CASE STUDY:

WESTERN PENNSYLVANIA COUNTY REGIONAL ESInet

March 31, 2016

Western Pennsylvania County Regional Emergency Services IP Network project (WestCORE)

The Commonwealth of Pennsylvania boasts a statutory environment that fosters regional approaches to 911 and NG911. In addition, Pennsylvania has a 911 program within the Pennsylvania Emergency Management Agency (PEMA) to oversee the development of NG911 statewide.

Why a Regional Approach?

In late 2009 three Western Pennsylvania counties – Butler, Mercer and Lawrence – met to discuss the eventual replacement of their individual, stand-alone 911 telephone systems, which were at the end of their lifecycle. In 2010 their Customer Premises Equipment (CPE) provider notified them that their 911 telephone system had been manufacture discontinued. A single replacement switch would cost $250,000 yet could support more than 200 911 workstations, far more than existed in these three counties combined. Sharing a single switch would reduce the excess capacity and simultaneously avoid the additional $500,000 cost they would have incurred if they each bought their own.

Meanwhile, seven of their neighboring counties were also notified that their 911 telephony had been manufacture discontinued. The ten counties decided to work together to find a common solution that would provide redundant 911 capabilities without unnecessary duplication of equipment and cost. The alliance became WestCORE: Armstrong, Butler, Cambria, Fayette, Greene, Indiana, Lawrence, Mercer, Somerset, and Westmoreland. Not long thereafter, Allegheny County, home of the City of Pittsburgh, also joined WestCORE.

During their initial planning, the counties of WestCORE realized that if they were going to share 911 telephony infrastructure, they would need a regional network to interconnect their PSAPs. Otherwise, each county would be where it always had been: using its diminishing 911 funds inefficiently to procure and maintain a standalone system that had more capacity than that single county needed. The WestCORE counties believed that by leveraging existing assets and working across traditional government boundaries and jurisdictions they could achieve more with less.

Statutory and Regulatory Challenges

Pennsylvania Title 53 Pa. C.S., Chapter 23 authorizes two or more local governments to jointly cooperate in the exercise or performance of their respective governmental functions, powers or responsibilities. This provision can be used as a vehicle for 911 authorities to develop regional cooperative governance structures and to share services.

While the policy expressed in this statute helped create an environment that generally was favorable, it was evident that more was needed. The Joint Legislative Budget and Finance Committee was tasked with studying Pennsylvania's 911 system, governance and funding. Its

report,[1] released in the spring of 2012, focused heavily on the benefits of regionalization, highlighted the WestCORE and Northern Tier regional NG911 initiatives, and recommended that the Legislature amend the 911 statutes to give more power and authority to PEMA to direct and support the statewide transition to NG911. The 2015 legislation, HB 911, reflected those recommendations.[2]

Funding

Over the past decade, the Commonwealth has seen a fifty million dollar reduction in wireline 911 fees. They needed a path forward to NG911 that would make efficient use of available funding in the face of a steady annual decline in revenues.

The WestCORE project happened to coincide with the ENHANCE 911 Act grants that were made available from 2009-2012 through the program jointly administered by the National Telecommunications and Information Administration in the U.S. Department of Commerce and the National Highway Traffic Safety Administration in the U.S. Department of Transportation. PEMA had applied for and received a grant. In 2011, WestCORE persuaded PEMA to repurpose a portion of its grant for its ESInet project, in return for which WestCORE would provide the 50% match and thus free up an equivalent amount of PEMA's own funds. The grant was a tremendous help to WestCORE in provisioning its ESInet infrastructure.

While WestCORE was focused on developing a common 911 platform to serve its participating counties, the Southwest Pennsylvania Emergency Response Group, known as Region 13 (which includes the WestCORE counties) saw an opportunity to link the county Emergency Operations Centers (EOCs) as well as the PSAPs in the regional ESInet. By so doing, a wider array of public safety entities would benefit by the reduction in costs and the improvement in interoperability, situational awareness, disaster recovery and homeland security capabilities. The Region 13 executive board committed more than $6 million in homeland security funding for public safety applications that are shared by the thirteen counties and the City of Pittsburgh. This ESInet build out supplemented the more than $2 million investment by the WestCORE Counties and the $2.5 million Enhance 911 Act Grant.

While this was happening in the Western region, the state legislative funding study was underway. Based on the recommendations that came out of that study, the law passed in 2015 overhauled 911 funding provisions and switched from a county-based to a state-based approach, and PEMA was given much broader authority and control over how the funds could be used. This included incentives for regionalization.

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[1] Pennsylvania Legislative Budget and Finance Committee, *Pennsylvania's 911 Emergency Telephone System: Funding, Expenditures, and Future Challenges and Opportunities*, May 2012. http://lbfc.legis.state.pa.us/Resources/Documents/Reports/430.pdf (Last accessed 3/16/2016)
[2] Pennsylvania Consolidated Statutes Title 35. Health and Safety Part Iii. Public Safety Chapter 53. Emergency Telephone Service

The Regional Shared Services Assessment program provides funding for groups of counties to assess their capabilities. The counties must make a formal commitment in order to qualify for the funding. Some $2,000,000 has been designated for the assessments. Fifty percent of eligible funding is paid upon a formal agreement to participate with regional partners, and the remaining 50% is paid upon completion and assessment approval. As a result of this incentive, eight regions have developed from voluntary PSAP collaborations.

Architecture

The WestCORE ESInet uses three CPE switches that are located in three host counties. These three switches are shared by all of the PSAPs and EOCs. PSAP consolidation was not a requirement of the regionalization project. All PSAPs continue operations as before, with each taking its own calls.

The system is capable of providing transport and connectivity for NG911 applications, Computer Aided Dispatch (CAD), Geographic Information Systems (GIS), voice recording, Radio and Emergency Management functions.

PEMA's NG911 plans provide for the development of a state-level enterprise ESInet that will eventually link all the regional ESInets together for seamless statewide coverage. Thus, state policy encourages and incentivizes the development of regionalized NG911 systems based on voluntary local arrangements, but also ensures that ultimately there will be seamless statewide coverage.

Benefits of Regionalization

The benefits included the ability to replace end-of-life CPE with IP-enabled, NG911 capable CPE and to reduce the number of CPE switches from 13 to three with a commensurate reduction in capital and annual recurring costs. The chart below illustrates the savings that were realized by regionalization.

Expense Category	Cost to Upgrade/Replace Legacy CPE	Cost for Regional Shared CPE	Savings
Capital	$9.4M	$5.1M	$4.3M
Annual Operating[3]	$564K	$392K	$172K

The need for each county to have (and pay for) its own back-up PSAP was eliminated, while at the same time region-wide disaster recovery and continuity of operations capabilities were improved.

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[3] Recurring costs are shared among the counties across multiple funding sources that include grants, 911 surcharges and county general funds.

Finally, the inclusion of the EOCs provides for more robust coordination between 911 and emergency management during a widespread emergency.[4]

[4] See NASNA's publication *"911 and Emergency Management: Best Practices for Coordination and Collaboration on Large-Scale and MCI Incidents."* December 2015 https://docs.google.com/viewer?a=v&pid=sites&srcid=bmFzbmE5MTEub3JnfHd3d3xneDozNTBjOTA2YTcyZmQ3MzQ1 (Last accessed 3/21/2016)