

When you need more feet on the street.....



with a budget to meet, it's good time to talk to us! We don't have to tell you how much it costs to add a Resource Officer at the school, or build a new fire station, or add another employee. According to the Bureau of Labor Statistics, the average hourly cost for compensating a private sector employee is \$30.80, once all employer expenses are added.

Let's say you beat the averages, and come in at around \$25 per hour for a fire and rescue worker, police patrolman, or dispatcher. Assuming a 256 day year, that comes out to around \$51,200 per year. For 24/7 operation, that comes out to a whopping \$219,000 per year! And have you looked at the municipal share of E911 services along with some of the incredibly expensive "solutions" being proposed for mission critical wireless communications? Clearly there has to be a better alternative. There is – it's called SPARKGAP!



So, do you have enough personnel to effectively control robbery in your community? The FBI says there is a robbery every minute of every day with an incident of burglary and theft every 15 seconds. How about protecting churches and schools. Can smaller churches afford high priced security systems to protect the structure and contents or security personnel to protect attendees during services! Can anyone afford a Resource Officer in every school?

How about the merchants, the elderly, the disabled? And how about the injured? Only in a few metropolitan areas, you can be assured of rapid and efficient medical care in the event of an accident. Why? Because there is generally no central source of information, quickly accessible to ambulance and rescue personnel that can provide instant status of all trauma care facilities and which can best handle the incident in a timely manner.

And how do you quickly get in contact with off duty personnel, volunteers, and support workers in the event of an emergency. And what if you can justify a million dollar investment in upgrading 911 to help improve efficiency? There is an answer - It's called SPARKGAP!

So what is the real problem and how does SPARKGAP provide a solution? The 2013 Federal Signal Public Safety Survey, which examines some of the greatest challenges currently faced by emergency managers, showed that nearly one-in-three emergency managers identify that varied communication preferences as the greatest challenge they face both in terms of operator training and call dispatching. The survey also indicated that for 75 percent of emergency managers, the greatest deterrent to updating emergency communication systems is their budget. So now we have it! The problem is increasingly complex communications systems with ever increasing funding and training requirements.

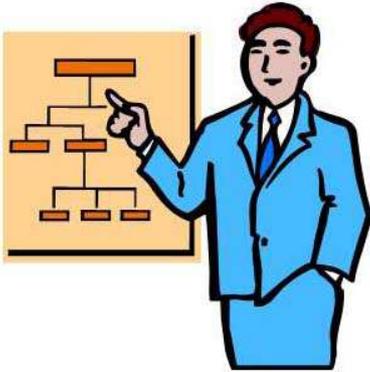
SPARKGAP is the solution to today's needs! SPARKGAP can.....

- 1) Get more work done with fewer people! Reduce the need for additional police officers, paid firefighters.
- 2) Provide a common communications platform to increase efficiency and reduce cost while also providing a quick and effective means of alerting off-duty, reserve, and volunteer personnel.
- 3) Simplify dispatch operations while simultaneously providing backup and/or secondary dispatch points at reasonable cost.
- 4) Provide a means of monitoring vacant structures, high value storage areas, and premises that may be targets of burglars and vandals.
- 5) Provide a means of enhancing personal safety while also speeding up response time by law enforcement in the event of robbery or threat of assault. In hospitals, a resource readiness program can tell field units which hospital can best address emergency care needs. Once in the hospital, the patient can be continually monitored for change in condition with instant notification to critical care specialists.
- 6) Extend the information available at dispatch to incident commanders and personnel in the field, at the station, at home, at work, or wherever they may be.
- 7) Provide better protection for high risk business owner/managers, churches, schools, nursing/assisted living & day care centers.

As you can see, SPARKGAP improves efficiency in the dispatch center and in the community. We have addressed only a few of the many benefits that can be possible with the SPARKGAP system, not only from an operations consideration, but for services to the community as well!

And, there's more! Knowing the location and status of all available vehicles is a vital component to efficient dispatching. The SPARKGAP system provides a status reporting system that is beyond comparison and optionally a low cost vehicle tracking device is available. That in itself is big news as the benefits to law enforcement vehicles and schools busses is incalculable, but the really big news is that there are NO monthly network usage charges. All information is carried over the SPARKGAP system!

For your additional information, we have several white papers available. The first, <http://www.info4u.us/PublicSafety.pdf> addresses SPARKGAP for Public Safety dispatching. The second, www.info4u.us/AlarmNotification.pdf, addresses hospital clinical care monitoring and response. Monitoring and reporting of critical infrastructure uses components of each of these systems. Now, let's take a look at how SPARKGAP can work for YOU!



The fact of the matter is.....

Public safety dispatch communications have been a hot topic since the early 70's when the next big thing was operator consoles with all kinds of fancy features coupled with millions of dollars spent in federal funding to get control of crime in the streets. It didn't work. Since 9/11, we have spent billions more dollars and we still have problems communicating.

In reality, we had better communications interoperability 50 years ago than we do in than we do in 2013! See www.info4u.us/ThenAndNow.pdf for an interesting article on this subject. For now, let's look at the public safety side of communications, starting at 911.



The basic function of 911, E911, or just simply "dispatch" is to receive, dispatch, and manage calls from the public in need of fire, law, or emergency medical services. We understand that this be a little over simplified, but in essence 911 is a conduit for exchanging information between the public and those who serve those needs

We recognize that 911 performs a variety of other services such as running tags, looking up arrest reports, and other activities that have evolved since the [first call](#) in the USA was made in Haleyville, AL back in 1968. 911 has grown from this early system to an advanced system known as [E911](#), and now we are entering the age of [NG911](#). While the advancement of the 3-digit emergency calling system (first used in the UK in 1937), the fundamental function remains the same. The major difference is the advancements made possible through digital technology, in particular, VoIP (Voice over Internet Protocol).

With the trend toward VoIP and cellular over conventional wired telephone continues, the rules are being re-written, not only from a technology point of view, but operational, and financial considerations as well. In some cases, revenue is lagging the need for major financial investment. Legislation is changing to include digital and wireless devices to make up for lost revenue, but there is a trend toward moving away from county centralized dispatch centers to municipally owned centers. Two major needs become immediately apparent.

1) The fundamental function of 911 is to process EMERGENCY calls. 911 was never meant to perform administrative services for first responders. That is a totally separate function, best done by the user agencies or service providers.

2) A uniform DISPATCH communications standard **MUST** be employed. The days of everyone having their own radio dispatch system is **OVER!**



Many 911 Managers are wondering where the money can be found to address the diminished operating range resulting from Narrow Banding ([See story](#)). The fact of the matter is that this not a 911 issue. It is the responsibility of the radio system users. However, it is a great opportunity to work TOGETHER with users to develop workable solutions. For example, it has always been assumed that 911 would dispatch by voice over radio. Why? because that is the way it has always been done!

Let me ask you this.... Does it make any sense to hang a two thousand dollar (or more) radio on the belt of a volunteer firefighter to receive emergency dispatch calls? And what do you think the chances are that a volunteer or reserve first responder will wear a one pound plus 2-way radio everywhere they go, or worse yet, what will happen to it if they do? Or does it even make sense to assign a five hundred dollar voice message pager that doesn't comply with NFPA requirements?

Cost is obviously a concern in planning and upgrading a dispatch center, but it is not the PRIMARY issue. The primary objective of 911 is to receive and convey emergency calls for assistance. The majority of existing systems, even those with CAD (Computer Aided Dispatch) lack in efficiency because of integration issues between the call taking equipment and the wireless communications systems.

For example, in larger metropolitan areas, the average response time for an emergency call is 10 minutes. Rural and sparsely populated areas have even longer response times. Part of the problem is the time it takes to record the incident and transfer the information for sending over a wireless radio network, many of which still rely on analog voice pagers.

We may be going out a limb here, but as we see it, three facts are very clear.....

- 1) The integration of the call taking and dispatch functions can significantly reduce the time required to notify first responders. The old systems are NOT working!
- 2) Providing first responders with a standardized communications device that is lightweight, affordable, and efficient, with faster message delivery is a preferred alternative to 2-way radios and voice pagers.
- 3) The information at 911 should be available to secondary dispatch points as well as to incident commanders and other parties of interest in real time.

A SPARKGAP system can address and resolve ALL these issues with verifiable results. For example, a typical voice pager system requires over 4 seconds just to send an alert code (plus the time of the message). With SPARKGAP, the message can be delivered and acknowledged in less than FIVE seconds!

Let's recap! Remember that we started off by saying that the cost of adding a single day shift employee for a five day week would cost \$51,200 per year. To extend that to a seven day week would increase the cost to \$73,000 per year. If you did a three-shift operation, the cost would be \$219,000 annually!

Now, let's compare that to increasing efficiency by 10% on a staff of 100 employees (assuming a 5 day 8 hour work week x \$102,400 comes up to a total annual expense of \$5,120,000). A 10% efficiency increase would be \$512,000 annually. Now, the question is how do you get those savings and what does it cost to get those savings?



Let's begin by putting two PC based operator positions at dispatch. We dispatch by typing the incident information is as always, then just hit the send button to send the message to an individual, a group, or everyone in the system. The information is stored for later reports and retrieval as required. We calculate our cost using a government funding program that allows you to pay on a monthly basis with all maintenance included.



Next we install a high powered repeater on an existing structure such as a mountain top tower or water tank. This will provide dispatch coverage for a 10 mile radius of the clear channel 900 MHz transmitter. (Additional repeaters can be added as required for greater coverage) At this location, we have a microwave link back to the dispatch center. Actually, there are a lot of other things included with the repeater including a controller, a GPS receiver for simulcasting additional stations, mounting racks, power backup, as well as contract maintenance included for the five year government payment plan.



Now we add dispatch capability at alternate locations using existing Internet connected PC's. We are assuming one for the police chief's office as well as one for the fire chief. Additional locations can be added as desired with software available to use Smart phones or Tablet PC's if desired.



Now we pass these around. On average, we assume first responders (EMS, Fire, and Police) and support services will work out to around one paid employee for every 200 persons (i.e., a City of 20,000 will likely have a need to dispatch 100 people). Smaller cities will have higher ratio whereas larger cities may be less. The unit shown at the left is called a *Responder*. We'll tell you more about in on the following page.

The *Responder* is about the size of a package of cigarettes (and weighs about the same as well). The way this thing works is absolutely incredible! The best way to explain how it is used is to review the Public Safety white paper, available by clicking on the [link](#) in the last paragraph of Page 3. In simple terms, it comes down to the call taker typing in the report information and hitting the send key!

There is no need to make wireless alerting devices a separate operator function. By directly dispatching from the keyboard, critical time is saved, the message is displayed which eliminates call backs from responders for missed information. The call taker can selectively send the message to a department, multiple departments, a single person or group, or all first responders.

First responder and administrative personnel have a choice of being audibly or silently alerted - a NICE feature. The small size of the *Responder* means it can go anywhere the user goes. Now, here is the best part. The *Responder* can "answer" the dispatch center with automatic call acknowledgement! And, the user can respond with a status message by using a simple drop down menu and selecting the appropriate response. Acknowledgement and user status is instantly displayed on the dispatcher screen as well as interconnected PC's Smart phones, or Tablets!

The *Responder* fully complies with HIPAA, NFPA, and NIFRS and the cost is LESS than a standard voice type Minitor V pager! Additionally, the entire incident history is available not only at the dispatch center but to every incident commander and administrative personnel as well! The *Responder* works equally well for dispatching to EMS, Fire, and Law Enforcement personnel as well as non-mission critical uses such as Code Enforcement, Parks and Recreation, Streets etc. The *Responder* gets the message to your people, tells you that they got it, and tells you what they are going to do about it! And, we're just getting started! Wait till you see what we can do for your community!



In any community.....

there are specific business types that are primary targets for robbers and burglars. Financial institutions (banks, credit unions, cash loan providers, etc.) are the main targets, closely followed by retail establishments known to have significant cash on hand (liquor stores, convenience stores, grocery

stores, "dollar" stores, appliance stores, and others offering high value items to the public). Clinics & pharmacy's are also primary targets, both for cash and drugs. In addition to those at risk for armed robbery, there are others who may be assaulted by armed assailants for reasons other than stealing cash.

Churches, daycare centers, and schools are all potential targets by those who want to assault others. Elderly and/or disabled citizens are easy prey for hit and run bandits looking for cash, drugs, and items that can be pawned, sold, or used. All these categories share one thing in common - personal threat by those with ill intent. Clearly, they need a means of calling to someone(s) who can provide a rapid and effective response.

Responder is a whole lot more than a message receiving device. It can also be used as an EMERGENCY ASSISTANCE CALLING DEVICE!



When bad guys show up, they have two factors working in their favor - surprise, and time. Whether it is a convenience store or a church, a pawn shop, or a school, the odds are in the bad guy's favor! *Responder* can change those odds in favor of the victim. The SPARKGAP system is capable of serving the public as well as serving your needs and it doesn't cost you anything extra. Each user pays for their own equipment.



Do you have burglars in your town? Most of us do! Because of the low capture and conviction rate, they just keep on keeping on as our insurance rates increase. Many small business and home owners can't afford the premiums and/or the deductibles. It doesn't have to be that way! SPARKGAP can provide an affordable solution that INSTANTLY reports burglary in progress and there are NO monthly service fees!



Meet Carl the copper thief! This is one of the dumbest crimes imaginable! For a few hundred dollars worth of copper, this guy will destroy a ten thousand dollar air conditioner. He especially likes churches and unoccupied dwellings, but he will go where the copper is. SPARKGAP can put feet on the scene as a part of a customer owned system or be used by your investigators for temporary surveillance.



Speaking of car thieves, we can use SPARKGAP to monitor a bait car or any type of wheeled vehicle. The many the vehicle moves, your officers are alerted and the vehicle is tracked by GPS. SPARKGAP does the job at minimal cost!



And while we are on the subject of thieves, it should be noted that there is another kind of thief - the one who may work for you that isn't doing their job. It could be anyone, but the chances are that if you have more than three municipal workers, one of them is not giving you a fair days work for their wages! SPARKGAP can correct the situation, fast!



Got a hospital, medical clinic, or rescue squad in your city? When there is a medical emergency, SECONDS, not minutes can mean the difference between life and death. You can help your trauma care professionals in doing their job better with SPARKGAP! Additional information on SPARKGAP for hospitals is available in a white paper [link](#) at the bottom of page 3. Check it out!

We could go on and on in providing examples of how SPARKGAP can benefit your community, but by now you should be seeing the benefits of this unique system that can make your city a safer place to live, work, and play.

That leaves just one question - WHAT DOES IT COST?

The answer to that question can only be answered after a proper evaluation of your needs. We'll be glad to answer that question, if you can provide us with answers to the following questions which can be answered on line by clicking [here](#).

- 1) What is your annual municipal budget? _____
- 2) How many firemen? ____Full Time ____Part Time ____Volunteer
- 3) How man police officers? ____Full Time ____Part Time ____Reserve
- 4) How many EMS personnel (not a part for fire department)? ____
- 4) How many municipal service workers? ____Full Time ____Part Time
- 5) How many paid administrative/executive personnel? ____
- 6) How many public buildings? ____Schools ____Libraries ____Other
- 7) How many Fire stations? ____ Police stations ____
- 8) How many healthcare facilities? ____Hospitals ____Medical clinics
- 9) Critical infrastructure (Please describe)_____
- 10) Area to be serviced (Check one) ____City ____County

In closing we thank you for your consideration of the SPARKGAP program. We will be getting back to you promptly after review of your requirements. YOU are in for a very pleasant surprise!

Burch H. Falkner
At your service!

Falcon Community Services
We're all about Safety and Savings!



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