Agenda

• MPF Enhancements
• Naval Integration
• Ship & MAGTF Modeling and Simulation
• R&D Initiatives
MPF Enhancement Strategy

- Roll-on roll-off cargo ships, coupled with mobile landing platforms, provide key enabling capabilities to fully leverage existing MPS capabilities
  - Selective offload
    - Increased ship stowage capacity allows for reconfigured loads across MPSRON for selective offload
  - In-stream offload of Large, Medium Speed RO/RO (LMSR) with Mobile Landing Platform (MLP)
  - Increased connector lift capacity with MLP
  - Increased ship-to-shore throughput

MLP-LMSR Interface
ICODES Load Planning
Armor/Protection

- Armored gun mounts
- MTVRs/ECV/HMMWVs w/some type of gun turret/armor
- Additional vehicle height and weight impacts embarkation, e.g. limits areas on ships that these vehicles can transit and be stowed
• Depending on which variant of armored gun mount is added (MCTAGS, OGPK, etc.), there is a height increase between 20in – 30in per vehicle
Engineer Equipment

TRAM

- New TAMCN B0063 replaces B2567
- Addition of armor to the cab one key difference
Engineer Equipment

- Various contributors to increases in dimensional data, e.g. spare tire strapped to roof of the TRAM

- Techniques such as this are common practice
- ECV transiting from LPD 15 Upper V to Lower V with approx. 4” of clearance
Aviation

LHD 5 Hangar Bay
All this and four aircraft
HMMWV To JLTV

HMMWV
(soft doors)

Measured = 109 SqFt

JLTV

Measured = 147 SqFt

70%

BROKEN STOWAGE FACTOR

??%
Additional Lashings

MTVR at 39,000 lbs (unarmored cab with mobile load) Requires 4 tie-down points

MTVR at 48,000 lbs (armored cab with mobile load) Requires 8 tie-down points
MTVR Stowage in LPD 17
Main Vehicle Stow

Maximum stowage in MVS Forward is 151”

164”
127”
101”
### Holistic View

**MAGTF Requirements:**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>MEU Ground Vehicles and Equipment</strong></td>
<td></td>
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</tr>
<tr>
<td>M151/trlr 3000 lb</td>
<td>M998/armr 7653 lb</td>
<td>JLTV ?????????? (120)</td>
</tr>
<tr>
<td>M35 2.5T 12580 lb</td>
<td>MTVR w/MAS 49242 lb</td>
<td>MTVR w/MAS 49242 lb</td>
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<tr>
<td>M48 MBT 104000 lb</td>
<td>M1A1 135200 lb</td>
<td>M1A1 140000 lb</td>
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<tr>
<td>AAV 52000 lb</td>
<td>AAV7A1 51000 lb</td>
<td>EFV 72500 lb</td>
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**Ground Vehicles and Equipment up to 3x heavier**

<table>
<thead>
<tr>
<th><strong>Air Combat Element (ACE)</strong></th>
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<tr>
<td>CH 46A 13000 lb</td>
<td>MV 22 46990 lb</td>
<td>MV 22 46990 lb</td>
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**MV-22 weighs almost 3x CH-46A**

| AV 8B 24512 lb | AV 8B 24512 lb | JSF 46217 lb |

**F-35B JSF weighs almost 2x AV-8B Harrier**

| CH53A 22900 lb | CH53E 48710 lb | CH53K ~55000 lb |

Notional Aggregate (from above list) embarked MEU

- 1227 tons
- 2549 tons
- ~3697 tons

**Increased Weights/Density Impact Deck Strength, Ships Stability...**

*MCCDC CD&I SID, POE 50, NAVAIR 1.2 concurs with vehicle weights – ALL VEHICLE COUNTS NOTIONAL (Based on historical data)*
Ship & MAGTF Modeling and Simulation
Geography and Comms

- Technical Direction & Organizational Communication
- Technical Management & M&S Data Flows
Shipboard Selective Access and Retrieval System (SSARS)

Background
- Seabasing Integration Division-led project with Naval Surface Warfare Center – Carderock, Maryland Division
- SSARS is a ship-agnostic solution to the concept of selective access
- SSARS lifts and moves tracked and wheeled vehicles as well as containers
- TRANSCOM awarded SID $5.8 million Research and Development funding for Fiscal Year 08 to FY10
- Continuing R&D execution in FY11

Light Vehicle Solution
- Opposed Ramp Lift and Maneuvering (ORLAM) System
- Selective Positioning Independent Deck-cargo Re-locator (SPIDR)

Container Solution
- Container Lift and Maneuvering System (C-LMS)

Heavy Vehicle Solution
- Opposed Ramp Lift and Maneuvering (ORLAM) System
- An ORLAM System is used to lift and move heavy vehicles

Future
- The SSARS proof-of-concept demonstrators are omni-directional, electric-hydraulic, remotely controlled, and environmentally friendly
- One ORLAM ramp-pair provides the C-LMS tractor-turret drive and battery power source
- Leading, unique battery technology implementation
- Dedicated Ro/Ro C-LMS currently in design stages
- Multiple patents pending on new technology
- Wide applicability for this capability exists; transition interest expected from OPNAV
- PM SSARS seeking partnerships for incremental, additional development
- Mid-year JCTD briefed & planned for OSD consideration Spring FY11
Seabasing Integration Division
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ROW WELL...AND LIVE!

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