

Public Safety Alerting

Smartphones?

...or **SPARKGAP** Acknowledgment Paging?

*Smartphones are pervasive and have many exciting capabilities, but they are vulnerable to delays and outages especially during regional emergencies. For this reason, they are not suitable for public safety dispatch and alerting. In contrast, a **SPARKGAP** system delivers time-critical messages within 5 seconds, without unexpected network delays. Once installed, **SPARKGAP** can also meet many other communications needs and therefore reduce communications costs for county, city, and local governments.*

Version 1.2

Critical Response System, Inc.
1670 Oakbrook Drive, Suite 370
Norcross, GA 300093-1849
770-441-9559
www.criticalresponse.com

PERFORMANCE

A **SPARKGAP** system has one sole purpose: fast, confirmed delivery of critical messages to first responders. A **SPARKGAP** system delivers a critical message to one recipient or hundreds of recipients within 5 seconds, even if messages are several hundred characters long. It does not matter what other traffic is happening with lower-priority users; critical messages will still be received within 5 seconds. **SPARKGAP** delivers messages immediately.

The same is not true with smartphones. With smartphones and SMS text messages, critical users share the same network with millions of other customers using social media, voice, web, and data apps. Most of the time, a single smartphone message will get there in just a few seconds and a group will be completed in a few minutes...but 1% to 5% of the messages may also take longer, even hours, because of coverage or network traffic.

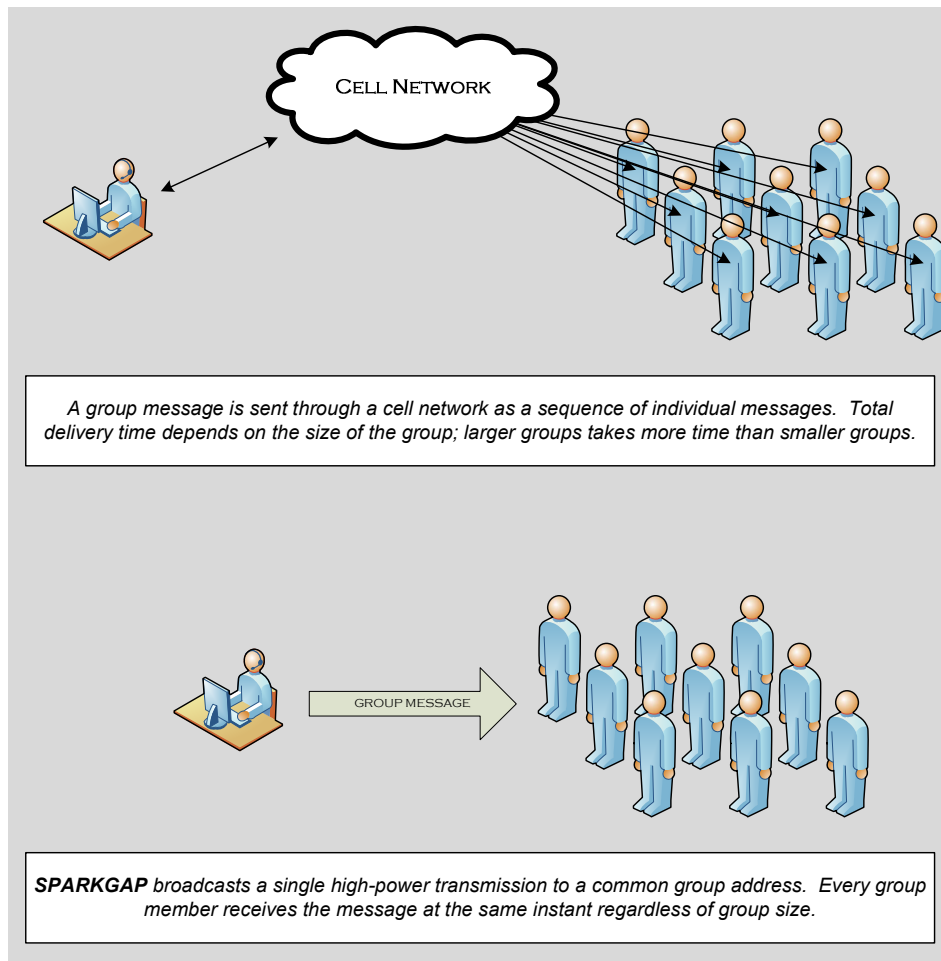


Figure 1 – SPARKGAP has Superior Group Message Performance

NFPA/ISO STANDARDS

The National **Fire Protection Association**, together with the **Insurance Services Office**, creates and maintains minimum standards and requirements for fire prevention and suppression activities, training, and equipment, as well as other life-safety codes and standards. These standards include building codes, personal protective equipment utilized by firefighters, and radio systems used by firefighting agencies. As such, **NFPA-1221** describes standards for installation, maintenance, and use of communications equipment, including any radio system used for dispatch of firefighters:

9.4.2 Radio Paging Systems and Pagers.

- 9.4.2.1** *The paging system shall be under the direct control of the AHJ where used as a method of emergency dispatch.*
- 9.4.2.2** *No part of the paging system shall utilize the public Internet for any portion of its operation when used as a method of emergency dispatch.*
- 9.4.2.3** *Page-encoding equipment shall be located in the communications center where used as a method of emergency dispatch.*
- 9.4.2.4** *The paging system shall comply with the general requirements for radio systems as outlined in this document.*

NFPA-1221, 2010 Edition

NFPA-1221 mandates the use of a private system for fire dispatching; it precludes the use of commercial radio or cellular networks for this purpose. **SPARKGAP** meets this requirement.

RELIABILITY

SPARKGAP is a stand-alone, dedicated push service. It is unmatched in terms of reliability because it is completely self-contained. A **SPARKGAP** system is designed so that base stations cover the appropriate geographical area. It sends messages to personnel directly and receives their responses directly. **SPARKGAP** can also employ multiple levels of redundancy so even a hardware or power failure will not bring down the system.

In contrast, cell phones depend on external cellular networks and the public telephone network. Historically, these things are vulnerable to unexpected peak usage, earthquakes, blackouts, hurricanes, and other natural and manmade disasters which create network outages. Furthermore, coverage problem spots in rural and/ or dense urban areas increases the likelihood of dropped calls and delayed messages. Smartphones additionally depend on other external components such as the Apple App Store™, Push Notification Services, the Internet, and E-Mail for application data. If any one of these pieces is unavailable (e.g., momentarily down for maintenance, down because of a storm or power loss, etc.), messages are delayed or interrupted.

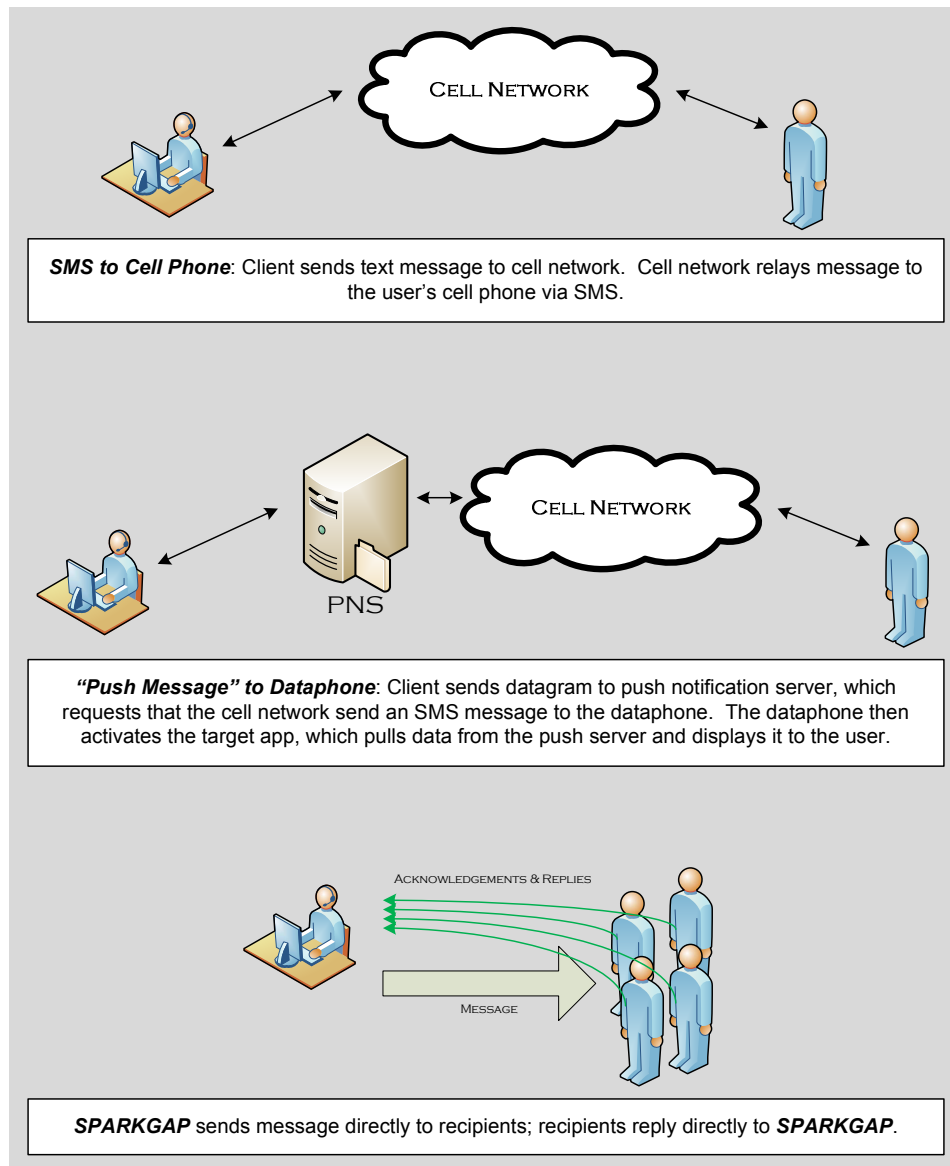
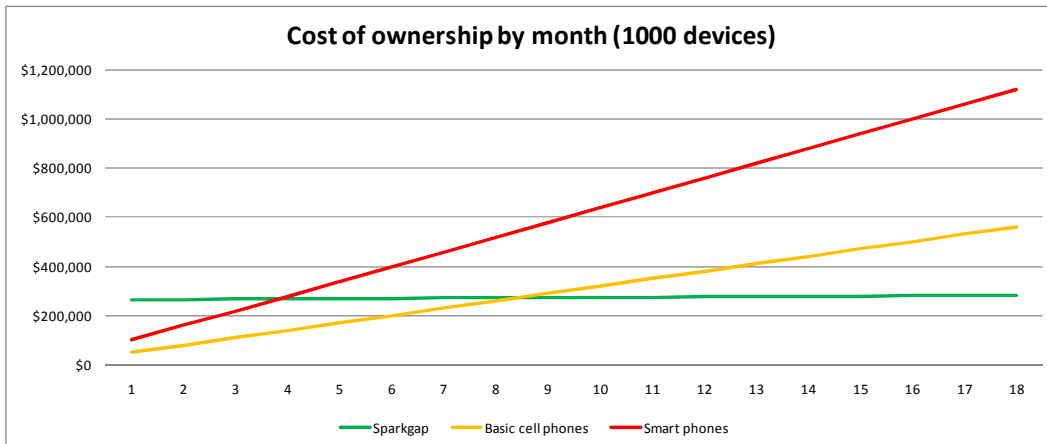
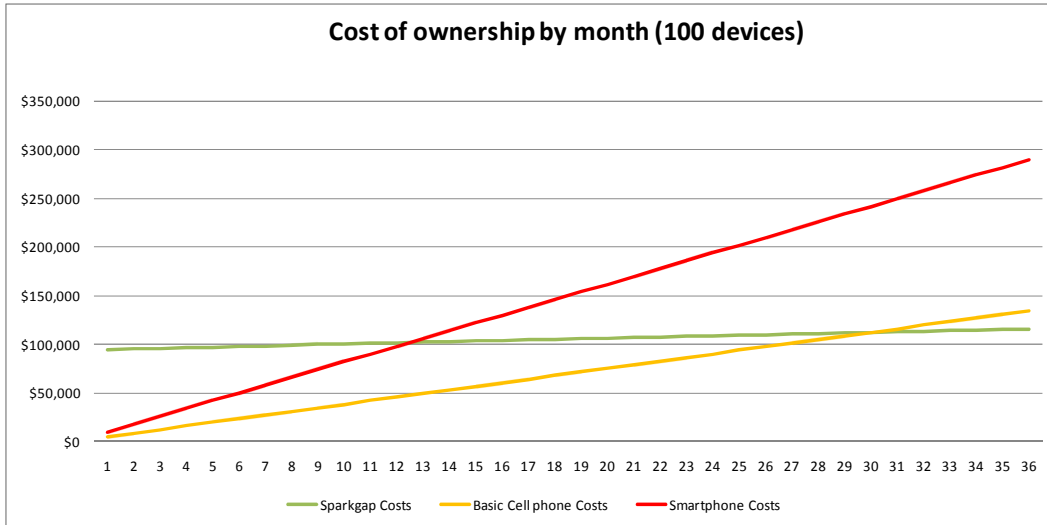


Figure 2 –**SPARKGAP is Independent and Self-Reliant; Zero Dependence on “the Cloud”**

COST

A **SPARKGAP** system has very little recurring cost. In contrast, each cellular phone costs \$30/month or more, and a smart phone costs around \$60/month. For mid-to-large scale agencies, the break-even for **SPARKGAP** vs smartphones is less than four months; for smaller organizations, about a year.



PRODUCTIVITY

From a user standpoint, an **M1503** pager is the model of simplicity. It is a dedicated appliance with one purpose: to deliver critical messages to first responders. A user can read an urgent message quickly, with minimal device interaction and minimal interruption of workflow. In comparison, a smart phone has apps, a touchscreen, keyboard, etc.; for some users these things are a productivity benefit, but for others, they are a hindrance. The interaction to view the same urgent message on a smartphone is simply more complicated.

From an administrative standpoint, **SPARKGAP** system management is equally straightforward. No programming stations are required for day-to-day management of user devices. Group addresses, encryption keys, pager settings, and other aspects of the system are managed centrally and pushed out to devices automatically over the air, without the need to physically touch the devices.

ACCOUNTABILITY

A **SPARKGAP** system tracks who receives each message, who reads it, how they respond, and when they respond. Every response is available for real-time viewing, and it can be stored for months or years for auditing purposes.

CONCLUSION

Like many other parts of the IT fabric, smartphones bring marvelous capabilities to the enterprise. But, public safety alerting and dispatch is not something that cannot be responsibly moved to the cloud. Dispatch demands a dedicated, deterministic, radio system, and **SPARKGAP** meets this need better than any other solution. From its extremely simple user devices, to its low cost of ownership, to its unmatched group alerting performance, to its near 100% coverage, **SPARKGAP** is the solution for public safety dispatch and alerting.

