Improving Coalition Blue Force Situational Awareness for Land Tactical Operations

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01 What is CBFSA

- A joint US/UK project, to develop and evaluate technical options for the exchange of Blue Force Situational Awareness (BFSA) data between UK Bowman and the US family of Blue Force Tracking (BFT) systems.
  - BFSA data provides general information on own force dispositions often with modest time delays.
  - BFT data differs from BFSA as it provides a near-real-time information on platform locations.
02 Why Invest in CBFSA

• Improved situational awareness between US and UK forces.
• Streamlined coordination between US and UK forces.
• Increased operational tempo.
• Reduced fratricide (will complement but not replace Coalition Combat ID (CCID)).
• Foundation for future wider interim multi-lateral interoperability (MIP).
CBFSA Capability Concept Demonstrator

Objectives:

- Demonstrate inter-operability between the UK Bowman System and the US GCCS Family of Systems.
- Implement a seamless architecture to exchange tactical BFSA data.
- Exploit existing US and UK BFSA programs.
- Develop CONOPS/CONUSE, TTPs/SOPs and guidance on training needs to effectively utilize BFSA in US-UK operations.
03 CBFSA Capability Concept Demonstrator
04 Trials Programme

• Approach:
  – Technical development trials.
  – User assessment trials (Coalition Warrior Interoperability Demonstrator (CWID) 05 and an Operational Field Trial (OFT) on Salisbury Plain).

• Performance Measures:
  – Functional Requirements Document assessment panel.
  – Observation.
  – Questionnaires/adhoc interviews with users and subject matter experts.
  – End-to-end timings.
  – System performance.
Robust Connectivity

- National BFSA Solutions
  - US and UK currently employ different solutions.
  - US commonly employ satellite communications back to an ops center for re-broadcast to those authorized and equipped.
  - UK Bowman system employs terrestrial radio.
  - Number of location report message ‘hops’ is an issue *(as each hop introduces a delay up and down the chain)*.
  - Challenge for both national infrastructure providers and managers is to raise their respective system reliabilities to avoid a loss of user confidence.
05 Robust Connectivity

- **US/UK CBFSA Communications Links**
  - Communications link(s), protocols and addresses between national infrastructures.
  - Connection points in the respective national systems.
  - Agreed messages and formats.
  - Gateway equipment.
  - Agreed terminology, unit/equipment descriptions and symbology.
  - Security protection measures between the two national systems.
06 Security Considerations

- Security protection is important, but must strike a balance between protection and flexibility to meet user needs.
- Differences between US and UK schemes for classifying, protecting and releasing information.
- Accredited US and UK firewalls almost entirely successful.
- Firewall performances did not add significantly to end-to-end CBFSA message timings.
- Modification and re-accreditation of the US Radient Mercury Firewall is necessary if all fields in UKSITAWARE message are to be exchanged.
07 Harmonising US and UK Doctrine

• Considerable commonalities in US and UK doctrine already.
• Draft CONOPS were produced for CBFSA, however, these must feed into US and UK formal doctrine as appropriate.
• Of particular concern is the degree of certainty demanded before engaging a potential target:
  – UK doctrine requires visual identification of targets.
  – With increasing use of FBCB2/BFT US forces may believe CBFSA provided unit locations are always where they appear on the screen.
  – CBFSA is not CCID, so will not confirm identity.
  – Best solution through training and familiarisation.
Managing User Expectations

• Very encouraging feedback received, especially from VIP visitors at CWID 05 and during the CBFSA OFT.
• Should take only a few months to transition if an urgent operational requirement arises.
• Essential to be clear what CBFSA can provide at different command levels from brigade down to platform:
  – All CBFSA users can expect a better picture than without it (trade-offs may be necessary for best CBFSA picture).
  – CBFSA considered to be of most value at brigade and unit.
  – Some sub-unit and platform users considered information out-of-date by more than a few minutes to be dangerous.
• The Liaison Officer role will differ significantly from what he does now.
Summary

• CBFSA has been a real success:
  – Demonstrated the value of CCD’s for exploring new systems concepts.
  – Proven the viability of exchanging BFSA between UK Bowman and US family of systems.
  – Captured vital knowledge to inform CBFSA CONOPS/CONUSE, TTPs/SOPs, training and other projects such as MIP and CCID.

• Transition to service is complicated by the current UK Bowman programme and the need for a clear user operational requirement.
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