

Improving Coalition Blue Force Situational Awareness for Land Tactical Operations

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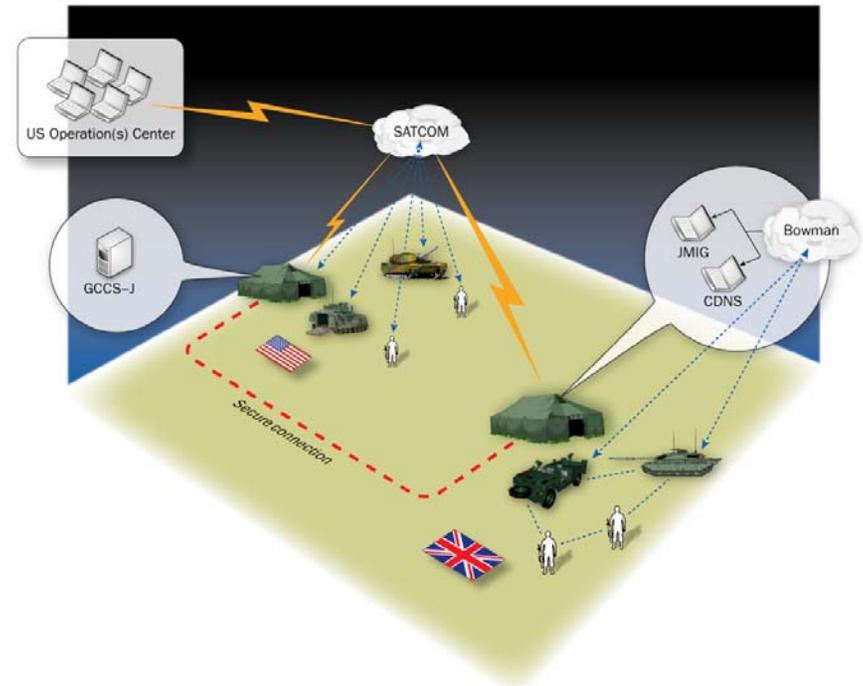
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01 What is CBFSA

- 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.



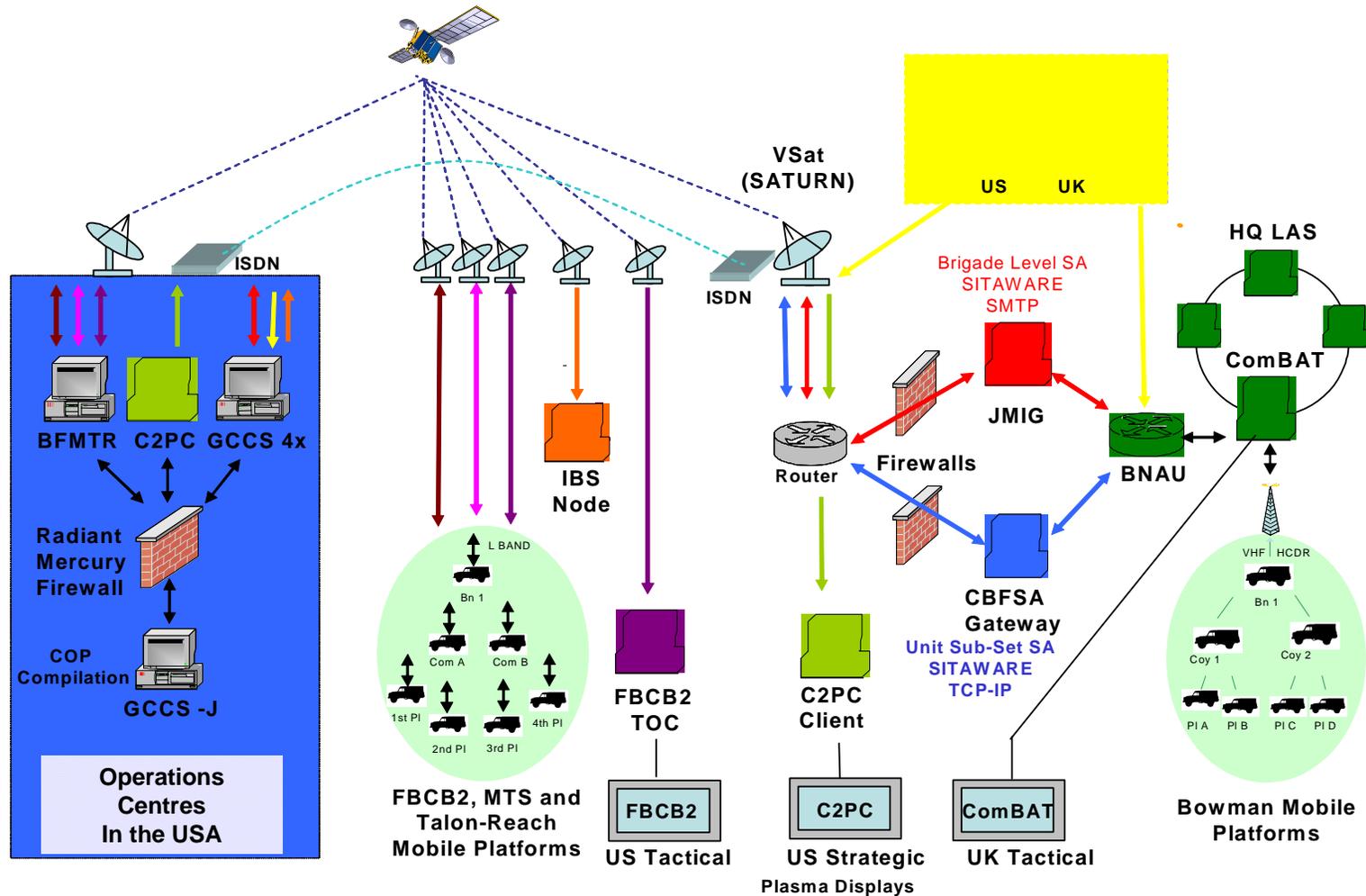
02 Why Invest in CBFSA

- 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).

03 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.

05 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 Radiant 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.

08 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.

09 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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