NDIA 10th Annual Expeditionary Warfare Conference

Seabasing Logistics

Presented by

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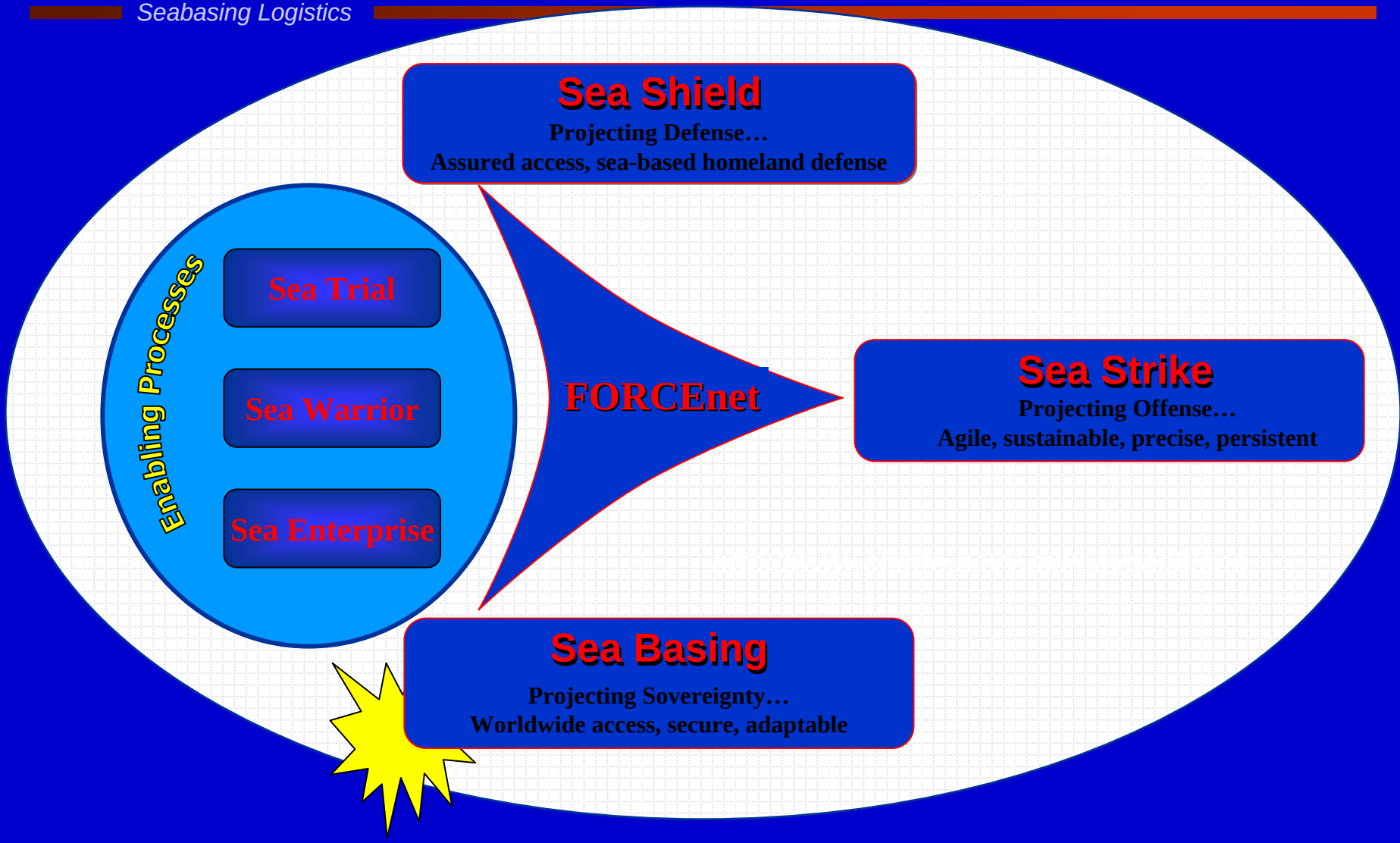
25 October 2005

Overview

- Seabasing Background
- Seabasing Overview
- **Logistics challenges**
- Summary

Sea Power 21

Seabasing Logistics



Seabasing Foundation

Seabasing Logistics

A joint capability

- Defense Science Board Study

"…Seabasing will be a critical future joint military capability for the United States." *AUG 2003*

- National Defense Strategy

"DOD is changing… placing more emphasis on the ability to surge quickly to trouble spots across the globe, and making U.S. forces more agile and expeditionary. The new challenge is to project joint power more rapidly to confront unexpected threats." *SECDEF 17 FEB 2005*

- QDR
- Naval Transformation Roadmap

"We are developing joint sea bases that will allow our forces to strike from floating platforms close to the action, instead of being dependent on land bases far from the fight." *President George W. Bush 2005 USNA Commencement Address*

Seabasing Principles

- Use the sea as maneuver space
- Provide joint forcible entry capability
- Provide scalable, responsive joint power projection
- Sustain joint operations
- Leverage forward presence
- Create uncertainty for adversaries

Speed, access, persistence

…From the sea

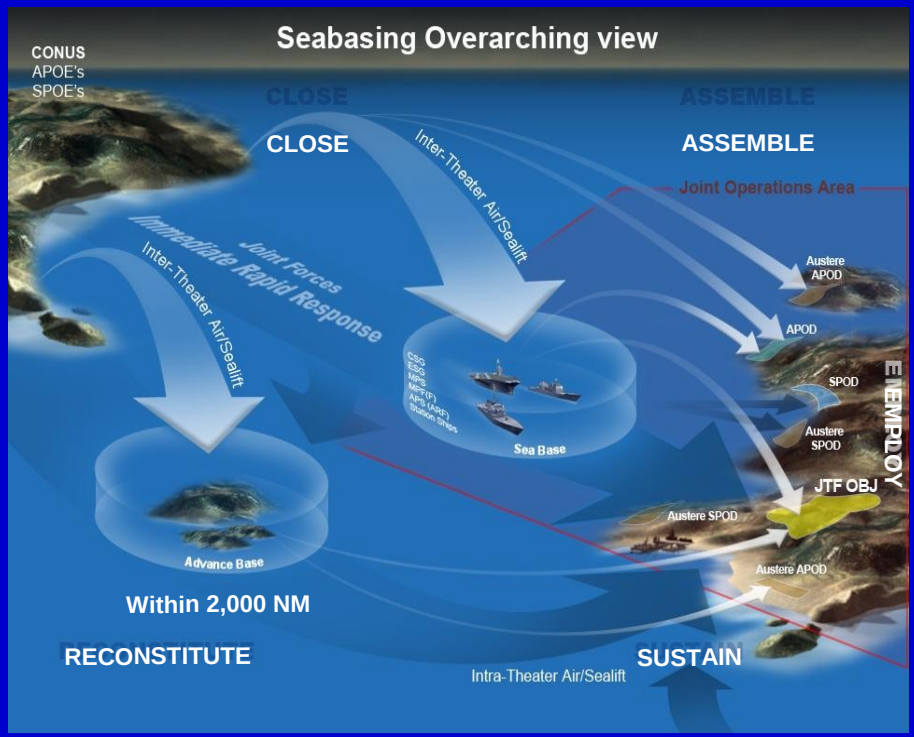
This is not Seabasing!

Nor is this! (Popular Science, April 2003)


Seabasing Overarching view
CONUS
APOE's
SPOE's
CLOSE
ASSEMBLE
This is!
Joint Operations Area
Inter-Theater Air/Sealift
Immediate Rapid Response
Joint Forces
Inter-Theater Air/Sealift
Austere APOD
APOD
SPOD
Austere SPOD
JTF OBJ
EMPLOY
C5/G
E5/G
MPS
MSF(F)
APS (ARF)
Station Ships
Sea Base
Advance Base
Austere SPOD
Austere APOD
Within 2,000 NM
RECONSTITUTE
SUSTAIN
Intra-Theater Air/Sealift

Seabasing Overview

Seabasing Logistics



Close Within 10-14 days of execution order

Assemble

Joint capabilities within 24-72 hours of arrival

Employ At least one brigade over-the-horizon AND within one period of darkness (8-10 hrs)

Sustain **At least two joint brigades** with selected joint maint and level III medical support

Reconstitute

Reemploy one brigade operating ashore within 10-14 days

Framing the range of capabilities

A New Capability Emerges

Seabasing Logistics

Sea State 4 operations

MPS: 2004

- Shore Based Operations
- 18 knot SOA
- Prepo USMC MEB Equipment
- Secure Port Offload or via LOTS
- Assembly in Port
- Iron Mountain ashore
- Sustainment flows Via Port
- Part of Common User Pool
- Dense Stowage
- Last-in / First-out

MPF(F): 2020

- Sea Based Operations
- 20-24 knot SOA
- Prepo USMC MEB Equipment
- No need for a port or HNS
- At-Sea Arrival and Assembly
- ≥20 DOS at Sea Base
- Sustained from the Sea Base
- Remains at Sea Base or in JOA
- Combat Configured
- Tailored Logistics packages

MPF(F) Hybrid Squadron
Platform List

Seabasing Logistics

2 LHA(R) & 1 LHD

Selectively off-loadable
-Combat allowance + ≥ 5 DOS
-Aviation Class IX (non F/W)
-Quick reaction

3 LMSRs

Carry: RFI and selectively off-loadable
-Initial combat load for forces carried
-Selected commodities DOS (tbd)
-Carry Class IX for shops

3 TAKEs

Selectively off-loadable
-Large volume break-bulk
-≥15 DOS between 3 ships
-Carry FBE ordnance

3 MLPs

Mobile Landing Platform
-Connects LMSRs, troops and LCACs

2 MPS(L)

- Container RO-RO
- Dense packed
- Primary source of SOA material
- Carry FBE material

ACE fixed wing aircraft location is not on MPF(F) ships – either on an ESG or ashore

2015 Baseline MEB Organization

Seabasing Logistics

14,484 personnel & 1,886 major pieces of equipment

Command Element (769 CE pers)

Reinforced Infantry Regiment

- 3 Inf Bn
- 2 Tank Co
- 2 LAR Co
- 2 AA Co
- 3 Arty Btry
- 1 EFSS Btry
- 1 HIMARS Btry
- 2 Cbt Engr Co

(5,585 pers)

Composite Marine Aircraft Group

- 3 JSF Sqdn
- 1 EA Sqdn
- 1 HMLA Sqdn
- 1.25 CH-53 Sqdn
- 4 VMM Sqdn
- 1 KC-130 Sqdn

(5,660 pers)

Brigade Service Support Group

- DS Co ACE (FW)
- DS Co ACE (RW)
- 3 Inf Bn DS Co
- Mech Unit DS Co
- Arty Unit DS Co
- GS Bn

(2,470 pers)

Major Items of Equipment	MEB
EFV	106
LAV	54
M1A1	30
LW155	18
EFSS	6
HIMARS	6
JTRS	215
HMMWV	799
ITV	33
MTVR	335
LVS	134
UH-1Y	9
AH-1Z	18
JSF	30
EA-6B	5
KC-130	12
MV-22	48
CH-53E	20
UAV	8
PERSONNEL*	14,484

Developing Joint Concepts

- Seabasing Joint Integrated Concept (JIC)
- Joint distribution pipeline
- Joint Logistics JIC
- Joint theater logistics management

Opportunities to integrate efforts

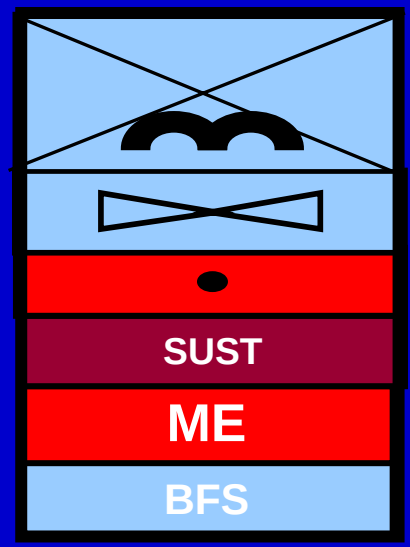
Non-Navy programs	**Navy programs**	**Joint programs**
Austere Access HSS (AAHSS)	Rapid Strategic Lift Ship (RSLS)	Combine?
Theater Support Vessel (TSV)	High Speed Vessel	JHSV
Army Strategic Flotilla (ASF)	MPF(F)	Complement?
Heavy Lift VTOL (HLVTOL)	CH-53X	Complement?
DLA Deployable Distribution Depot	T-AKE	Integrate?

Seabase enablers with in service relevance

Notional Army application
Brigade centered building blocks

Seabasing Logistics

- Infantry BCT ~3500 pers
- Airborne/Air Assault BCT ~ 3500 pers
- Stryker BCT ~3900 pers
- Heavy BCT ~3800 pers
- Aviation Expeditionary Brigade ~2500-2700 pers
- Fires BDE ~1100 pers
- SUST — Sustainment BDE ~1000 pers
- ME — Maneuver Enhancement BDE ~600 pers
- BFS — Battlefield Surveillance BDE ~1000 pers



	3500
	2000
	550
SUST	500
ME	200
BFS	350
	7100

Volume appears achievable, "devil's in the details"

* Personnel numbers current as of 3 Dec 2004

Army Perspective

Conceptual support, but issues remain to be addressed

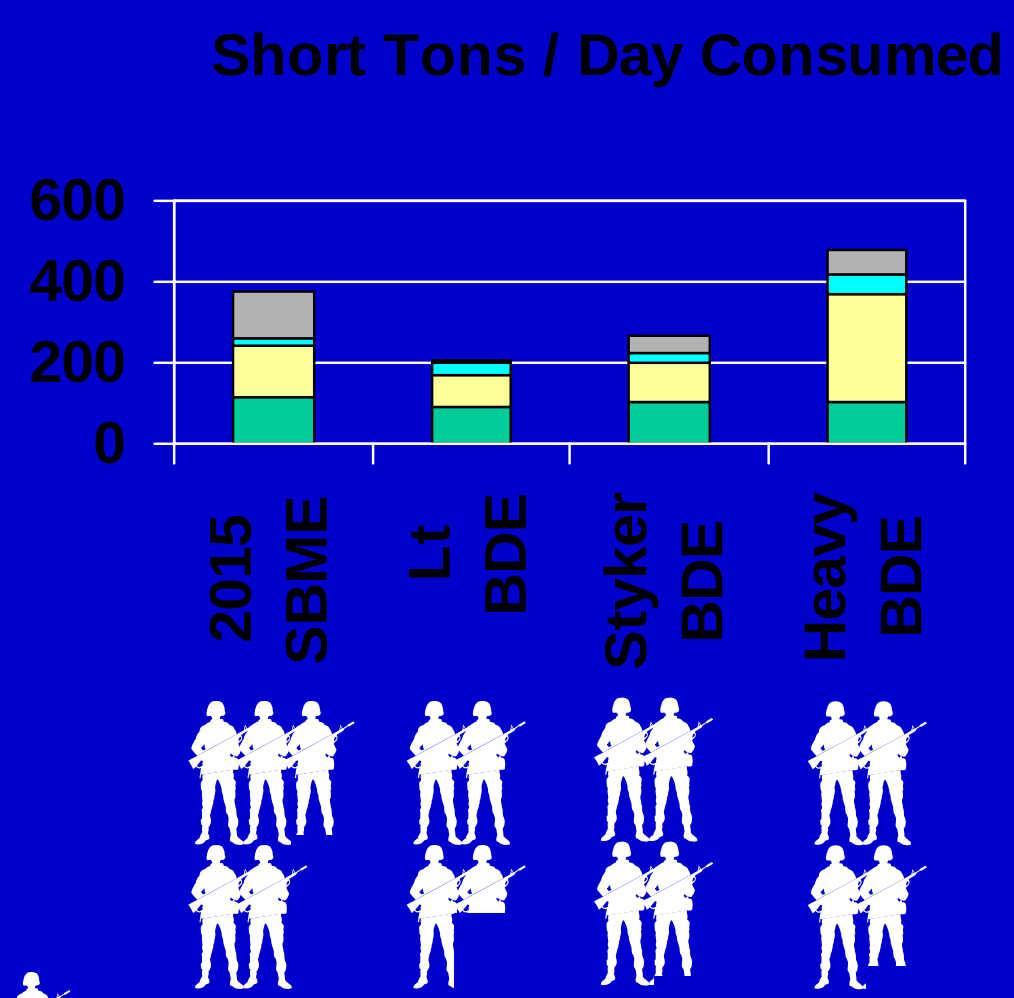
Can the Navy's seabase accommodate…

- Lift heavy forces from sea platforms
- Accommodate complex RSOI
- Address anti-access littoral threats (MCM, missiles)
- Provide force protection when JSB must approach the shore
- Provide supporting fires to shore forces
- Joint logistics common operating picture
- C^2 for Joint Force Land Component Commander

…From the sea

Supporting Two Brigades Ashore

Seabasing Logistics



200-500 ST daily flow per brigade

Two Brigade consumption:
- 1 T-AO every 40-80 days
- 1 T-AFS every 20-40 days

Logistics Enabling Capabilities

Seabasing Logistics

Log C²

Interface & Transfer Capabilities

- Skin-to-Skin Transfers
- At-Sea Container Transfer
- Heavy Unrep
- Integrated Landing Platform
- Networked connectivity

Intra-Ship Capabilities

- Modular Packaging Designs
- Selective Offload
- Improved Internal Cargo Handling
- Total Asset Visibility

Capabilities required to provide interface between connectors to facilitate the transfer of containers, quadcons, pallets, personnel, ordnance, and equipment.

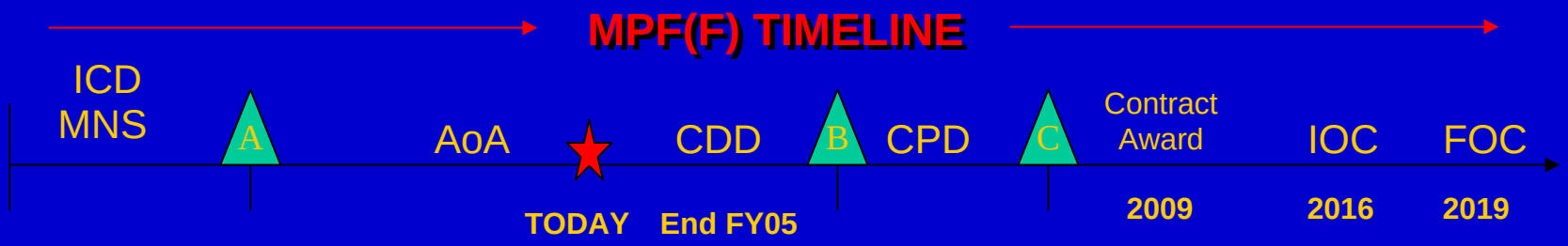
Without them …

- ***Limited to current methods of resupply***
- ***Unable to meet throughput requirements***

Seabasing Capability Timeline

Developing capability

- Today:
  - Project MEU ashore with 15 days sustainment
  - Project and sustain SOF support
  - Support major humanitarian operations
- Future: Project an entire MEB ashore
  - Continuously support 2 joint brigades ashore



Limited capability

2 brigade JFEO

Summary

- A strong concept with joint support
- Approved Joint Integrating Concept
- Capabilities must be refined
- Jointness needs to be matured
- Logistics CONOPS must support warfighting requirements
- Capabilities will mature as new technology/platforms mature
- Opportunities abound as capability development continues

Questions?

Moving Heavy Loads At Sea

- Future Sea Bases will require four separable at-sea cargo transfer processes
  - Selective cargo movement within ships
  - At-sea transfer from vessels to lighters inside well decks
  - At-sea transfer to and from lighters alongside Sea Base ships
  - At-sea transfer from black hull commercial vessels to Sea Base ships
- For heavy loads, these processes differ
- Stabilized cranes, together with means to stabilize ships, offer limited technological options for at-sea cargo transfer

CLF Advanced Development

Seabasing Logistics

- Improved Underway Replenishment
- Shipboard Material Handling
- Standardized Containerization
- Asset Visibility & Planning

Naval Logistics Integration with USMC

Common Intermodal Packaging

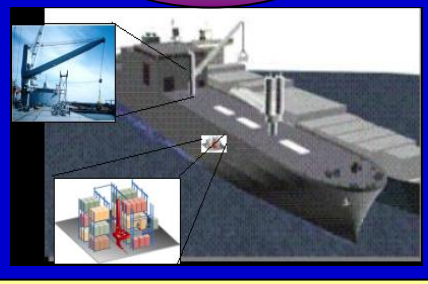
Seabasing Logistics

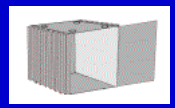
We need to improve the handling and reduce retrograde, waste, and storage requirements as sustainment moves through the supply chain.

Supplier
Warehourse
Ports

- Container Receipt
- Container Unstuff
- Transshipment

Sea Base
MPF(F)





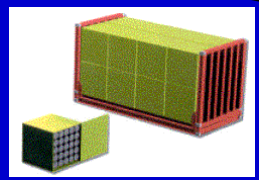
Air

End User

Ground
Forces

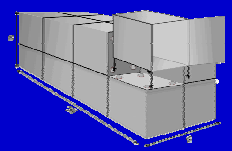
Connector Paths

Surface



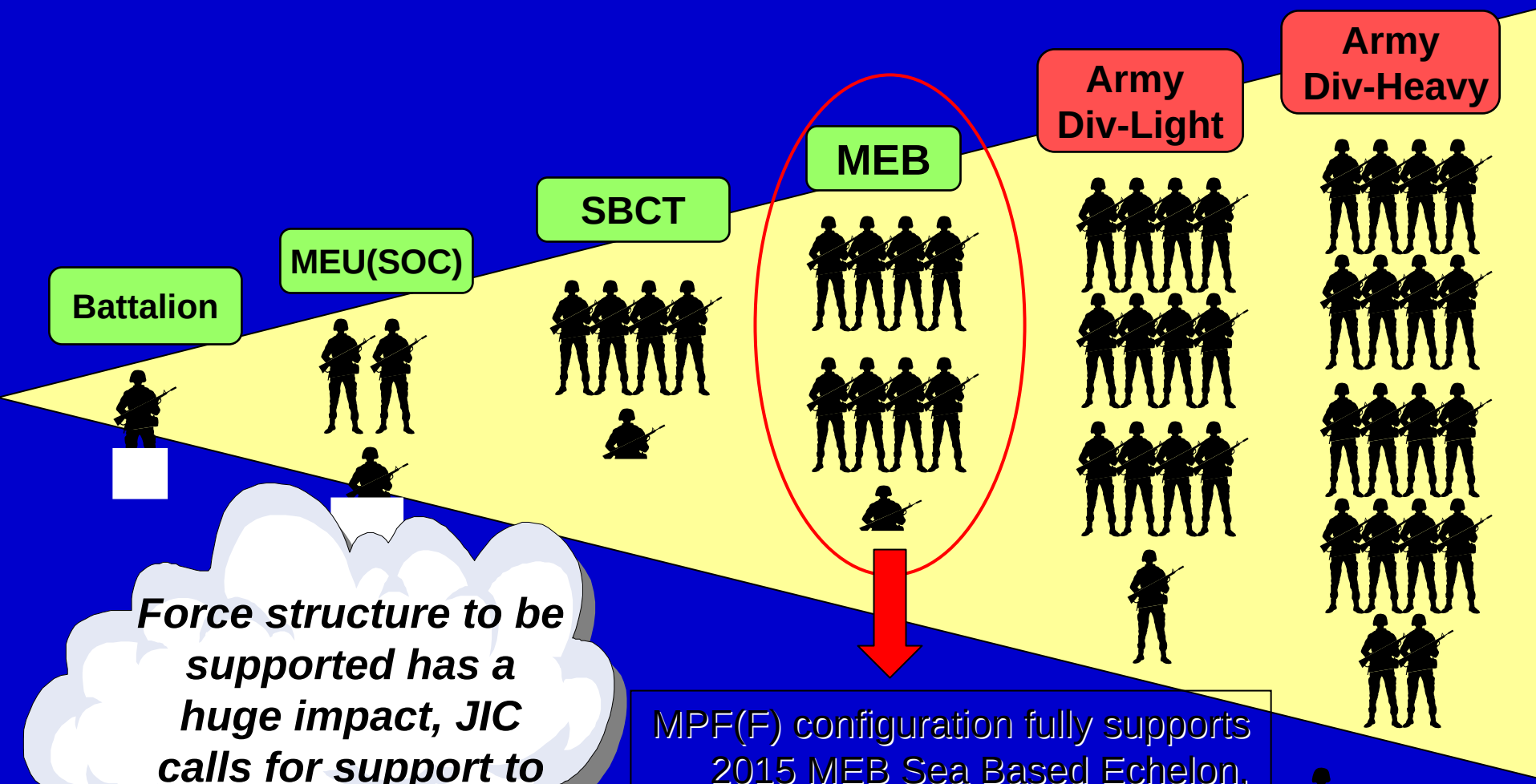
Ground
Forces

Standardizing the packaging through the transportation system



Sizing the Sea Base -- Jointly
(What capacity is required?)

Seabasing Logistics



Force structure to be supported has a huge impact, JIC calls for support to <u>two</u> brigades

MPF(F) configuration fully supports 2015 MEB Sea Based Echelon, and must be able to sustain throughput for a 2nd brigade

~ 1,000

Seabased Forcible Entry Requires

- All functions performed on the Sea Base
  - Moving forces, materiel, and weapons from an advanced base (or CONUS) to the Sea Base
  - At sea reception, staging, onward movement and integration
  - Getting the force to the objective and sustaining it
  - Sea, air and land platforms working in concert to project power to the objective
  - Defense suppression
- A ***joint system*** extending across interoperable platforms, netted together and sustained from the sea

It's much more than logistics – it's operations

MPF (F)
Operational implications

Seabasing Logistics

Key Mission Capabilities

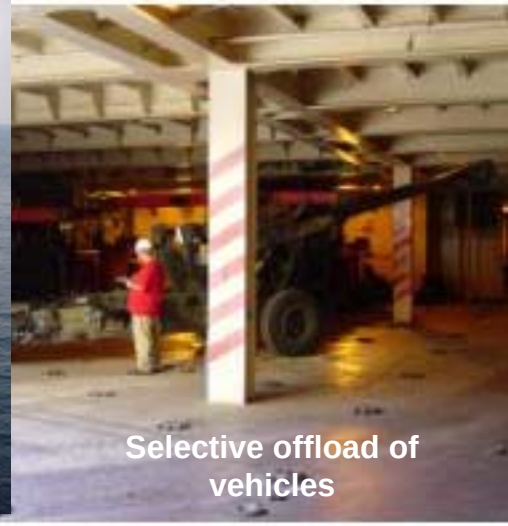
- Close the Force
  - Assembly at sea/enroute
- ATF Interoperability
  - At-sea interface
  - RW platform
  - UNREP capable
  - Selective offload
  - C4I
- Sustainment
- Medical
- Joint C2
- Maintenance

Sea Based Logistics

- Cargo transshipment capability
  - Logistics Throughput Node
  - AB to Sea Base Shuttle Ship
- Personnel & aviation basing
- Open ocean air and surface craft interface
- Selective Offload of Cargo
- Total Asset Visibility
  - Intransit Visibility
- At-Sea Container Handling
  - Internal & External
- At-sea Cargo Warehousing

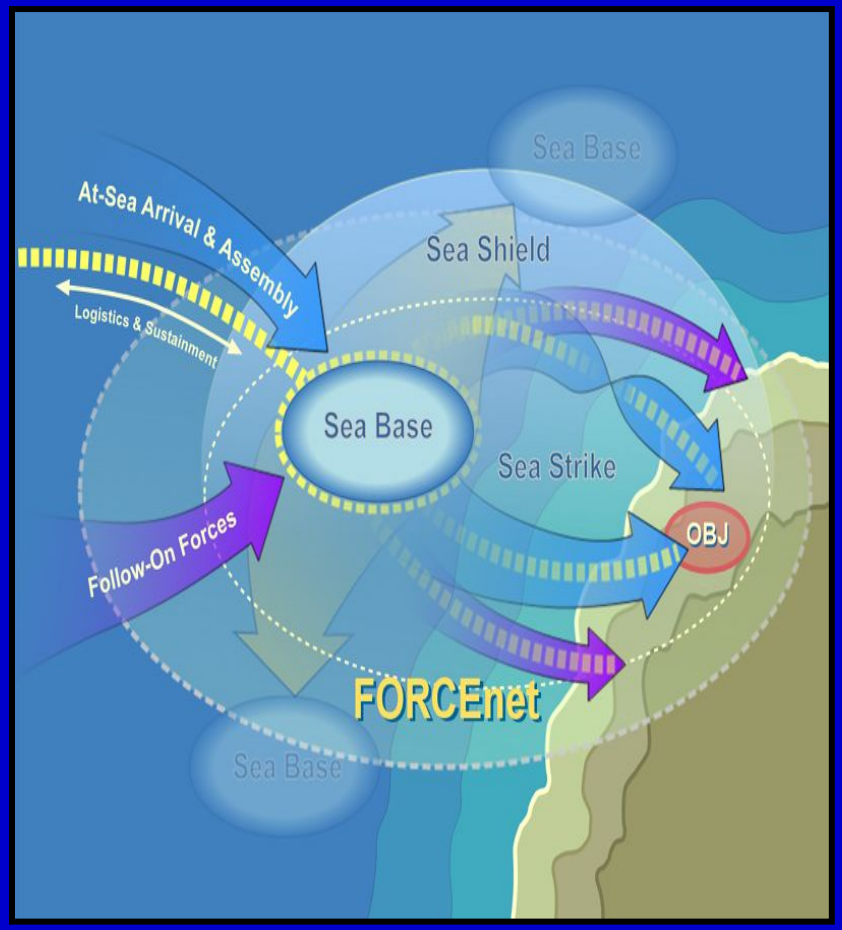
Experimentation

Seabasing Logistics



Measures of Performance

Seabasing Logistics



Capacity How much joint force capability can be supported.

Rate How fast can things be accomplished to support joint force capability over a given time under standard sets of conditions.

Infrastructure What physical requirements and facilities are needed to support and sustain the joint force capability.

Interoperability To what degree can we seamlessly integrate/support joint force capability.

Survivability To what degree can we protect joint force capabilities.

Accessibility How easily can we operate within the physical constraints presented by terrain, hydrography, weather, depth of operations, and threat.

Framing the measures of effectiveness

Projected MEB Flow

Seabasing Logistics

MPF(F) MEB
(14,484)

Sea Base Echelon (SBE)
(8,397)

Sea Base Maneuver Element (SBME)
(4,989)

Sea Base Support Element (SBSE)
(3,408)

Forward Base Echelon (FBE) primarily fixed wing
(1,907)

Sustained Operations Ashore Echelon (SOAE)
(4,180)
(primarily remain in CONUS)

10,304

Essential personnel who have to deploy within the 14-day window are from the SBE and FBE only.

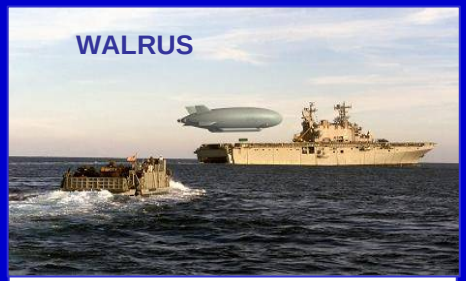
Arrival of the SOAE could occur outside of the 14 days and not necessarily go to the Sea Base.

*** Personnel numbers current as of 3 Dec 2004**

Future Surface Connector Concepts

Seabasing Logistics

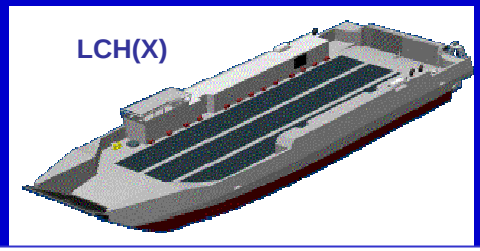
Developing capabilities



Speed - 76 KT
Range – 5,607-10,000 NM
Avg Payload - 238 ST

Speed - 38 KT
Range - 6,000 NM
Payload - 8,000 ST
158,000 SQ FT

Speed - KT
Range - NM
Payload - ST



Speed - 30 KT
Range – 200-300 NM
Payload – 2200 ST

Speed - 36 KT
Range - 8,000 NM
Payload - 5,000 ST
131,000 SQ FT

Speed - KT
Range - NM
Payload - ST
SQ FT

Speed - 15 KT
Range – 12,000 NM
Payload – 13,000 ST, 750 TEUs
175,000 SQ FT
30-55,000 bbls

Future Air Connector Concepts

Seabasing Logistics

Speed - 365 KT
Range – 800 NM
Payload – 22 ST
150 PAX

Speed – 480 KT
Range – 1-3000 NM
Payload – 30-40 tons
tbd PAX

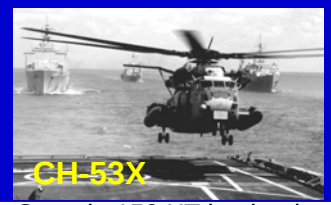
Speed – 375 KT
Range – 3000 NM
Combat Radius – 1000 NM
Payload – 21 tons
128 pax

Speed – 140 KT
Range – 300 NM
Combat Radius – 1000 NM
Payload – 2 tons
12 pax

Speed – 275 KT int. load
- 110 KT ext. load
Combat Radius – 240 NM
Payload – 10 tons
24 pax

Speed – 325 KT
Range – 2000 NM
Payload – 30 tons
180 PAX

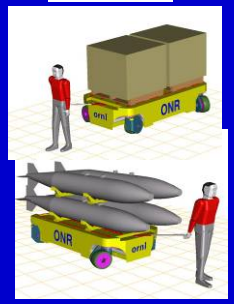
Speed – 280 KT
Range – 2000 NM
Payload – 20 tons
67 PAX



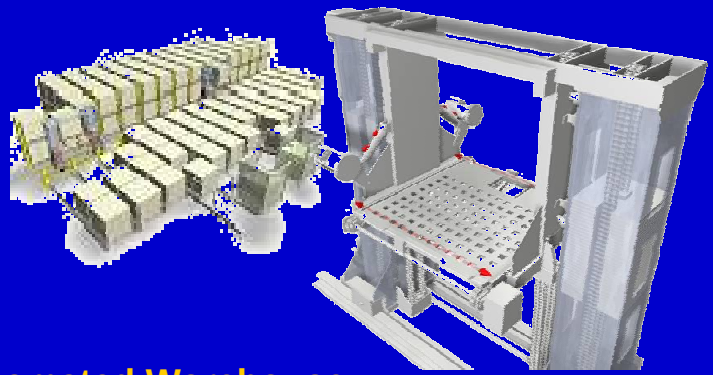
Speed –150 KT int. load
- 110 KT ext. load
Range – >540 NM
Combat Radius – >200 NM
Payload – >16 tons
55 pax

S&T Investments

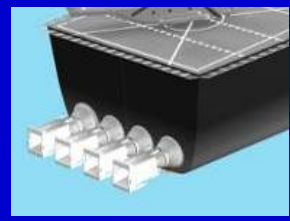
Seabasing Logistics



Compact / Agile Material Mover

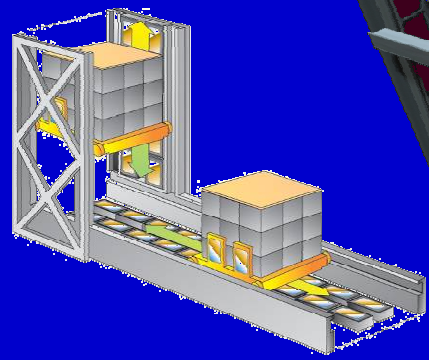


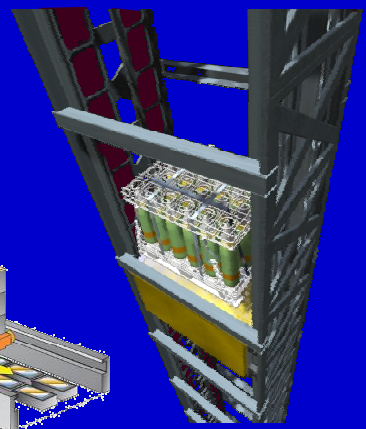
Automated Warehouse



38MW Axial Flow Waterjet

Large Vessel Interface
Lift-On / Lift-Off (LVI LO/LO)





High Rate Vertical/Horizontal Material Movement