

Message Text Formats

MTF

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MTF Analogy

A Message Text Formats is analogous to a letter:

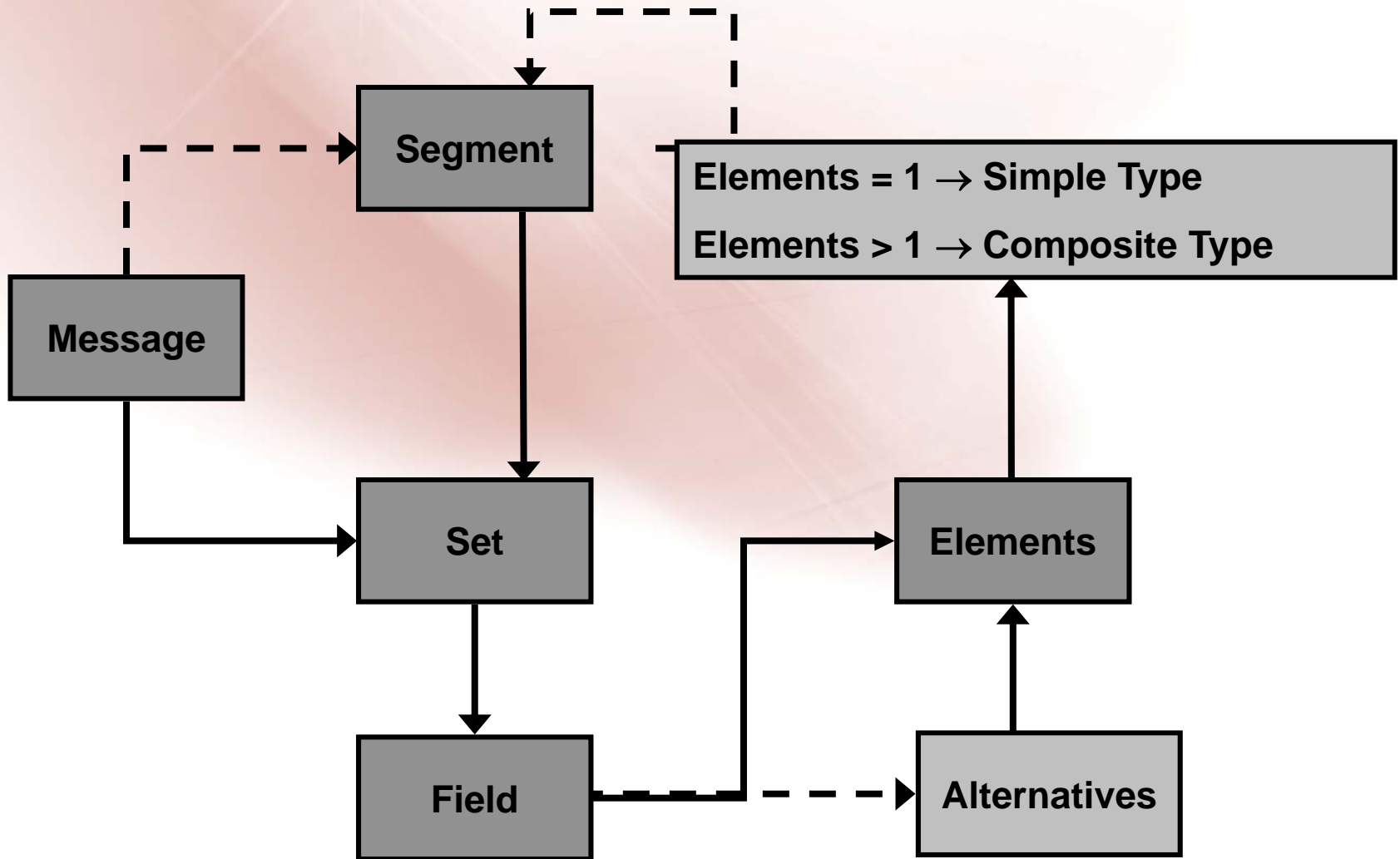
Letter = Message

Sentence = Set

Word = Field

Where a Letter is constructed of Sentences and Words, so a Message is constructed of Sets and Fields

Generic Message Structure



MTF Basics

- Messages consist of one or more Sets, including one Set identifying the message
- Sets start with the Set identifier and end with ‘//’
- Some Sets can be repeated, either individually, or as part of a group known as a Segment
- A Field within a Set begins with a ‘/’ followed by one or more characters

Example:

SETID/Field 1/Field 2/Field 3//

or:

MSGID/OPTASK IM/DARWIN/8/FEB/PER/1//

MTF Occurrences

Segments, Sets and Fields can be:

- M** - Mandatory
- C** - Conditional
- O** - Operationally Determined

Occurrences - Mandatory

Mandatory - indicated by the letter **M**

A **Mandatory** Segment, Set or Field *MUST* always occur if its containing format is used

Occurrences - Operationally Determined

Operationally Determined -indicated by the letter **O**

An **Operationally Determined** Segment, Set or Field *MAY* occur

Occurrences - Conditional

Conditional - indicated by the letter **C**

The use of a **Conditional** Segment, Set or Field is governed by a condition requiring or prohibiting the occurrence

ASMTF - Conditional SN to SLE

EXER and OPER are mutually exclusive, only one of the Sets may be used

Structured Notation:

(2) P ([1] @)

Structured Language (English):

SET 2 (OPER) IS PROHIBITED IF SET 1 (EXER) OCCURS

Segments

Segments are a collections of Sets and/or other Segments and they may be repeated

Example - ORGID Segments:

ORGID/123/2 INF/CA/BPOL/INF/CDO/A/1//

WORBAT/PLAN/COMD/123/2 INF/CA/BPOL/INF/CDO/A//

ORGID/456/3 INF/BU/AMPH/INF/CDO/A/2//

WORBAT/REAL/TACCOMD/456/3 INF/BU/AMPH/INF/PLT/A//

Sets within Segments

Sets within Segments may be repeated

Example - ORGID Segment WORBAT Set:

ORGID/123/2 INF/CA/BPOL/INF/CDO/A/1//

WORBAT/PLAN/COMD/123/2 INF/CA/BPOL/INF/CDO/A//

WORBAT/REAL/TACCOMD/456/3 INF/BU/AMPH/INF/PLT/A//

Fieldgroups

- One or many Fields are repeatable
- Repeatable instances are defined at the end of a Set
- A collection of repeatable Fields is called a *Fieldgroup*

Example - ALLOCATION Set:

2ALLOC

	/UNIT	/ATTK	/RECCE/ADEF	/AEW	/OTH/
3 SQUADRON	/8	/2	/2	/3	/2
4 SQUADRON	/2	/1	/0	/2	/3//

Example MTF: Personnel Status Report (PERSTAT)

Seg	Rpt	Occ	Set ID	Field Occurrence	Set Format Name
		O	EXER	/M/O//	EXERCISE IDENTIFICATION
		C	OPER	/M/O/O/O//	OPERATION IDENTIFICATION DATA
		M	MSGID	/M/M/O/O/O/O//	MESSAGE IDENTIFIER
	*	O	REF	/M/M/M/M/O/O/*O//	REFERENCE
		M	PERID	/M/M/O//	EFFECTIVE DAY-TIME PERIOD
[	M		UNITID	/M//	UNIT IDENTITY
[		M	7PERSDAT	/M/M/M/M/M/M/M//M/M/M/O//	PERSONNEL DATA
[		O	7PERLOSS	/M/M/M/M/M/M/M//M/O/O//	PERSONNEL LOSSES
[		O	EPWCOUNT	/M/M/O/O//	ENEMY PRISONER OF WAR COUNT
		O	DECL	/M/*C/*C/*C//	MESSAGE DOWNGRADING OR DECLASSIFICATION DATA

MTF Free Text Sets

- There are three SINGLE FIELD FREE TEXT Sets within MTF Standards:
 - The Amplification (AMPN) Set
 - The Narrative (NARR) Set
 - The Remarks (RMKS) Set
- A special FREE TEXT Set (GENTEXT) has an additional Field, used to identify the text subject

Amplification (AMPN) Set

The Amplification (AMPN) Set is used to provide additional information only on the preceding Set

Example - AMPN Set:

OPER/TEXT/TEXT/TEXT//

AMPN/AN AMPLIFICATION FOR SETONE//

MSGID/TEXT/TEXT/-/TEXT//

AMPN/AN AMPLIFICATION FOR SETTWO//

AMPN/ILLEGAL TO AMPLIFY AN AMPLIFICATION SET IN FORMATTED MESSAGES//

Narrative (NARR) Set

The Narrative (NARR) Set is used to provide additional information on a preceding group of Sets

Example - NARR Set:

OPER/TEXT/TEXT/TEXT//

AMPN/AN AMPLIFICATION SET FOR SETONE//

MSGID/TEXT/TEXT/-/TEXT//

NARR/AN NARRATIVE SET FOR ABOVE SETS//

Remarks (RMKS) Set

The Remarks (RMKS) Set is used to provide additional information on the whole Message

Example - RMKS Set:

```
OPER/TEXT/TEXT/TEXT//  
AMPN/AN AMPLIFICATION SET FOR SETONE//  
MSGID/TEXT/TEXT/-/TEXT//  
NARR/AN NARRATIVE SET FOR ABOVE SETS//  
RMKS/THIS IS A REMARKS SET FOR THE MESSAGE AS A  
WHOLE//
```

GENTEXT Set

A special free text Set (GENTEXT) has an additional Field, used to identify the text subject, the GENTEXT Set is specified in the Message format

Example - GENTEXT Set:

**GENTEXT/OWN FORCES SITUATION/THIS INFORMATION
DESCRIBES ADDITIONAL INFORMATION FOR OUR FORCES//**

Set Type - Linear

A linear Set is a Set having one or more Fields presented in a horizontal arrangement

Example:

```
MSGID/OPTASK IM/DARWIN/005/FEB//
```

```
NSIT/DA/PB/ROEMOE/SKAW AREA/-/SURV//
```

Set Type - Columnar

A columnar Set has a group of Fields that provide an ordered arrangement of data aligned vertically under a **column header**

Example:

1SHIPS

/FLAG OR UIC	/SHIP TYPE	/SHIP NAME OR QTY
/UK	/FS	/VICTORY
/DA	/FSM	/OLFERT FISCHER//

Set Type - Free Text

Free Text Sets have a Free Text Field with no prescribed length limitation:

- AMPN
- NARR
- RMKS

} AMPN/NARR/RMKS/THESE ARE FREE TEXT SETS OF UNLIMITED LENGTH//

- GENTEXT

GENTEXT/TRANSSHIPMENT RESPONSIBILITY/IN
THE GENTEXT SET THE FIRST FIELD HAS A LOCKED VALUE TO IDENTIFY THE SET. THE SECOND FIELD IS THE FREE TEXT FIELD//

Fields - Summary

3 Types:

- **Elementary Field:**
 - Simple field containing a value
- **Composite Fields:**
 - Fields which are made up of sub-Fields
- **Repeatable Fields:**
 - Field or group of Fields which can be repeated at the end of a Set (both Elementary and Composite Fields may be repeatable if so formatted)

Sets - Summary

3 Types:

Linear:

- One or more Fields presented in a horizontal arrangement

Columnar:

- A group of Fields aligned under a column header

Free Text:

- Provide the ability to insert a text Field at different levels

n.b. Linear or Columnar Sets may be repeating if defined in the Message structure



Quote

“The only thing harder than getting a new idea into the military mind is to get the old one out first”

Capt Sir Basil Liddell Hart, 1944

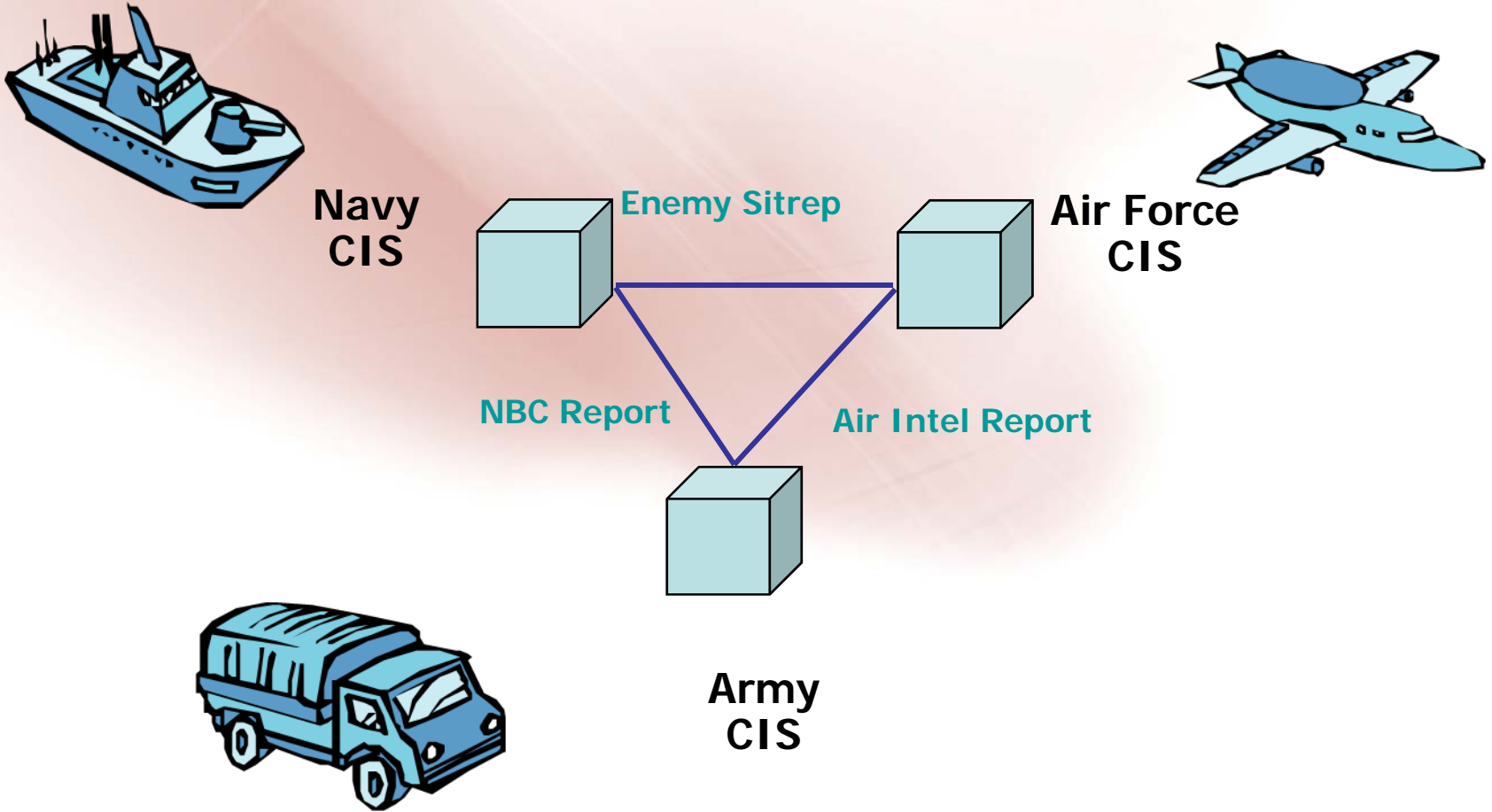


What is interoperability?

“The ability of systems, units or forces to provide services to, and accept services from, other systems, units or forces, and to use the services so exchanged to operate effectively together”

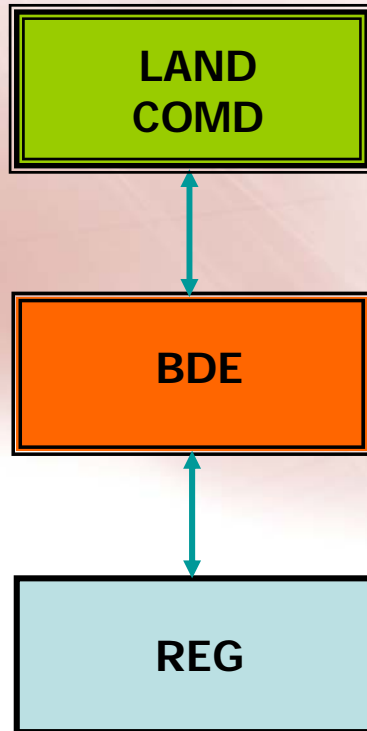
(AAP6)

Military Interoperability

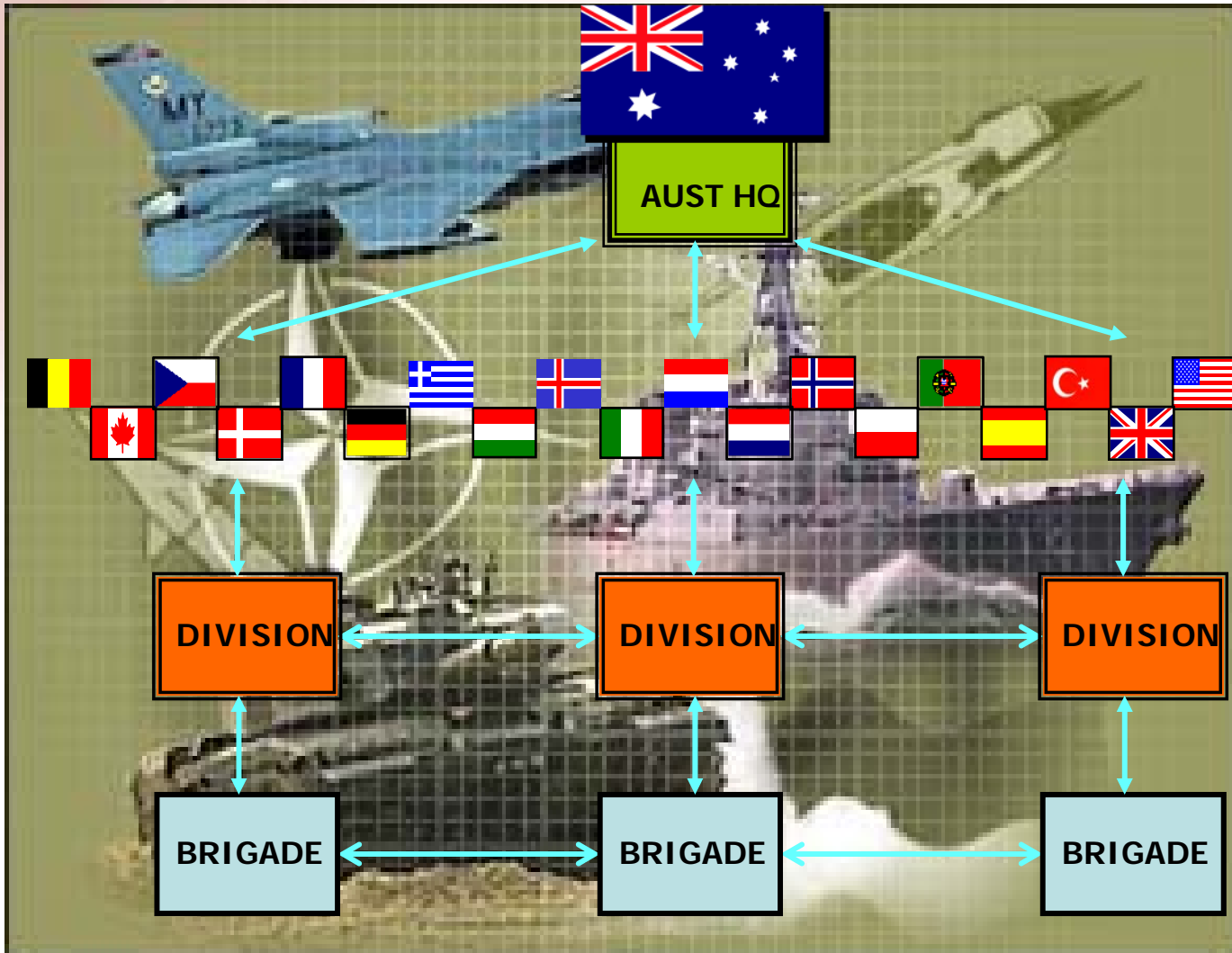


The Operational Requirement

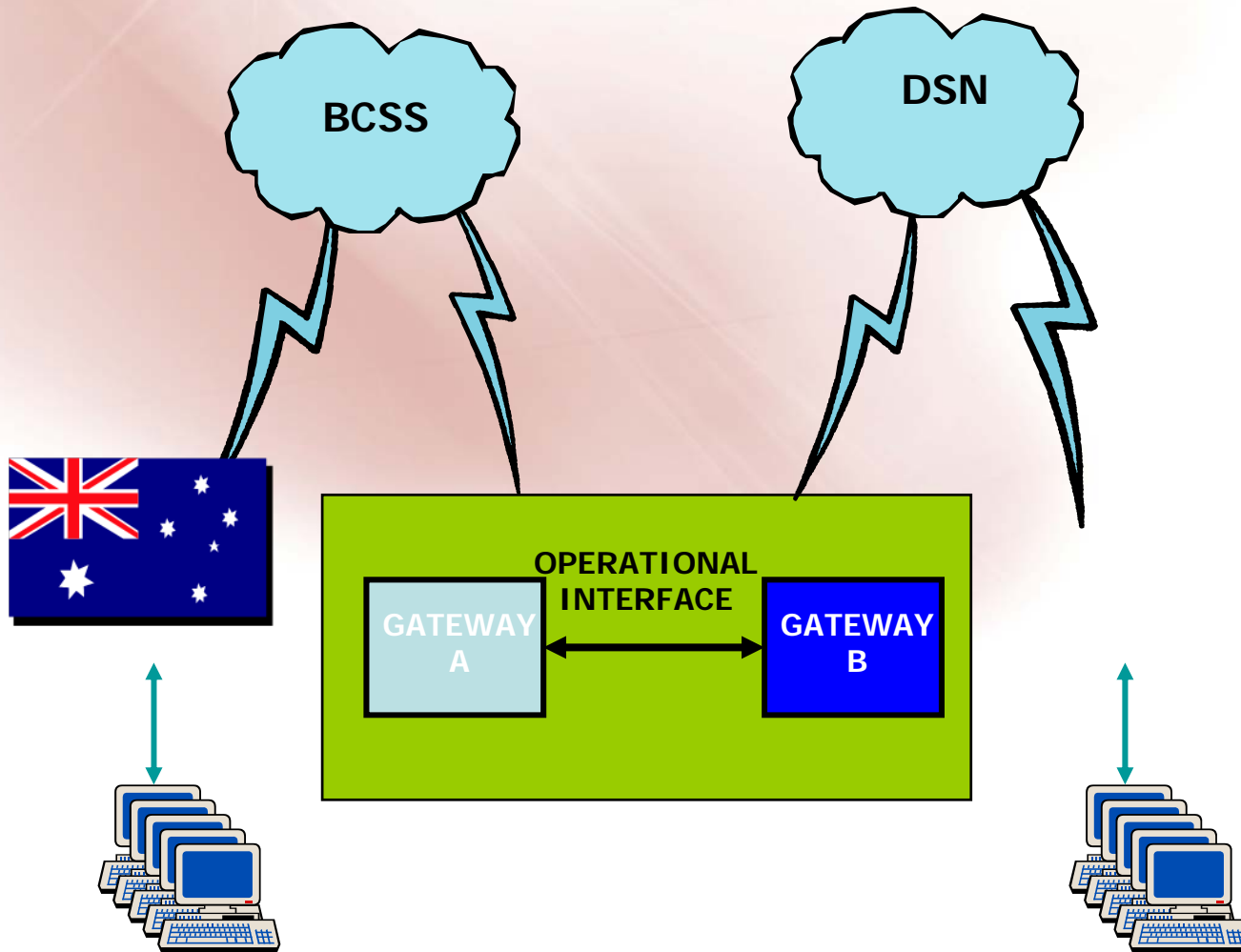
National Interoperability



International Interoperability



Technical Interoperability



Procedural Interoperability

Technical Interoperability

(Telephone rings, communication possible)



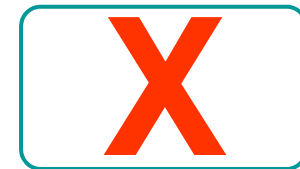
Operational Interoperability

(Talked together in the same language)



Procedural Interoperability

(No understanding because of ambiguous terminology)



Interoperability - Summary

“the unambiguous exchange of information and services between automated data systems to enable co-operating forces to operate effectively together”



Unambiguous?

“As of midday all rates will increase by 50 pounds”

rates

Navy

- A Rating

Army

- A Pay Scale

Air Force

- A measurement
of speed

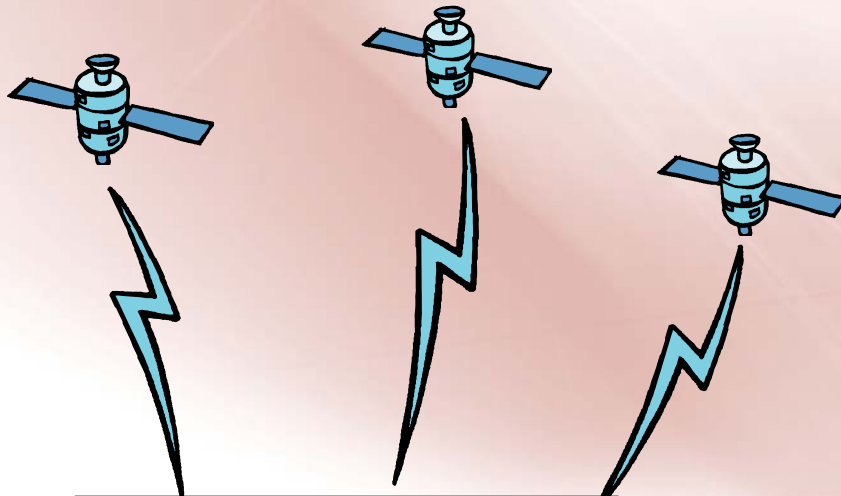
Formatted Versus Free Text

“the structure, sequence and allowable contents of a formatted message can be exactly defined, thereby removing ambiguity”

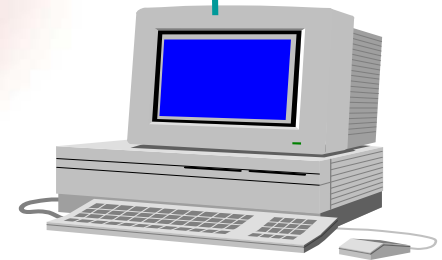
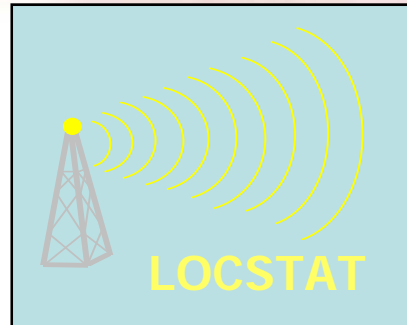


Automatically Processed

Automatically Processed



Radio fitted with GPS



CIS with
IRIS FORMS



Communications Constraints

Moore's Law

'Microprocessor power will double every 18 months for a given cost'

More processing power means powerful programmes means bigger files means greater bandwidth requirements

Office Automation Files

The image shows a composite screenshot of office automation files. The primary window is Microsoft Word, displaying a document titled "Communications Electronic Instruction Form.txt". The document content includes:

Date 2 Sep 99
File No

See Distr
CEI
Reference(s)

A.
B.

Time Zone Used Throughout Order: Zulu

1. **SITUATION**

a. **General/Concept of Ops.**

b. **Released Ops**

c. **En Forces**

(1)
(2)

Below the text is a table and a bar chart. The table, titled "TABLE 2", lists various food items and their quantities:

	No.'s
Parsnip & Apple Soup	1
Capsicum	2
Baby Leeks	6
Turkey	3
Salmon	0
Chicken	4
Cake Risotto { Veg }	2
Xmas Pudding	3
Mulled Wine Charlotte	2

The bar chart, titled "Table 2 Orders", shows the "Number of People" for each item. The y-axis is labeled "Number of People" and ranges from 0 to 7. The x-axis lists the items: Parsnip & Apple, Baby Leeks, Turkey, Chicken, and Mulled Wine. The bars represent the following values: Parsnip & Apple (1), Baby Leeks (6), Turkey (3), Chicken (4), and Mulled Wine (2).

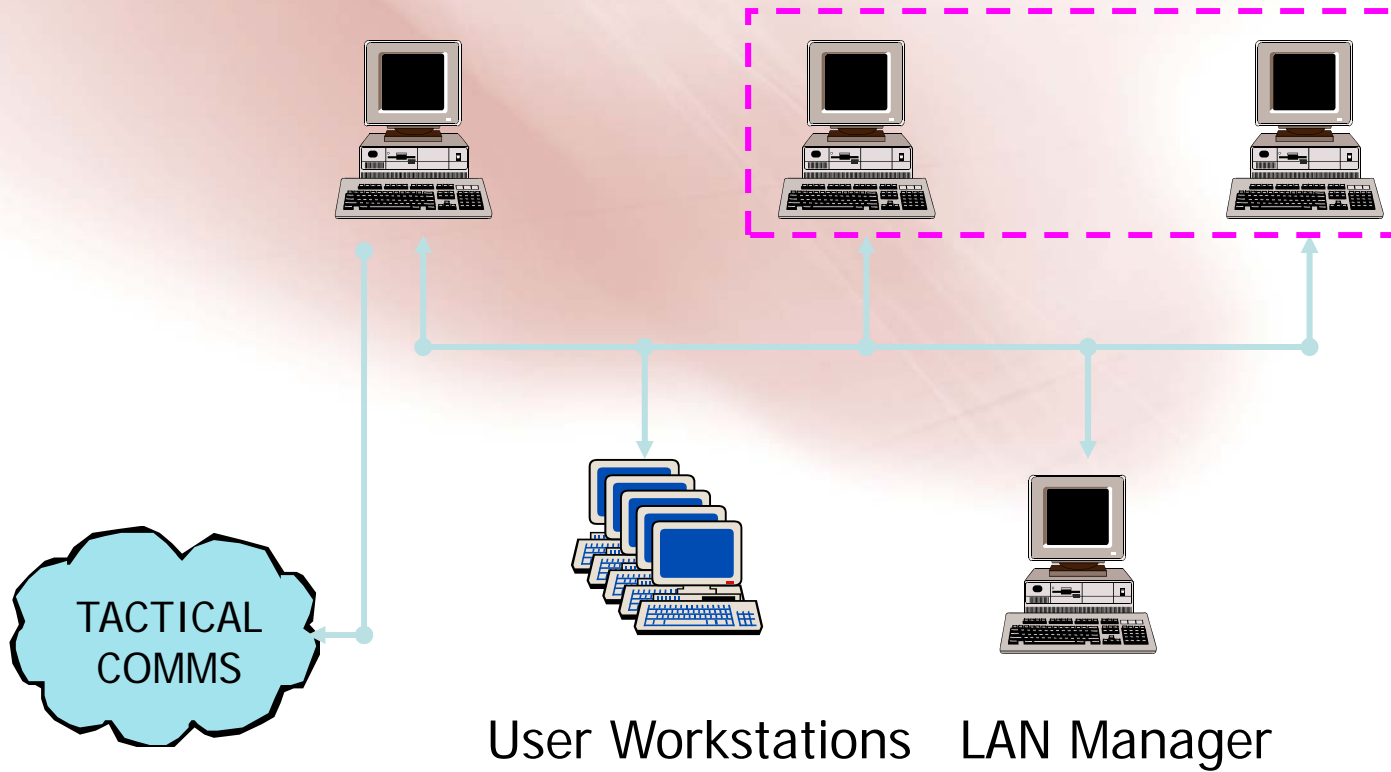
Overlaid on the right side of the Word window is a presentation slide titled "Range". The slide content includes:

- Range
- UNIX message based solutions
- F produces Files for all MFS target systems
- UNIX software in integrated solutions
- UNIX MFS Application Libraries
- Non-segmented:
 - 8 different UNIX
 - WinNT
 - DII COE:
 - HP/UX
 - Solaris 2

A Typical Network

Mail Server

Integrated Software Applications



Tactical Communications

- Low power
- Narrow bandwidths
- Equipment not always “cutting edge”



MTF Standards Exist

Military Information Exchange
Human and Computer Readable
Users/Sponsors:

- Allied Defence Community

Custodians:

- TIE-IO for ASMTF, NATO/IOB for ADatP-3 & DISA/JIEO for USMTF

Regular Update Rate:

- Usually once a year

Conclusions

- Use Message Text Formats (MTFs)
- Mandate MTF Rules
- Distribute MTF Rules to Users
- Configuration Management

QUESTIONS

