E-911 Communications Center along with the Secondary Server back up at the W2 Consolidated Communications Center

4.6.7 SECURITY AND INTEGRITY

The Server Site's network is protected from the Internet with firewall security to prevent unauthorized access from the Internet. The Connected Site is responsible for securing the computer's resources against all unauthorized access at each remote site.

4.7.8 COSTS FOR SERVER MAINTENANCE, EQUIPMENT AND SECURITY

All costs and expenditures related to support and maintenance shall be paid based on the number of workstations at each site, servers, other equipment, security or other costs necessary for the overall operations of the system incurred in carrying out this Agreement shall be paid by all Localities in an

equal amount. The Locality incurring the cost shall be paid by the other Locality(ies) within Thirty (30) days of receipt of an invoice for the cost. All reimbursements and costs paid shall come from current revenues of the Locality's governing entity equally.

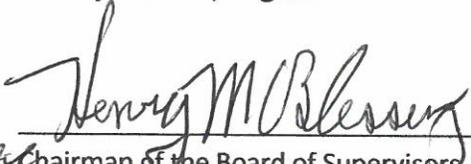
ACCEPTANCE OF APPENDIX

Each Locality hereby mutually acknowledges and accepts the terms and conditions of this Agreement.

This MOU agreed this 22nd day of may, 2012.

County of Bland, Virginia, Twin County E-911 Commission, Virginia, and the County of Wythe, Virginia.

County of Bland, Virginia



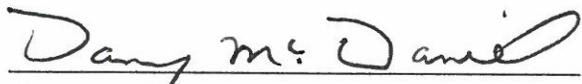
Chairman of the Board of Supervisors

Twin County E-911 Commission, Virginia



Chairman of the Commission

County of Wythe, Virginia



Chairman of the Board of Supervisors

Appendix B

THE COUNTY OF BLAND, VIRGINIA, THE TWIN COUNTY E-911 COMMISSION, VIRGINIA, AND THE COUNTY OF WYTHE, VIRGINIA for REGIONAL SHARED 9-1-1 CUSTOMER PREMISE EQUIPMENT (CPE)

Below is the schedule of each sites projected costs for procuring and maintaining the CPE equipment:

PROCUREMENT:

Site	Grant Funds	Locality Funds
Bland	\$63,840.44*	
Twin County (Galax, Carroll, Grayson)	\$122,991.44*	
Wythe/Wytheville Consolidated Ctr	\$112,839.32**	

CONNECTIVITY:

Site	Grant Funds	Locality Funds Years 2-5
Bland	\$7,620* approximation	\$7,620/year approximation
Twin County (Galax, Carroll, Grayson)	\$23,850* approximation	\$23,850/year approximation
Wythe/Wytheville Consolidated Ctr	\$9,060* approximation	\$9,060 approximation

24/7 MAINTENANCE SUPPORT

Site	Grant Funds	Locality Funds
Bland	\$19,511.08*	
Twin County (Galax, Carroll, Grayson)	\$41,833.99*	
Wythe/Wytheville	\$57,249.55**	

Excludes Hardware required for upgrades. While every attempt will be made to find grant funding to procure any hardware required for upgrades, each locality realizes they will need a capital plan to cover potential hardware costs to maintain the CPE on the most current software version.

*Bland/Twin County Regional Grant **Consolidation Grant

ACCEPTANCE OF APPENDIX

Each Locality hereby mutually acknowledges and accepts the terms and conditions of this Agreement.

This MOU agreed this 22nd day of may, 2012.

County of Bland, Virginia, Twin County E-911 Commission, Virginia, and the County of Wythe, Virginia.

County of Bland, Virginia

Henry M. Blessing
Vice Chairman of the Board of Supervisors

Twin County E-911 Commission, Virginia

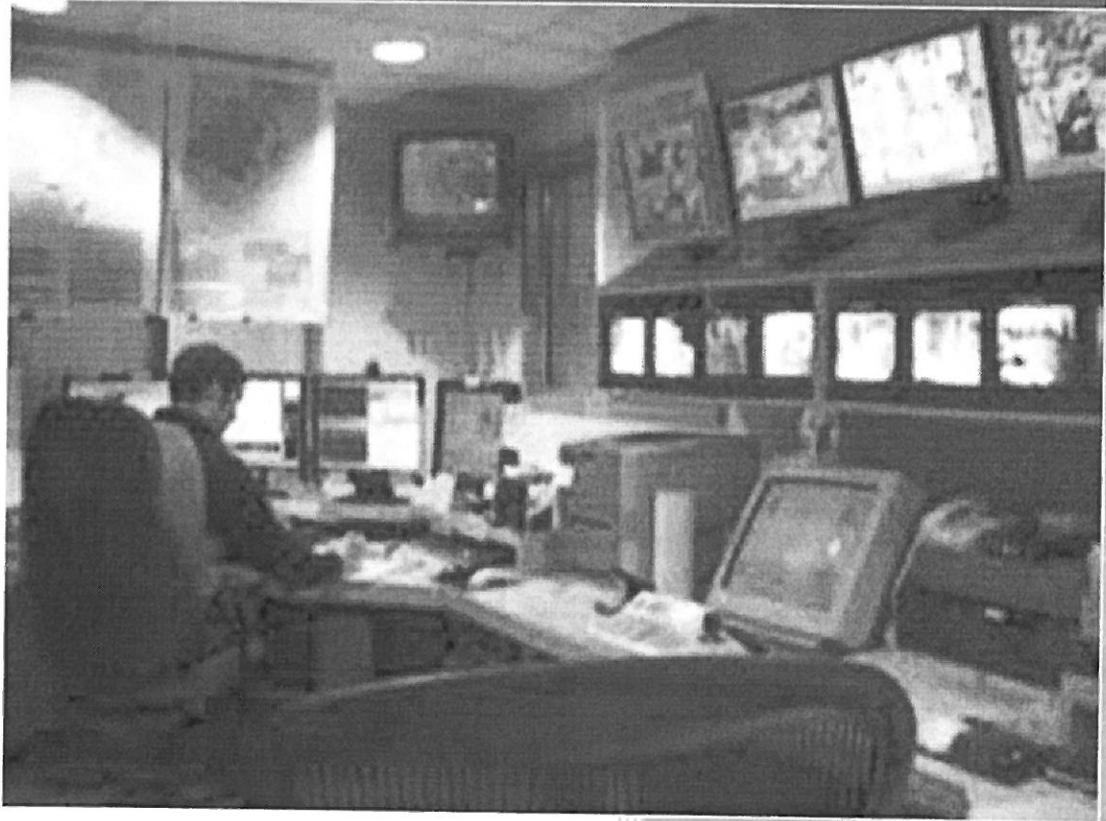
F.R. Young Jr. 7/31/12
Chairman of the Commission

County of Wythe, Virginia

Danny McDaniel
Chairman of the Board of Supervisors

FY15

**PSAP GRANT PROGRAM
APPLICATION**



VIRGINIA INFORMATION
TECHNOLOGIES AGENCY
Integrated Services Division



FY15 PSAP GRANT PROGRAM APPLICATION

HOW TO APPLY/DEADLINE

The grant application is available and accessible from VITA's Integrated Services Program's website

(<http://www.vita.virginia.gov/isp/default.aspx?id=8578>). Upon completion of the application, it is to be submitted to the PSAP Grant Manager, Lisa Nicholson, at lisa.nicholson@vita.virginia.gov. Any supporting documentation must also be submitted along with the application, including mandatory budgets for projects (if applicable).

After submission, the PSAP Grant Manager will assign a Grant ID and send an e-mail notification to the project contact e-mail address listed on the application received.

All funding requests must be submitted using the grant application. Technical assistance is available from VITA's Public Safety Communications (PSC) staff throughout the grant process. The FY15 PSAP Grant Application Cycle starts July 1, 2013 and concludes on September 30, 2013 at 5:00 pm.

ALL APPLICABLE SECTIONS MUST BE COMPLETED IN ITS ENTIRETY OR THE APPLICATION WILL BE CONSIDERED INCOMPLETE AND NOT ACCEPTED FOR CONSIDERATION.



FY15 PSAP GRANT APPLICATION

PROJECT TITLE

BTW2 Regional CPE Grant – 2nd Connectivity

GRANT APPLICANT PROFILE/PROJECT CONTACT

PSAP/HOST PSAP NAME: Twin County Regional E911

CONTACT TITLE: 911 Coordinator

CONTACT FIRST NAME: Jolena

CONTACT LAST NAME: Young

ADDRESS 1: PO Box 510

ADDRESS 2: 353 N Main St

CITY: Galax

ZIP CODE: 24333

CONTACT EMAIL: jyoung@galaxva.com

CONTACT PHONE NUMBER: 276-236-5122

CONTACT MOBILE NUMBER: 276-233-3231

CONTACT FAX NUMBER: 276-236-2956

REGIONAL COORDINATOR: Tim Addington

HOST PSAP AND PARTICIPATING PSAPS/LOCALITIES

Twin County Regional E911
Bland County 911

Carroll County
Grayson County
Cities/Towns within Counties

GRANT TYPE

Individual PSAP

Regional Initiative

Consolidation

Secondary Consolidation



GRANT PROGRAM TYPE

X Continuity and Consolidation

Enhancement

TIER

XX Out of Service

Non-Vendor Supported*

Technically Outdated*

Strengthen

Not Applicable

If technically outdated or non-vendor supported, application MUST include age and/or version of hardware/software.

VERSION: Patriot Sentinel 3 # YEARS of HARDWARE/SOFTWARE: <1

No longer performs at an established minimum functional standard to sustain an acceptable level of service to the public

PRIORITY/PROJECT FOCUS Click to select a project focus from the drop down list

If "Other" selected, please specify: Click here to enter text

FINANCIAL DATA

Amount Requested: \$ 250,000

Total Project Cost: \$ 250,000

STATEMENT OF NEED



This statement should reference the relationship to the current funding priorities established by the Grant Committee and include evidence of any financial need, along with additional information on the impact on operational services; consequences of not receiving funding; inclusion of project in a long-term or a strategic plan; and local sustainability:

This is a regional Continuity and Consolidation Program application for Out of Service funding to primary PSAPs serving the financially handicapped populations of Bland, Carroll, Grayson and the Cities of Galax along with additional Townships.

Bland, Twin are requesting funding to connect Wythe County and Twin County's existing microwave infrastructures and to add microwave equipment to connect Bland County PSAP. The microwave will be interfaced with the CPE equipment as secondary connectivity. **Cassidian requires that Geo-diverse Patriot Sentinel solutions have secondary connectivity. (See attached vendor statement).** The need for secondary connectivity has been validated as a true need through **five** outages at the Bland PSAP and **one** at the Grayson County secondary PSAP since going live on the geo-diverse network in April 2013. The outages have occurred during maintenance events even though the fiber connection has redundant paths.

The original project created a new regional cooperation to reduce acquisition costs across the three PSAP's. The purchase of equipment and services for this project directly supports the purpose of continuity and enhancement wireless E-911 projects. The Board will provide funding to primary PSAPs for projects designed to replace or upgrade wireless E-911 equipment and services that are out of service, without vendor support, technically outdated, **or can no longer perform at an established minimum functional standard to sustain an acceptable level of service to the public.** This regional CPE project to enable stability is the number one funding priority for the Continuity and Consolidation Program in the 2013 grant cycle.

The project is perfectly aligned with long-term strategies for regional improvements and the impact on operational services is significant. According to the Virginia Statewide Comprehensive Plan and the perspective of all citizens, "the establishment and adoption of 9-1-1 service ensured that in an emergency any caller throughout the country could dial three easily memorized digits and quickly have local first responders come to his or her aid." However, that does not always happen in our region of Southwest Virginia. This project would restore predictability that citizens expect when they dial 9-1-1.



The new project in this proposal is not currently being supported by a local, state or federal grant and applicants can demonstrate dire financial need.

The host applicant is Twin County E-911, a primary PSAP serving all the City of Galax and the Counties of Carroll and Grayson. Twin County E-911 serves nearly 1,000 square miles of rugged mountainous terrain along the Blue Ridge in the Southwest corner of the Commonwealth. Our citizens are financially handicapped and under-employed. It may be hard to imagine a place where 31% of the individuals live below poverty level (triple the state average); where unemployment doubles the state rate; and where the median household income is \$22,105 which is nearly two-thirds less than the average Virginia household income of \$61,126. But these hard facts do define us.

By comparison to Twin Counties and Galax, the economic statistics in Bland County are vastly improved, but they still fall far short of state and national figures and clearly express financial need. In Bland County, the median household income is \$42,231, nearly one-third less than the average Virginia household income.

Likewise, our local governments have not been immune to the financial constraints of their taxpayers and tax base. The applicant localities have suffered by making budget cuts in many areas where it can, including personnel and not filling vacancies. Despite the urgent and compelling need for 911 services, the reality is simply that we cannot afford to do this without grant assistance.

Without grant funding, the PSAPs in this regional project will not be able to address their needs. There is no other source of funding for this project. The applicants, their localities and the citizens they serve are at a crippling financial disadvantage. The PSAPs covering Bland, Carroll and Grayson Counties and the City of Galax will continue to be at risk to provide continuous uninterrupted 9-1-1 service to their communities which include several miles of interstate highway prone to high volume accidents such as the 96 multiple vehicle crash on Easter Sunday.



Describe how the grant will be maintained and supported in the future, if applicable.

This regional project will be maintained and supported in the future from the regional long-term plan for sustainment. Dealing with current equipment obsolescence issues constantly and sometimes daily, the PSAPs are acutely and painfully aware of the need for maintenance and support. They have the experience and frustration of what happens when you have equipment that is technically outdated and no longer has vendor support.

This approach utilizes an existing infrastructure for Twin and Wythe resulting in minimal increase in ongoing costs. It will also open a connectivity channel for future regional projects.

COMPREHENSIVE PROJECT DESCRIPTION

Provide a thorough, concise, and complete description of the project, including an outline of the goals and objectives, implementation strategy, and a work plan.

The project objective is to establish redundant connectivity for the BTW2 geodiverse Patriot Sentinel to stabilize connectivity by expanding existing microwave infrastructure:

- a. Establish Satellite for Wythe/Wytheville PSAP*
- b. Create a link from Wythe/Wytheville Microwave to Sand Mtn
- c. Create a link from existing Twin County Microwave to Sand Mtn
- d. Upgrade Twin County from 50 MG to 100 MG**
- e. Establish Satellite for Bland County PSAP
- f. Establish link between Big Walker to Sand Mtn
- g. Create connection in Patriot Sentinel Network (5 locations)

The workplan follows:



Phase/Task	Assigned	End Date
<u>Initiation</u>		
Document Project Concept	J Young	9/1/2013
Obtain Budgetary Estimates	J Young	9/27/2013
Document Regional Agreement	All	9/30/2013
File PSAP grant application	J Young	9/30/2013
Receive grant funding decisions	J Young	1/31/2014
<u>Design and Planning</u>		
Document detail requirements	Team	6/30/2014
Define Critical Success Factors	Team	6/30/2014
Develop detail design	Team	6/30/2014
Review design with stakeholders	Team	6/30/2014
ID components to be purchased based on final design	Team	6/30/2014
Develop test and training plans	Team	6/30/2014
<u>Acquisition</u>		
Issue RFP	J Young	7/30/2014
Perform site assessments at each tower/site	Team	8/30/2014
Review and Score Proposals	Team	9/15/2014
Sign Contract(s)	J Young	9/30/2014
Issue Purchase Orders	J Young	9/30/2014
Request Grant Fund Draw Down	J Young	8/15/2015
<u>Implementation</u>		
Finalize site environmental assessments	Team	3/31/2015
Finalize microwave licensing	Team	3/31/2015
Determine delivery and installation dates	Team	3/31/2015
Develop implementation plan	Team	3/31/2015
Review implementation plan with stakeholders	Team	4/30/2015
Excute implementation against plan	Team	6/15/2015
Train users	Team	6/15/2015
<u>Testing/Completion</u>		
Execute the test plan	Team	6/30/2015
Validate system performance	Team	7/31/2013
Develop a fail-back strategy	Team	6/15/2015
Go Live	Team	6/30/2015
Measure and report on critical success factors	Team	7/31/2015



FOR CONTINUITY AND CONSOLIDATION OR ENHANCEMENT PROJECTS:

PROJECT TIMELINE – Select each applicable phase of the project and indicate the estimated completion date. Sample activities for each phase can be found in the PSAP Grant Program Guidelines as well as on the addendum to this form.

PROJECT PHASE	ESTIMATED COMPLETION DATE
<input type="checkbox"/> INITIATION (Project approved by appropriate stakeholders)	09 / 30 / 13
<input type="checkbox"/> DESIGN/PLANNING (Project, system, or solution requirements are developed)	06 / 30 / 14
<input type="checkbox"/> ACQUISITION (Selected system or solution is procured)	09 / 30 / 14
<input type="checkbox"/> IMPLEMENTATION (Selected system or solution is configured and installed)	06 / 15 / 15
<input type="checkbox"/> TESTING/COMPLETION (Selected system or solution is tested and put in production)	06 / 30 / 15



Identify the longevity or sustainability of the project.

This project continues a regional cooperation and collaboration that will sustain continuity for the project and its partners. The project increases stability in the Ethernet connection among the regional partners.

This approach utilizes an existing infrastructure for Twin and Wythe resulting in minimal increase in ongoing costs. It will also open a connectivity channel for future regional projects.

Any increases in maintenance and capital replacement costs will be agreed via the BTW2 Steering Team and incorporated into the MOU and capital/grant planning processes.



Describe how this project supports the Virginia Statewide Comprehensive 9-1-1 Plan.

This project supports both goals of the Virginia Statewide Comprehensive 9-1-1 Plan and seeks to fulfill an important initiative. There are only two goals in the Virginia Statewide Comprehensive 9-1-1 Plan. The first goal is provide a standard level of 9-1-1 emergency dispatch services to the public. *When achieved, this goal will provide consistent 9-1-1 emergency dispatch services to anyone residing in or passing through the Commonwealth, at any time of day, and during any event. Consistent service means that all 9-1-1 centers can receive, process, and dispatch "calls" in a dependable and repeatable manner.* However, as reflected in the statement of our need for this project, that does not always happen in our region of Southwest Virginia. This project would restore that predictability and bring reliability to our 9-1-1 emergency dispatch services.

The second goal of the Virginia Statewide Comprehensive 9-1-1 Plan is to position 9-1-1 centers to continuously meet the public's expectations. *When achieved, this goal will allow Virginia to keep up with the rapid pace of technology innovation and therefore the constant changes in customers' expectations.* However, again as reflected in the statement of our need for this project, public expectations are clearly not met with our outdated and obsolete equipment. Equipment failures caused suspensions of our 9-1-1 emergency dispatch services to Carroll and Grayson secondary PSAPs and the obsolete equipment aggravated and prolonged the suspension of these services. With elapsed vendor support, County of Bland faces this real and costly risk day-to-day.



REGIONAL INITIATIVE (if applicable)

The relationship of the initiative to the participating PSAPs:

The host applicant is Twin County E-911, a primary PSAP serving all the City of Galax and the Counties of Carroll and Grayson. Twin County E-911 covers 942 square miles along the Blue Ridge Mountains bordering North Carolina. Twin County E-911 is the fiscal agent responsible for fulfilling all grant requirements including reports, control of and accounting for funds, and distribution and control of equipment purchased with this grant award. Twin County E-911 has been instrumental in the formation of this regional project and has facilitated the development and concurrence of the project and partners. Twin County E-911 will continue to take the lead role on this regional project through its completion.

The City of Galax is a jurisdiction served by Twin County 9-1-1 for Fire and EMS 9-1-1 calls.

The County of Carroll is a jurisdiction served by Twin County 9-1-1 for Fire and EMS 9-1-1 calls.

The County of Grayson is a jurisdiction served by Twin County 9-1-1 for Fire and EMS 9-1-1 calls.

Carroll County Sheriff's Office is a secondary PSAP in that Twin County transfers 9-1-1 calls to the Sheriff's Office for dispatch.

Grayson County Sheriff's Office is a secondary PSAP in that Twin County transfers 9-1-1 calls to the Sheriff's Office for dispatch.

The applicant, the County of Bland PSAP, covers 359 squares miles bordering West Virginia has experienced five interruptions in 911. The County of Bland has a vested interest in the improvement of its CPE and this regional endeavor.

A letter of participation from localities to this regional grant application is attached along with the regional MOU.

**Intended collaborative efforts:**

The region is sharing in the development and maintenance of a regional Patriot Sentinal Ethernet network. This collaborative effort will establish a secondary link serving multiple purposes: 1) increase stability in CPE during fiber maintenance events; 2) serve as a pilot to determine if microwave is feasible as a secondary link in NG911 networks; 3) create a connectivity link to enable future collaborations.

Resource sharing:

The Patriot Sentinal Server and Software is being shared and utilized by all the jurisdictions. By connecting existing, separate microwave infrastructures, this project expands the jurisdictions ability to pursue other, future regional collaborative efforts e.g., mapping, site disaster recovery planning.

How does the initiative impacts the operational or strategic plans of the participating agencies:

This project will enable County of Bland to satisfy a Strategic Goal to have a stable NG 9-1-1 capable CPE.

This project will enable Bland, Wythe and Twin County to satisfy a Strategic Goal to enable a NG911 network with secondary connectivity.

CONSOLIDATION (Primary or Secondary) - (if applicable)

How would a consolidation take place and provide improved service:

N/A Not a Consolidation Project



How should it be organized and staffed:

N/A Not a Consolidation Project

What services should it perform:

N/A Not a Consolidation Project

How should policies be made and changed:

N/A Not a Consolidation Project

How should it be funded:

N/A Not a Consolidation Project



What communication changes or improvements should be made in order to better support operations:

N/A Not a Consolidation Project

BUDGET AND BUDGET NARRATIVE

List the planned expenditures to be made with grant funds. (NOTE: In lieu of a line item breakdown, an itemized cost schedule or detailed vendor prepared quote may be submitted as an attachment. However, budgetary quotes received from a particular vendor(s) during the application process do not commit the PSAP to use that vendor(s) once the grant is awarded.) Briefly explain the reason for each requested budget item and provide the basis for its cost:

Based on discussions with vendors, equipment and labor to establish a secondary connection using microwave will cost approximately \$25k / link except for Sand to Beamers which will require more sophisticated equipment due to distance. This link is estimated at \$80k. The CPE support vendor provided the estimate for the microwave to CPE connectivity.

• Establish Satellite for Bland County PSAP (w 1 Hops)	\$50k
• Establish link between Big Walker to Sand Mtn	\$25k
• Create a link from Wythe/Wytheville Microwave to Sand Mtn	\$25k
• Create a link from existing Twin County Microwave to Sand Mtn	\$80k
• Upgrade Twin County from 50 MG to 100 MG**	\$50k
• Create connection in Patriot Sentinel Network (5 Cisco Switches/labor)	\$20K
Total	\$250k



EVALUATION

How will the project be evaluated and measured for achievement and success:

Our performance measures will begin with proper purchases of equipment and services to achieve a new regional network. Procurement will be in accordance with all federal, state and local procurement standards. After installation of the equipment and implementation of the services, each PSAP will be able to process 9-1-1 calls as determined by a detailed evaluation plan. Additionally, each PSAP will be able to process 9-1-1 calls with parts of the network disabled to simulate equipment failures. Each PSAP will record these performance measures and report them to the host applicant for inclusion on the final report.



VENDOR REQUIREMENT

- 2 IP-routed WAN connections between a VESTA/Sentinel host site and remote agencies. IP-routed WAN must be engineered to:
 - ◆ Provide sufficient bandwidth
 - ◆ Support QoS characteristics
 - ◆ Converge in three seconds or less
- 3 WAN connections between a VESTA/Sentinel site and a CommandPOST or a remote Console. In order for a CommandPOST to function within a VESTA/Sentinel network, it must be able to access a host site, typically through a public network such as the Internet. In most cases, a Digital Subscriber Line (DSL) is a viable and cost effective option for this purpose. A remote position that accesses the VESTA/Sentinel site through unsecured public networks needs to employ a Virtual Private Network (VPN) in order to ensure payload confidentiality and share a common address space. In order for the remote position to experience acceptable voice quality and performance, it is crucial that the CommandPOST connection is engineered to:
 - ◆ Provide sufficient bandwidth
 - ◆ Meet the required QoS characteristics

For more information, see “VESTA/Sentinel CommandPOST,” page 7-2.
- 4 As shown in earlier diagrams, every VESTA/Sentinel host site must be equipped with Internet connections that provide remote access to a Network Operations Center (NOC) or to certified Help Desk personnel. Remote access is generally realized by a standard VPN technology such as IP Security (IPSec) over a DSL connection with at least 1 Mbps of bandwidth. Such remote access points must:
 - ◆ Provide at least 1 Mbps worth of bandwidth
 - ◆ Support IPSec-based VPN

**Note**

The term WAN is used in this document to mean any data network that extends beyond the confines of a single site.

Physical path redundancy of a VESTA/Sentinel WAN

It is good practice to provide redundant physical paths for WAN connections between a host site and a remote agency. However, physical path redundancy is critical for inter-host site links. The redundant paths should terminate on a pair of redundant network equipment at each site in order to avoid single points of failure. Ideally, the redundant WAN connections also traverse disparate physical facilities and enter a building through different conduits.

Route redundancy for inter-host sites

While a geo-diverse VESTA/Sentinel deployment offers many benefits, it is designed to operate with redundant links between the host sites. If the network connections between the host sites are severed, some anomalies may occur when the host sites are re-connected:

- ◆ Consoles that are connected to the backup DDS lose the ability to process certain calls and must be logged off and logged on again to regain full capabilities.
- ◆ Calls that are parked and calls that are destined to voice mail or an auto attendant on MDS-B are lost.

Therefore, in a geo-diverse deployment, it is crucial to inter-connect the host sites by redundant network connections that are designed to fail in three seconds or less.

Route-redundancy for remote sites

In a multi-site architecture, remote agencies are usually equipped only with call-taking positions, and possibly local gateway(s), that are managed by servers located at a host site. If the WAN is severed at a remote site, the remote agency will lose the ability to process calls and will essentially be out of commission. WAN redundancy at the host sites is even more important in a multi-site deployment. If the host sites lose their WAN connectivity, all remote agencies will lose the ability to process calls. It is therefore important to maximize network availability by providing redundant WAN connections at all sites in multi-site deployments. Occasionally, though not advisable, a customer or channel partner may choose to forego route-redundancy to reduce costs. In which case, it is important that the customer or channel partner fully understands the associated risks and is willing to assume any liability that may result from WAN failures.

As a backup measure, it is always prudent to implement another layer of redundancy beyond that which is provided by the IP network, whenever feasible, by enabling alternate routing at the selective router. This added layer of resiliency allows an agency to complement IP network redundancy by leveraging its selective routers' ability to alternate route between agencies. Thus, if an agency's connections to host sites are completely severed, the selective router may automatically reroute the failed agency's calls to a designated backup site.

The following list provides some suggestions for improving physical route redundancy:

- ◆ Increase WAN resiliency through diverse carriers that are not using the same network facilities and circuits.
- ◆ Improve local loop diversity by using different service provider or technologies whenever possible.
- ◆ The circuit should enter the building through different points of entry whenever possible.

IP-routed WAN

Like all IP networks, a VESTA/Sentinel WAN requires routers to route IP packets between different sites, which are typically assigned their own subnet. As such, a router needs to be aware of the routes it can use to send packets destined for networks to which it is not directly connected.



PARTICIPATION LETTERS

To: Dorothy Spears-Dean and Wireless Board Grant Committee

From: Bland County PSAP

Date: 9-30-13

Ref: FY 15 Regional Grant

BTW2 regional CPE, which was developed with Wireless PSAP Grant funding, has been a success for the four counties and one city involved in it. Bland 9-1-1 is supportive of participating in a regional grant with Wythe/Wytheville Consolidated and Twin County PSAPs for the planning, design and implementation of secondary connectivity for the BTW2 network. This project will directly improve the stability of the NG911 type network, and therefore, the consistency of the participating PSAP's ability to process Wireless 9-1-1 calls.

Our network was not funded as a NG911 pilot project, yet is clearly a pilot in collaborative networking. The jurisdictions are funding the ongoing connectivity costs of \$4,700 per month or \$56,400 annually. We cannot afford a secondary connection at these rates. As such, we believe it would benefit us and the State to expand on existing microwave infrastructures to prove viability as secondary connectivity. There is no monthly service fee. Maintenance and replacement costs are already required and covered for existing microwave equipment. The jurisdictions are willing to fund the incremental maintenance and replacement costs for the new microwave links.

Thank you very much for considering this request.





MEMO OF UNDERSTANDING

**MEMORANDUM OF UNDERSTANDING BETWEEN
THE COUNTY OF BLAND, VIRGINIA, THE TWIN COUNTY E-911
COMMISSION, VIRGINIA, AND THE COUNTY OF WYTHE, VIRGINIA for
REGIONAL SHARED 9-1-1 CUSTOMER PREMISE EQUIPMENT (CPE)**

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (MOU) is entered into this Day, DATE between the County of Bland, Virginia, the Twin County E-911 Commission, Virginia, and the County of Wythe, Virginia (collectively known as the BTW2) for regional collaboration on the procurement, design and implementation of shared 9-1-1 Customer Premise Equipment (CPE).

PURPOSE

Background

The BTW2 Region was awarded grant funds from the Virginia Wireless E-911 Services Board in the amount of \$325,000 from the FY 2013 PSAP (Public Safety Answering Point) Grant Program based on a regional grant submission for integrated Customer Premise Equipment (CPE). Twin County E-911 Commission is the fiscal agent for the grant award. The BTW2 Region will utilize the Public Safety Answering Program Grant Program awarded funds totaling \$325,000 from the Wireless E-911 Services Board to implement a geo-diverse CPE solution.

Purpose

The purpose of this memorandum of understanding is to establish a cooperative agreement among the BTW2 Region for a shared CPE solution. This MOU will outline the responsibilities, commitment and funding requirements from each participant to ensure success. The BTW2 Region will plan for appropriate connectivity among the public safety answering points (PSAPs) in each locality and implement a shared solution with mutual benefits such as redundancy and backup capabilities.

SCOPE OF WORK

CPE, Support, Maintenance, and Connectivity

The BTW2 Region Group has acquired and agreed upon a CPE solution which supports a hosted/remote environment for call processing to ensure maximum redundancy and disaster recovery. The CPE vendor will provide bandwidth requirements for proper connectivity for the shared solution based upon accurate data collection from each participant as an output of the project design. The BTW2 Region Group has mutually agreed upon the following configuration and connectivity:

Twin County E-911 (City of Galax site) and W2 (Wythe County/Township of Wytheville Consolidated Center) will install a Patriot Host CPE at each PSAP location. Twin County E-911 will act as the Primary

Host with W2 County as the Secondary Host. Because maintenance is necessary for all locations, each site agrees to share the cost of support and maintenance based on the number of workstations at each site.

Bland County and Twin County E-911 (Carroll County and Grayson County sites) will install Remote Patriot Equipment (routers and workstations) at each PSAP location. Bland County will have Primary connectivity to the W2 Patriot Host location and Secondary connectivity to the Twin County E-911 Patriot Host location. There will also be connectivity between the two host Patriots to allow for transfers of calls and switching of primary to secondary Patriot operations. Because connectivity is necessary for all locations, each site agrees to subscribe to a minimum Ethernet bandwidth as determined by the bandwidth study, and pay their connectivity as long as they are a BTW2 Regional participant. Appendix A stipulates the requirements and responsibilities of the BTW2 Virginia localities with respect to CPE and is incorporated into and made part of the MOU by reference.

FUNDING REQUIREMENTS

The Twin County E-911 Commission has been designated as the fiscal agent to receive the grant funding and will be required to provide all necessary documentation such as invoices and payments.

Subject to appropriation, the BTW2 Region or an individual site will be responsible for any costs of CPE upgrades or additional features beyond the original design and implementation. The BTW2 Region localities will need to plan and budget for these costs since they are not included within the scope of this MOU.

Appendix B (attached spread sheets) show funding from Grants to fund this project and funding each locality must assume and is incorporated into and made part of the MOU by reference.

PERIOD OF AGREEMENT AND MODIFICATION

This MOU will become effective when signed by all parties.

Any amendments to this MOU must be mutually agreed upon by all parties. If any locality within the BTW2 Region decides to terminate this MOU, they must provide a one hundred and twenty (120) day written notice to all parties. Any additional costs incurred by the locality to terminate this Agreement and implement a separate CPE solution as described in this Agreement and incorporated Appendices will be the responsibility of the terminating party.

This MOU will be for a period of five (5) Years.

TERMS OF CONTRACT

TERMINATION OF LICENSES OR SUPPORT AGREEMENT

If a Locality or Localities should terminate its License or Support contract with either of the Safety Systems which are incorporated in the BTW2 Virginia Project, the agency will provide written notice to the other Locality/s at least one hundred and twenty (120) days prior to the contract's termination unless the License or Support contract is terminated under a provision permitting termination without one hundred and twenty (120) days' notice. The site maintaining the License or Support contract with the Safety Systems reserves the right to keep its own License and/or Support contract with the vendor as well as all system data belonging to the agency. Termination of the License or Support agreement will effectively terminate this BTW2 Region Agreement at the same time as the License or Support agreement is terminated.

TERMINATION OF INTERLOCAL AGREEMENT BETWEEN SERVER SITEIS AND CONNECTED SITE

This Agreement may be terminated upon mutual agreement of the Localities by providing written notice of such termination. Termination will be effective on the date stated in the notice so long as the notice is properly given at least One Hundred Twenty (120) days prior to such date. To the extent allowed by law, this agreement may be terminated upon an event of default. Should an event of default occur, the defaulting Locality must be notified and will then have a thirty (30) day period to remedy the situation prior to Agreement termination. After the thirty (30) day period, if the default has not been remedied, this Agreement shall be effectively terminated unless the defaulting party obtains a Court order prohibiting such termination. Events of default include but are not limited to the following:

1. One Locality wrongfully uses data provided by the other Locality.
2. Unauthorized copying of data.
3. In the event the Agreement is determined to be in conflict with federal or state law, City resolutions, or ordinances which are in effect at the time of this Agreement or may be imposed in the future.
4. One Locality uses or attempts to use information provided in such a manner as to violate a person's right to privacy or to create an unfair competitive disadvantage for any person or entity.
5. One Locality sells, gives, leases, or loans access to the screens of the data contained therein to any person without the express written approval of the other Locality.
6. One Locality allows access to the screens or data contained therein or any part thereof, to be used as a list of individuals for commercial purposes.
7. One Locality allows the connection of a computer network operated by any entity that is outside of the Server Site's influence.
8. One Locality violates any of the conditions set forth in the Written Acceptable Use Policy adopted by the Standards Committee.

LIMITATION OF LIABILITY

The information supplied by the Server Site/s described herein is provided on an "as is" basis "with all faults."

The obligations of the Primary Server Site/Secondary Server Site and the rights and remedies of the Connected Site set forth in this clause are exclusive and in substitution for all the warranties, obligations, and liabilities of the Server Site. To the extent allowed by law, all localities hereby releases and holds the Server Sites (Twin County E-911 Primary and W2 County Secondary) harmless from any rights, claims, and remedies of the Connected Site against the Server Sites, expressed or implied, arising by law or otherwise, with respect to any data provided hereunder, including but not limited to any implied warranty arising from course of performance, courses of dealing or uses of trade, and any obligation, liability, right, claim or remedy for tort, or for any actual or alleged infringement of patents, copyrights or similar rights of third Localities, or for any other direct, incidental or consequential damages.

GOVERNMENTAL IMMUNITY

Nothing in this Agreement is intended to be a waiver of any governmental or sovereign immunity of a locality. To the extent allowed by law, each Locality shall be solely responsible for any and all claims or liabilities that may arise from its actions in connection with the operation of this Agreement. Nothing in this Agreement is intended to impose any liability on one Locality for the actions of another.

ALTERATIONS TO THIS AGREEMENT

Any changes to this Agreement must be made in writing and agreed upon by all localities.

ACCEPTANCE

Each Locality hereby mutually acknowledges and accepts the terms and conditions of this Agreement.

This MOU agreed this 22nd day of May, 2012.

County of Bland, Virginia, Twin County E-911 Commission, Virginia, and the County of Wythe, Virginia.

County of Bland, Virginia

Henry M. Blessing
Vice Chairman of the Board of Supervisors

Twin County E-911 Commission, Virginia

J.R. Young Jr. 7/31/12
Chairman of the Commission

County of Wythe, Virginia

Danny M. Daniel
Chairman of the Board of Supervisors

Appendix A

THE COUNTY OF BLAND, VIRGINIA, THE TWIN COUNTY E-911 COMMISSION, VIRGINIA, AND THE COUNTY OF WYTHE, VIRGINIA for REGIONAL SHARED 9-1-1 CUSTOMER PREMISE EQUIPMENT (CPE)

The County of Bland, Virginia, Twin County E-911 Commission, Virginia, and County of Wythe, Virginia, here after referred to as the (localities or BTW2) acknowledge they have read and understand the terms and conditions contained therein. This Agreement sets forth provisions identifying the distribution of responsibilities, system management, and software services to be performed by the BTW2 Region and all affiliated agencies pertaining to the Cassidian Patriot CPE software project.

DEFINITIONS

For the purposes of this Agreement, the following definitions will be understood between all localities:

Localities - The County of Bland, Virginia, Twin County E-911 Commission, Virginia, and the County of Wythe, Virginia are the entities directly associated with the BTW2 Regional Project. All technical responsibilities and negotiations between the organizations will be managed through the Standards Committee. These Localities will herein be referred to as the Primary Server Site, Secondary Server Site and the Remote Sites.

Server Sites - The Twin County E-911 Center – Galax Site (Primary Server Site) and W2 Consolidated 911 Center (Secondary Server Site) will herein be referred to as the Server Sites. As such, the dedicated servers for the software application will be maintained and stored at the Server Sites and associated facilities.

Connected Sites - The County of Bland and Twin County E-911 Carroll and Grayson sites being Government agencies residing in the Commonwealth of Virginia will herein be referred to as the Connected Sites. As a shared entity utilizing the servers located at the Twin County E-911 Center and the W2 Consolidated 911 Center, the software owned and operated by the Connected Site will use the servers at the Server Sites.

Cassidian Patriot System - All references to the system, software, or Patriot refer to any version of the public safety software application provided by Cassidian.

Authorized Individual - An Authorized Individual is one who has been given a unique username and password login to the Patriot System. Any Authorized Individual must be a current employee with one of the agencies involved in the BTW2 Region, including all affiliated IT, GIS, and other related departments.

Applications Administrator - This individual is responsible for the administration of the local network/system in regards to day to day operation and configuration of the network/system. Can also be the person conducting the day to day operations of the E-911 Operation Center or Sheriff's Dispatch.

Assistant Applications Administrator - This individual assists in the administration of the local network/system in regards to day to day operation and configuration of the network/system. Can also be the person conducting the day to day operations of the E-911 Operation Center or Sheriff's Dispatch.

Connectivity - The method of transmitting data from one location to another location. The methods available at this time are Copper strands via local teleco companies, Fiber strands via local teleco companies and or internet providers, and or Microwave Radio transmissions private and or Government owned.

Agreement

1. STANDARDS COMMITTEE

This committee shall during the first meeting of the members establish the bylaws by which they will operate for the terms of this MOU. The Committee shall appoint a chair, vice chair, and a secretary to officiate the meetings. Minutes of each meeting will be taken and distributed to each member in a timely manner. The Committee shall adopt Rules and Procedures by which the Committee will operate their meetings. During the first meeting the members will determine the number needed for a quorum to be able to conduct business. (i.e. a majority of the total membership). The quorum must have at least one member from the Chair, Vice-Chair and or Secretary and one member from each Locality to be able to conduct business. The Committee shall also set the intervals of meetings (i.e., quarterly, semi-annually, yearly). The actual dates for the next meeting will be set at the end of each meeting for the next meeting. The purpose of this Standards Committee will be to oversee the operations of the network/system to ensure compatibility and compliance among all Localities.

Any locality wishing to become a member of this network/system must submit a request in writing of their intentions and present this written request to the Standards Committee in person at a regularly scheduled meeting. Any locality wishing to become a part of this network/system in the future must agree to this MOU, and future amendments, before becoming a member. The Standards Committee must have a majority vote to allow additional members. In case of emergency needs a new locality can request an emergency meeting be held of the Standards Committee to facilitate emergency connectivity to this network/system to allow 911-continuity for that locality.

1.1 STANDARDS COMMITTEE MEMBERS

A Standards Committee will be formed consisting of participants from all Localities. These members must be appointed by each locality's 911 Commission, Board of Supervisors, or City Council. The

members will be appointed and sworn in by each respective entity to sit on the Standards Committee for a period of two (2) years. Members may serve as many consecutive terms as the locality chooses but they must be re-appointed every two (2) years. Each locality must appoint two members as follows:

Bland County E911 Center

- Applications Administrator
- A Bland County Board of Supervisors Member or designee

Twin County E-911 Center

- Applications Administrator
- A Twin County E-911 Commission Member or designee

W2 Consolidated E911 Center

- Applications Administrator
- A Wythe County Board of Supervisors Member or designee
- A Wytheville City Council Member or designee

1.2 STANDARDS COMMITTEE VOTING

Should members of the Standards Committee disagree on any standard for the Patriot System, each committee member will vote, with a simple majority of the quorum needed to decide the issue. In the event of a tie vote between the members the pending issue shall not be approved and shall be considered a no vote.

2. DATA ENTRY

Prior to the system implementation at the Connected Site/s, the Standards Committee will meet to define mutually-agreeable written standards for system consistency between all Localities. Terms of consistency are to include consistent vocabulary and references throughout the Patriot System as well as definitions for all tables throughout the system. Previous to and during system implementation at the Connected Sites, the Standards Committee will meet weekly unless otherwise agreed to by all localities.

After system implementation at the Connected Site, the Standards Committee will meet as necessary unless otherwise agreed to by all Localities to review necessary changes and to ensure continuous consistency between the vocabulary and definitions between all Localities' systems. Any Locality may change information for their locality at any time as long as said change does not affect the overall system.

2.1 DATA AVAILABLE

The Server Site/s shall allow the Connected Site to maintain separate records and data specific to each Locality's Patriot System. Because data for each Locality is stored on the same server, each Locality will

have access to computer programs and stored data within the Patriot System. Access to the Connected Site's data will be established and directed by the Server Site and in cooperation with the Connected Site's participation and approval. Data entered into the system by any Locality becomes a part of the server database and will be subject to maintenance or archival procedures as determined by the Server Site. Access to the servers at the Server Site/s shall be limited only to the retrieval, modification, and use of information contained in the Patriot System.

Extent of access shall conform to the regulations set forth in applicable federal, state, and local law.

Localities are prohibited and it would be considered an act of Default to sell, give, loan, lease, or otherwise transfer title, possession, or allow access or use of any of the data or screens by any person, firm, corporation, or association without prior written approval of the locality that has collected or input data pertaining to any locality unless written permission is obtained from said locality prior to the dissemination of such material.

Dissemination of data or information is the responsibility of the agency recording the data or information in accordance with this Agreement and the Virginia Freedom of Information Act, if applicable. All requests for information made pursuant to the Virginia Freedom of Information Act shall be forwarded to all localities for further review. Other localities will not disclose data except through specific written contracts and agreements with application and data owners.

2.2 PROPRIETARY INFORMATION

Proprietary information disclosed by either locality to the other for the purposes of this Agreement, which is clearly so identified in writing as proprietary, shall be protected by the recipient in the same manner and to the same degree that the recipient protects its own proprietary information. Such information will be disclosed only to those employees of the recipient requiring access thereto in order to perform this Agreement. All information or data on the Server Site's network shall be treated as proprietary regardless of ownership.

2.3 AUTHORIZED USE

The Agreement is intended for use by current employees of the BTW2 Regional Group Members, including all affiliated IT and other related departments. The Standards Committee must approve all user accounts. Each locality must submit the requested level of access, the name of the individual, and job title of each individual before a user name and password is issued to that individual.

2.4 INDIRECT ACCESS

Each Locality will take measures to prevent unauthorized indirect access to the shared Patriot System. Examples of this would be gateways, dial-up, or cascaded Telnet sessions where the

originator is not an Authorized Individual of the Server Site's network, but whose resultant IP address would appear to the network as being an Authorized Individual's address. Should unauthorized access occur, any damages or costs shall be determined by appropriate legal action and assessed accordingly.

2.5 USER ACCOUNT ACCESS TO PATRIOT SYSTEM

Each user of the Cassidan Patriot system shall have a unique user account with a unique password, thereby identifying the user as an Authorized Individual. This account is used within the Cassidan Patriot system to determine system rights of the user and to provide a method of accounting for access to information. Sharing of accounts within an agency for any purpose is expressly prohibited.

3. SECURITY

3.1 SECURITY PRIVILEGES

All Localities reserve the right to make all decisions and establish all security privileges pertaining to the individual locality's data stored in the Patriot System. Each agency is entitled to full system access to administer the Cassidan Patriot system and the specifications for each Authorized Individual user. Each agency is prohibited from modifying any part of the other Locality's data without written consent. Each server site will have at least one Security Administrator with rights through their password to be able to administer the overall system in the event the vendor requires onsite assistance.

3.2 AUTHORIZED INDIVIDUAL USERS

Each Locality has full authorization to add, modify, and delete any information or system access for the Locality's own users. Each agency is prohibited from modifying any aspect of an Authorized Individual's access rights and privileges for the other agency without written consent.

3.2 USER PERMISSIONS

Each Locality reserves the right to establish the permissions granted to each individual user employed by the Locality. Authorized Individual permissions include accessibility to specific modules and applications, ability to view, modify, delete, and print any aspect of the Patriot as defined by the Localities' approved permissions for the Authorized Individual. Each Locality also maintains the right to partition specific records and information within any record that is deemed private and inaccessible by the other Locality.

4. EQUIPMENT & CONNECTIVITY

4.1 EXISTING EQUIPMENT AT THE SERVER SITE

The Server Site already maintains a network server, firewall, backup devices, etc. Upon installation of the Patriot System, the Connected Site is authorized to access said equipment to maintain the Patriot for the Locality's individual system and to produce any minor modifications that do not directly affect the Server Site or its data. The access permitted by this agreement for the Connected Site is limited solely to the access necessary for the purposes of utilizing the Patriot System.

4.2 SERVER AND CLIENT CONNECTIVITY

All Localities are responsible for maintaining connectivity to the server in a shared network and will equally divide any and all approved costs associated with the purchase and or maintenance of this network connectivity. Each locality is individually responsible for maintaining connectivity and hardware specific to the individual agency within that locality.

4.3 HARDWARE MAINTENANCE

The BTW2 Regional Group agrees to either obtain or maintain a maintenance contract with all hardware vendors at all times. Additional equipment including backup generator(s) or reserved power supplies at the server sites will be maintained by the respective sites as normal operating equipment. The BTW2 Regional Group is responsible to renew these hardware contracts as necessary with all involved entities. These contract costs will be submitted to the Standards Committee to be reviewed and submitted in their respective budgets. If a server is damaged by lightning, or anything covered by insurance the server site with the damaged equipment will submit for compensation from their insurance company

If a server or any equipment necessary for the normal operation of the overall system ceases operation for any reason the cost of replacement will be shared equally between the members of the BTW2 Regional Group.

If any components within a locality ceases operation, and said component is only used in the operation of that locality's operation, it is the responsibility of that individual locality to replace said equipment at its own expense.

4.4 HARDWARE SPECIFICATIONS

Connected computers (laptops or PCs) with access to the Patriot will comply with the "Minimum Specifications" document provided by Patriot Technologies, Inc. Each Locality will be responsible to maintain hardware to meet these specifications. Such "Minimum Specification" document is herein incorporated by reference and attached as Exhibit C.

4.5 ACCESS TO PATRIOT SYSTEM

The Server Site/s will take reasonable steps to ensure that the Connected Site retains access to the Patriot 24 hours a day, 7 days a week. Should availability to the Patriot be terminated for any reasons

whatsoever, the Connected Site will immediately notify the Server Site of the lapse in system access. Each Locality is responsible for the agency's access to the server. Should access to the server lapse for a Locality, the individual Locality is responsible to work with appropriate Localities to restore system availability, and to further provide notification to the other Locality when system availability is restored. The Server Site's will maintain contact names and numbers which will be updated as needed to ensure continual and reliable operation of the system. Patriot Applications Administrator will be contacted by one representative from either of the server sites. The contact at the server sites will communicate with all agencies when Patriot Support contact is necessary and will inform all agencies of all communications that result from that contact.

4.6 PATRIOT SYSTEM/NETWORK AVAILABILITY.

The Patriot availability objective is 99.8%, 24 hours a day, seven days a week.

4.7 PATRIOT SYSTEM/NETWORK MAINTENANCE

The Patriot and the Server Site networks will be available as set forth in this section with the following exceptions:

4.6.1 SCHEDULED MAINTENANCE

The Server Site reserves the right to schedule preventative maintenance on all systems. Preventative maintenance will be scheduled with a minimum two week notice in advance in order to minimize impacts to the Connected Site. The Server Site must provide written notice of any scheduled maintenance to the Connected Site a minimum of two weeks in advance. The Connected Site must notify the Server Site's IT Department one week prior to the scheduled maintenance window if the Connected Site requires the Patriot to be available or "live" during scheduled maintenance. All Localities agree and acknowledge that scheduled maintenance may result in loss of service to the Patriot for a period of time.

4.6.2 SOFTWARE AND HARDWARE UPGRADES OR MODIFICATIONS

A Technology Review Committee will be appointed by the Standards Committee. This committee will meet regularly (at least semi-annually) to jointly determine which upgrades, additional module purchases, or hardware acquisitions the localities will implement. This Committee will coordinate and discuss any and all prospective purchases, upgrades, and or additions with their respective finance administrators and present any such request in a timely manner during the annual budget or with sufficient notice to the Board of Supervisors/City Council for consideration when additional monies are expected to be needed to facilitate any prospective purchases, upgrades, and or additions. In addition, if upgrades, additional modules, or new hardware are determined necessary and acceptable by all localities, the committee will determine the most appropriate time for scheduled modifications to minimize the impact to all localities.

Software and hardware upgrades or modifications differ from normally scheduled maintenance, in that the Patriot will be unavailable for the duration of the upgrade. It is conceivable that an upgrade may

take a couple of days. In the event that the Technology Review Committee agrees to an upgrade for all Localities, the Server Site will notify the Connected Site of the scheduled upgrade at least one month prior to the scheduled upgrade time. The Server Site/s will make every reasonable attempt to schedule the upgrade to minimize impacts to the Connected Site.

4.6.3 EMERGENCY MAINTENANCE

The Server Site/s will coordinate emergency maintenance with the Connected Site whenever necessary.

4.6.4 SERVER SITE'S TECHNICIAN AVAILABILITY

The Server Site's will provide a Technician during regular business hours. The telephone number for the primary site is 276-236-5122 and the telephone number for the secondary site is 276-xxx-xxxx. After-hours support will be obtained by calling 276-236-6349 and a technician will be contacted. The Technician will log computer, network problems and dispatch problems to the appropriate personnel. Patriot users may also contact [contact name] at [contact phone numbers] on problems relating specifically to the Patriot application. The Connected Site is responsible for providing a current contact list to the Server Site's IT Department.

4.6.5 CONFIGURATION MANAGEMENT

All configuration changes to the Cassidan Patriot system will be made by the Server Site's IT Department in coordination with the Connected Site and Patriot, when necessary. The Connected Site will provide the Server Site's IT department with a primary and alternate contact name of authorized personnel who can coordinate/request changes to the current network. None of the localities having access to the system shall have authorization to perform any configuration changes to the servers that will affect another Locality without written consent from the other Locality prior to performing the configuration or modification.

4.6.6 DISASTER RECOVERY, BACKUP, & ARCHIVING

Nightly backups will be made and maintained by the Server Site IT Department. This backup will be stored onsite at the Twin County E-911 Communications Center along with the Secondary Server back up at the W2 Consolidated Communications Center

4.6.7 SECURITY AND INTEGRITY

The Server Site's network is protected from the Internet with firewall security to prevent unauthorized access from the Internet. The Connected Site is responsible for securing the computer's resources against all unauthorized access at each remote site.

4.7.8 COSTS FOR SERVER MAINTENANCE, EQUIPMENT AND SECURITY

All costs and expenditures related to support and maintenance shall be paid based on the number of workstations at each site, servers, other equipment, security or other costs necessary for the overall operations of the system incurred in carrying out this Agreement shall be paid by all Localities in an

equal amount. The Locality incurring the cost shall be paid by the other Locality(ies) within Thirty (30) days of receipt of an invoice for the cost. All reimbursements and costs paid shall come from current revenues of the Locality's governing entity equally.

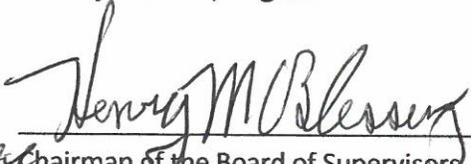
ACCEPTANCE OF APPENDIX

Each Locality hereby mutually acknowledges and accepts the terms and conditions of this Agreement.

This MOU agreed this 22nd day of may, 2012.

County of Bland, Virginia, Twin County E-911 Commission, Virginia, and the County of Wythe, Virginia.

County of Bland, Virginia



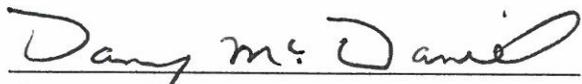
Chairman of the Board of Supervisors

Twin County E-911 Commission, Virginia



Chairman of the Commission

County of Wythe, Virginia



Chairman of the Board of Supervisors

Appendix B

THE COUNTY OF BLAND, VIRGINIA, THE TWIN COUNTY E-911 COMMISSION, VIRGINIA, AND THE COUNTY OF WYTHE, VIRGINIA for REGIONAL SHARED 9-1-1 CUSTOMER PREMISE EQUIPMENT (CPE)

Below is the schedule of each sites projected costs for procuring and maintaining the CPE equipment:

PROCUREMENT:

Site	Grant Funds	Locality Funds
Bland	\$63,840.44*	
Twin County (Galax, Carroll, Grayson)	\$122,991.44*	
Wythe/Wytheville Consolidated Ctr	\$112,839.32**	

CONNECTIVITY:

Site	Grant Funds	Locality Funds Years 2-5
Bland	\$7,620* approximation	\$7,620/year approximation
Twin County (Galax, Carroll, Grayson)	\$23,850* approximation	\$23,850/year approximation
Wythe/Wytheville Consolidated Ctr	\$9,060* approximation	\$9,060 approximation

24/7 MAINTENANCE SUPPORT

Site	Grant Funds	Locality Funds
Bland	\$19,511.08*	
Twin County (Galax, Carroll, Grayson)	\$41,833.99*	
Wythe/Wytheville	\$57,249.55**	

Excludes Hardware required for upgrades. While every attempt will be made to find grant funding to procure any hardware required for upgrades, each locality realizes they will need a capital plan to cover potential hardware costs to maintain the CPE on the most current software version.

*Bland/Twin County Regional Grant **Consolidation Grant

ACCEPTANCE OF APPENDIX

Each Locality hereby mutually acknowledges and accepts the terms and conditions of this Agreement.

This MOU agreed this 22nd day of may, 2012.

County of Bland, Virginia, Twin County E-911 Commission, Virginia, and the County of Wythe, Virginia.

County of Bland, Virginia

Henry M. Blessing
Vice Chairman of the Board of Supervisors

Twin County E-911 Commission, Virginia

F.R. Young Jr. 7/31/12
Chairman of the Commission

County of Wythe, Virginia

Danny McDaniel
Chairman of the Board of Supervisors