Boldon James Secure Information Exchange (SIE) Architecture

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This feature written by Kieron Sambrook-Smith (Global Sales & Marketing Director at Boldon James), describes the strategic value of Boldon James' version 3 (v.3) product set, and how it aligns with Microsoft's Unified Communications for the defence, intelligence and secure government markets.

Boldon James' next generation v.3 architecture is component-based, enabling the portability of our highly successful Exchange/Outlook based Email functionality to other Microsoft conferencing and collaboration platforms such as Sharepoint, Office Communications Server (for voice & video conferencing), LiveMeeting and Live Communications Server (for instant messaging and chatroom based operations), Office Documents etc.

Boldon James

Boldon James, now part of QinetiQ, develops military grade security enhancements to Microsoft collaboration platforms for defence, intelligence and government security organisations. Our flagship product, SAFEmail is a plug-in for Exchange and Outlook Email, providing complex identification, security and information assurance functionality that meets NATO/CCEB standards for security policy and business process. Our full solution set includes all the application components that make up a typical Military Message Handling System (MMHS) including secure e-mail and CHAT, Isode directories and the Bastion DeepSecure EAL4 gateway guard suite. We have over 1.6m users being deployed across 60 organisations in 14 countries around the world. The Boldon James v.3 architecture takes this success into the wider secure information exchange environment that characterises our customers' need to securely communicate messages, meaning and intent by the most appropriate method to hand; be that voice, video conference, document, instant message or email.

"The closer the customer gets to deploying the full Microsoft Unified Communications (UC) vision, the greater the business value that is achievable through Boldon James functions which automates key military business processes and enforce security policy within the secure information exchange environment" comments **Wayne Phillips** (Defence & Public Security Lead, Microsoft).

Secure Information Exchange (SIE) environment

This environment incorporates many COTS (Commercial Off The Shelf) software products each with their own specific security add-ons, but with only limited or no integration between them, making for many usability constraints. The undeniable value of safe information proliferation has also seen a significant evolution of requirements in recent years across military and intelligence markets for the secure exchange of information, namely:

• An emphasis on the need to need to share, as opposed to the 'need to know': the value of making specific information widely available to all individuals concerned with collecting intelligence, saving lives or maintaining national security requires a move away from business process designed to maintain barriers that focus on restricted access.

• Communities of Interest (CoI): COTS technologies make possible the communication of intelligence, operational activity and basic social needs between many hundreds of thousands of people within and between organisations. Correlating specific information alerts with appropriate interest groups requires sophisticated mechanisms to resolve the relationships between users, roles and information requirements.

• Push-pull: Enabling users to populate relevant-only data into their frame of reference via 'pull' criteria solves many overload issues brought about by more prolific push technologies.

• Knowledge At the Point of Action (KAPA): Consolidating mechanisms, views and filters that make frame of reference data available from multiple sources so enabling timely, fast and effective decision making.

Many individual technologies are now becoming available that separately address issues within this environment, but none that integrate together in order that users benefit from say 'online presence' indicators and are able to seamlessly link to or switch between communications mechanisms as appropriate. Security and interoperability in this environment is critical to information advantage, making the symbiosis between Microsoft's UC direction and Boldon James' v.3 plug-in COTS product set so valuable.

The Microsoft-Boldon James joint Unified Communications proposition value to Defence

Microsoft's UC direction makes available a suite of pre-integrated products. The difficult business of making all these products work together effectively has been done, but before making these platforms available to the user community in general, specific military grade security need to be layered across the top, provided by Boldon James, as follows:

Labelling, authentication, non-repudiation, certification, integration to signing & encryption, classification, clearance & caveats, precedence & priority, subject indicator codes (SIC), capability checking, draft & release, flash alerting, PDA filtering, gateway rules and border directory lookup

This functionality will be required in various forms for all methods of communicating sensitive information, so making what we've done for Email available across Instant Messaging, OCS conferencing and Sharepoint is in itself highly valuable.

However, giving users the choice and usability that comes with UC brings about new ways of working, which in themselves create new problems. Now able to work at the speed of thought, attaching documents to Email, invoking chat sessions through presence, sending files via LCS, starting OCS video conferences and so on, still requires users to manually stipulate high water mark security attributes outlined above. Effective take-up of UC in secure environments requires one further level of automation, thereby eliminating the risk of forgetfulness, addressing our needs for expediency or preventing unethical actions.

Boldon James provides not only the security plug-ins on top of these Microsoft products, but the awareness and automation to make it work together whilst adhering to strict military grade security policy. Aspects of these additional new capabilities - available only within Microsoft UC environments – are referred to as attribute propagation, high water mark defaulting and risk based profiling. This value is unique to Microsoft and Boldon James and significantly elevates the UC

proposition, enabling the accelerated take-up of Microsoft collaboration, document management, ID management and VoIP products.

What is it about Boldon James v.3 SIE architecture that security services customers see as important?

An obvious advantage of this new component based architecture is that customers can:

• Pick and mix functionality as appropriate for each user community or role. For example, High,

• Medium and Basic grade users don't all need encryption, flash messaging or P7 Forms functionality.

• Reuse of components such as labelling, profiling, classification or capability checking for CHAT, voice & video conferencing or document management.

• Minimising the effort, risk and cost associated with testing, assessment and accreditation of previously approved Email components.

• Added value achieved through attribute propagation and risk based profiling.

• Maximising return on investment (ROI) of Microsoft platform purchases.

Roadmap – Fixed to Deployed

Customers with mature secure information exchange environments in fixed locations connected by hardened networks are now working out how to extend these proven technologies into more tactical environments. These mobile communities require access to office-centric information infrastructure typically via the web, PDA's or HF radio. The handset and radio vendor community has responded well to these requirements and is making available better levels of protection for internet and air based communications required by tactical, maritime and remote workers.

Boldon James is already providing functionality that better enables Microsoft based platforms to extend into these environments, such as enhanced capability checking, message filtering, and IP over HF radio for constrained bandwidth & radio silence environments. In addition, risk based profiling enables intelligent assessment of the access device, communications mechanism and environment in order that access to levels of sensitive data can be appropriately modified.

Enabling Network Enabled Capability (NEC) and Joint Operating Picture (JOP)

Microsoft UC forms a fundamental basis for advanced usability and selection of preferred communications mechanisms, with which better meaning and intent can be conveyed in a more timely fashion. Once Microsoft UC platforms have been further enabled by our v.3 SIE products, customers can start to unravel constraining business processes and progressively implement new ways of working on top of this next generation communications platform. NEC philosophies to better share & exploit time sensitive information, collaborate with partners, and place security barriers only where necessary can now fast become reality.

On 20th September Boldon James announced a successful laboratory implementation of its Tactical Messenger solution with the Park Air Systems U/VHF 3000 series radio - widely used by armed forces around the globe.

Tactical Messenger is a solution designed to specifically address the requirement of STANAG 4406 Annex E. Primarily designed to provide a solution for electronic messaging in low bandwidth and high latency environments, Tactical Messenger also provides connectivity for those military units that deploy in emission control (EMCON) environments including areas where radio silence is critical.

The implementation at Boldon James' Crewe laboratories comprises Windows PC's configured with its SAFEmail client software, a STANAG 5066 server and a software modem. This solution is then connected to Park-Air Systems' U/VHF 3000 series of military radios. Message exchange is achieved by using an ACP142 compliant X.400 message transfer agent and P7 connector.

Having successfully proven a COTS solution for STANAG 4406 Annex E messaging working with a non IP based radio, Boldon James will now showcase this solution at a number of upcoming exhibitions; the first of which is the Defendory exhibition in Greece (7-11th October 2008).

"Implementation of STANAG 4406 Annex E solutions is a complex business, even more so when the radios aren't IP enabled," comments Kieron Sambrook-Smith, Boldon James' Sales and Marketing Director. "By carrying out the integration work ourselves, Boldon James significantly de-risks the implementation for our customers; enabling them to achieve electronic messaging in a tactical environment whether they have IP based radios or not."