

Ambulance Managers Need their Heads in the Clouds – But Which Cloud?



Steve Reeves is a business development consultant who has worked in the emergency service mobile platform market for 30 years. His focus has been on mobile communications and telematics. Steve is currently developing systems leveraging low power tracking technologies and Transport-on-Demand networks. Below he explores the challenges faced by those tasked with making ambulance ICT systems fit-for-purpose for the 21st Century.

New Generation Integrated Communication Networks

The forthcoming Emergency Services Mobile Communications Program (ESMCP) is expected to transform emergency service communication. Francis Maude, until recently Minister of the Cabinet Office, said, **“We want our emergency services to have access to world-leading mobile broadband communications and modern networks and tools, so they can deliver vital public services at significantly less cost to the taxpayer”**.

It is a commonly-held belief that Latest Technology Evolution (LTE) products when supported by an enhanced wireless infrastructure will provide the capacity to send ‘everything everywhere’. It is inevitable that the emergency service user communities who are ‘tech-savvy’ will expect similar functionality and performance with regard to Apps and workflows from their new devices. It is also true that the development and implementation of these devices has to keep pace with advances in back office processing technologies.

The challenge for enterprise-based IT systems will come from increased data and media flow that inevitably generates a demand for data use in the form of Apps that use historic and real time data. However, these advances will increase data storage and processing tasks that will probably exceed current financial and physical processing and storage capacity.

Data available from externally sourced devices can deliver important components when creating operational and strategic applications. The successful integration of external and internally generated data is dependent on fast communication networks such as ESMCP. Welcome to the world of BIG DATA!

But Mr Maude’s vision can only become a reality when we provide IT managers with the ‘tools’ to do the job, such as harmonised user devices, communication networks and processing capability.

The procurement approach should be holistic, working from the whole to the part. To achieve this we need to become ‘product agnostic’ in order to conform to financial best practice. We must also continuously test the market without the constraint of vendor-specifics.



In order to drive operational efficiencies and deliver ‘best-in-class’ capability, managers require an understanding of how to make use of cloud-based integrated processing, storage and delivery technologies. A training needs analysis should identify shortfalls in our capability. In line with current thinking and projections, the elastic web is a likely replacement for fixed capacity data networks.

How often has a project been hampered because IT cannot support its integration with the network?

Managers are pushing for integrated data which requires real-time information in order to monitor departmental performance. Infrastructural and financial constraints inhibit IT departments from integrating additional data from mobile gateways. To mitigate the IT capacity

constraint managers have begun to purchase third party cloud-based solutions. This is also known as software as a service (SaaS).

Fleet managers using SaaS justify relatively high monthly data acquisition and reporting costs by stating anticipated efficiency improvements. However, when savings are undelivered system costs become another contracted overhead and there is no other benefit to the organisation because the system is in a departmental and application silo.

If this trend, whereby managers can contract-out without considering the bigger picture, continues any organisation will become disconnected from its own operational data. Next generation IT Managers will focus on data mining together with network delivery and should control all software information projects.

Continuing the fleet management analogy, data processed from a single gateway such as a black box in an integrated cloud-based processing environment such as AWS Lambda is likely to be 150 times cheaper than a managed service. The data used by the Lambda engine is available for use by other departments or partners to provide Apps for other uses.

Imagine data streaming from approved channels, for example a black-box. Such data can be processed in Lambda and analysed in Amazon Machine Learning (AML) which is highly scalable. You can start ‘trending’ vital operational information such as a capacity issues in specific sectors before it actually happens and start predicting hotspots that occur because of weather changes or motorway congestion. It is endless really! There is no upfront hardware or software investment, and you pay as you go.

Strategic Modelling together with messaging sent to device in real time can be created as a result using data analysis. ESMCP bandwidth is needed to make the possibilities deliverable.

Data will also be acquired by 'things' such as, weather sensors, door switches CCTV, ANPR and facial recognition. However; the data explosion really 'kicks off' when the European GPS system 'Galileo' goes on-line in the near future.

Think of the current GPS system as a whisper and Galileo as a shout. It is this characteristic that enables low power low cost disposable GPS devices integrated with RFID transmitters for locating and managing products and people. Where RFID is not appropriate we will use wireless networks. Data roaming SIM costs are already significantly below £1 per month and falling fast. Systems such as Lambda have been designed to accept this massive increase in data for processing on a time-worked basis. We know this as the 'internet of things' and it is yet another technology that IT managers must understand and utilise to support their strategic thinking.

Emergency Service organisations need to be clear about their choice of cloud services. The key deliverable is the ability to run your code in response to events and automatically manage compute resources on your behalf. This alone makes it easy to build applications that respond quickly to new information. These systems start running your code within milliseconds of an event such as an image upload, in-app activity, website click, or output from a connected device.



These services are workload-focused so you pay only for the requests served and the computer time required to run your code. It is not a fixed-cost monthly charge but a cost-effective and scalable way of working that is automatic and handles anything from a few requests per day to thousands per second.

Biography: Steve Reeves



Steve has worked in the specialist vehicle integration market as a Consultant and Managing Director for over 30 years both, at home and internationally. In 2014 he established

Huntsman Communications - a boutique consultancy operating in the 'new market-new product' area of business development. Current consultancy projects include the development of a 'second life leasing plan for a major EMS leasing business, international sales development for a cash security provider and the integration and associated development plan for an end-to-end direct responsive transport solution.

If you'd like to further discuss cloud-based services in relation to your own ambulance service you can email Steve Reeves at: steve.reeves@huntsmancommunications.com or you can call him on +44 (0)161 818 9608

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