

NORDIS-S

Norwegian Defence Information Services - Secure

Infrastructure and Core Services

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Agenda

- **Background**
- **Trials in CWID 2005**
- **Utilization of Core Services CWID'05**
- **Questions**



Norwegian National C2IS Infrastructure Strategy

- **Implement common, "enterprise" level networks and platforms**
 - Covering all operational levels from strategic level to unit level
 - Seamless services to all levels
 - Deployable and mobile capabilities
- **Classified network and platform for each required security domain, i.e.**
 - National Secret system
 - NATO Secret system
 - Coalition Secret Systems, as required by Coalition participation
- **Migrate or integrate all systems and applications to common networks and platforms**
- **Exploit battlelab opportunities (CFBLNet, CWIDs, CDEs etc.) and exercises to validate NATO/Coalition interoperability and to evaluate functionality**



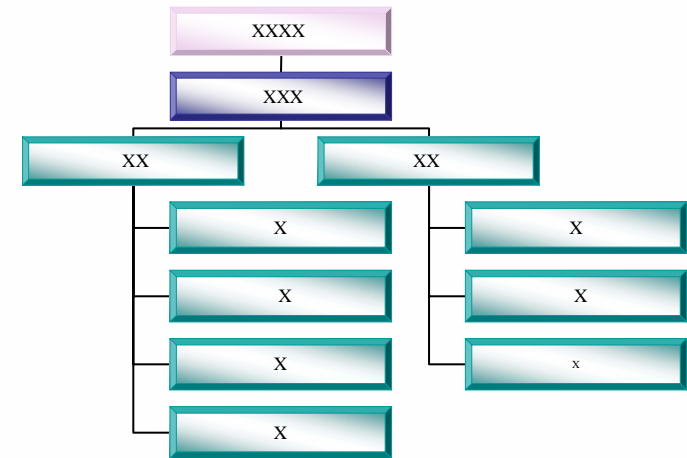
Network Centric Development – Service Oriented

Legacy:

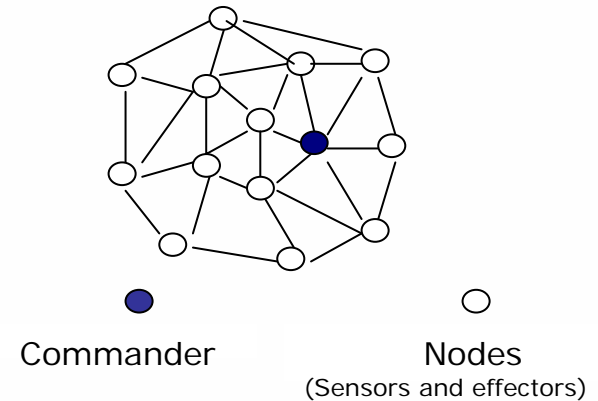
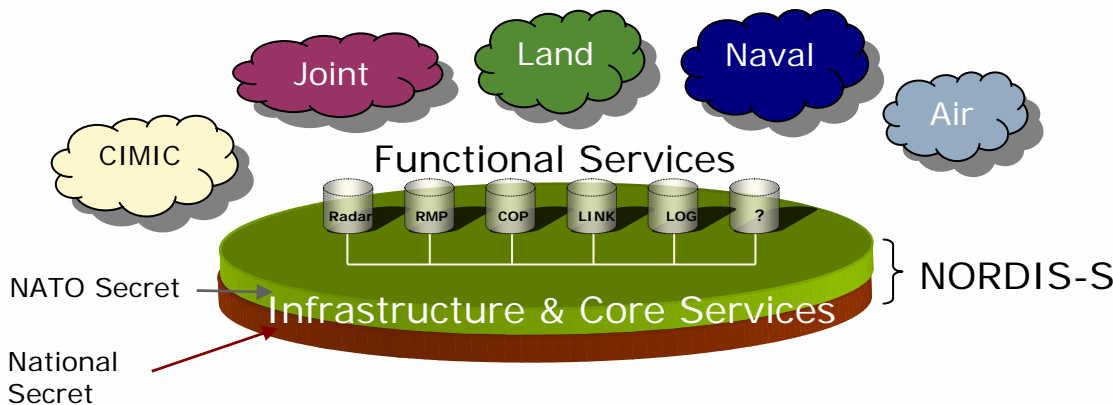
”Stow pipe” systems

Land	Air	Naval
NORCCIS II	NEC CCIS	NORCCIS II
NorTAC	MCCIS	MCCIS
BMS	Link 1, 11	SjøTAS

Organisational Structure



Future:





NORCCIS II and NORDIS-S - Framework

Functional Services - NORCCIS II

COP and Joint Services

Air C2 Services	Land C2 Services	Maritime C2 Services	Crisis mgmt Services
Info Mngmnt Services	Intelligence Services	Logistics Services	Sensor Services

Core services - NORDIS-S

Basic	Data Exchange	Security	Management
Document Handling	Messaging (MMHS, E-mail)	Authentication	Enterprise Management
Geographic	Directory Services	Integrity	Data Administration
Cartographic	Multi-points Collaboration	Encryption	Config. management
Workflow	Bulletin Board	Single Sign-on	Security Management
Office Automation	Web Information Portal	Malicious Code Detect.	
WEB Browsing	File Sharing/File Transfer	Intrusion Detection	
IP Telephony	Database Replication	Logging/Audit	
	MMHS Socket Gateway	Domain Mediation	
	MIP DEM	IEG-B	

Network Services/NCW Grid

Communications Bearers
Local Area Networking
Wide Area Networking



NORDIS-S - Trials in CWID 2005

NORDIS-S Trials

- Information Exchange Gateways
- Tactical Messaging

A total of 63 trials were conducted

NORDIS-S core services were in addition utilized by:

- NORCCIS II functional trials
- The scenario by offering core services to the warfighter (military messaging, e-mail, WEB, MIP-DEM etc)



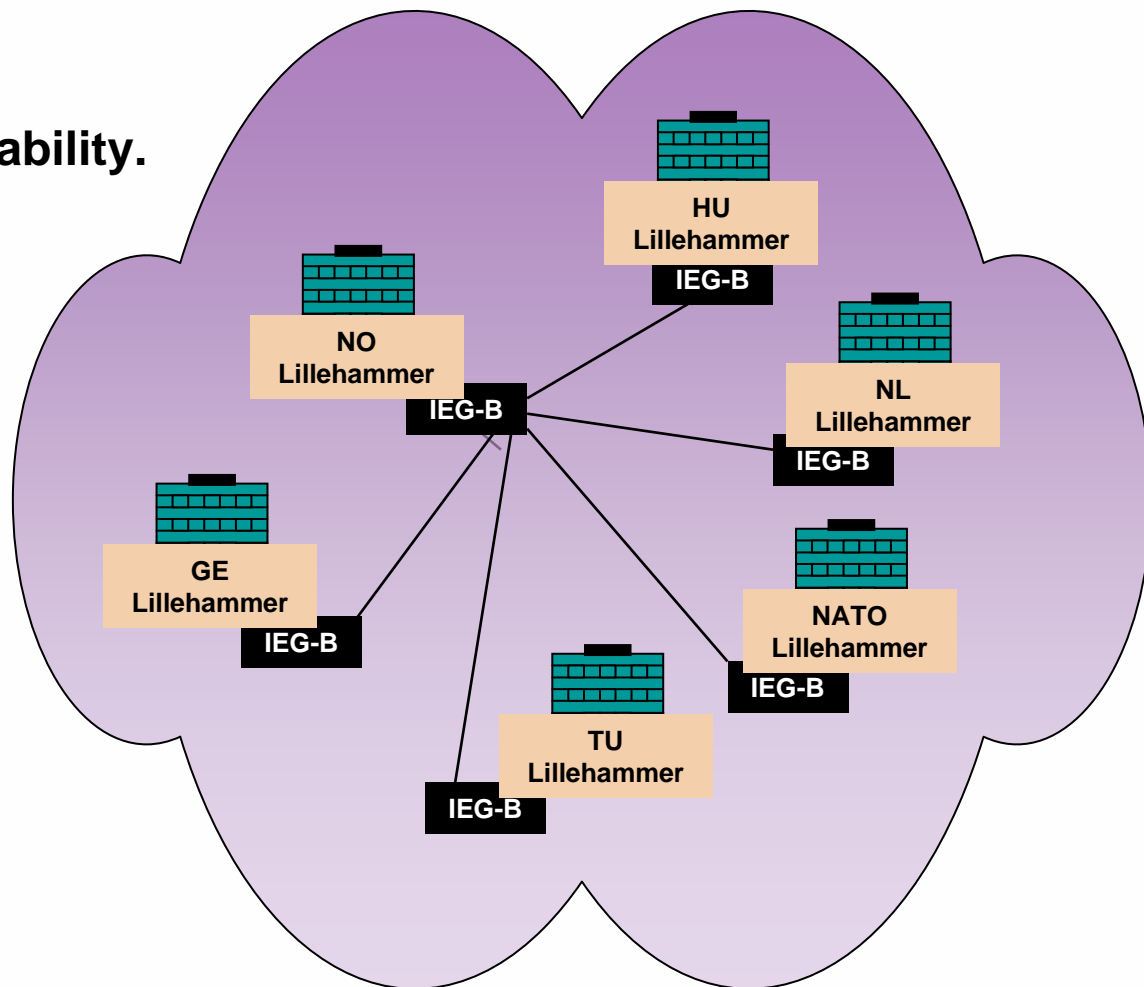
NORDIS-S Trials – IEG-B

**IEGs is a key concept for
Nation-NATO-CJTF interoperability.**

Services mediated through
IEG-B CWID-2005:

- E-mail (SMTP/Mime)
- Web
- Directory

CFBL-Net - Purple Domain Lillehammer





NORDIS-S - IEG-B Trial Results

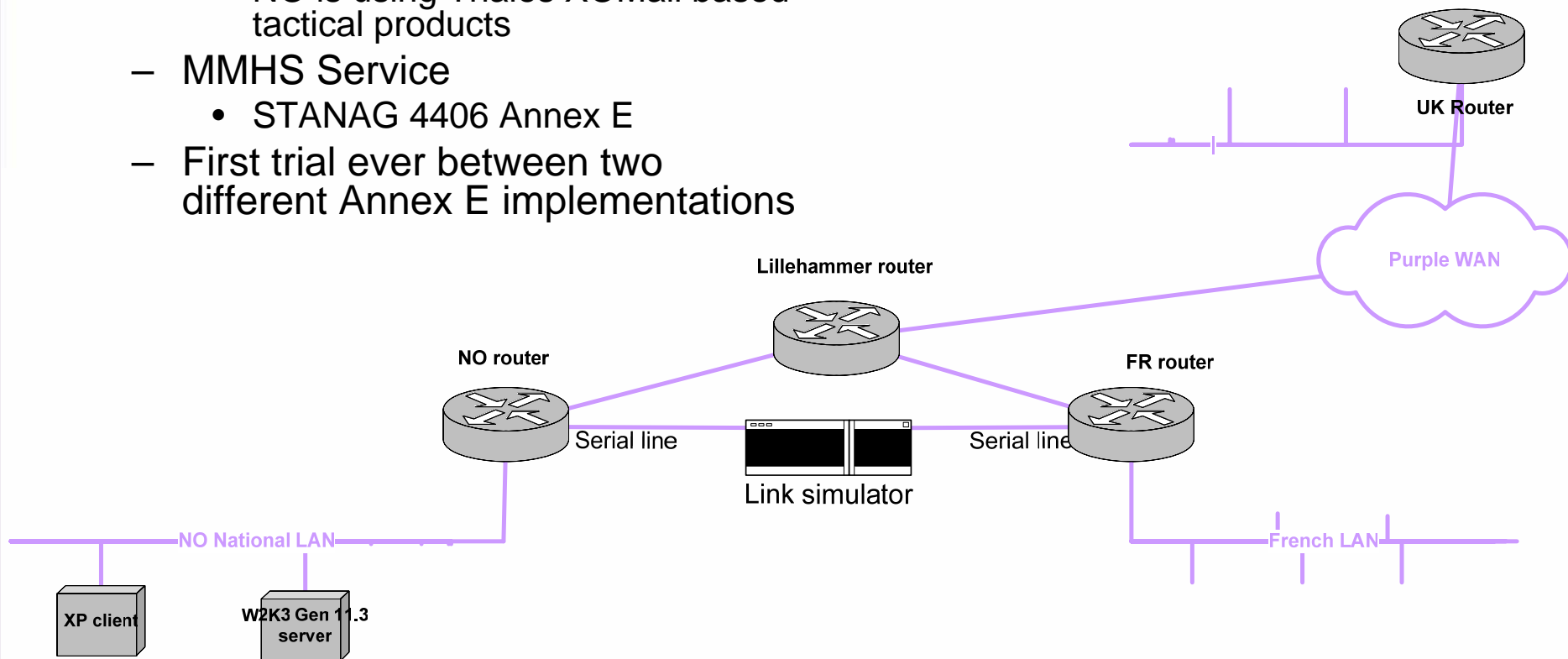
- **Successful tests with all partners**
- **NATO with Nation as well as Nation with Nation interoperability proved feasible (as expected)**
 - Many more products and IEG design variations tested this year
- **E-mail, SMTP-based, proved quite easy to implement, however some variations in handling of delivery notifications found, affects end users**
- **Further IEG tests should be a test objective for CWID 2006**
 - Mediation of functional services (RMP, RLP, RAP, COP etc.)
 - Mediation of new core services, MMHS (NMS!), DCP, VOIP
 - Tactical/Deployable Case B IEGs
 - Case C IEG (Mission Secret CJTF)



NORDIS-S Trials – Tactical Messaging

- **Tactical Messaging**

- Partners FR, UK
 - Using Nexor-based tactical messaging products
 - NO is using Thales XOMail based tactical products
- MMHS Service
 - STANAG 4406 Annex E
- First trial ever between two different Annex E implementations





NORDIS-S - Tactical Messaging Trial Results

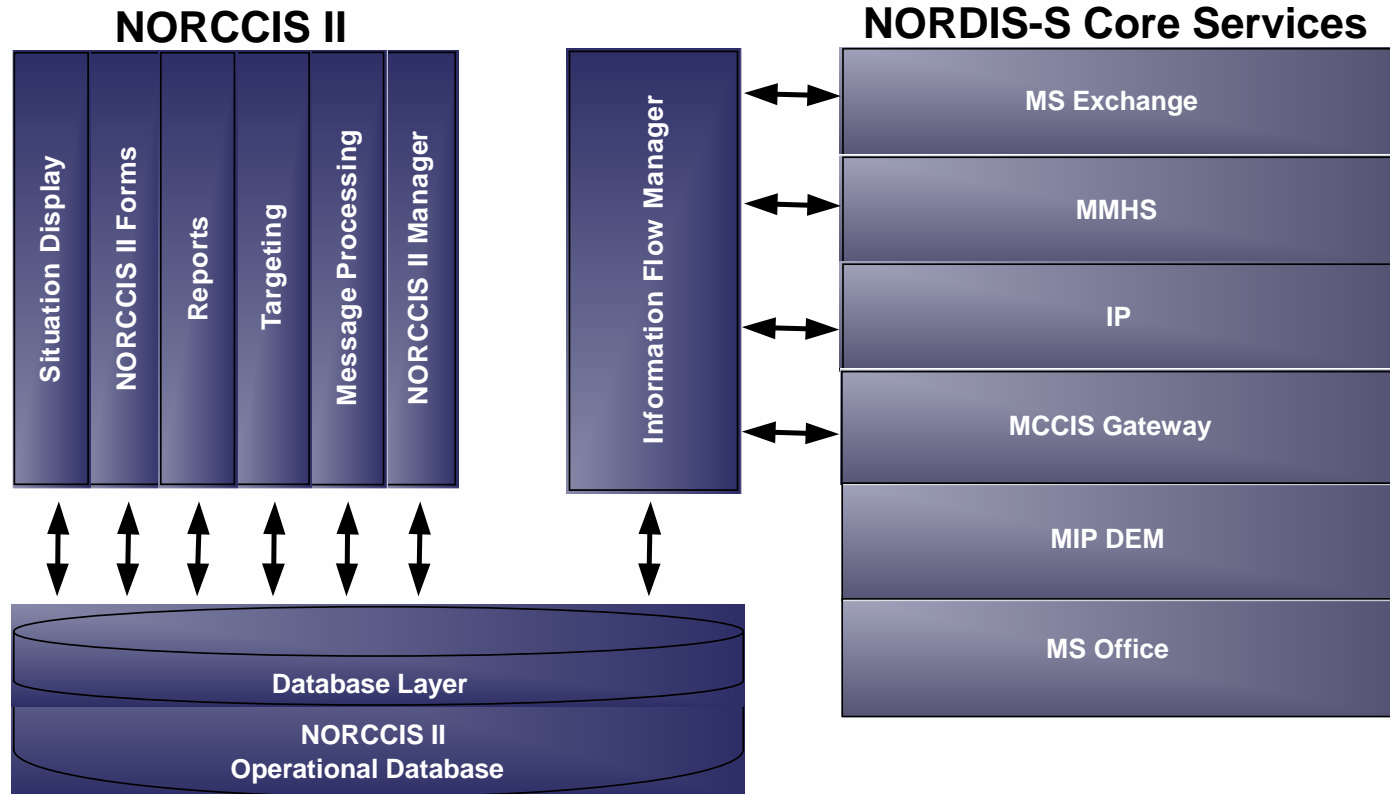
- **Simulated low-bandwidth, long delay, broadcast HF-environment set up**
- **Message exchange between all systems through both unicast and multicast network configurations have been tested**

- **Further STANAG Annex E tests should be a test objective for CWID 2006**
 - Use real network components such as HF radios, Iridium links etc. in order to have an even more realistic environment and test results
 - Test new updates to standard required to cope with certain error situations



NORCCIS II - Utilizing Core Services in NORDIS-S

- NORDIS-S core services integration
- Info Flow Management
 - Channels
 - Mail, MMHS etc
 - Export tasks
 - Receiver
 - Message type
 - Time interval
 - Import tasks
 - Channel type
 - Filtering
 - Database context





Information Flow Management

- NORDIS-S core services integration
- Info Flow Management
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The screenshot shows the InGrid software interface with the following components:

- Communication Manager:** Contains icons for Channels, Aliases, Alerts, and Configuration.
- Import Tasks:** A table listing import tasks with columns: Name, Status, Auto Start, Host, Channel, Interface, Database, and Context.
- Information Console:** A large empty rectangular area.
- Export Tasks:** A table listing export tasks with columns: Name, Status, Auto Start, Host, Alias(es), Interval, Database, and Context.
- Import Log:** A table at the bottom left showing a log of import operations with columns: Time, Name, Channel, MSGID, and Status.
- Export Log:** A table at the bottom right showing a log of export operations with columns: Time, Name, Alias(es), MSGID, and Status.

Name	Status	Auto Start	Host	Channel	Interface	Database	Context
Mail	Started	No	nocwappc06.nocwid.nat.o.int	Mail	Smtpt	niidb	2005 CWID SCENARIO
Socet	Started	No	nocwappc06.nocwid.nat.o.int	Socet	Socket	niidb	2005 CWID SCENARIO

Name	Status	Auto Start	Host	Alias(es)	Interval	Database	Context
Test1	Removed	No	nocwappc06.nocwid.nat.o.int	Ulf Mail	15 min, 0 sec	niidb	2005 CWID SCENARIO
NO MC UNITS	Removed	No	nocwappc06.nocwid.nat.o.int	MCC, SP BG	1800 min, 0 sec	niidb	2005 CWID SCENARIO
IT US	Started	No	nocwappc06.nocwid.nat.o.int	IT US	60 min, 0 sec	niidb	2005 CWID SCENARIO

Time	Name	Channel	MSGID	Status
2005-06-17 06:36:25Z	Socet	Socet	MSGID/GCCSA/GOLD/1168/JUN	Import Completed
2005-06-17 06:36:03Z	Socet	Socet	MSGID/GCCSA/GOLD/1165/JUN	Import Completed
2005-06-17 06:32:58Z	Socet	Socet	MSGID/GCCSA/GOLD/1133/JUN	Import Completed
2005-06-17 06:32:40Z	Socet	Socet	MSGID/GCCSA/GOLD/1130/JUN	Import Completed
2005-06-17 06:32:10Z	Socet	Socet	MSGID/GCCSA/GOLD/1121/JUN	Import Completed
2005-06-17 06:31:20Z	Socet	Socet	MSGID/GCCSA/GOLD/1112/JUN	Import Completed

Time	Name	Alias(es)	MSGID	Status
2005-06-17 06:09:59Z	IT US	IT US	MSGID/NOMECHBDE/GOLD/0313/JU...	Export Comp
2005-06-17 05:09:59Z	IT US	IT US	MSGID/NOMECHBDE/GOLD/0312/JU...	Export Comp
2005-06-17 04:09:58Z	IT US	IT US	MSGID/NOMECHBDE/GOLD/0311/JU...	Export Comp
2005-06-17 03:10:00Z	IT US	IT US	MSGID/NOMECHBDE/GOLD/0310/JU...	Export Comp
2005-06-17 02:09:59Z	IT US	IT US	MSGID/NOMECHBDE/GOLD/0309/JU...	Export Comp
2005-06-17 01:10:01Z	IT US	IT US	MSGID/NOMECHBDE/GOLD/0308/JU...	Export Comp



Why do we participate in CWID?

- **A very good venue to test and trial our HW and SW**
 - Near “real” situation including secure infrastructure without being in the battle field
 - Arena for trials over an optimal execution period which gives us the possibility to keep “focused”
 - Learn how other nations have solved challenges and exchange ideas for national use
 - Participating in the scenario is vital to test system capabilities
- **An opportunity to test and verify Coalition/NATO interoperability**
 - NC3 standards
 - Interoperability Models – “How to do it technically”
 - Interoperability Procedures – “How to do it operationally”
 - Important testing ground to verify NRF-interoperability



Questions/Comments?

Briefs and information can be downloaded @ www.c2is.net