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uk uhf satcom dama submarine

Submarine issues for future networking
in the maritime battlespace
adsutherland@dstl.gov.uk

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Key roles for **UK** UWB platforms

Maintenance of the nuclear deterrent

CTF345

— Command Task Force - Northwood

requires secure environment operating at multiple security levels

access to all environmental data

— ? 

planning with other CTFs and US

TLAM operations

CTF311

DI(NC)

US/UK

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Submarine operations

TopSec?

SSBN/SSN routinely operate up to TS CW

operation centres are separate from surface

SSBN operations pre-empt **UK** communications → For EAM

US and **UK** forces operate under control of SUBOPAUTHs

resilient rear link

waterspace management

joint operations - shift of OPCON

Submarines intermittently access communications

Submarines have low bandwidth communications

operations with US paramount

UHF SATCOM Background

UK submarines operate using a **UHF SATCOM** system

Submarine Satellite Information eXchange
Sub-system -SSIXS

SSIXS is one of the IXS family -BGIXS,
TADIXS,OTCIXS etc

In 2001 USN announce that post 2003 all
support for SSIXS will cease and that the
system will transition to an IP based system

 **UK** reliant on SSIXS for US/**UK** interoperability

C2

TLAM operations

SPECOPS

software support and sustainability

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SSIXS

UHF 200-300 MHz DAMA

Provides

SSIXS -)
data rates 2.4 kbs -32 ksps

SSIXS operated by AS and CAN

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UK activity for IP transition

UK raises a force majeure measure for SSIXS-IP transition

Submarine Command & Control (SMC2)

Funding release to DPA authorised 2001

activity started late 2001

Spiral acquisition

disconnect between **UK** and US approaches

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Background shore side

- / Broadcast Processor System

SMBPS shore processor unable to sustain existing or new capabilities

unable to fully participate in **US/UK submarine** operations post 2004

no migration strategy

No programme

Security

absence of **UK IP** cryptos major impediment

absence of US crypto approved for **UK Eyes** operations major impediment

space and training problems for submarines and shore

Interoperability

USN using protocols that do not align with GCN/DII

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Coalition IP Products

OPERATIONS

ROE, WSM, OPORDS, etc..

COP

CHAT

WEAPONS TARGETING & STRIKES

INTELLIGENCE

ENVIRONMENTAL (WX, etc..)

TRAINING/ADMIN

Coalition Submarine

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Allied IP WG

To address problems arising from these programmes of record

US & UK have stood up US/UK IP WG

h

charter available

At request of AS and CA there is also a Allied IP WG

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Submarine issues

SSNs require direct interoperability with

US and coalition NOCs

Command Platforms

Co-operating units

SSNs require to directly join US or coalition

Require robust, highly secure link for SpecOps, SSBN and strike

Intermittent access

Security enclaves & cryptos
space

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