



**EXPEDITIONARY DECISION
SUPPORT SYSTEM (EDSS)
and its application to
Information Superiority/Information
Operations**

8th ICCRTS

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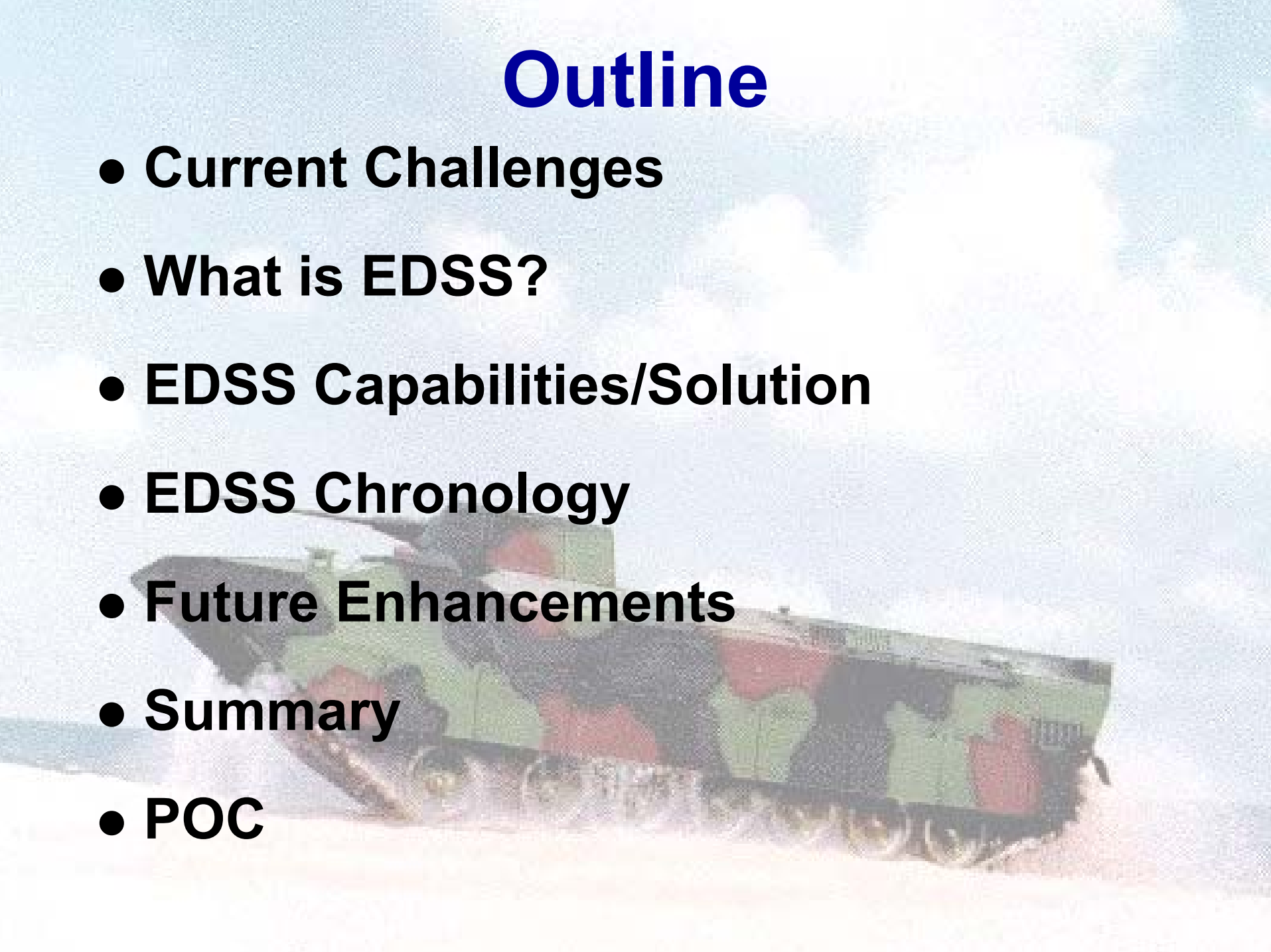
SAIC

18 June 2003



Outline

- **Current Challenges**
- **What is EDSS?**
- **EDSS Capabilities/Solution**
- **EDSS Chronology**
- **Future Enhancements**
- **Summary**
- **POC**

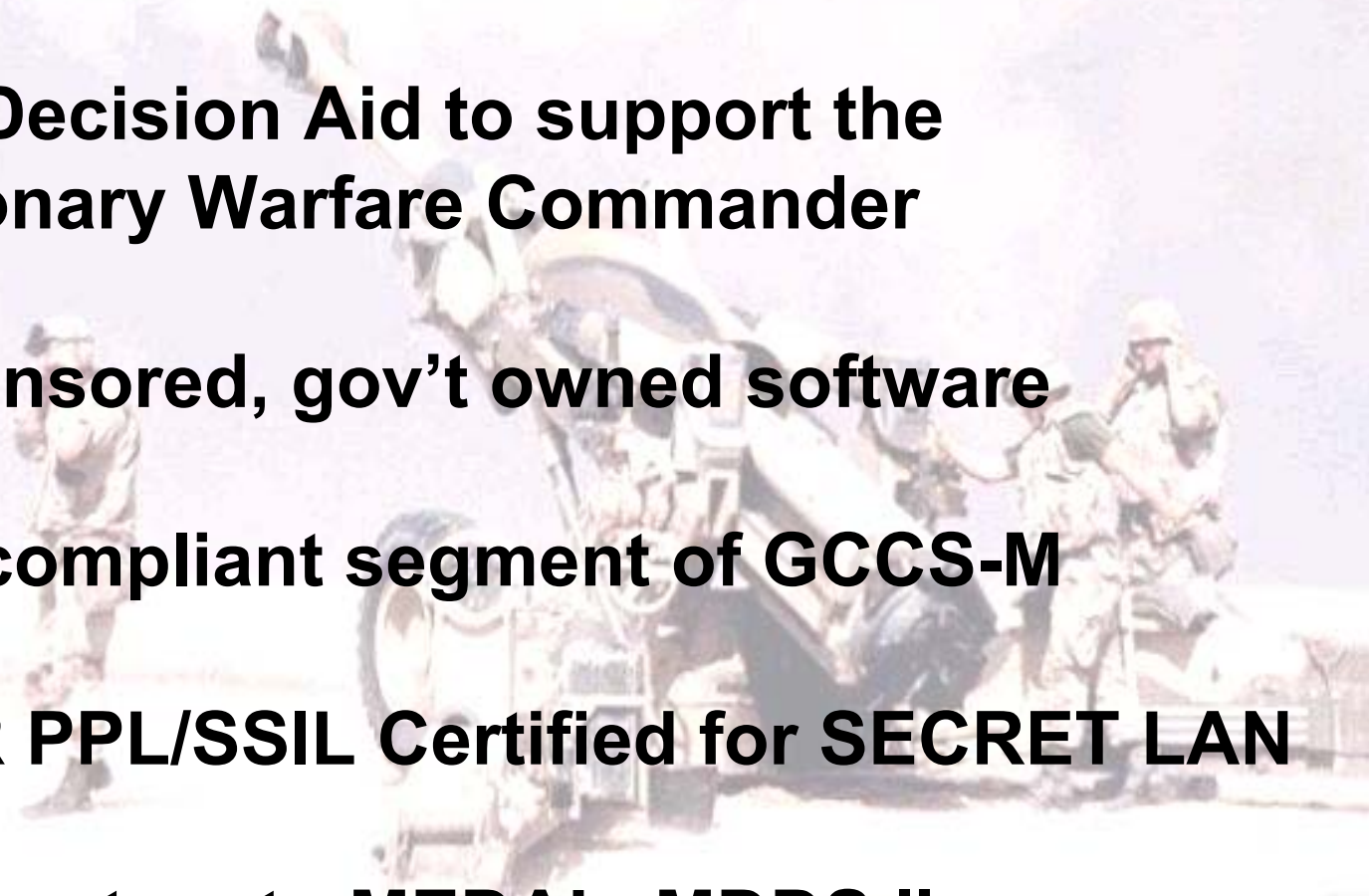


Current Challenges

- **Planning Process is manual, time consuming**
- **Hard to make changes quickly and accurately**
- **Maritime & aviators uses lat/long; land forces uses MGR - accuracy**
- **Operational planners may not have access to current intel plot**
- **Hard to synchronize and visualize multiple events**
- **Hard to disseminate plans**

What is EDSS?

- EDSS is **the** Integrated Mission Planning and Execution Tool for Amphibious Forces
 - Tactical Decision Aid to support the Expeditionary Warfare Commander
 - ONR Sponsored, gov't owned software
 - DII COE compliant segment of GCCS-M
 - SPAWAR PPL/SSIL Certified for SECRET LAN
 - Complementary to MEDAL, MDDS II



EDSS Capabilities

- Tactical Decision Aid responsive to fleet - 60 improvements & 40 bugs fixed in 2002
- Supports the Commander during all phases of expeditionary operations
 - **Planning Phase**
 - ◆ Simplifies a manually intensive process
 - ◆ Approval
 - improves visualization of brief
 - displays plan as a sequence of related events
 - **Execution Phase**
 - ◆ Displays plan and actual COP
 - ◆ Calculates Personnel, Cargo, and Vehicle report

The EDSS Planning Tools

- **Planning Phase**

- **Design sea and air areas**, consider hydrography and terrain - micro and macro
- **Plan sea, air and land routes**
- **Plan all movements to the objective**
- **Integrate with other web-based tactical products**
 - **Digital Nautical Charts**
 - **Common Imagery Base**
 - **Environmental Databases**
 - **Mapping tools (CADRG, DTED, etc)**

The EDSS Solution

● Planning Phase

- Quick planning - point and click (4W grid in 4 minutes)
- Accurate planning
- Converts between Lat/long and MGR
- Automates and generates timelines
- Easy to build COAs and branch plans
- Intel updates displayed on planning computer
- Plan is small (~ 75 Kbytes);
- EDSS with every PHIBGRU and every deployed PHIBRON & MEU

The EDSS Solution

- **Planning Phase**

- **Confirmation and Approval**

- **Electronic Rock Drill**

- **Chronological visualization of scheduled movements**

- **Choreography by time, not by function**

- **Runs up to 60 times real time: 5 min = 5 hours**

- **Decision makers quickly see all parts of the plans - air, NSFS, ship-to-objective, METOC, helo, etc**

The EDSS Solution

- **Execution Phase**

- Displays current tactical situation (auto forward of GCCS-M tracks) on top of plan
- TACLOG:
 - ◆ Click on any EDSS symbol and displays serial details
 - ◆ Calculates # of Personnel, amount of Cargo, and # of vehicles offloaded

EDSS in Operation

- **Fleet use shows:**

- **Staff Officers use for planning**

- **LOG/Combat Cargo Officers and enlisted use for logistics**

- **Watch Standers**

- ◆ **downloading of maps**

- ◆ **comms**

- ◆ **geographic areas**

- ◆ **briefing preparation**



EXPEDITIONARY WARFARE DECISION SUPPORT SYSTEM : 22MEU

tem Display AOA Mgmt Envr DB Assault Plans Logistics Fuel/Replen Reports

SCENARIO TIME

Time: H+6 (151006Z NOV 02)

Execute

Stop

INFORMATION

Wave 2 to beach YELLOW
Craft type = AAV
Serial 2213; Equip = AAVP7 (RAMRS)
Serial 2214; Equip = AAVP7 (RAMRS)
Serial 2215; Equip = AAVP7 (RAMRS)
Serial 2216; Equip = AAVP7 (RAMRS)
Serial 2217; Equip = AAVP7 (RAMRS)

OK

Land Units

Time - H & Zulu time

Route based on maps

Serial Data

Assault Waves

CCP-3
LCACS WITH CAAT/LAR

WAVE 3 BMU LSFP

LCACS EMPTY AAVS
LCACS AAVS

CCP
1ST PLATOON YELLOW

EDSS Screen

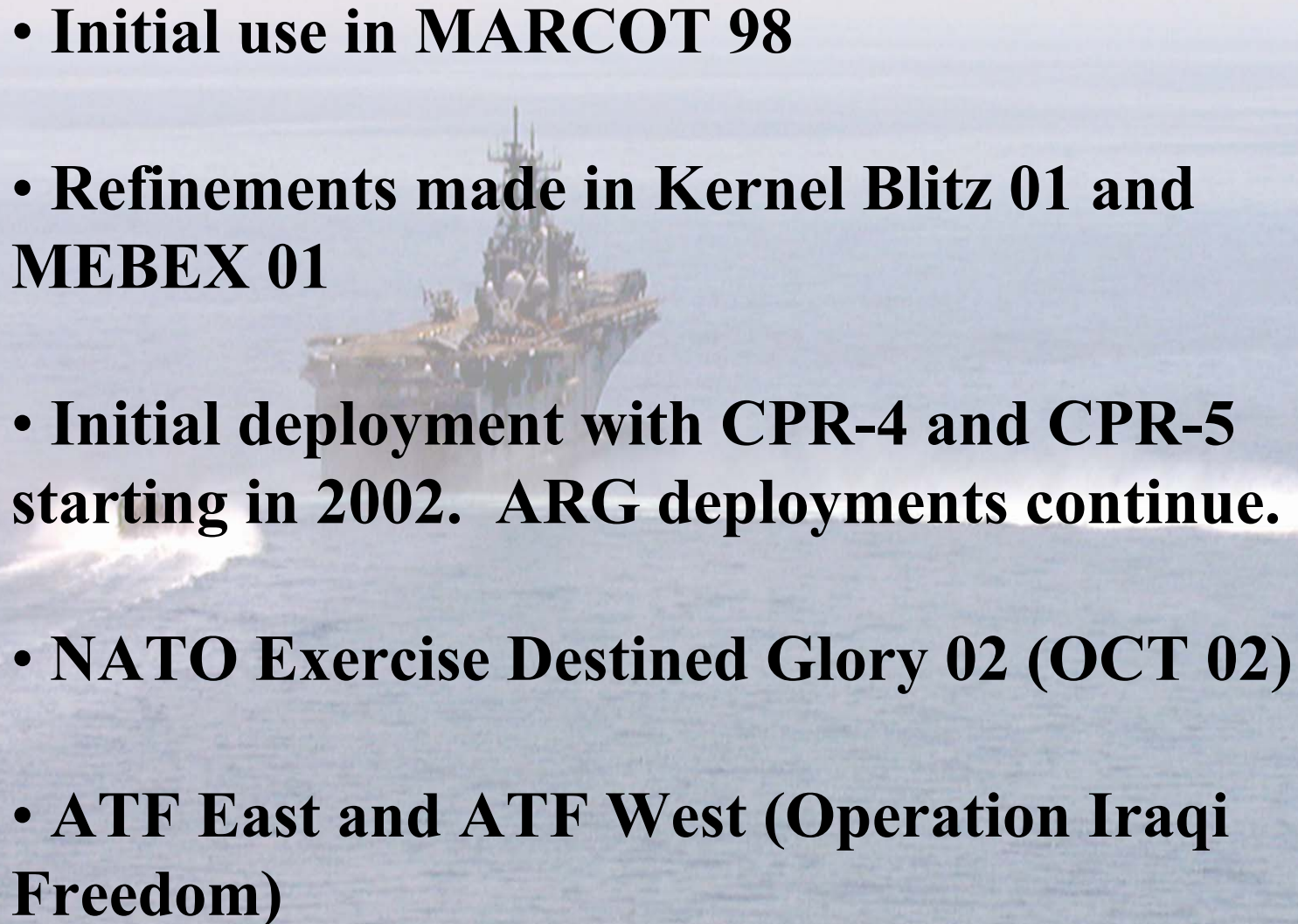
FAL2IWO

ZOOM IN OUT PAN CNTR REDRAW

LL 3322N 11734W LL 3321N 11733W 8.20 NM

ABORT

Chronology

- **Initial use in MARCOT 98**
 - **Refinements made in Kernel Blitz 01 and MEBEX 01**
 - **Initial deployment with CPR-4 and CPR-5 starting in 2002. ARG deployments continue.**
 - **NATO Exercise Destined Glory 02 (OCT 02)**
 - **ATF East and ATF West (Operation Iraqi Freedom)**
- 
- A large offshore oil rig is visible in the background, situated in the middle of a vast blue ocean. The rig has a complex structure with multiple levels and a tall central tower. The water is a deep blue, and there's a slight wake or disturbance in the water near the rig. The overall scene is a wide-angle shot of the ocean with the rig as the central focus.

Chronology

- **USS NASHVILLE (PCS) during MARCOT 98**
 - Integrated operation with MEDAL and KSQ-1
 - *Operated by tech reps*
- **CPG3 / CPR1 during KERNEL BLITZ 01**
 - Used for planning, rehearsal, and deconfliction from Final Planning Conference through actual assault
 - Automated timing and visualization supported rapid and collaborative planning
 - Used aboard **USS BONHOMME RICHARD** and **USS PELELIU**
 - *Operated by tech reps*

Chronology

Excerpts from **KERNEL BLITZ 01**

Lessons Learned Message

COMPHIBGRU THREE 081635Z MAY 01

- “**..key for the execution** of the ship to shore movement during the amphib rehearsal and assault...”
- “**...rapid modifications** of the Amphibious Assault COAs were **easily incorporated** into the system.”
- “Recommend continued development and implementation for the fleet as an effective expeditionary warfare exercise planning tool.”

Chronology

- **CPG2 / 2nd MEB during MEBEX 01**
 - PHIBGRU and MEB added forces to JTFEX
 - RADM Moran and staff used system for collaborative planning and visualization
 - ◆ OTH mission vs. near-shore mission
 - ◆ Surface planning
 - Execution monitoring with auto forwarding of GCCS-M tracks
 - *Operated by a tech rep*

Chronology

Excerpts from **MEBEX 01**

Lessons Learned Message

COMPHIBGRU TWO 180052Z AUG 01

- “..promising system with great potential.”
- “...**used principally for movement / debarkation planning, briefing, and monitoring.**”
- “...used to visually portray movement of units during assault to senior leaders and operators.”
- “...used to **visually compare actual landing craft movement to scheduled plan.**”

Chronology

Excerpts from **CPR-4's 02 Deployment Lessons Learned Message**

COMPHIBRON FOUR 011705Z NOV 02

EDSS “proved to be a proved to be a promising system with great potential . . . **performed well**. We encountered **very few problems** with the EDSS program during our extensive use.

Orig highly recommends:

- a. continued use of EDSS. . .
- c. Support of ALCON for the transition of EDSS to a program of record at the earliest opportunity.
5. Commodore Frothingham sends”

Chronology

Excerpts from **CPR-5's 02 Deployment** **JULLS Lessons Learned Submission**

“During AMPHIB mission planning, the EDSS suite was **incredibly useful for organizing large volumes of data**. The program was used to develop AMPHIB landing IVO Djibouti ISO JSOTF-CRE national tasking as well as international training missions with GWOT coalition forces. It was also used extensively to plan humanitarian operations in East Timor and the final offload plan for MEU debark.”

Chronology

- **EDSS on board during **Destined Glory 02****
 - HMS ARK ROYAL (CCATF) (CPG-2 - reservist)
 - HNLMS ROTTERDAM (UK NL ATG - tech rep)
 - FNS FOUDRE (ALFAN - tech rep)
- **EDSS plans sent**
 - from French CATF to CCATF
 - from UK/NL CATF to CCATF
 - from French CATF to CVBG
 - between UK/NL CATF and French CATF

Chronology - Destined Glory 02

- **French:**

- planned ship-to-shore off load for CET (numerous variations: 1/2 beaches/ CDIC to one beach/CTMs to another, etc.)
- sent CET plan to CCATF & GW CVBG
- planned all geographic areas for Abelia (6 hours had message written)
- sent plan to UK NL ATG who modified anchorages and then returned plan

- **UK/NL:**

- developed plan for local CET
- sent plan to ALFAN ATG and CCATF

Chronology

- Use during 2002

- CPR-4 and 22 MEU (*no tech reps on board*)

- CPR-5 and 11 MEU (*no tech reps on board*)

- Destined Glory

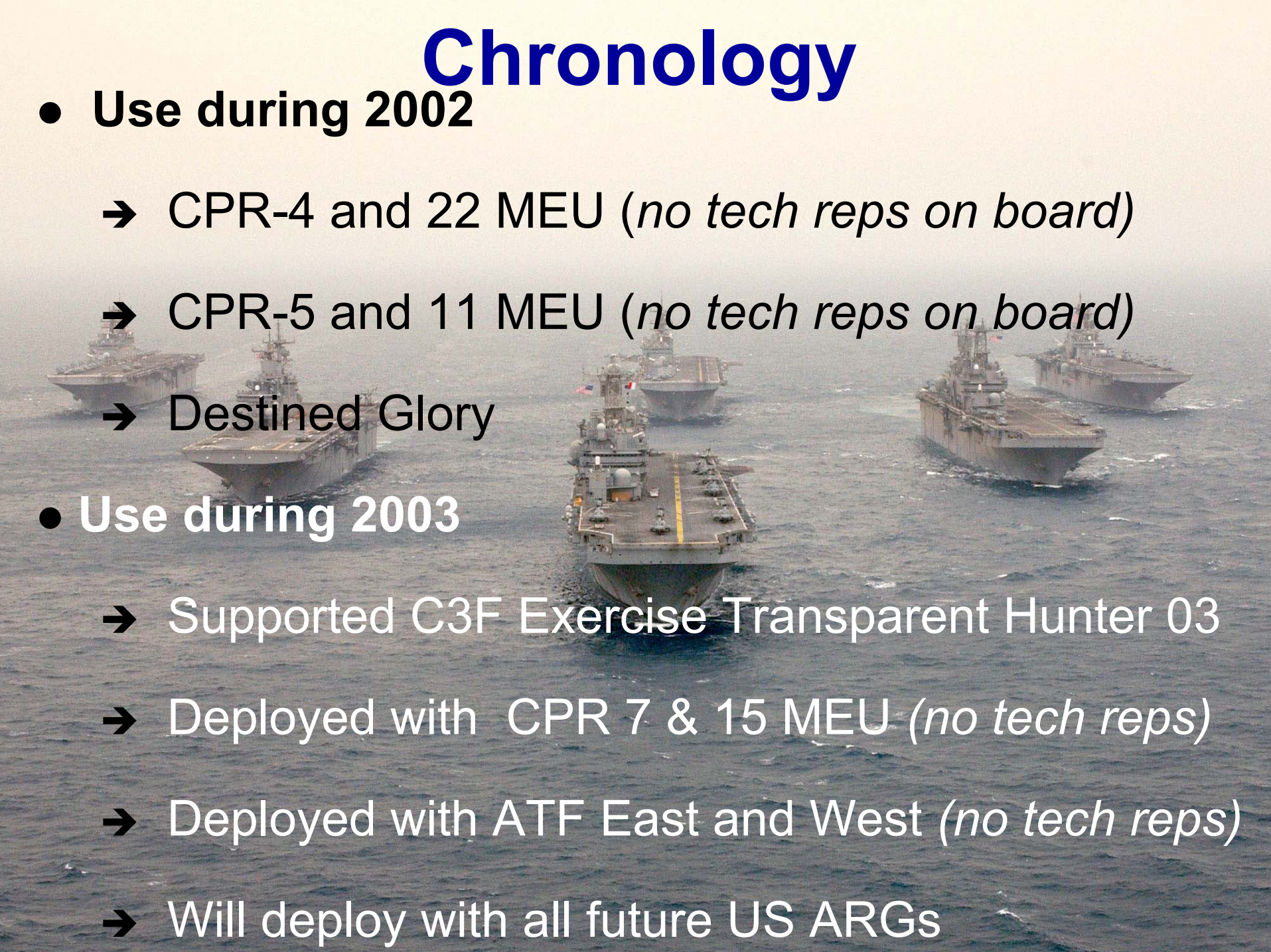
- Use during 2003

- Supported C3F Exercise Transparent Hunter 03

- Deployed with CPR 7 & 15 MEU (*no tech reps*)

- Deployed with ATF East and West (*no tech reps*)

- Will deploy with all future US ARGs



Future Enhancements

 **OPTASK Amphib - In test now. PPL**

upgrade pending

 **Merge data bases**

● **Interface with other programs**

→ C2PC

→ ATO/TBMCS/AFATDS

→ other R&D programs (ARVCOP)

● **GCCS-M v4.x integration – MOA pending**

LCU Practice Run
Exercise Transparent Hunter 03



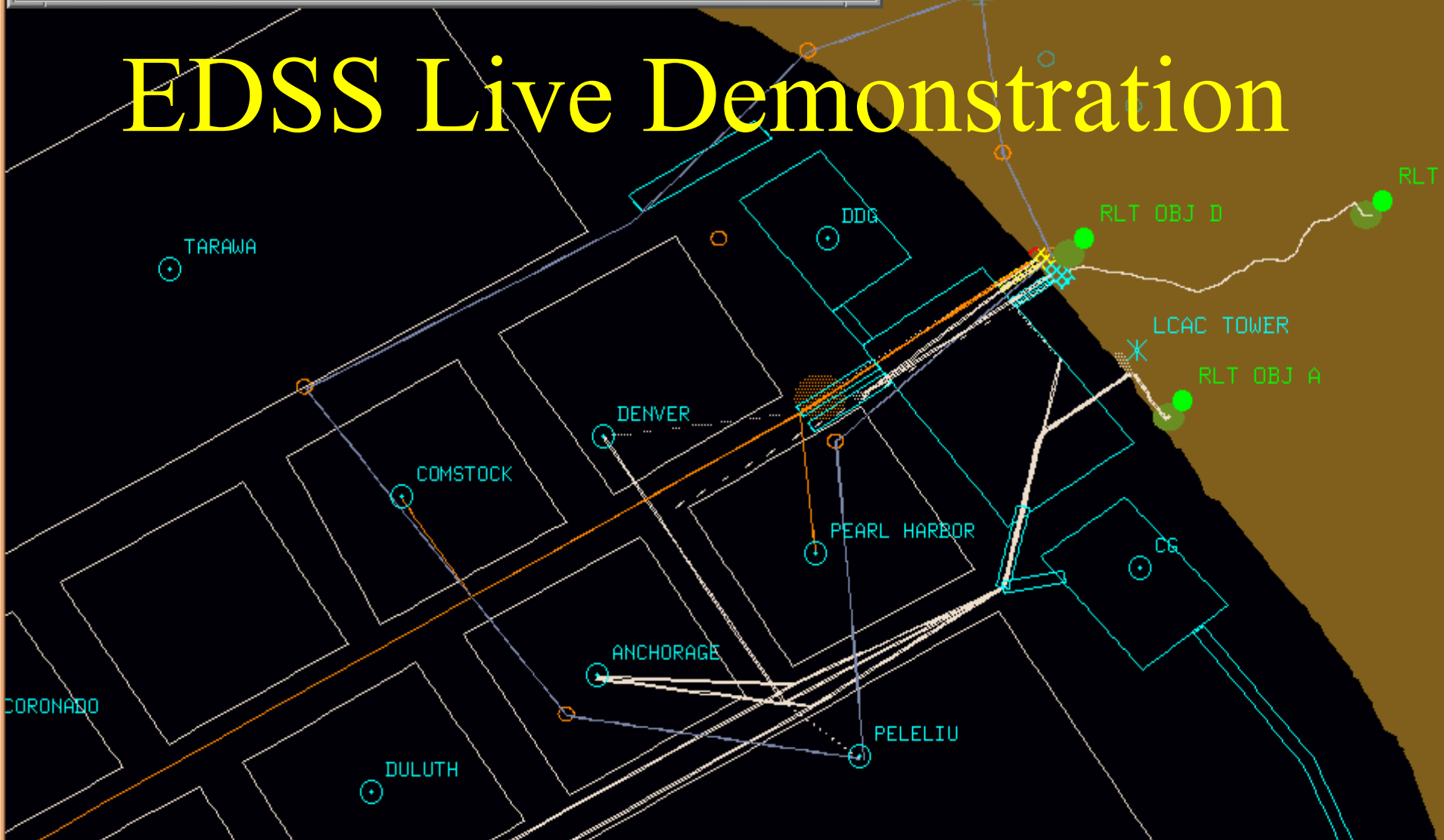
LCAC Assault Run
Exercise Transparent Hunter 03



SHIP-TO-SHORE MOVEMENT : KB01

System Display AOA Mgmt Envr DB Assault Plans Logistics Eval/Replan Reports Comms

EDSS Live Demonstration



ZOOM

IN

OUT

PAN

CNTR

REDRAW

LL 3314N 11731W

LL 3315N 11735W 27.6 NM

ABORT

Summary

- EDSS is based on GCCS-M Architecture
 - Shares MEDAL (MIW segment) database
- EDSS aids the warfighter in
 - Planning & Briefing
 - Monitoring
- Successfully used during KB-01 (CPG-3), MEBEX (CPG-2), Destined Glory 02, Transparent Hunter 03 and during current deployments
- All US amphib forces deploy with EDSS

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