

Whitepaper

The History of Organisational Messaging

1.0 Executive Summary

Organisational Messaging is a term used to describe a means of delivering information between individuals in such a way that the information can be guaranteed to arrive in a timely manner without any changes in meaning or risk of 3rd parties discovering its content.

This document traces the development of Organisational Messaging, especially in Defence and Police environments from early manual systems through to the latest deployed systems and even postulates some future implementation possibilities. In each generation the overall functional elements of Draft, Review, Release, Security and Distribution are replicated with varying degrees of efficiency and automation.

This document is a generic discussion of this subject and individual organisational interpretations may vary across organisations.

2.0 Introduction

Organisational Messaging is already used in Defence and Police Forces around the world implement orders. Typically orders specifying Troop Movements, Logistics Operations, Weapons Deployments or Task Force Tactics are all initiated via Organisational Messaging. Requirements for aspects of Organisational Messaging are emerging in the world of business and commerce, but such markets are outside the scope of this document.

Organisational Messaging Systems usually display one or a number of the following characteristics:

Role Based: In a 24 x 7 operation, officers work in shifts and it is mandatory that operational activities are not diminished by this style of working. Organisational messages are therefore "Role Based" with messages going from Role A (Divisional Commander) to Role B (Duty Officer, Station XYZ).

Integrity and Security: Organisational Messaging Systems should include capabilities to ensure the confidentiality and integrity of the system. This aspect also includes guarantees that the messages have been Sent *and* Received by the genuine sender and recipients.

Fire and Forget: It is an important concept in Organisational Messaging Systems, that once a message has been despatched the Sender can be confident that the message *will* reach its intended destination in a timely manner. Imagine a message such as "*Do not Enter Zone 17, Terrorist Bomb Warning Received for 12 noon.....*" It is clearly imperative that this message is received and read in order to limit injury and/or loss of life.

Organisation to Organisation and Profiling: Police and Defence forces are often organised in multi-functional groups or brigades. (Imagine a Navy Vessel or perhaps a Regional HQ). Within these groups however there exists a number of specialist roles or individuals (Navigation, Forensics, Drug Enforcement). Often however there is only a single message receiving point in the organisation and there needs to be some means of internal message distribution to ensure the incoming message reaches the relevant specialist.

Draft, Review and Release: Critical and sensitive workloads such as those in Defence and Police, require a natural "Check and Balance" process to review the accuracy and suitability

of certain messages, especially those leaving the local organisation. Over time a process of different individuals, Drafting, Reviewing and Releasing Messages has been adopted as an international "Best Practice"

Protective Marking: Most information in a Police or Defence Force has some form of associated security label, such as "Top Secret", "Unrestricted" etc, and there are rules and procedures in place to ensure that information of a certain classification is only available to those authorised to view it.

3.0 Manual Systems

In ancient history early military leaders such as Alexander the Great, Sun Tzu or Julius Caesar, needed to issue orders and directives. To do this they established a systems of Messengers, Despatch Riders or Runners. Orders were sometimes dictated personally, occasionally drafted by an aide, sometimes just spoken and remembered. The Messenger was despatched with his orders and instructions on to whom the message should be delivered. Early commanders often used rudimentary encryption on their messages. As the volume of messages increased so commanders created a pool of Despatch Riders who worked in a rudimentary "Communications Centre" (CommCen). The CommCen took over responsibility for ensuring the performance of the Organisational Messaging System. A key factor here however was that the commander created the message and handed responsibility for delivery to the messaging system (In this case a man on a horse!)

4.0 Early Electronic Systems

As electronic systems such as Morse Code, Telegraph and Teletext systems were developed so the Organisational Messaging moved forward and the Rider or Runner was replaced by a length of copper or a wireless signal. The CommCen as a principle still remained and indeed has been well established now as the principle Organisational Messaging process in most Police and Defence Forces around the world. The degree to which CommCens are involved in Organisational Messaging varies but typical services work in the following manner.

Message Drafting: An individual officer (working in a particular role) drafts a message. (Often hand-written on a Formal Signals Pad). The officer then hands that draft message to a member of the CommCen staff.

Review and Release: Based on a set of predefined procedures the CommCen Staff will process the review and sign-off process prior to actually releasing this message.

Transmission: Once the message is ready to be sent, the CommCen staff may encrypt the message, add appropriate addressing and header information and transmit the message (usually via some Teletype protocol such as ACP127) to their counterparts in the receiving organisation(s). The CommCen Operators will review the intended recipients and, using their knowledge of the messaging network, route the message to the next appropriate CommCen on the route. Any potential breaches of Protective Marking rules will be enforced at this point.

Receipt and Distribution: On receiving an inbound message the CommCen Staff will acknowledge safe receipt and perform any required decryption. Then based upon keywords, addressing information or content of the message that will forward the message (often still by Hand Delivery) to the correct recipient. This process of distribution of the message, based on code words, addressing or content is called *Profiling*. Further checks for breaches of Protective Marking Guidelines will be enforced at this stage.

Archive and Storage: Most CommCens maintain a paper based filing system of every sent and received message. Space constraints mean that these manual archives are usually limited to 30-60 days of historical messages. This is currently unacceptable.

5.0 Modern Systems

The most obvious aspect of the early electronic systems is the massive manual processing content, within the system. Vast numbers of resources are required to support a big CommCen based Organisational Messaging System. As a consequence a key focus with the messaging industry has been to automate and improve manual aspects of the Organisational Messaging System.

A number of Defence and Police Forces have therefore moved to implement new technology. Typically the following components are being deployed today.

Message Drafting Tools: The ubiquitous email client has taken place of the handwritten message pad. Microsoft Outlook has been extended to support the particular requirements of Police and Defence, by including additional fields for Protective Marking, Precedence, Security and other facilities. Modern Organisational Messaging Clients also support security enforcing technology based upon Protective Marking. A leading example of this is SAFEmail from Boldon James.

Draft, Review and Release Workflow: The manual process of passing messages around the organisation has now been implemented as an electronic workflow process using workflow engines such as Microsoft Exchange Server.

Organisational Addressing and Messaging Routing: The manual tasks of the CommCen in terms of addressing and routing of messages are now handled automatically by electronic directories such as eB2Bcom's View500 and powerful messaging routing algorithms with the Microsoft Exchange Server.

Fire and Forget: The latest Organisational Messaging systems can be configured to monitor electronic *READ* and *DELIVERY* reports against maximum response times. If a message is not read within a certain period the system will automatically re-send the message to an alternate recipient and/or a Duty Centre.

Profiling: The earlier CommCen activity of reading each message and delivering it based upon its content or some tags has been replaced by sophisticated software components that are able to fully automate this task and *consistently* route all inbound messages correctly. A leading example of this capability is TREX 2003 from Commpower.

Archive: Full automatic message storage and archive capabilities are part of the basic feature set of a modern Organisational Messaging system. These offer massive savings in cost and dramatically increase capability to meet with the latest legislation.

However the key with these more modern systems is that the underlying policies and procedures have not been changed. Effectively modern Organisational Messaging technology has enhanced these policies and procedures by making them much more efficient, more secure or more easily audited. Additionally these new systems have provided the ability to ensure that messages that require immediate attention get answered, acknowledged and dealt with immediately and that electronic copies are always made available to the CommCentre for appropriate oversight and action.

6.0 The Future

The CommCen process has been working for many thousands of years now and each new generation of technology has automated aspects of the process. We see a continuing improvement in the automation of Organisational Messaging procedures, to improve efficiency and reduce costs. We are already delivering web based messaging clients (SafeMail.NET from Boldon James), that have an even simpler user interface, supported by an enhanced server side "Virtual CommCen", that uses defaults and policy files to further simplify the process. We have no doubt that the CommCen Procedures will continue to be improved and automated for the foreseeable future.

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