

Amendment Number 3 for BAA 08-003
“Sense & Respond Logistics Information Mechanism Design and Integration”
07 DEC 2007

The purpose of Amendment #3 is to post the second section of the Industry Day presentation materials:

- 1) Attached to this amendment is the second part of the presentation materials from the Industry Day held on 27 NOV 2007.

BRIEFING TOPICS

- Sea Basing Background & Transformational Aspects
- Support of MAGTF Operations
 - Autonomic Logistics
 - Global Combat Support System
 - Marine Corps Planning Process
- Examples:
 - Maintenance execution
 - Battlefield fuel
- S&RL Architecture Span
- Joint Activities- Army

Ed Crow

(814) 863-9887

eccl@psu.edu

Bob Walter

(814) 863-8876

rlw9@psu.edu

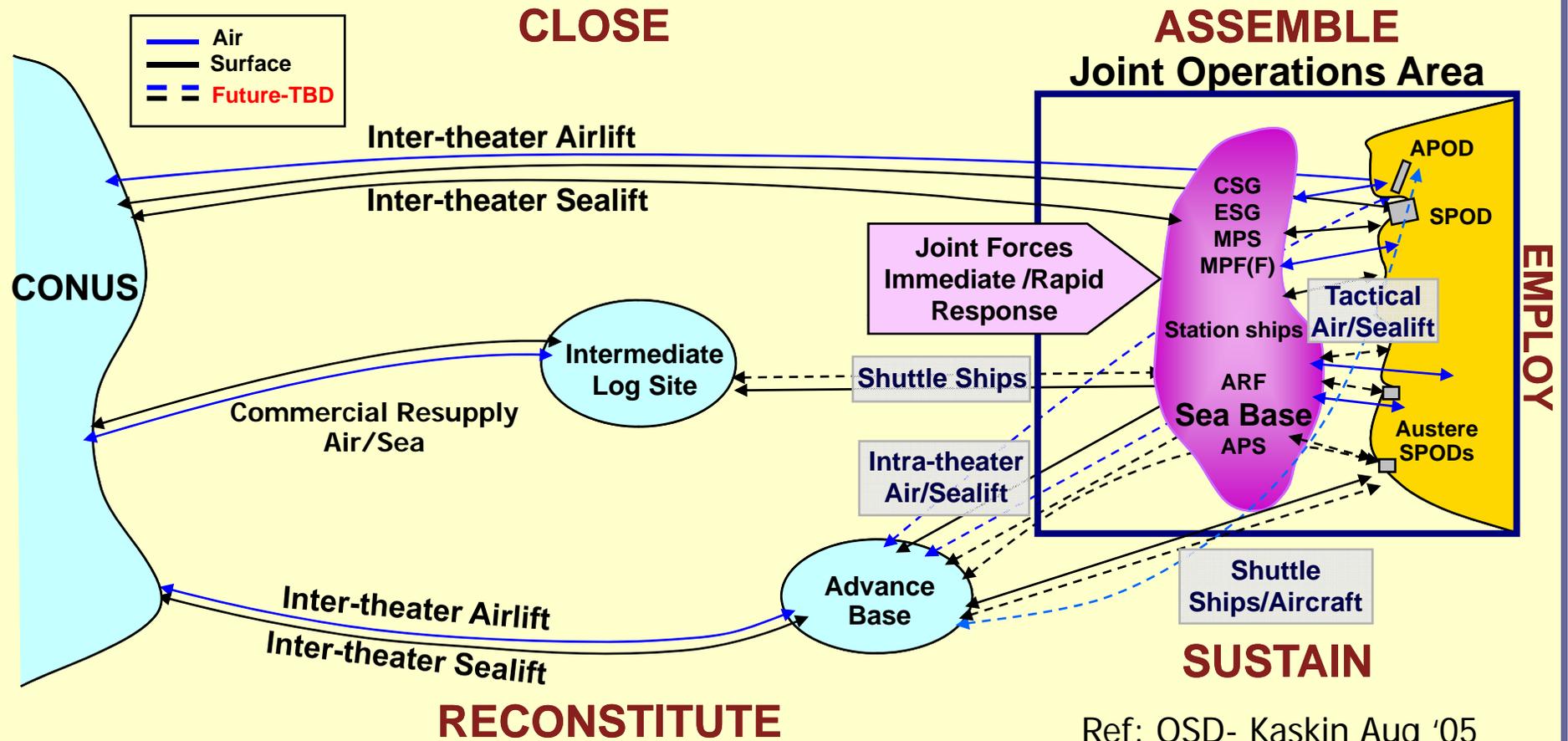
Dan Behringer

(814) 865-7700

tdb14@psu.edu



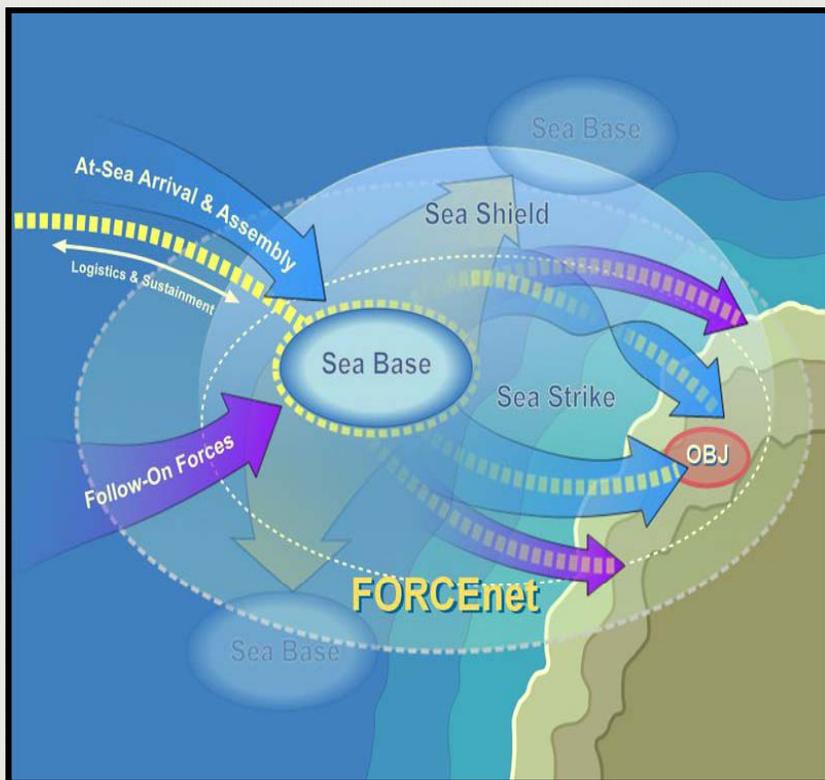
Sea Base Support of MAGTF Operations Ashore



The *sea base* is an inherently maneuverable, scalable aggregation of distributed, networked platforms that enable the global power projection of offensive and defensive forces from the sea, and includes the ability to assemble, equip, project, support, and sustain those forces without reliance on land bases within the Joint Operations Area.

Seabasing Gap

GAP - Capability to Rapidly Close, assemble, employ and indefinitely sustain and repetitively reconstitute ground forces ashore without reliance on land bases



METRICS

Close... a Marine Expeditionary Brigade-sized force within 10-14 days

Assemble... a Marine Expeditionary Brigade-sized force within 24-72 Hours

Employ... one battalion vertically and one battalion via surface within 8-10 hours

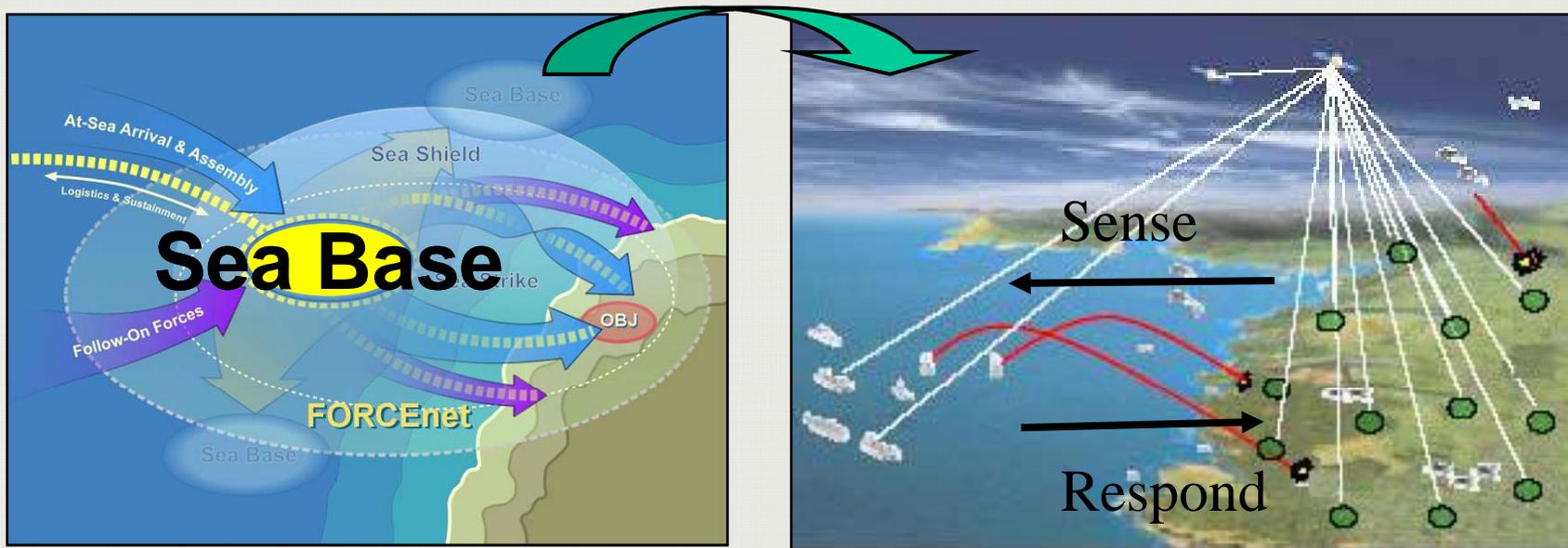
Sustain... selected joint forces and up to two brigades operating up to 150 nm inland with minimal logistics footprint ashore

Reconstitute... forces for future operations within 30 days

10-30-30 Strategy: Deploy within 10 days, defeat an enemy in 30 and be ready to fight again in another 30

Sea Based Sense and Respond to Combat Operations Ashore

S&RL EC connects the Sea Base with the tactical operational picture thru integrated log/C2



Anticipated “demands” from combat operations ashore are dynamically supported from the Sea Base which is paced with the heartbeat of operations

SB S&RL assimilates, prioritizes, synchronizes and de-conflicts to achieve a focused and tailored logistics response to tactical forces

The Sea Base is much more than an automated, floating, forward supply point

SB S&RL Enabling Capability

Present EC's
address "how"
supplies/materiel
move to, move
within and move
from the Sea Base



SB S&RL is for the
Sea Base to
anticipate "what" to
move "where" and
"when" to forces at
sea and ashore within
Sea Based
Constraints

Sea Base Integrated Operations
Seabasing Tasks: Employ, Sustain

Sea Base Mobility and Interfaces
Seabasing Tasks: Employ, Sustain,
Reconstitute

MEB Force Closure
Seabasing Task: Close

MPF(F) to Surface Connector Vehicle
Seabasing Tasks: Employ, Sustain, Reconstitute

Sea Based Sense & Respond
Sea Basing Tasks: Close, Assemble,
Employ, Sustain & Reconstitute

An S&RL EC will enable a Sea Base
to anticipate and pro-actively
responds to changing demands of
combat forces ashore *while*
maintaining high levels of
operational readiness

Throughput and speed

Accurate and anticipatory

The Sea Base must provide focused and tailored response to USMC forces ashore:

- The MAGTF is the customer
- Logistics provisions will need to be made down into the organization units at lower echelons
- Tailored loads of just the right amounts and types will have to be configured
- There will be many more direct deliveries to lower echelons directly from the Sea Base

Smooth Sea Based Operations should:

- keep pace with desired operational tempo (time)
- allow optimal tactical command decision (not compromise due to log)
- reduce load carriage of forces ashore (weight/volume)
- operate near- automatically (decrease cognitive workload)

Sea Based Operations should facilitate:

- extended penetration into the Area of Operations (duration, distance, and spatial distribution);
- commander's choice of tactical options without undue concern for supply/support (optimal choice); and
- higher levels of operational tempo (speed)

To accomplish this, the sea base needs:

- constant, near-real time updates of status, condition and health of tactical equipment ashore (Autonomic logistics);
- indications of anticipated “demand” and change in demand from dynamic operations ashore (prognostics and commander’s intent); and
- understanding and comprehension of aggregated demand (intuitive common operating picture displays).

Tools are needed for commanders and logisticians to observe, orient, decide and act upon the most critical events arising from the tactical picture including:

- a means to account for the variability of consumption rates due to changing battlefield dynamics (esp. fuel, ammo);
- a way of predicting future needs for supply and support based upon commander’s intent and not conventional consumption factors; and
- a way of brokering between commander’s preferred COA’s and possible options available for sea based supply and support.

Example Force Structure

(for talking points)

Afloat

Ashore

MEU Command Element
S-1, S-2, ... S-6



Combat Operations
Center/

Ground Combat
Element
S-1, S-2, S-4 S-6

Logistics Combat
Element
S-1, S-2 S-3 S-6

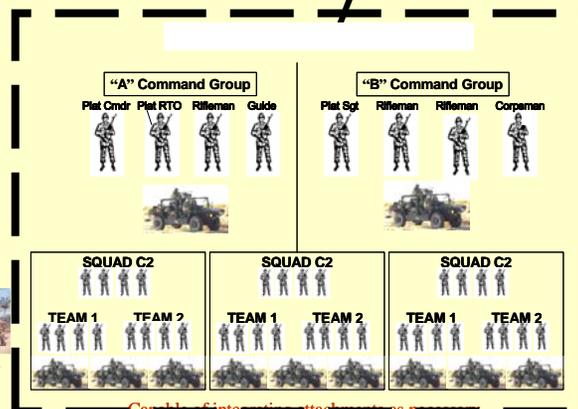
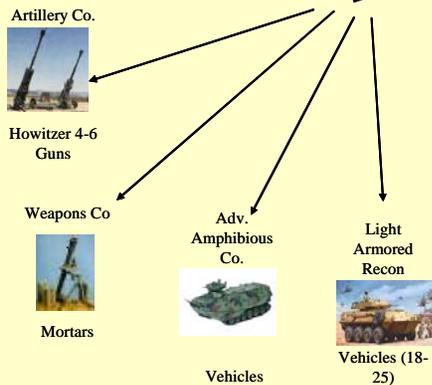
Demand

Response

*Forward Operating
Base Ashore*

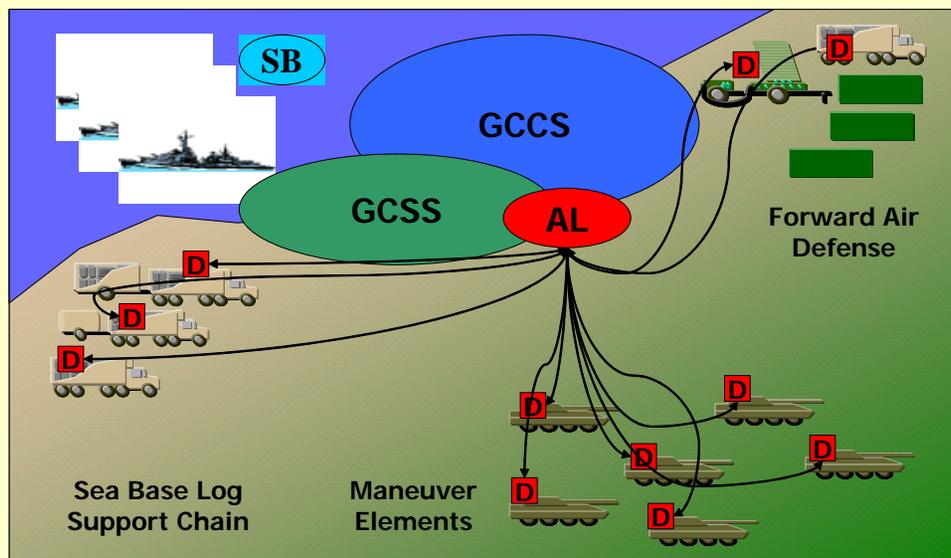
Key Supply
Classes

Fuel, Ammo,
Parts



Operational Concept: Marine Corps Warfighting Concepts require that Marine Air Ground Task Forces (MAGTFs) have a **greater capability to generate focused and tailored logistics support** to the maneuver elements within the Area of Operations (AO).

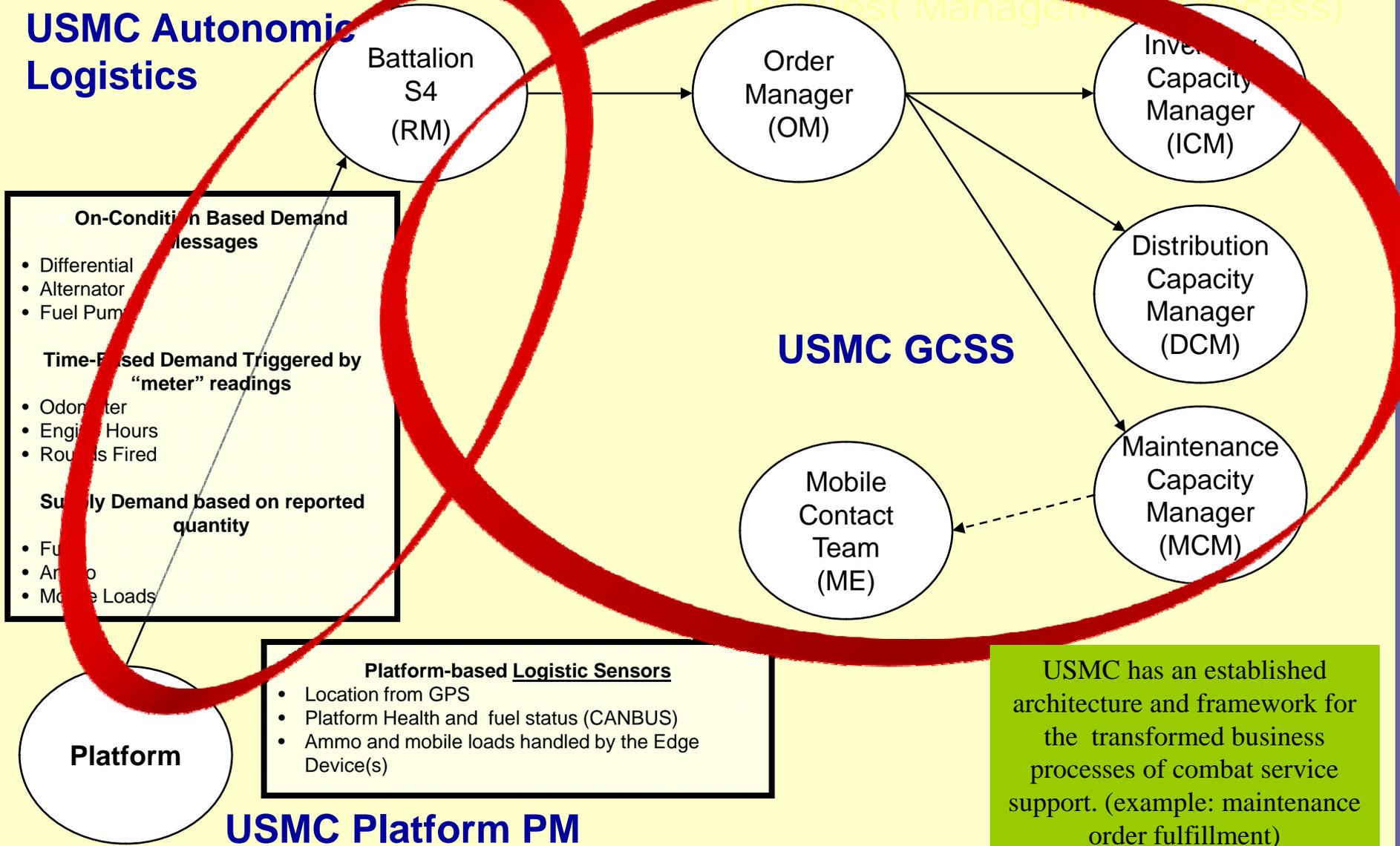
Operational Commanders and their staffs will **require access to accurate, timely, mission critical information** relating to the various elements and equipment of the MAGTF. This information will be used to ensure that units within the AO are optimally assigned, tasked and supported for maximum combat effectiveness.



AL reports and constantly updates the sea base with the real time operational status and health of forces ashore- it provides the basis for the “demand” in a Sea Based Sense and Respond system.

USMC Autonomic Logistics

(Request Management Process)



Autonomic Logistics in Support of the Marine Air-Ground Task Force (MAGTF)

Over the Horizon
Comm



Sensors Report Status & Condition of Assets

- Fuel & Ammo Levels
- Platform Health
- Mobile Loads



Life Cycle
Managers



LFOC

MAGTF CE COC

LCE LOC

LCE Supply
& Maintenance Units

GCE
COC

Log Data
Repository



AAV



LAV



MTVR



FARP

Autonomic Logistics in Support of the Marine Air-Ground Task Force (MAGTF)

Reports From Platforms are Aggregated Up From the GCE into a Logistics Data Repository and Served to Multiple Users

Over the Horizon Comm



Life Cycle Managers



AAV



LAV



MTVR



FARP



GCE COC



MAGTF CE COC



Log Data Repository



LFOC



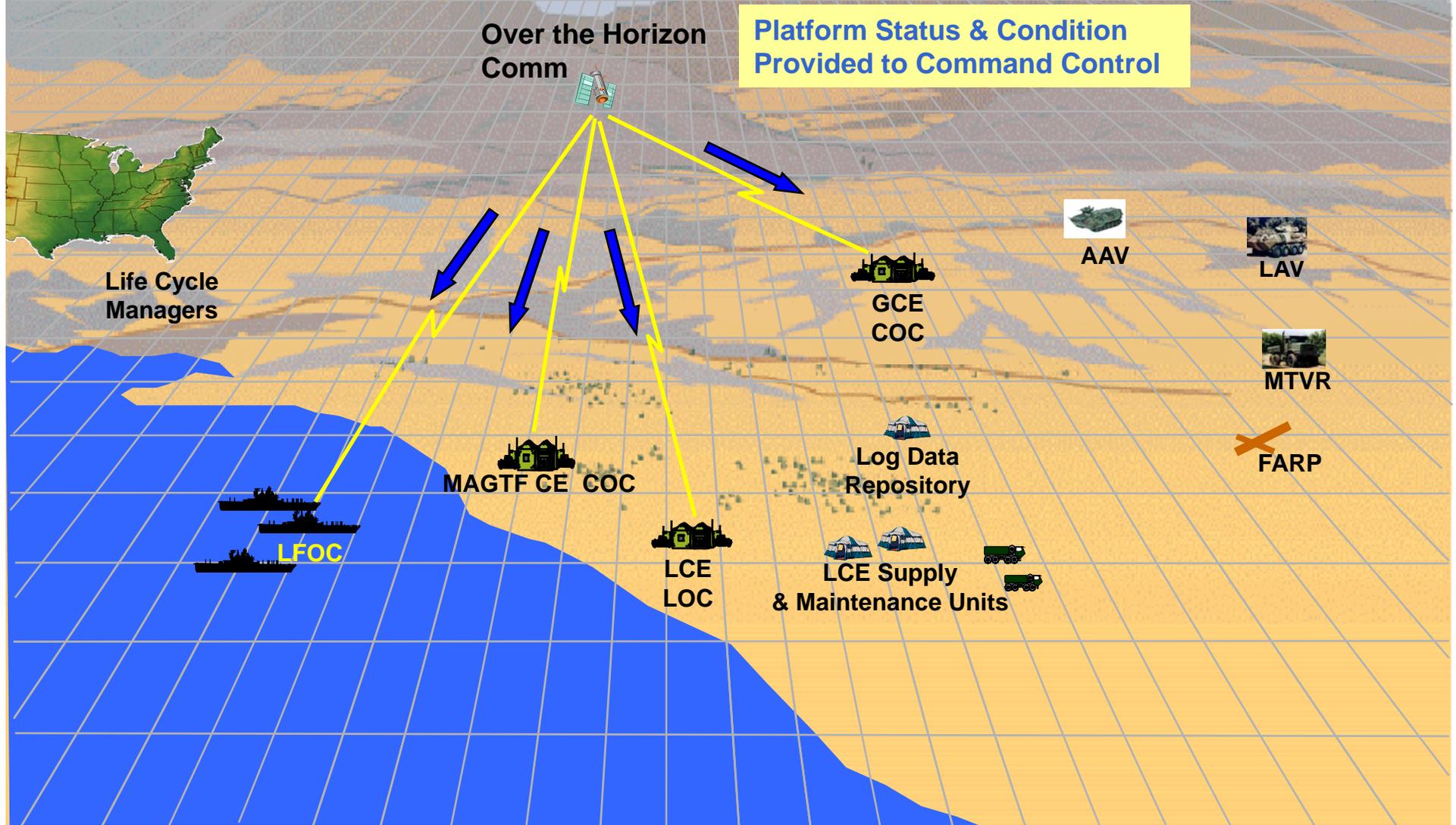
LCE LOC



LCE Supply & Maintenance Units



Autonomic Logistics in Support of the Marine Air-Ground Task Force (MAGTF)



Autonomic Logistics in Support of the Marine Air-Ground Task Force (MAGTF)

Logisticians view aggregated status and condition of the GCE and now anticipate "demand" for supplies and services from the LCE and plan for response

Over the Horizon Comm



Life Cycle Managers



LFOC

MAGTF CE COC



LCE LOC

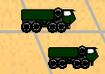


GCE COC

Log Data Repository



LCE Supply & Maintenance Units



AAV



LAV



MTVR



FARP

Autonomic Logistics in Support of the Marine Air-Ground Task Force (MAGTF)

Over the Horizon
Comm



LCE executes focused and tailored response for supplies and services.



Life Cycle
Managers



LFOC

MAGTF CE COC



LCE LOC



LCE Supply
& Maintenance Units



Log Data
Repository



GCE
COC



Maint
Team

Ammo
Resupply



AAV



Fuel Resupply



LAV



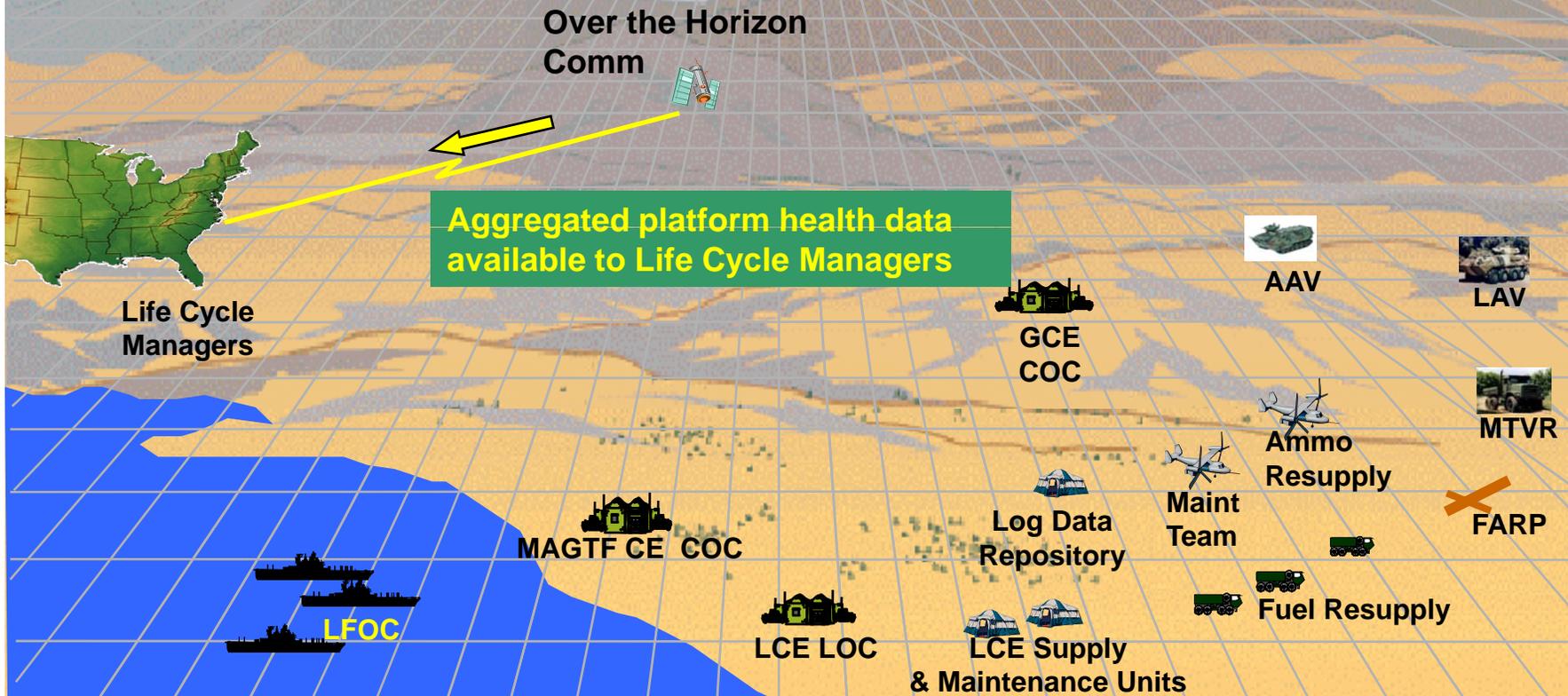
MTVR



FARP



Autonomic Logistics in Support of the Marine Air-Ground Task Force (MAGTF)



- *Shared Situational Awareness* to the Combatant Cmdr, logistician, staff.
- Transformational capability to collect, analyze mission critical data.
- Automatically generate, process, and transmit critical mission demand data from battlefield to remote stations for analysis and processing in near to real time.
- Provide relevant information to all stake holders

- Commander's "Intent" drives the force
- Time = "Speed of Command"
 - Provide Combatant Commander confidence to plan and execute on the fly.
 - CSS – to advise, plan, and execute logistic support at speed of command
- Logistic Support Systems –
 - Provide "Dynamic" vice Static ERP inputs
 - Anticipatory Support based on Operational Needs
 - Decision Support Tools that influence a weapon system from cradle to grave

AL Operational Concept- for reference

AL uses a combination of onboard sensors, processors and transmitters that collect and forward critical logistic data (Equipment Health, Identification, Location, Fuel and Ammunition, Levels, and Mobile Loads) through the existing tactical communications architectures. Within the GCCS and GCSS environments, this data is processed for C2, CSS, and system life cycle support both internally and externally to the Operational Forces.

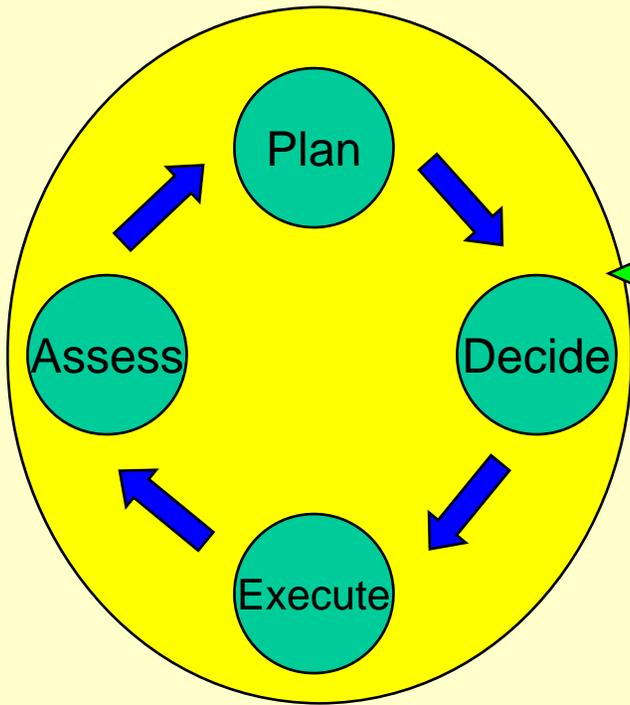
A typical AL Mission Profile works as follows: During employment of an AL enabled weapon system mission critical data is continually processed and recorded within the embedded AL sensor network. As a system failure begins or pending logistic requirements are identified, the AL system will process the required data and send this information through the C2 and CSS tactical networks. In the C2 network the information can be used for operational planning and future forces deployment. In the CSS, users gain enhanced visibility of developing logistic requirements/requests prior to actual needs. Consistent with the tactical situation, CSS units can better position and posture themselves, assembling and dispatching Logistic Support Teams (LST), carrying the necessary logistic supplies, tools, repair parts, and request information to the site of the system thus delivering logistic support proactively.

This concept will dramatically decrease the operational down time of the equipment, reduce the potential of operational pauses, while optimizing the Marine Corps combat service support (CSS) resources, contributing to a smaller battlefield logistics footprint and uninterrupted operational availability.

AL will be required to transfer information through interface capability with external data networks and be compatible with existing/planned Marine Corps CSS/C4ISR through legacy and emerging communication systems.

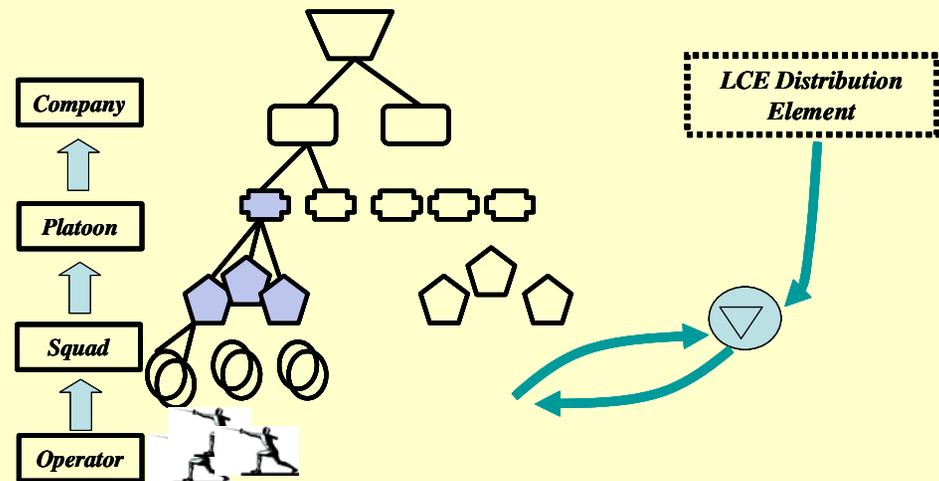
Autonomic Logistics Supports The Marine Corps Planning Process

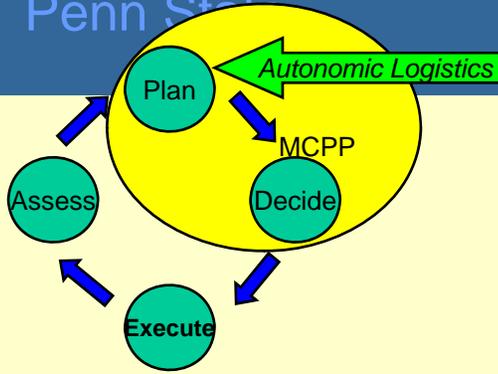
Planning Decision Execution Assessment



**Marine Corps
Planning Process
(MCP)**

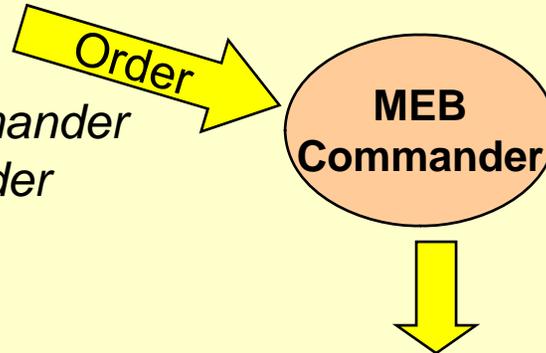
Autonomic Logistics





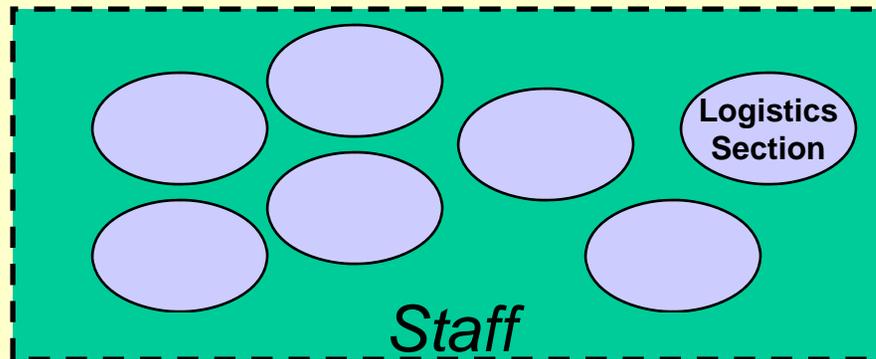
COP C2 Use Case

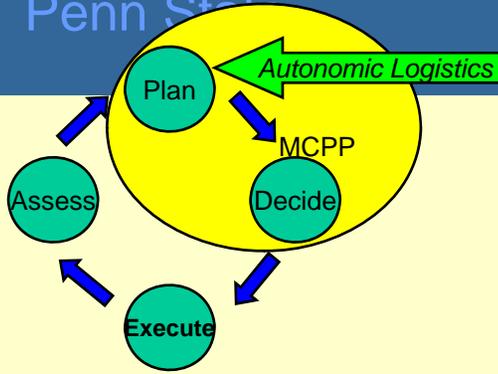
MEB Commander receives order



MEB Commander tasks staff to develop 3 COAs (one air assault, one motorized assault and one mechanized attack).

Also provides Commander's intent.



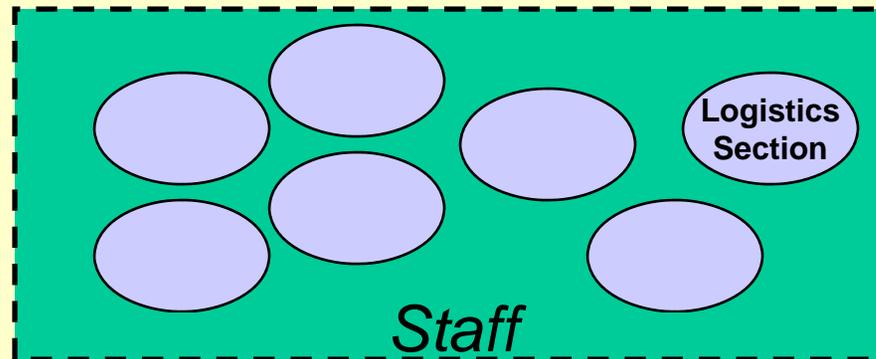


COP C2 Use Case

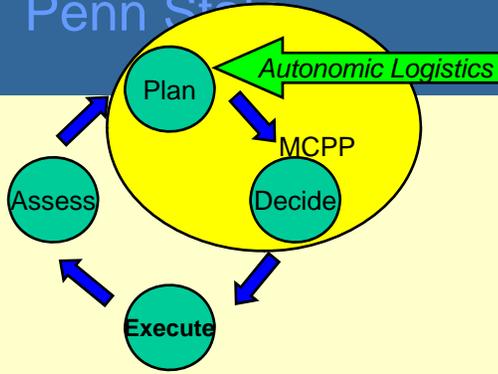


Staff evaluates COA's.

Includes the ability of the CLR(-) to support COA requirements for fuel, ammo and maintenance.



Also, includes comparative assessment of the logistics status (fuel, ammo, water, system health/readiness) of 3 subordinate infantry battalions based on pre-established thresholds.

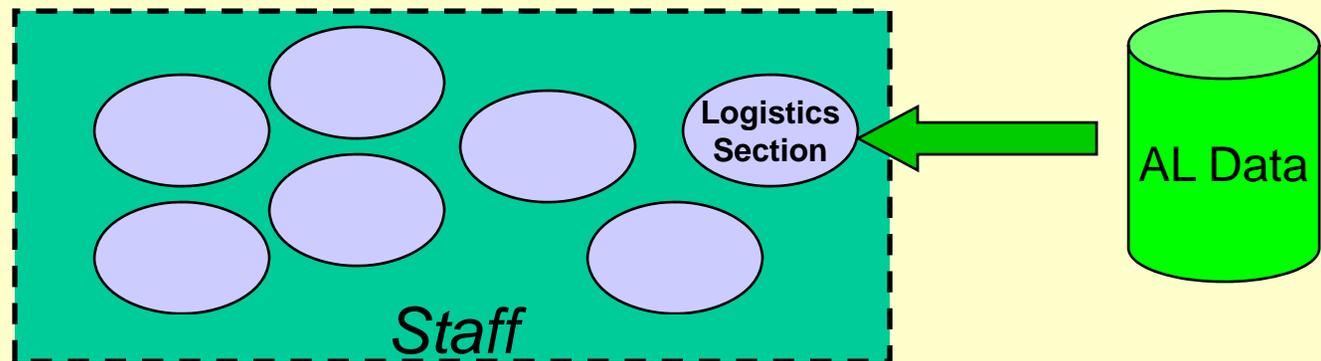


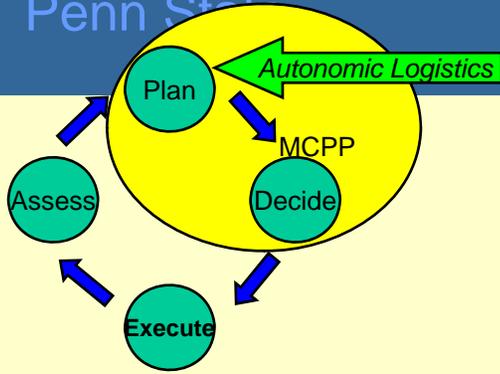
COP C2 Use Case

Logistics Section accesses AL data to determine status and health of equipment.



Logistics Section generates mission timelines and assesses capability of each platform to meet mission requirements for each COA.

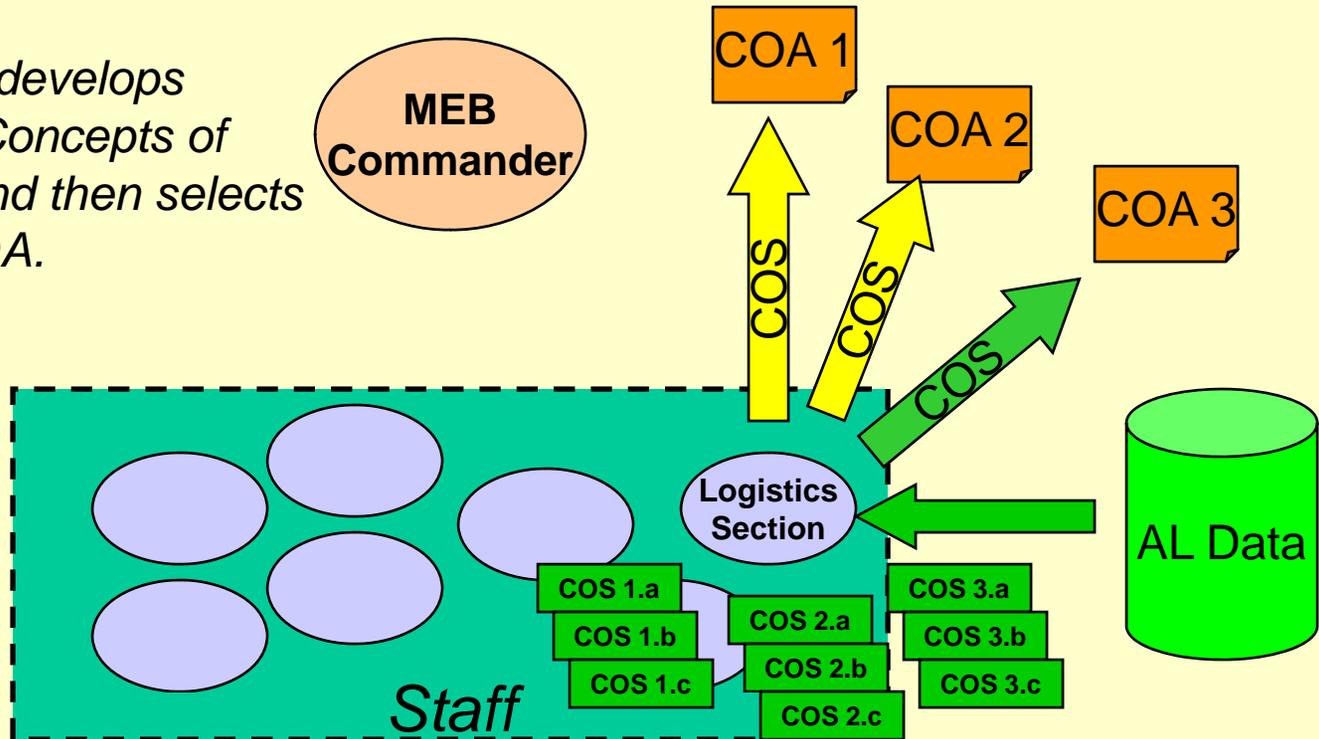


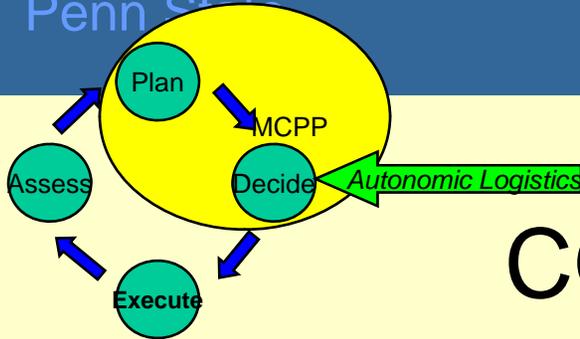


COP C2 Use Case

Logistics Section develops prioritized list of Concepts of Support (COS) and then selects COS for each COA.

Logistics Section ranks COA's based on CLR (-) ability to execute COS for each COA.



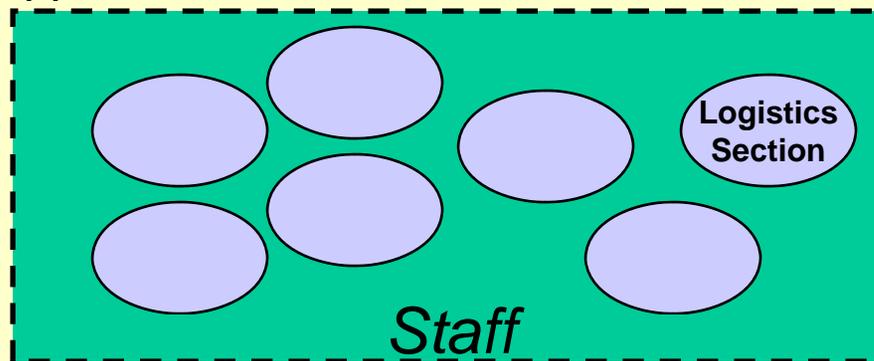
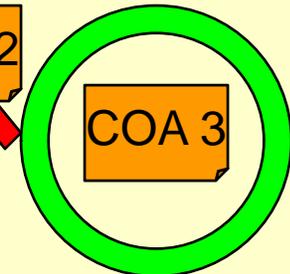


COP C2 Use Case

Commander selects COA 3.

Commander selects Bn X to execute mission.

Commander issues orders to Bn X and also to CLR (-) to execute COS to support Bn X.



Provides near-real time, accurate status and condition of weapons systems and support systems – leads to rapid development of Concepts of Support (COS).

Improved operational availability gives Logisticians and Commanders more flexibility and options – enables COS's and COA's to be more fully developed.

Improved data accuracy gives Commanders and Logisticians greater confidence – leads to best choices of COS and COA.

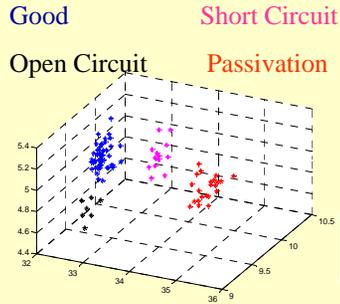
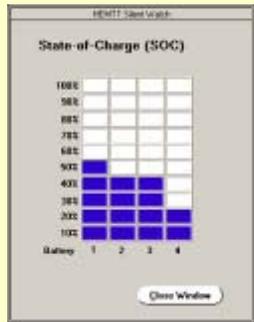
Two Examples:

Maintenance and Repair Request Management

Fuel Management

Maintenance Example- Battery

Need Batt



#3 Battery has failed- passivation

Demand

Will need
Battery

Battery is healthy, but low charge

Capability

Battery is healthy



Health

System Monitoring

Determination of State
-State of Charge
-State of Health
-State of Life



Battery	SOC	Dev	SOC	DEV	Cost	Voltage
1	83	85	0	8	103	12.27
2	83	85	0	8	103	12.26
3	87	91	0	8	103	12.28
4	54	98	1	8	103	11.16

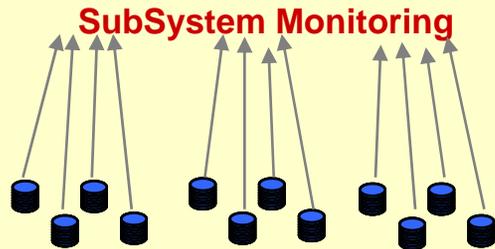
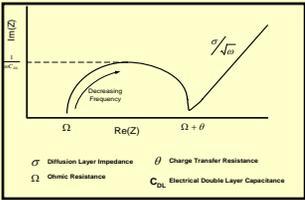
Condition



Feature determination:
-signal processing
-models
-automated reasoning



Targeted Degraders
• State of Charge
• Mechanical (short)
• Over Charge

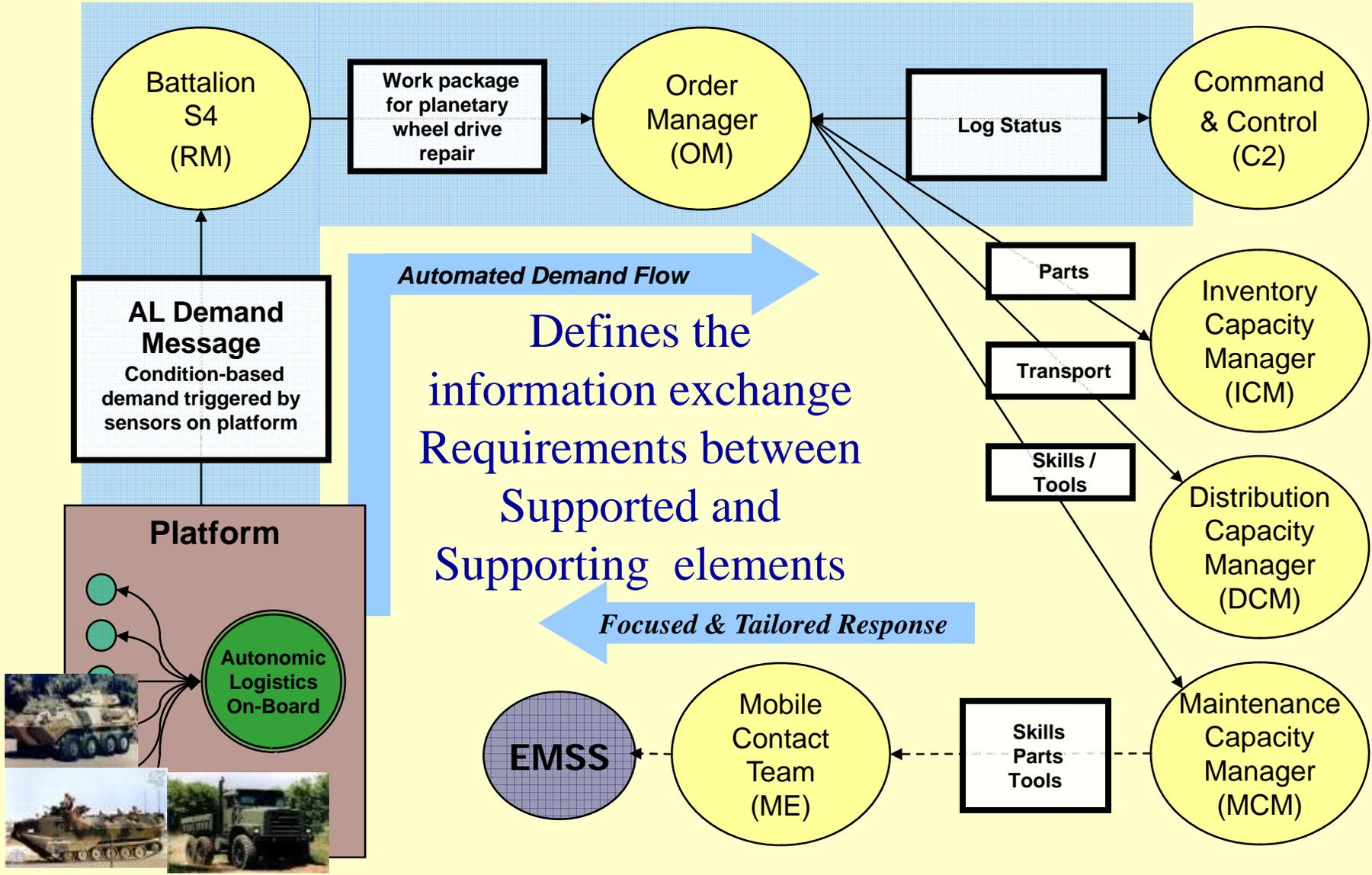


Sensors
• impedance sensor

Signal

Component Monitoring

Maintenance Execution- Request Management





Change Selection

All AL LOE #1

AL LOE#1- 1st Tank Bn 29 Palms, CA June '07

Refresh Data

Summary

Fuel

Batteries (Vehicle)

Batteries (Man Porta...)

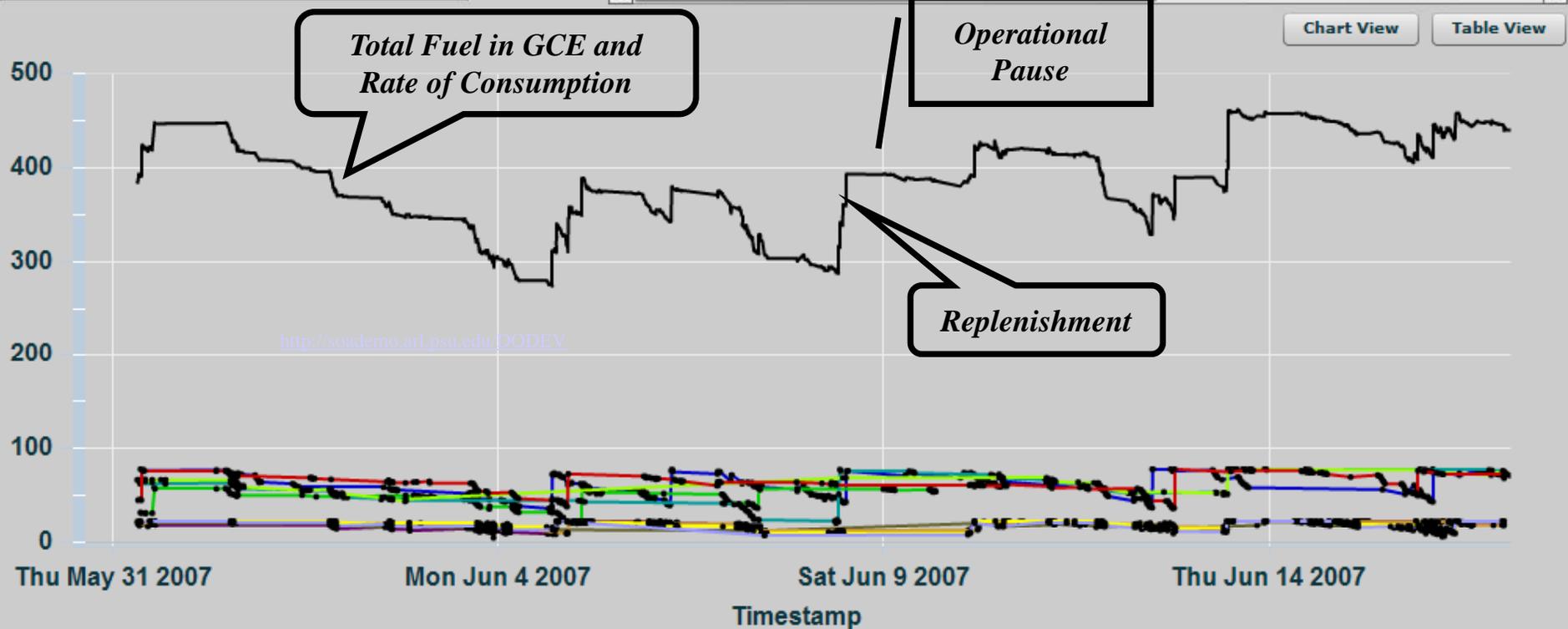
Auxiliary Fuel

Mobile Loads (Water)

Units of Measure

- Gallons
- Liters
- Percentage
- Pounds
- Kilograms

- AL LOE #1
- 594166 MTRV MK23
- 594136 MTRV MK23 Armor
- 602744
- 593497 MTRV MK23
- 594163 MTRV MK23 Armor
- 599555 HMMWV M1045A2
- 538472



<http://soademo.arl.psu.edu/DODEV>

<http://soademo.arl.psu.edu/DO>

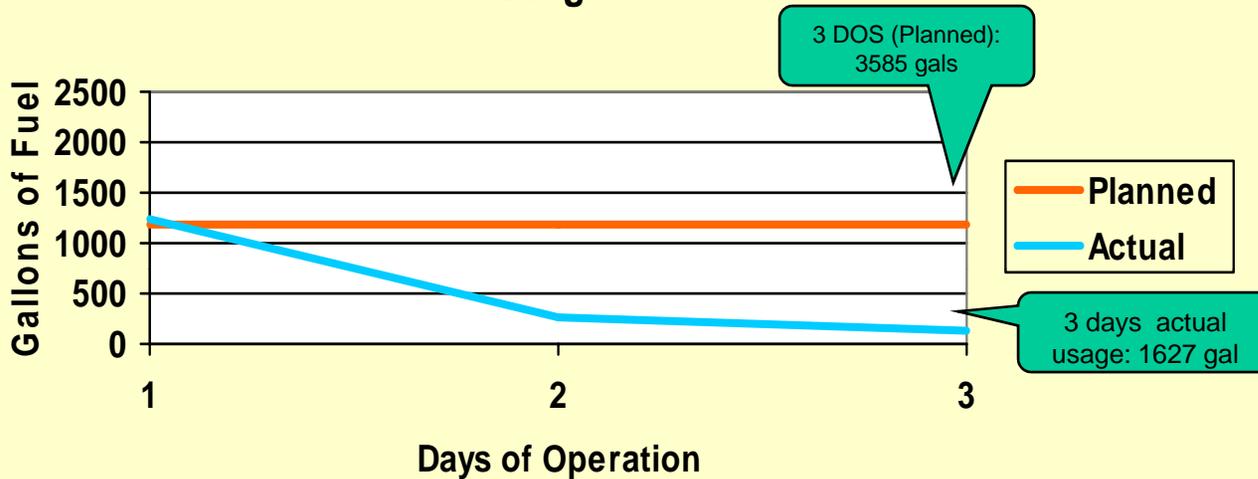
Vehicle: 599555 HMMWV M1045A2 Value: 18.9
 Date: Sun Jun 17 01:42:05 2007 UTC Message Type: Shutdown

Select time period for data to analyze:



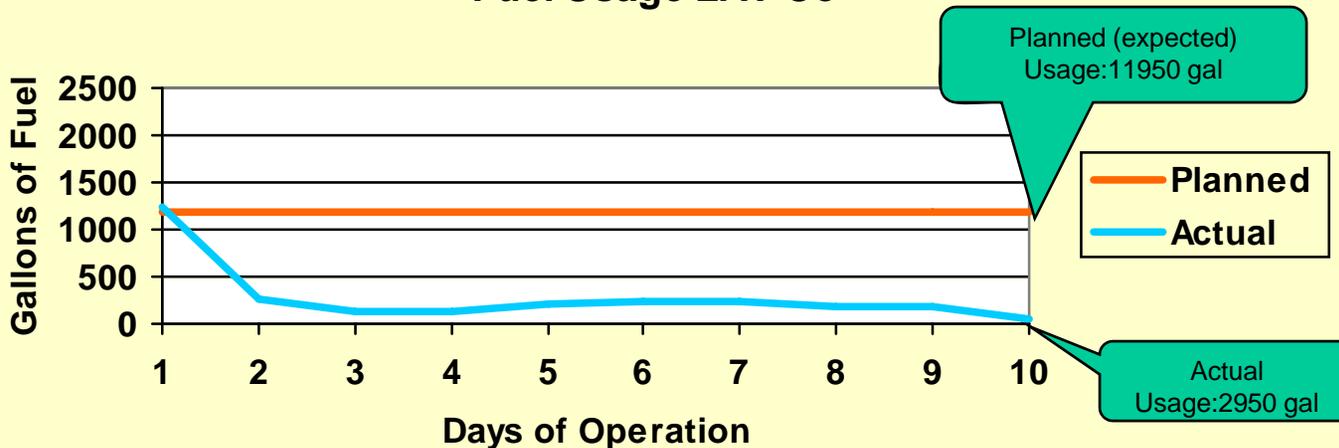
Autonomic Logistics Fuel Monitoring- Impact to MAGTF

**Actual versus Planned Quantity Day 1-3
Fuel Usage for LAV Co**



Fuel DOS rules of thumb result in 47 – 74% unnecessary fuel replenishment. AL monitoring and reporting of fuel status results

**Actual versus Planned Quantity Day 1 thru 10
Fuel Usage LAV Co**



Ref: USMC LOGISTICS MODERNIZATION (LOGMOD) SENSE AND RESPONSE LOGISTICS (S&RL): AUTONOMIC LOGISTICS STUDY ON FUEL QUANTITY MONITORING ON THE BATTLEFIELD, Col. Charles G. Chiarotti; Penn State USMC Fellow, June 2007

Theater COP

Common
Operating Picture



LOG Decision
Support Tools

AL "Services"

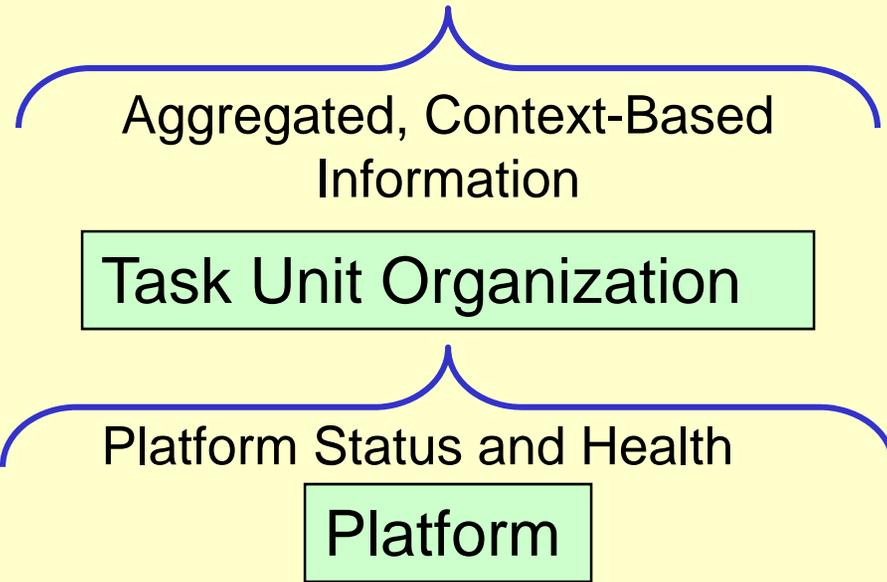
AL Data Source

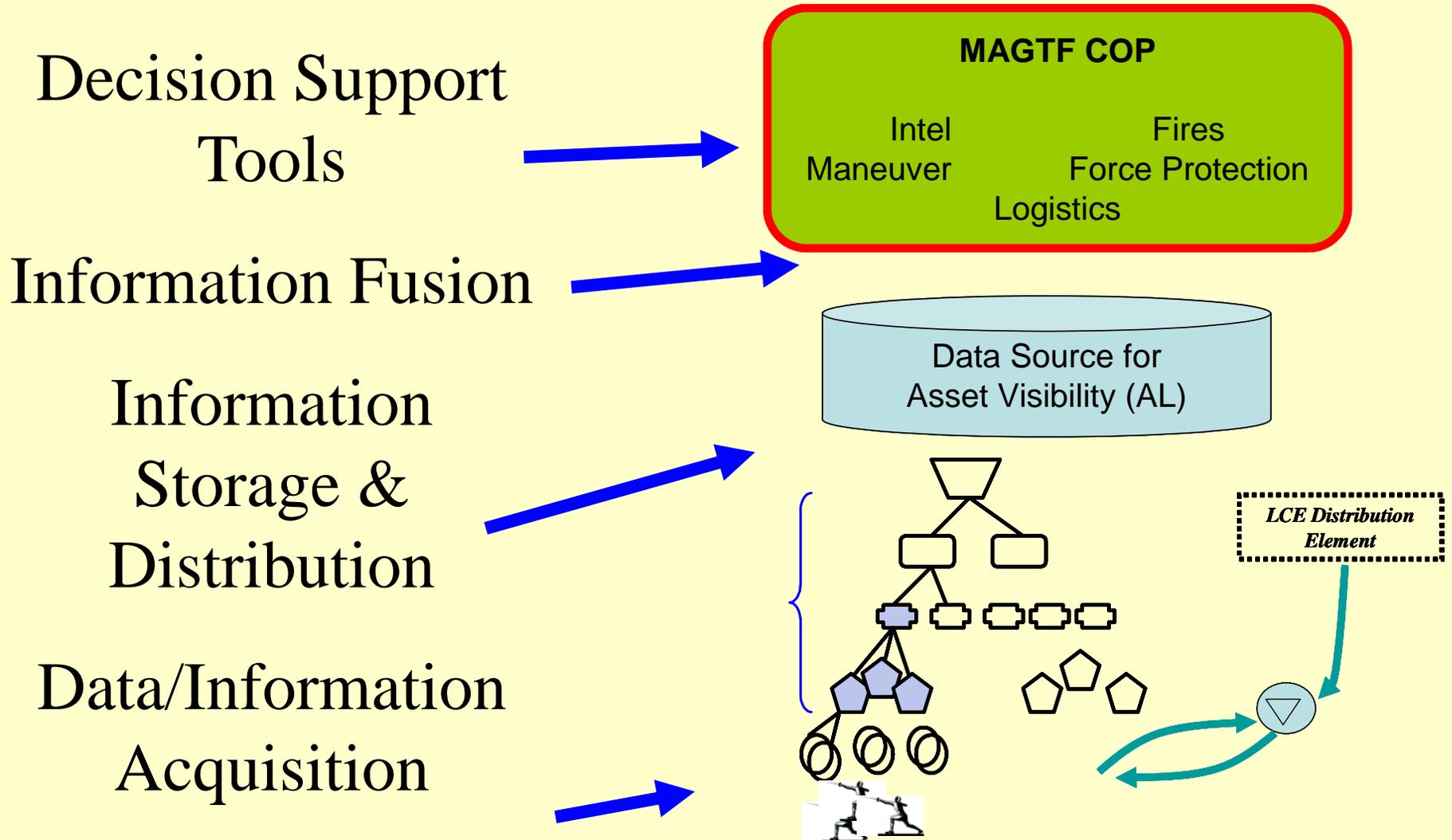
Aggregated, Context-Based
Information

Task Unit Organization

Platform Status and Health

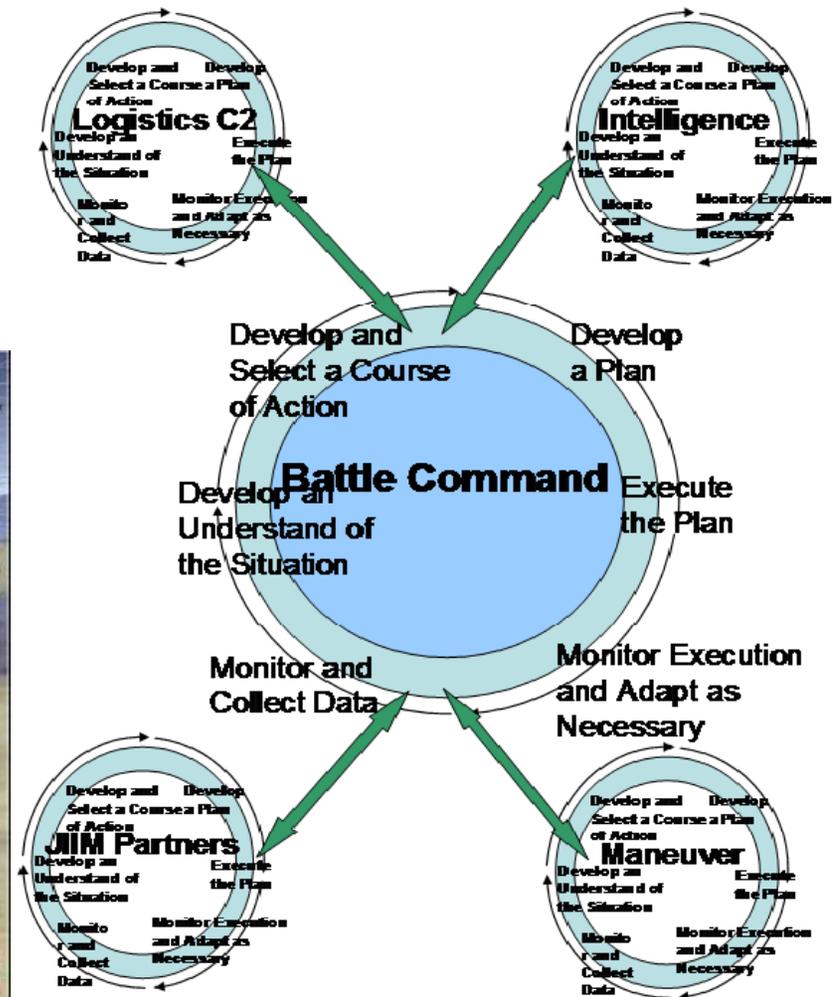
Platform





...must interoperate with Joint Logistics....

ARMY Integrated Logistics Architecture (ALIA)





SUPPORTING EXPEDITIONARY LOGISTICS

Major Mike Murchison, USMC
HQMC, Installations & Logistics Department (I&L)
Logistics Vision & Strategy Branch (LPV)
27 Nov 2007

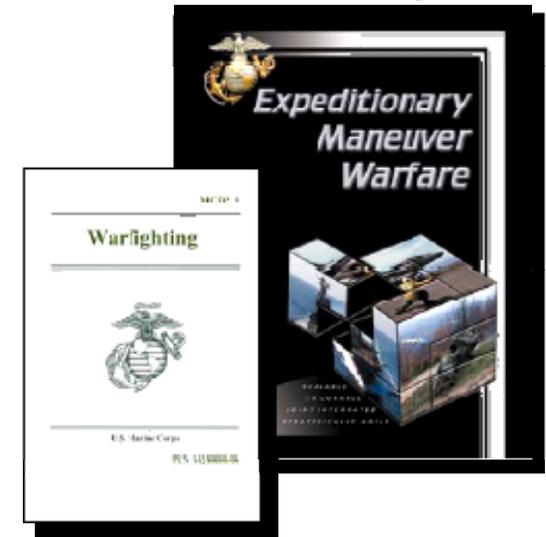
Expeditionary & Maneuver: Combat Multipliers

“Expeditionary” describes the immediate ability to go where the enemy is, displace him, and operate from his terrain.

- Embracing austerity
- Adaptability to the environment at hand
- Innovation to ensure advantage
- Physical and psychological rigor

Maneuver Warfare is a concept for how Marines...

- Gain the advantage by rapidity of decision-making
- Seize the initiative
- Exploit fleeting opportunities
- Shatter the cohesion and will of the enemy



Maneuver Warfare is a philosophy of leadership that is based on trust and decentralized decision-making that enables Marines to thrive in the chaos and friction of combat

CONCEPTS

- **Operational Maneuver From the Sea (OMFTS)**
 - Use the “sea” as maneuver space
- **Ship To Objective Maneuver (STOM)**
 - No more “see ‘ya on the beach” – days of Normandy are gone
- **Distributed Operations (DO)**
 - Increases the “nodes” that need support
 - Example ... at Battalion-level ... from 5 “nodes” to 27 “nodes” ?
- **Seabasing**
 - Support from afloat – vice the beach...
- **Sense & Respond Logistics (S&RL)**
 - Logistics “response” to Seabasing & DO

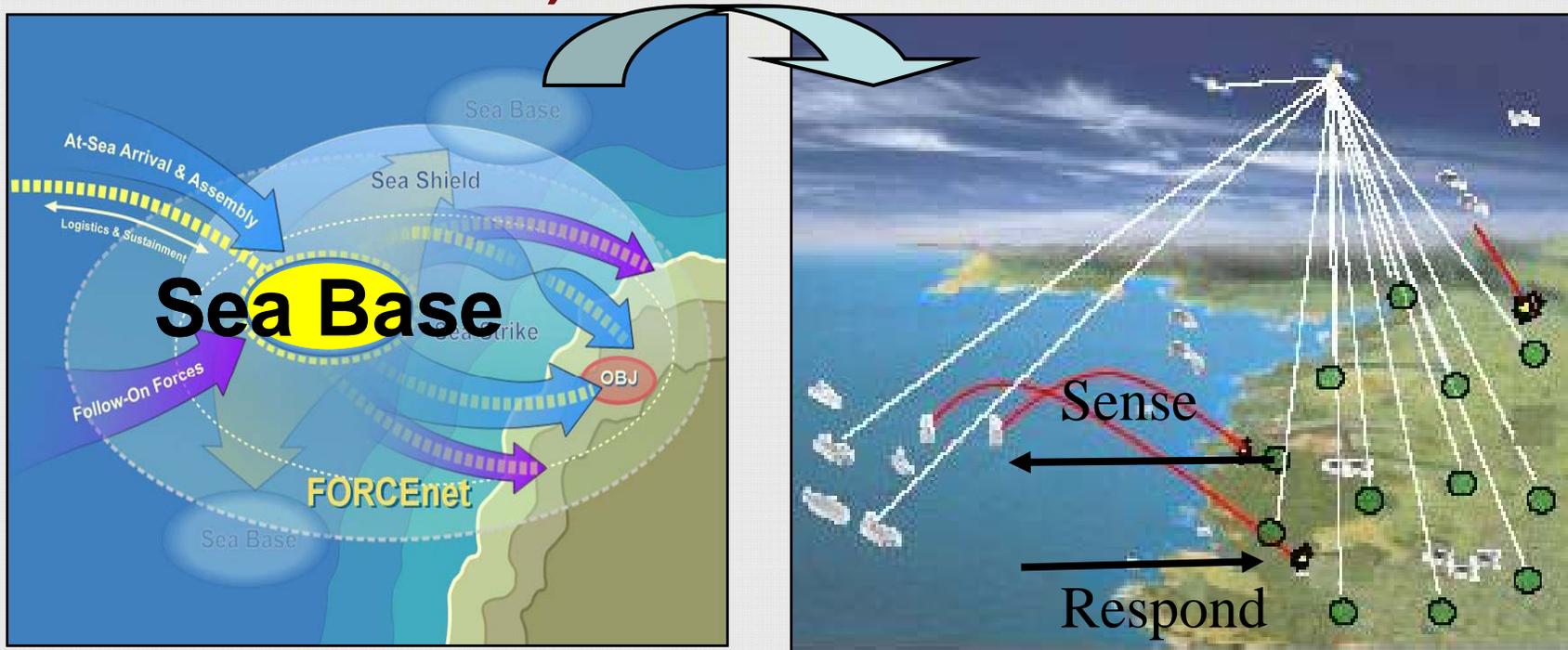
Sense & Respond Logistics Concept

- **Supply network is dynamic**
 - Supply doctrine anticipates reconfigurable supply nets
 - Emphasizes transportation flexibility over large inventories
- **Negotiation-based relationships**
 - Entities use commander's intent and situation awareness to negotiate and synchronize
 - Roles and commitments of entities are dynamically defined
- **Networks are difficult to analyze and attack**
 - More robust to node failure
 - Adapts to real-time demand driven by unit signals
- **Supports a more logistically agile force**
 - Network adaptivity allows logistics decisions to be made early

“Sense and Respond” Key Ideas

- **Demand can be unpredictable**, so success depends on speed of pattern recognition and speed of response
- Organizes Units and subunits into “**modular capabilities**” that negotiate with one another over commitments
- **Networks “self-synchronize”** via a common environment and set of shared objectives
- Uses IT for data sharing, “**knowing earlier**,” commitment tracking, and role reconfiguration
- The **best supply chain** is no longer one that is highly optimized, but one that is **highly flexible**

S&RL EC connects the Sea Base with the tactical operational picture by fusing information (e.g. Logistics, Maneuver, Fires, Intel, Force Protection & C2)



Anticipated “demands” from distributed operational forces ashore are dynamically supported from a **sea based Log/C2 system** that is paced with the heartbeat of operations

The Sea Based Log/C2 center assimilates, prioritizes, synchronizes and de-conflicts to achieve a focused and tailored logistics response to tactical forces

The Sea Base is much more than an automated, floating, forward supply point

Relationships

Amount of “*fight*” left
Relevant Log Status

Use Intelligent Agents to:
Planned vs. Actual
Potential COAs

Common
Operating Picture



LOG Decision
Support Tools

Intelligent Agents “transform” data

AL
“Services”

Sensors & Intelligent Agents

Platform

- Enables & Fuses Information
- What was planned
- What is being used
- “*How*” it’s being used

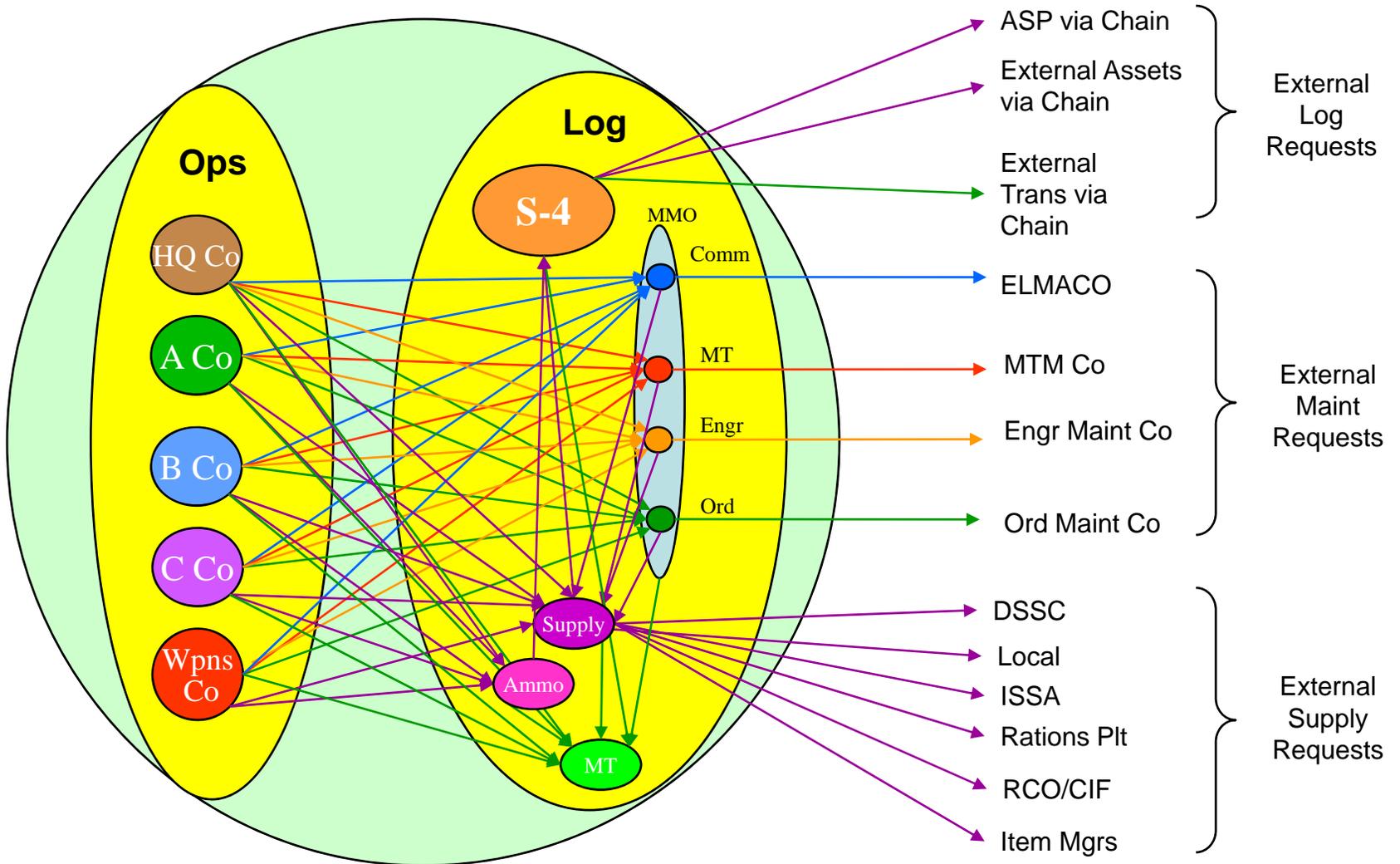
- Collect Data
- Determine “*what*” & “*when*” to transmit

How'd we get "HERE"...

What was the problem ???

Current Processes

Infantry Battalion



ISSUES...

- “**Warfighter**” is **VERY** involved in the process
- **Hundreds** of “**STOVE-PIPED**” logistics systems
- Many **DON'T** communicate/share data well...if at all !!!

How do we resolve....

- DEFINE THE **PROCESS**...
 - Looked at Industry ... “Best of Breed”
 - Used **SCOR Model** to evaluate
 - “Green them up”
- Results =49 Functional Flows
 - **Logistics Operational Architecture (Log OA)**
- What “else” do we need
 - **Combat Service Support Reorganization**
 - Realignment of Maintenance (ROM)
 - Realignment of Supply (ROS)
 - MAGTF Distribution
 - **Command & Control (of Logistics)**



**LOGISTICS
MODERNIZATION**

Logistics Modernization (LOG MOD)

- **Process**
 - *So you have to know “WHAT” you want to do...*
- **People**
 - *And – “WHO” you want to do it...*
- **Technology**
 - *Before you buy the “SYSTEM” that support it...*

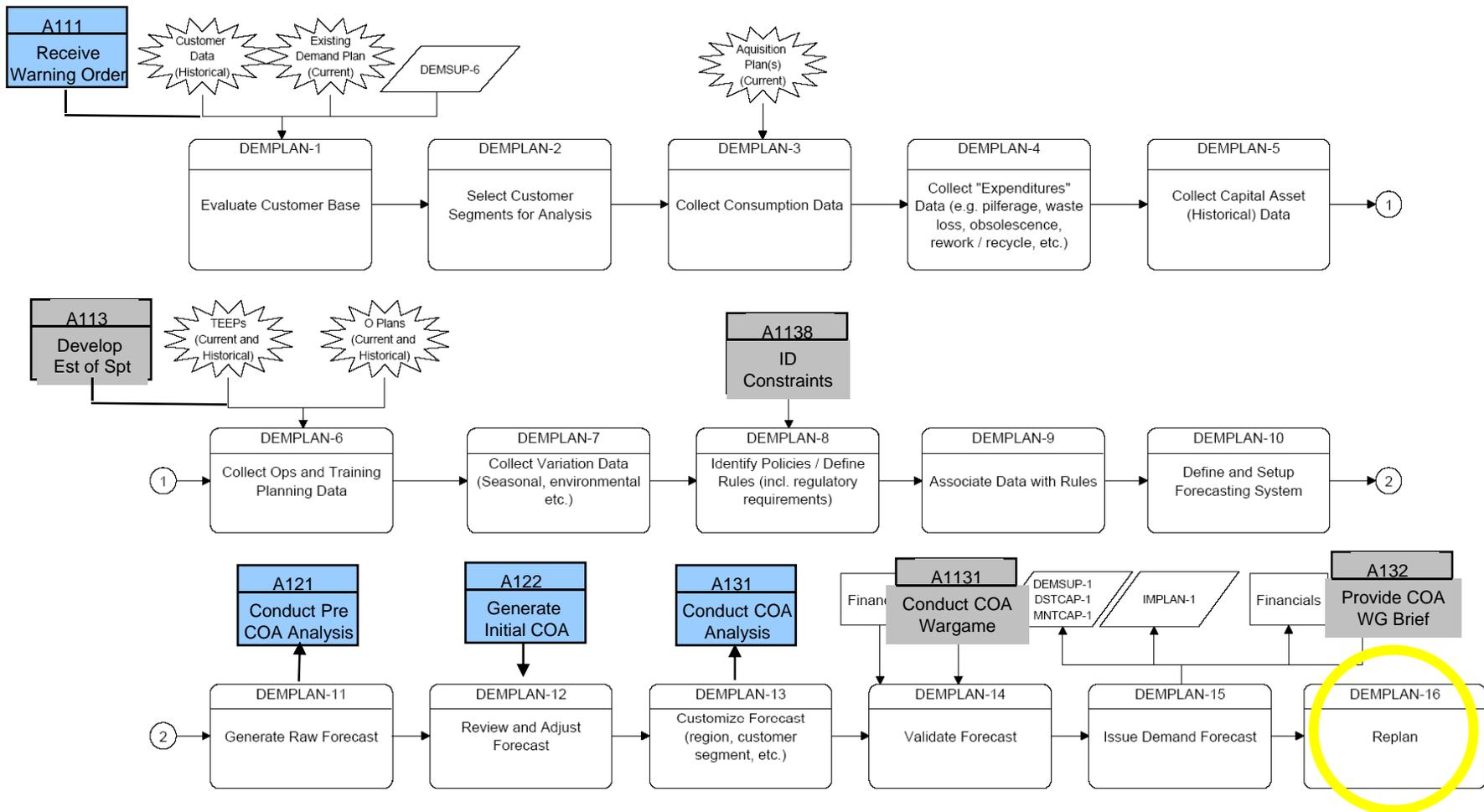
The **TECHNOLOGY** enables the **PEOPLE** to perform the **PROCESS** ...

PROCESS...

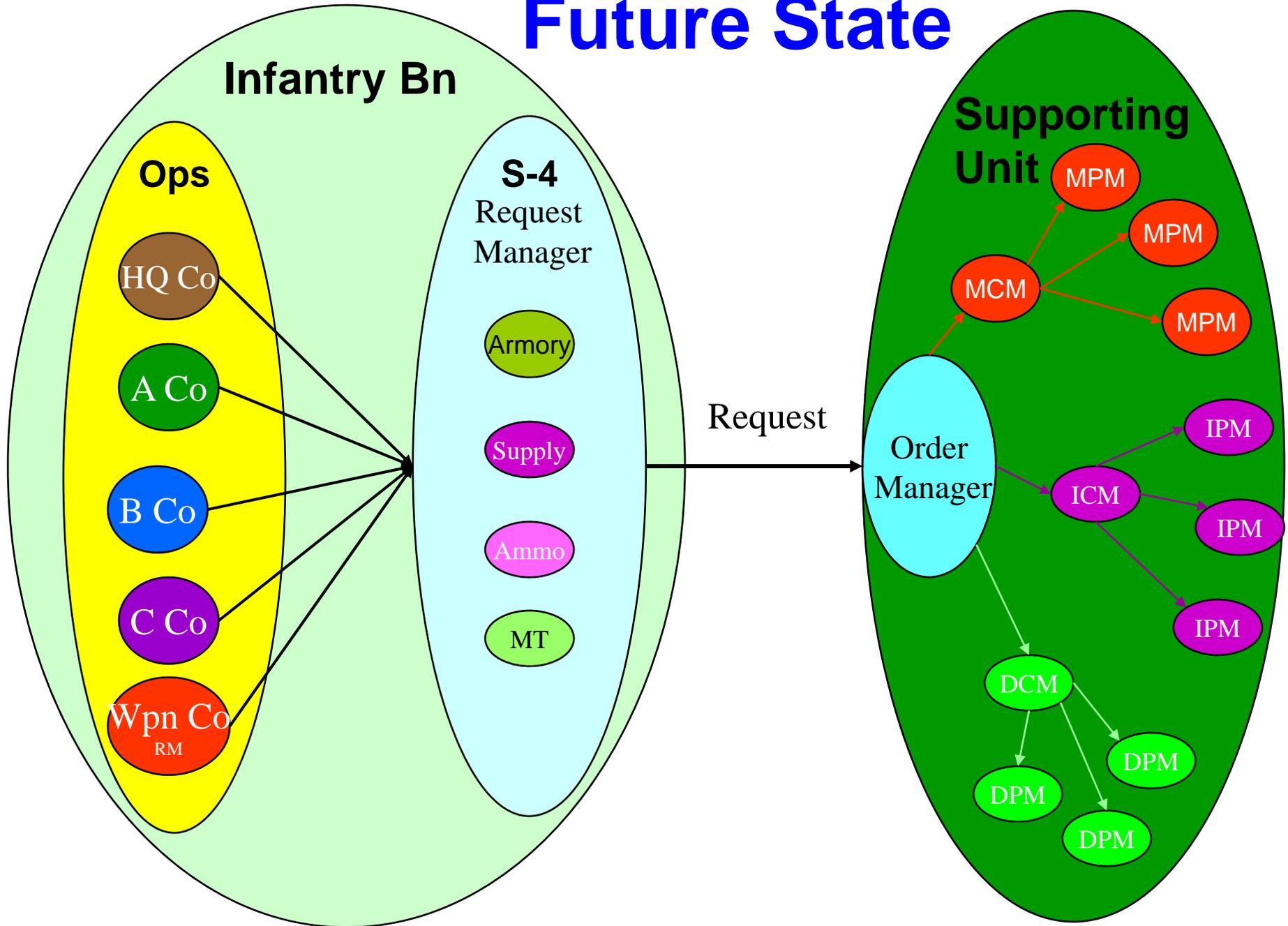
Example of a LOG OA Functional FLOW

Alignment Relationship Provides the IER

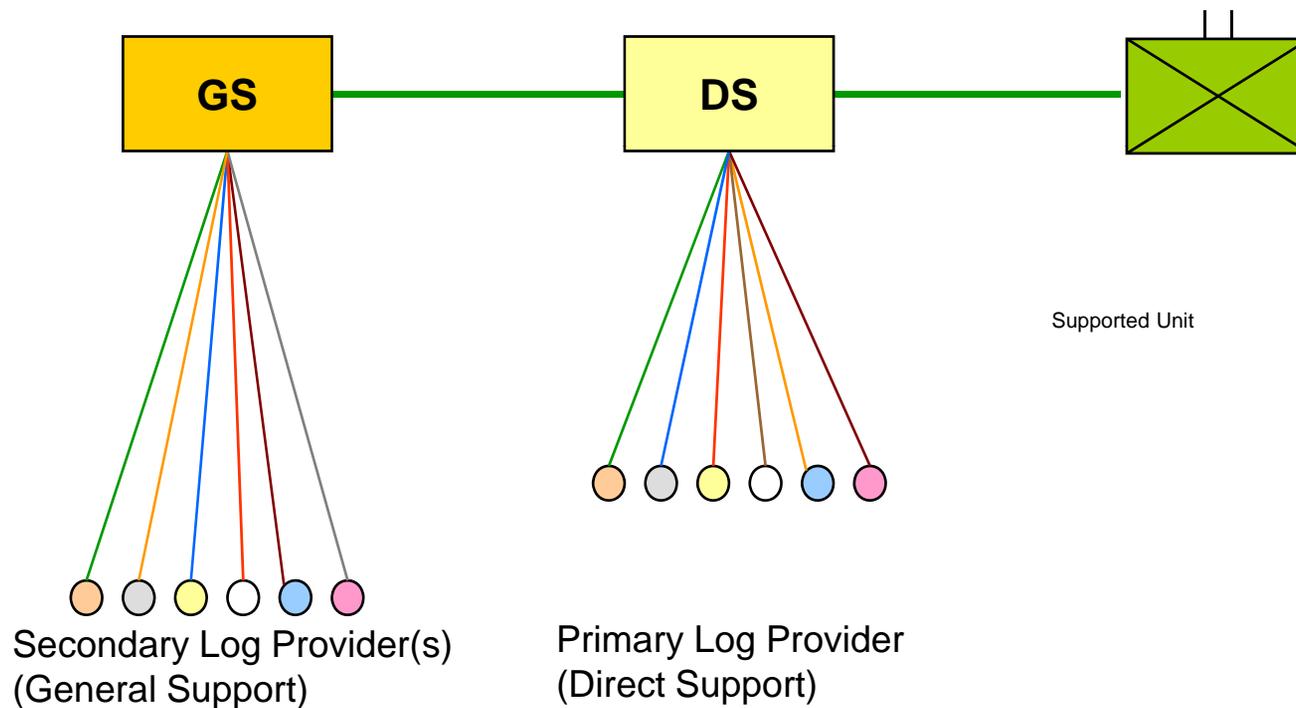
Demand Planning (Products & Services) (DEMPLAN)



Future State



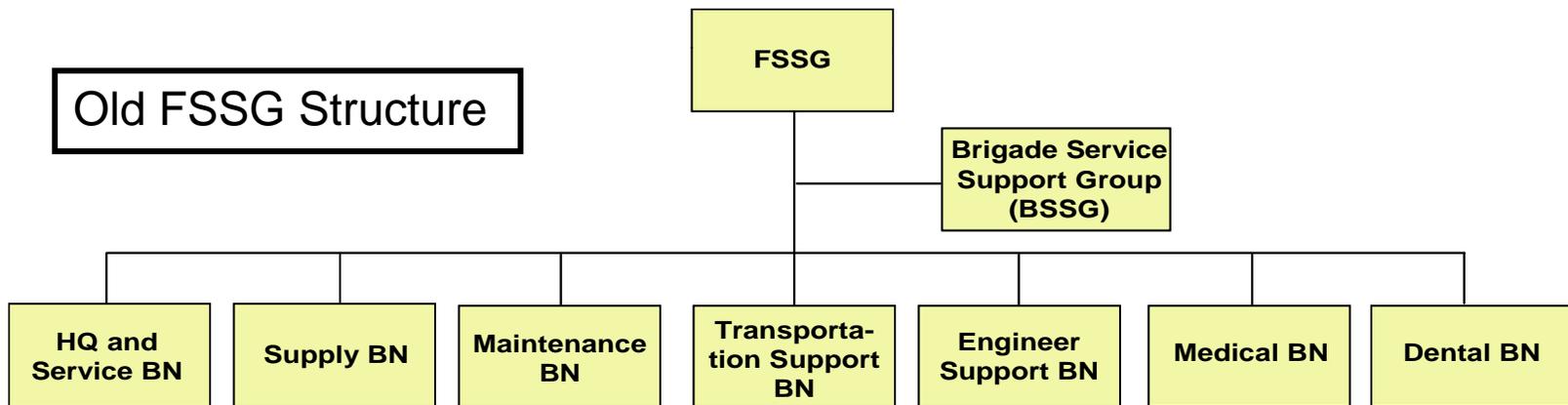
Logistics Operational Architecture (LOG OA) Where We Are Going ...



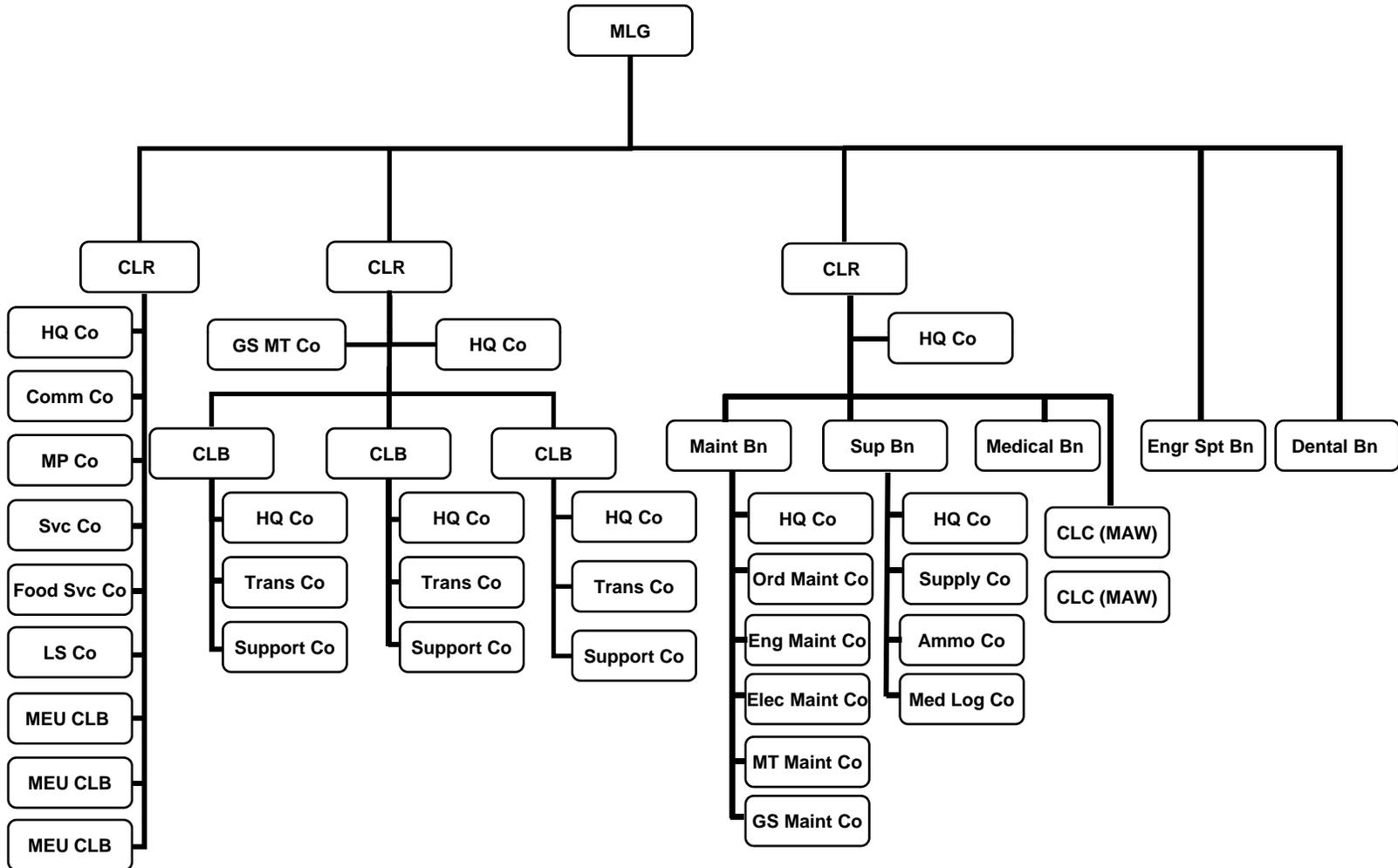
**Integrated, cross-functional,
end-to-end processes**

PEOPLE...

“OLD” FORCE SERVICE SUPPORT GROUP

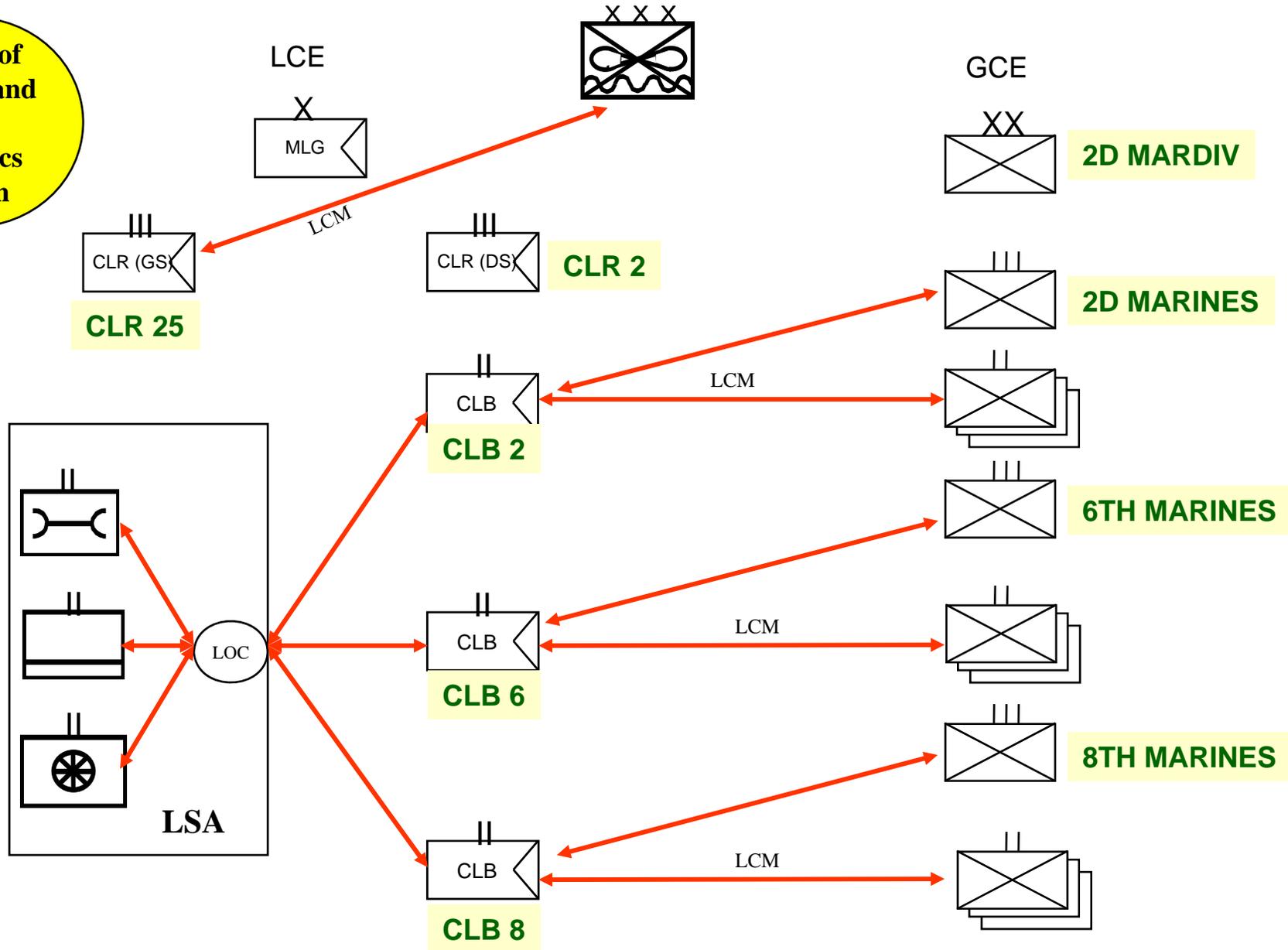


“NEW” MARINE LOGISTICS GROUP



NOTIONAL LOG RELATIONSHIP (Fulfillment/ LCM)

Chain of Command
vs
Logistics Chain



TECHNOLOGY...

GCSS-MC will enable the **PEOPLE** to perform the **PROCESS**...

GLOBAL COMBAT SUPPORT SYSTEM MARINE CORPS LOGISTICS CHAIN MANAGEMENT

GLOBAL COMBAT SUPPORT SYSTEM MARINE CORPS LOGISTICS CHAIN MANAGEMENT

BLOCK 1

LOGISTICS CHAIN PLAN (CUSTOMER)
 DEMAND PLANNING
 MAINTENANCE PLANNING
 INVENTORY PLANNING
 INVENTORY CONTROL (DEMAND SUPPLY)
 INVENTORY CAPACITY OPERATIONS
 MAINTENANCE CAPACITY PLANNING
 MAINTENANCE SCHEDULING
 DISTRIBUTION OPERATIONS MGMT
 MAINTENANCE OPERATIONS MGMT
 INVENTORY OPERATIONS MGMT
 ORDER MANAGEMENT
 REQUEST MANAGEMENT
 WAREHOUSE MGMT (INBOUND)
 MAINTENANCE FULFILLMENT
 PROCUREMENT FULFILLMENT

Future Capabilities

LIFE CYCLE MGMT	NETWORK DESIGN
ROUTE CONFIGURATION PLANNING	LOGISTICS CHAIN PLAN (PROVIDER)
FLEET CONFIGURATION PLANNING	FACILITY LOCATION CAPACITY PLANNING
MODE OPTIMIZATION PLANNING	TRANSPORTATION CAPACITY PLANNING
TRANSPORTATION ALLOCATION PLAN	FACILITY RESOURCE PLANNING
ROUTE AND SCHEDULE PLANNING	MODE PLANNING
DISTRIBUTION CAPACITY OPERATIONS	DISTRIBUTION CAPACITY PLANNING
MAINTENANCE ALLOCATION PLANNING	RETURNS PLANNING
MAINTENANCE CAPACITY OPERATIONS	CUSTOMER SERVICE PLANNING
ENGINEERING CAPACITY MGMT	PROCUREMENT PLANNING
ENGINEERING PRODUCTION MGMT	PROCUREMENT CAPACITY OPERATIONS
WAREHOUSE MGMT (OUTBOUND)	HEALTH SERVICES CAPACITY MGMT
DISTRIBUTION FULFILLMENT	GENERAL SERVICES CAPACITY MGMT
CUSTOMER SERVICE MGMT	PROCUREMENT OPERATIONS MGMT
	HEALTH SERVICES PRODUCTION MGMT
	GENERAL SERVICES PRODUCTION MGMT

FIELDIED TO I, II, AND III MEF, RESERVES, AND SUPPORTING ESTABLISHMENT

INTERNET INFRASTRUCTURE INTEGRATED DATABASE AUTOMATIC IDENTIFICATION TECHNOLOGY NCES INFORMATION ASSURANCE

“Bridge Solution Functionality” highlighted in RED

... **GCSS-MC** ...
the “M” in DOTMLPF

- **Logistics Chain Mgt (LCM Block 1)**
 - Tactical Focus
 - Replacement of Legacy Supply & Maint Systems
 - IOC = Oct 2008
- **Future Blocks**
 - Prioritizing & synchronizing requirements
- **Bridge Technologies**
 - What we have NOW ...
 - Some get replaced, some get “rolled” in...

BRIDGE TECHNOLOGIES...

What are they ???

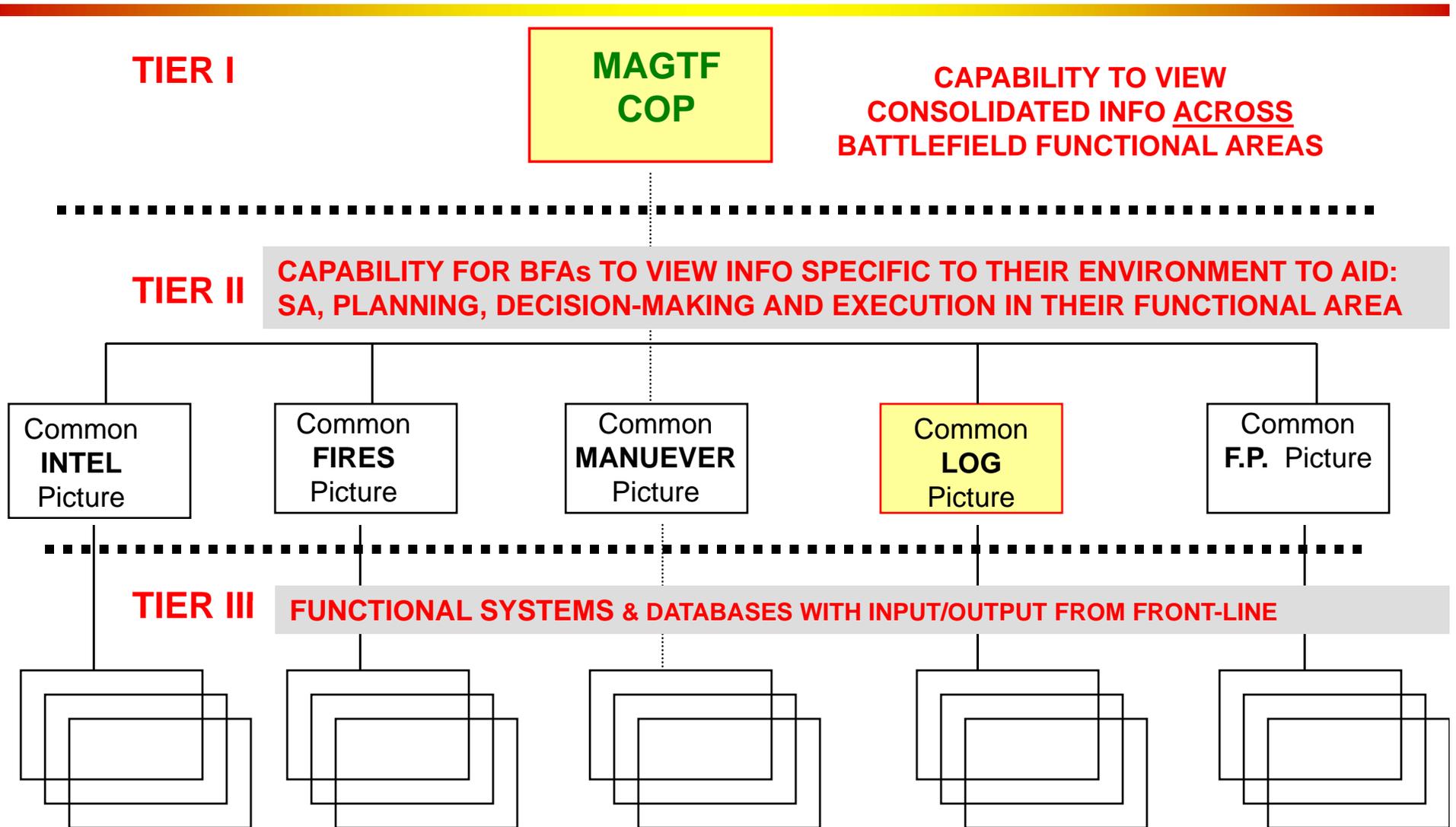
*Providing “urgent” capabilities
requested by operating forces
in support of Global War on Terrorism*

BRIDGE TECHNOLOGY DEFINITION

- Provides **Actionable** and **Decisionable Log Info**
 - Enables effective & timely logistics support to MAGTF
- Enables information sharing that:
 - Promotes process improvement
 - Supports structural and organizational changes
- Provides **User-Defined Operational Pictures** that allow logisticians to integrate actions from the strategic, operational, and tactical levels
- **Expected capabilities** to be fielded as part of future blocks of **GCSS-MC** or **MAGTF C2**

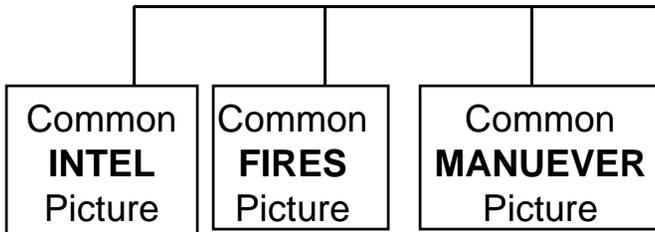
Where they fit...

MAGTF Common Operating Picture (COP)



MAGTF Common Operating Picture (COP)

JTCW



LOG DST

BRIDGE
TECH

GCSS-MC

ATLASS
&
SASSY

MIMMS

OIS

FUNCTIONAL LOG

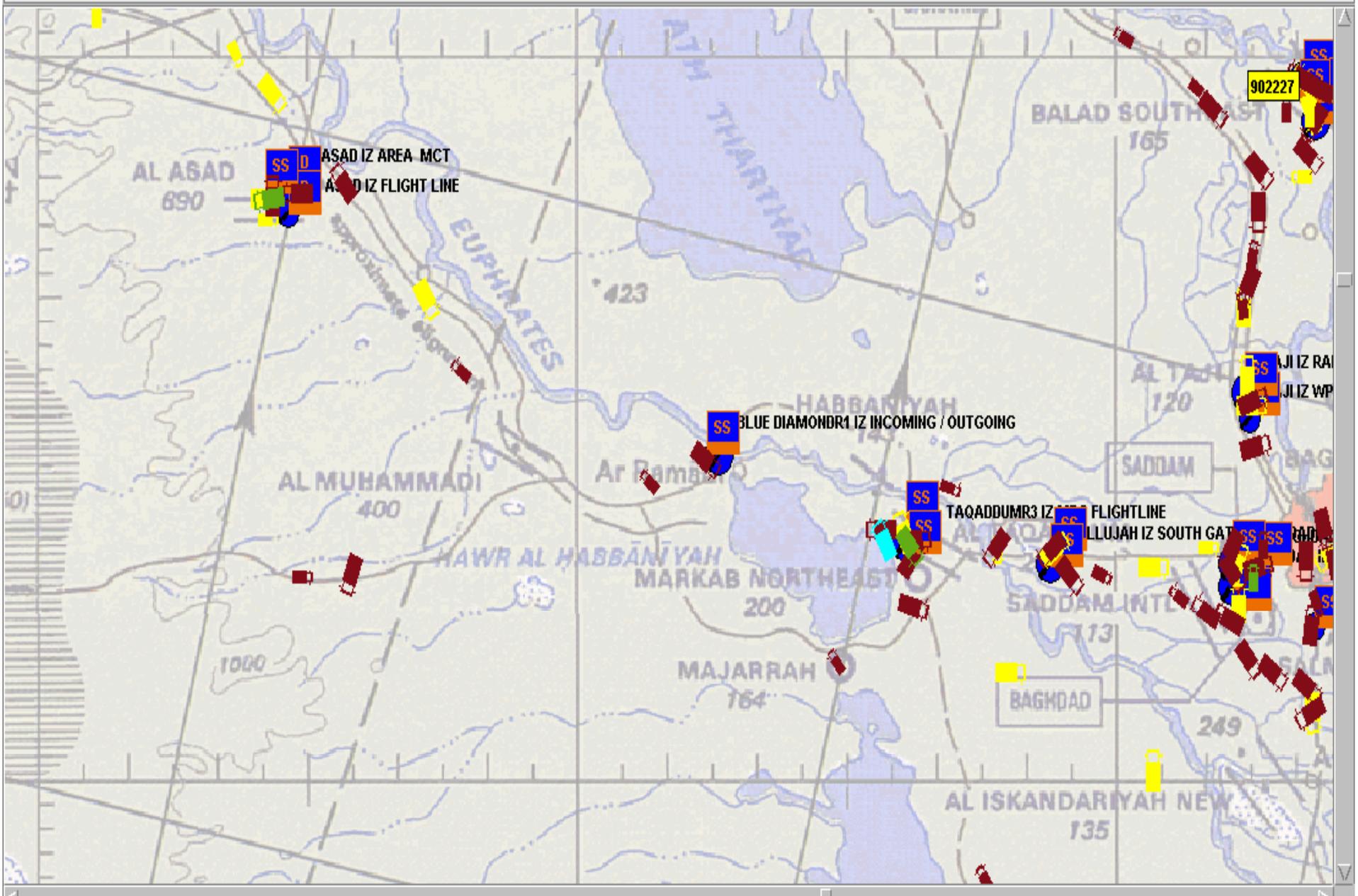
USMC Bridge Solutions

- **Battle Command Sustainment Support System (BCS3)**
 - Functional Logistics Info/Roll-up Display
- **Warehouse to Warfighter (W2W)**
 - Last Tactical Mile In-Transit Visibility
- **Transportation Capacity Planning Tool (TCPT)**
 - Monitor Mission Execution & Analysis Tool
- **Common Logistics Command & Control System (CLC2S)**
 - Planning and Tasking Tool
- **Marine Equipment Readiness Information Tool (MERIT)**
 - Readiness information

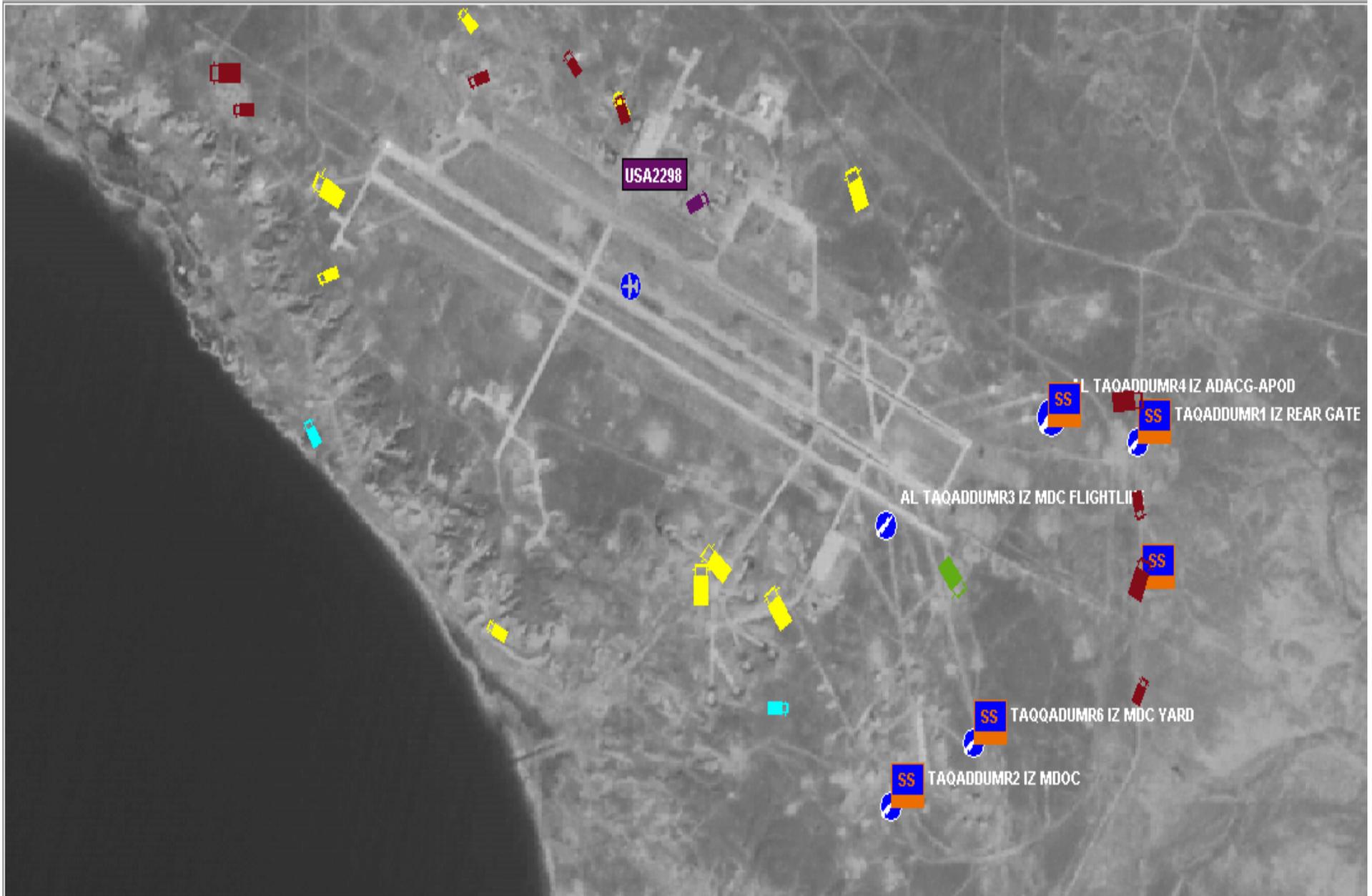
BCS3 CAPABILITIES

- **Roll-up of Functional Logistics Information**
- **ITV / Supply Pt Status / Log-related CCIRs**
- **Feeds include:**
 - **ITV / GTN / WPS / GATES / MERIT / MTS / IRIDIUM**
- **Scaleable, map-centric view in a User-Defined Operational Picture (UDOP)**

Op-View: CLR 25 Operational veiw



Op-View: Al Taqaddum Operation area



Warehouse to Warfighter (W2W) - Last Tactical Mile ITV

Breaking News!!
Project Manager
Currently
Transitioning To
Automated
Manifesting System-
Tactical (AMS-TAC)
centered solution as
LTM-ITV mobile kit
software application



Delivery List - Microsoft Internet Explorer provided by AT&T WorldNet Service

Address: http://demo1.systems.com/MTV/DeliverySessionWeb/Deliveries.aspx

LAST TACTICAL MILE IN TRANSIT VISIBILITY

Query Manifest View Delivery Mgmt Admin

Deliveries

Filter By: RUC: Status: EnRoute

Range: Date Started: To:

Full Name	Status	Convoy Tasker	GPS	Last Updated	Date Started
E3 Kenner	EnRoute	001	33.42 N 117.55 W 48866 97985	12/6/2004 7:21:00 PM	12/6/2004 4:18:00 PM
RUC/SaviTag	Items	Status	Last Position	Last Updated	Camp
M28333730640	23	In Transit	33.42 N 117.55 W 48866 97985	12/6/2004 7:21:00 PM	
Document Number	NSN	Nomenclature	UI	QTY	RC
M2833343287001	5930014918093	SWITCH ASSEMBLY	EA	0006	MC1
M2833343287004	2990014955214	CAP ASSEMBLY PROTEC	EA	0003	MC1
M2833343287005	4730014809039	STACK EXHAUST	EA	0001	MC1
M2833343287006	5340014701257	CLAMP LOOP	EA	0001	MC1
M2833343287007	2510014793031	FENDER VEHICULAR	EA	0001	MC1

start | Inbox... | ITLTM B... | 4 Inter... | Wienna... | 2:25 PM Monday

W2W CAPABILITIES

- **“Sustainment in motion”**
 - Vice current “nodal” capability
 - No longer tied to Interrogator Network
- **Linking truck to contents on back**
- **Provides Confirmation of delivery**
 - To Forward Operating Bases
 - Supported Unit

WHY THIS IS IMPORTANT TO US...

- Can actually measure LTM OST/CWT
- How fast am I making my “turns”
 - Where are the bottle-necks
- Better Plan and Allocate Resources
- Capacity Management

TCPT CAPABILITIES

- Logistics Commander's "**Digital Dashboard**"
 - Roll-up of unit (CLB / CLR/ Funcational Bn) Status Boards
- Web-based aid in the **EXECUTION** of CSS-centric missions
 - Commander's EEIs and CCIRs
 - Rudimentary Shared Data Environment (SDE) for Logistics Info
- Monitor **Mission Execution & Analysis Tool**
 - **Graphic Mission Tracker** ... Provide visual cues to mission execution
 - **Electronic Watch Log**
 - **Transportation Capacity** ... What can I move right now?
 - **Personnel** ... Can't move trucks without drivers

TCPT Transportation Capacity Planning Tool

Welcome, 2nd FSSG User

Menu | **BigBoard** | Personnel | Equipment | Capacity | Run Roster | Mission Tracker | WatchLog | Reference Info | Update Profile | Admin | Log Out

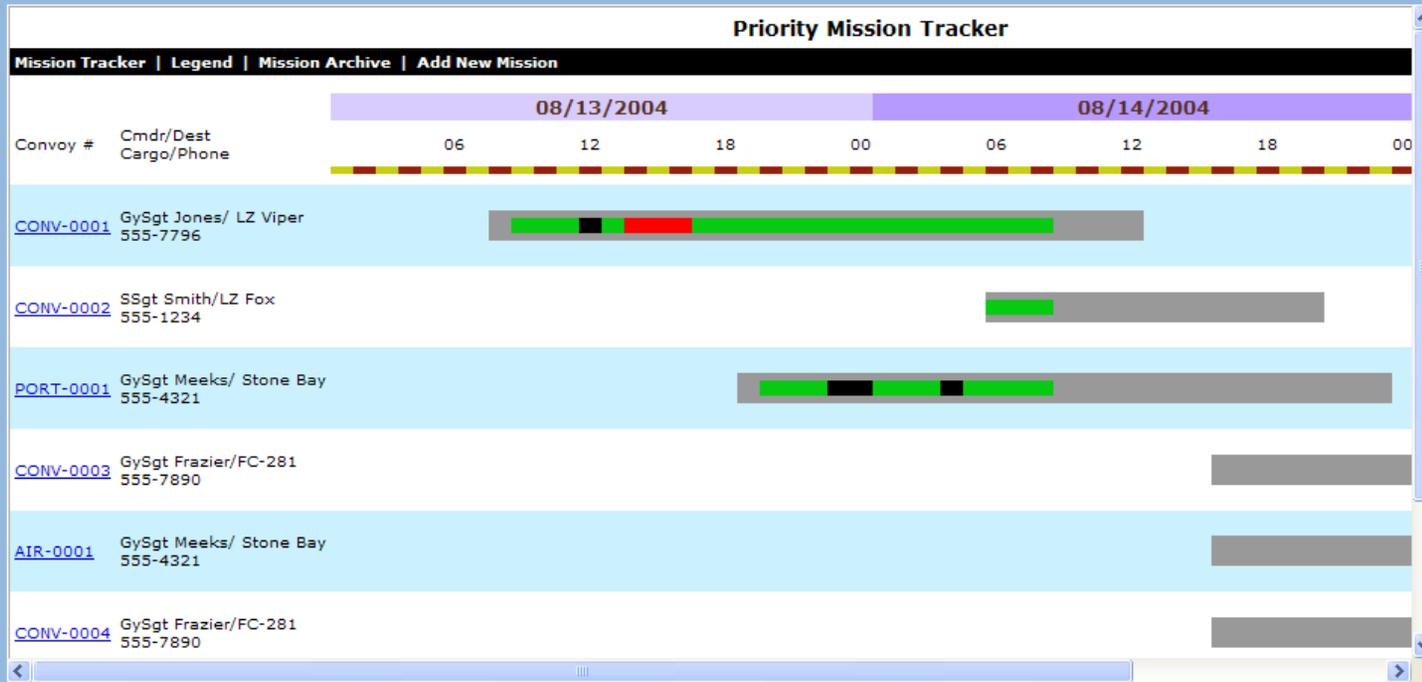
Local Time: 14:48
Zulu Time: 19:48

2nd FSSG Personnel Overview					
Unit	Daily Totals				
CSSD 25	126	119	119	126	119
CSSD 28	119	126	126	119	129
CSSD 29	126	119	119	126	119
Totals	371	364	364	371	364

2nd TSB Capacity Overview	
Description	Daily Capacity
On-Road ST	● ● ● ● ●
Off-Road ST	● ● ● ● ●
Quadcon	● ● ● ● ●
ISO Containers	● ● ● ● ●
463L Pallet	● ● ● ● ●
Whse Pallet	● ● ● ● ●
Fuel (On-Road)	● ● ● ● ●
Fuel (Off-Road)	● ● ● ● ●
Water (Bulk)	● ● ● ● ●
Water (Unit)	● ● ● ● ●
Troop Movement	● ● ● ● ●
5k Lifts_HR	● ● ● ● ●
10k Lifts_HR	● ● ● ● ●
7.5 Ton	● ● ● ● ●
25 Ton	● ● ● ● ●
ISO Lifts	● ● ● ● ●

Network Status	
NIPRnet	●
SIPRnet	●
Cell	●
Tactical Phone	●

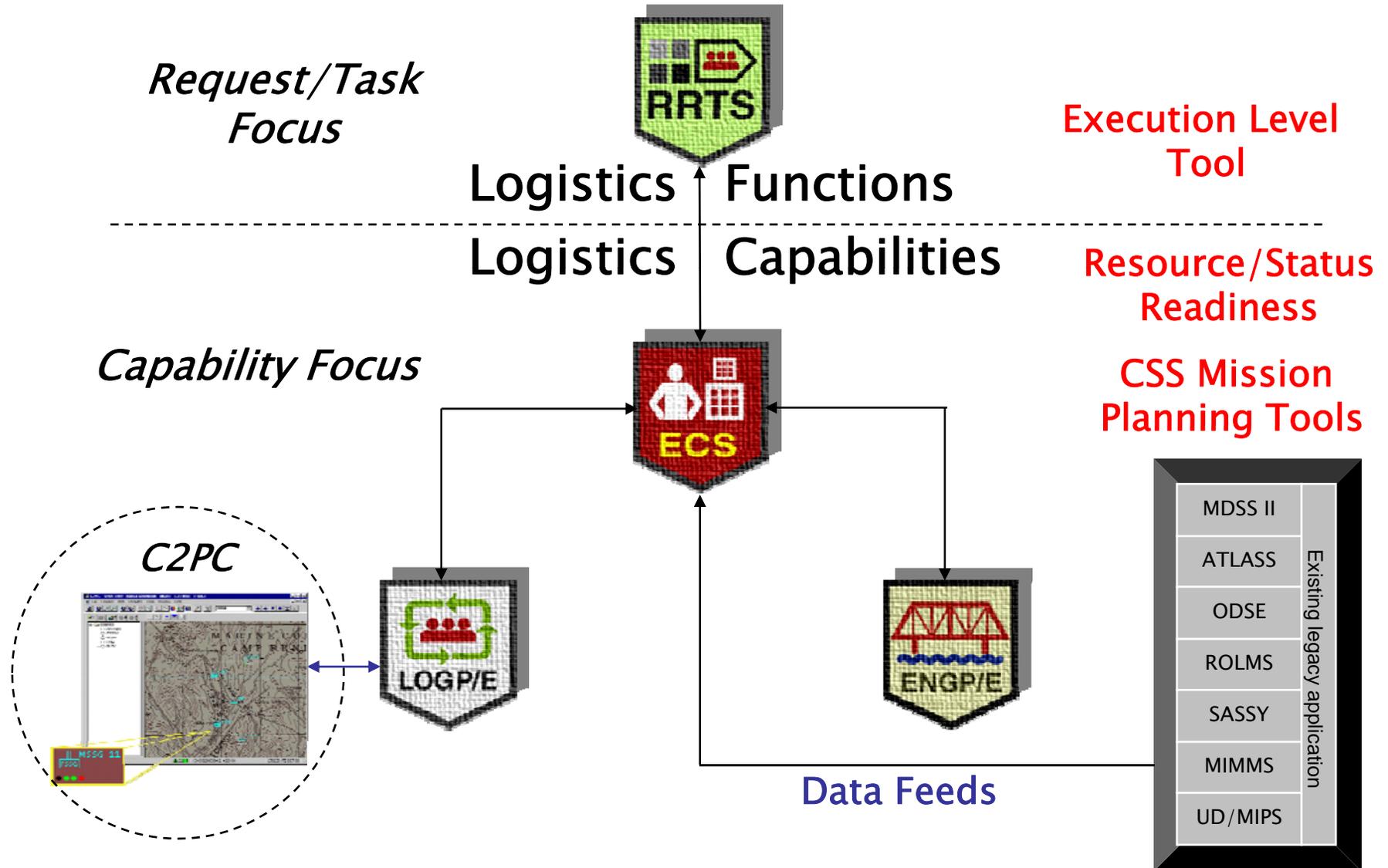
WatchLog			
Date	ZULU Time	Comment	Entered By
08/13/2004	17:45	Taskers acknowledged by Alpha Company	System
08/13/2004	17:43	Taskers Acknowledged by Charlie Company	System
08/13/2004	17:30	HST has departed LZ Phoenix to conduct lifts with HMM-365	Cpl. Huffman
08/13/2004	17:25	Run Roster committed by S-3 Watch Chief. Ready for Company review.	System
08/13/2004	17:05	Convoy CONV-1234 under fire	LCpl. Binotz
08/13/2004	17:00	Port Op PORT-8765 reports arrival of ship delayed due to weather.	Ssgt. Smith
08/13/2004	16:55	Run Roster planning phase complete. Ready for S-3 Watch Chief review.	System
08/13/2004	15:45	Convoy CONV-1234 has departed for LZ Viper	SSgt. Sanders
08/13/2004	13:05	Tasker #4569 REJECTED by TSB Watch Clerk	System
08/13/2004	13:05	Tasker #4565 REJECTED by TSB Watch Clerk	System



CLC2S Capabilities

- Provides Commander with capability to unify actions and events occurring within C2, Log OA, and LCM
- Allows Logistics Commanders to view & monitor assigned missions & tasks
- Supports logistics mission planning and estimates of supportability
- Injector into Common Operating Picture

Common Logistics Command & Control System (CLC2S) Component Relationships



MERIT CAPABILITIES

- Web-based equipment readiness reporting tool
- Graphic depiction of USMC readiness
 - User-defined view
 - Scalable from Enterprise to Battalion-level
- Drill-down capability
 - Legacy Supply & Maintenance data



MARINE CORPS EQUIPMENT READINESS INFORMATION TOOL

Home | Readiness by Commodity | Readiness by Functional Area | Customize | Contact | Help



Logout

BY TAMCN

USMC By MEF

I MEF

II MEF

III MEF

MARFORRES

HAWAII

MPF

DEPLOYED MEF

BP&S

"Current" Calculations As Of: Fri, Nov 07 2003

GROUP	SIZE	COLOR
Commodity Code	S rating - Current	MR rating - Current
A1503	A23...	B04... B09... B24... B00... B08...
D...	A20... A19... A19... A10... A08...	B10... B20... B11... B01... B06...
2...	A20... A13... A25... A15... A04...	B19... B06... B01... B12... B10...
D...	A23... A12... A02... A08... A08...	B01... B10... B00... B2... B03...
B...	A00... A00... A06... A25... A08...	B09... B05... B00... B01... B26...
2...	A18... A15... A21... A20... A21...	B24... B21... B09... B15... B07...
4...	A04... A20... A80... A21... A25...	B10... B25... B12... B00... B256...
0...	A32... A32... A21... A20... A19...	B04... B25... B00... B26... B104...
0...	A14... A02... A80... A08... A80...	D100... D08... D11... D11... D10... D02...
1...	A00... A14... A12... A25...	D115... D11... D08... D02... D12... D08...
0...	A15... A20... A80...	D100... D02... D01... D10... D10... D02...

FILTER BY PROBLEMS
TAMCNs with problems in every checked area will be displayed.

	Current	This Month	This Quarter	This Year
MR <85	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
S <90	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
R <85	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- FILTER BY ITEMS**
Selected items will be shown.
- I MEF Camp Pendleton- CA
 - II MEF Camp Lejeune- NC
 - III MEF Okinawa- JP
 - IV Reserves
 - Hawaii
 - Prepositioned (MPS/NALMEB)
 - Deployed MEF
 - Bases Posts and Stations

Currently displaying: 171 of 1176 items

Search By: TAMCN # e

Search By: TAMCN Title

Filter by Current Excess

Label by Current Excess

Show Only Pacing Items

FILTER BY SEARCH CRITERIA EXCESS FILTER & LABEL FILTER BY PACING ITEM



NAVAL AVIATION
MARINE CORPS EQUIPMENT READINESS INFORMATION TOOL



I MEF Camp Pendleton, CA: S (91%), R (88%), MR (80%)

II MEF Camp

Home | Readiness Map | Search | Customize | Contact | Help

Logout

System | Maintain | Monitor | Run

J-TAMCN-3



READINESS FOR Org Level: MEF = 3 Equip Level: TAMCN = B2604

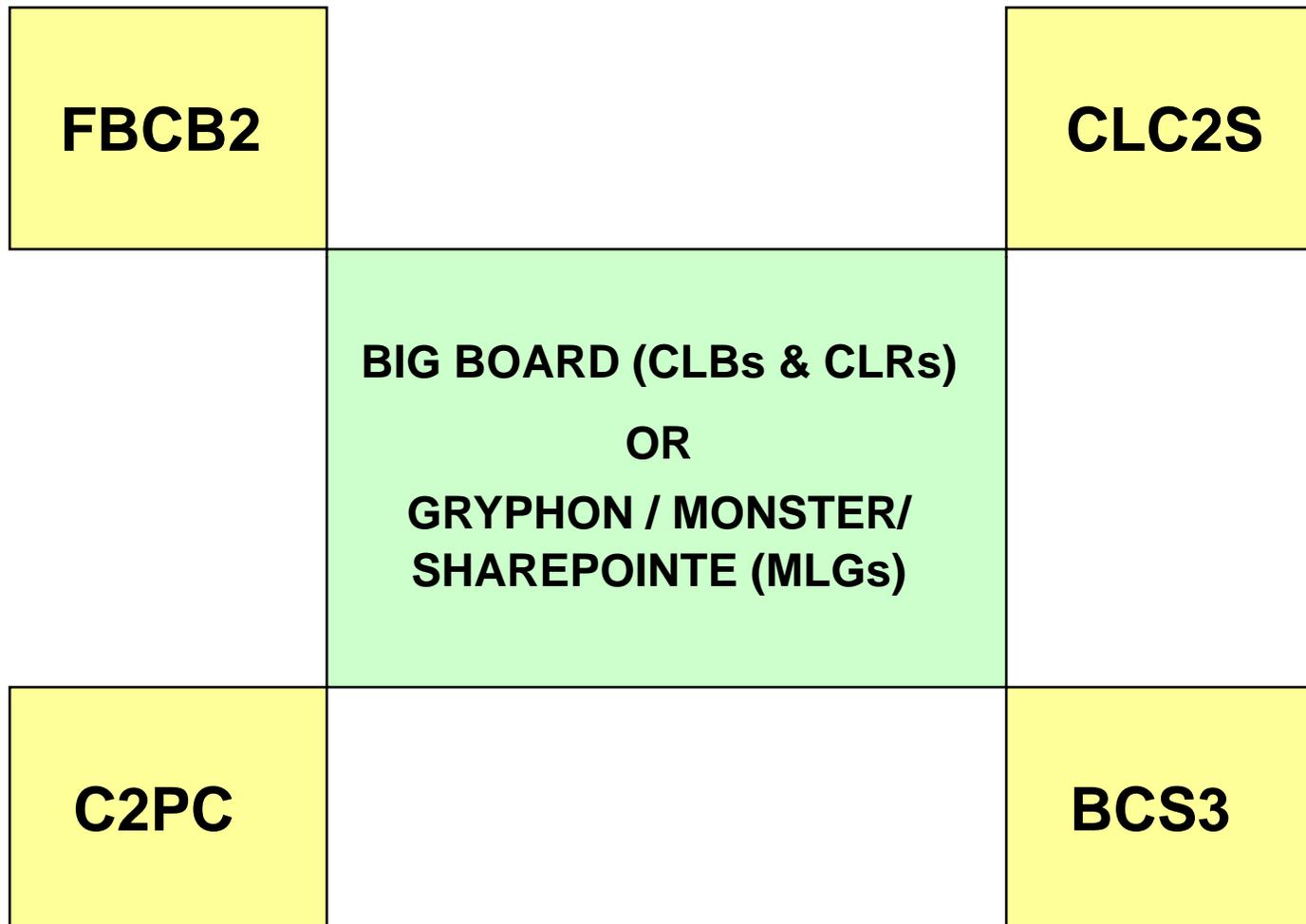
As Of: Fri, Nov 07 2003

MEF ↑	MSC	UNIT	PACE ITEM	TAMCN	WSDC	REMARKS	AUTH	POSS	D/L	S	R	MR
III MEF Okinawa, JP	FIRST MAW (M00101)	MWSS-171 (FMW) (M00171)	NO	B2604	NBM	YES	9	9	0	100%	100%	100%
III MEF Okinawa, JP	FIRST MAW (M00101)	MWSS-172 (RMW) (M00172)	NO	B2604	NBM	YES	6	6	1	100%	83%	83%
III MEF Okinawa, JP	THIRD MARDIV (M13000)	CAB 3RD MARDIV (M21800)	NO	B2604	NBM	YES	2	2	1	100%	50%	50%
III MEF Okinawa, JP	31ST MEU (M19102)	MSSG-31 (M29048)	YES	B2604	NBM	YES	2	2	0	100%	100%	100%
III MEF Okinawa, JP	THIRD FSSG FMFPAC (M29000)	9TH ENG BN (M29100)	YES	B2604	NBM	YES	33	33	15	100%	55%	55%
III MEF Okinawa, JP	THIRD FSSG FMFPAC (M29000)	CSSG-3 (M69009)	YES	B2604	NBM	YES	4	4	0	100%	100%	100%
GRAND TOTAL							56	56	17	100%	70%	70%

THE FUTURE...

***CAPABILITIES MIGTATION
BETWEEN
MAGTF C2 & GCSS-MC***

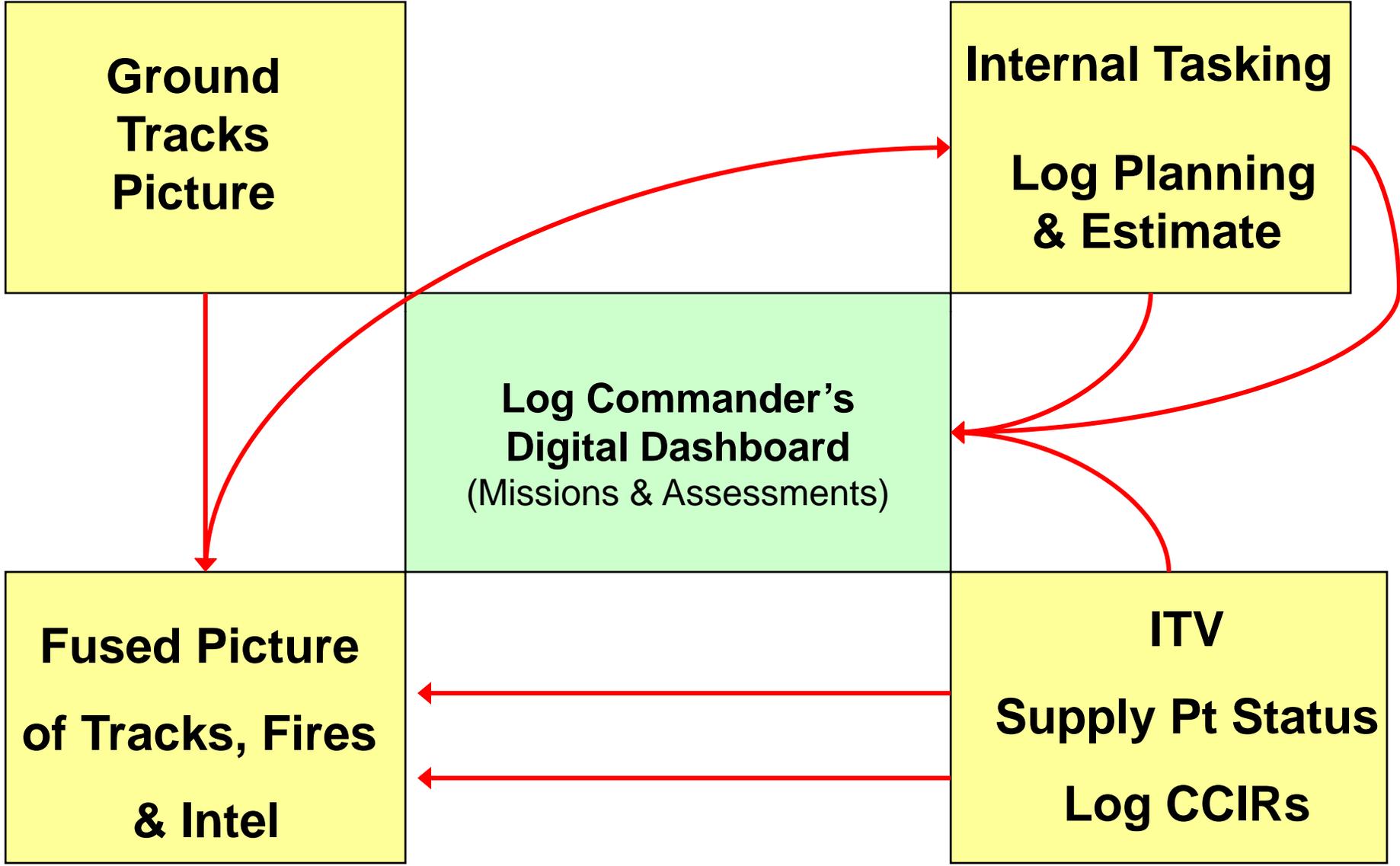
LOC “5” Screens – Systems View



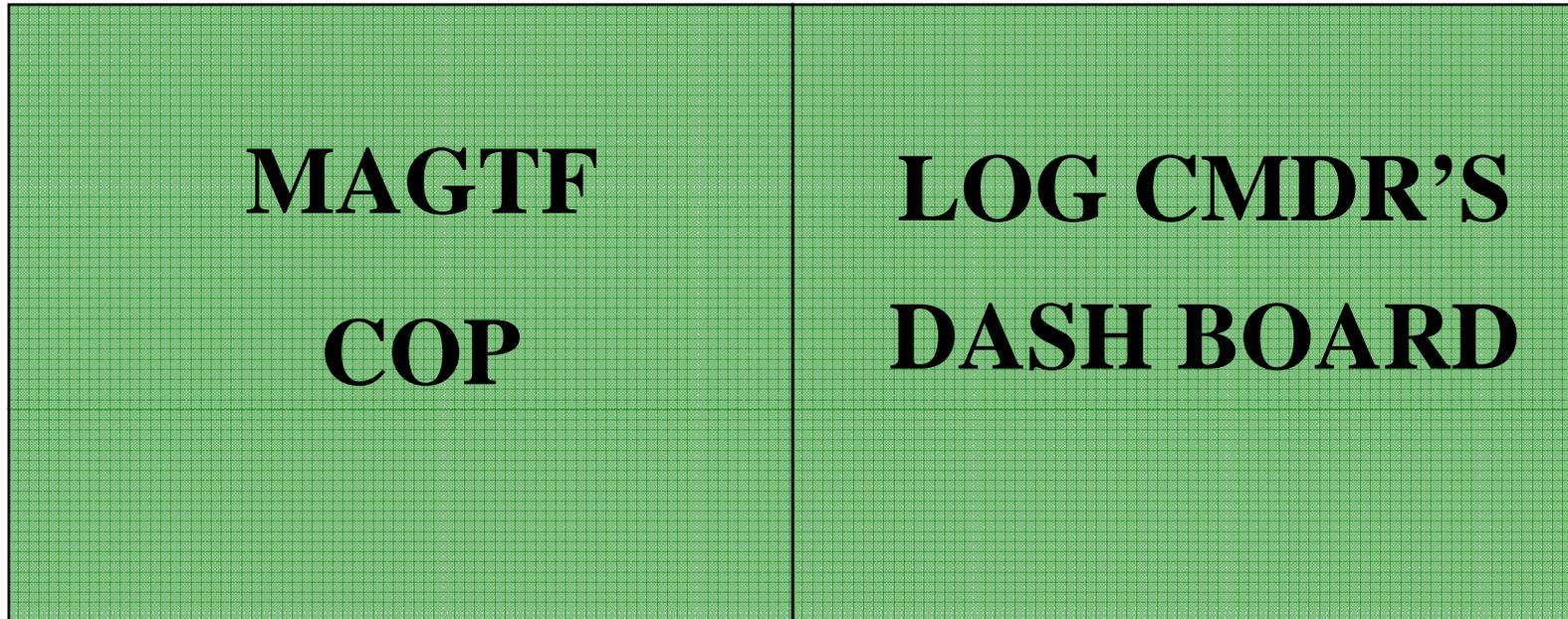
“5” Screens – Capabilities View

Ground Tracks Picture		Internal Log Tasking & Log Planning & Estimate
	Log Commander's Digital Dashboard (Missions & Assessments)	
Fused Picture of Tracks, Fires, & Intel		ITV Supply Pt Status Log CCIRs

“5” Screens – Capabilities “Migration”



2 “Screens”



Log Injectors:

- Amount of “fight” left in platform / unit

Log Services:

- ITV & Supply Pt Status

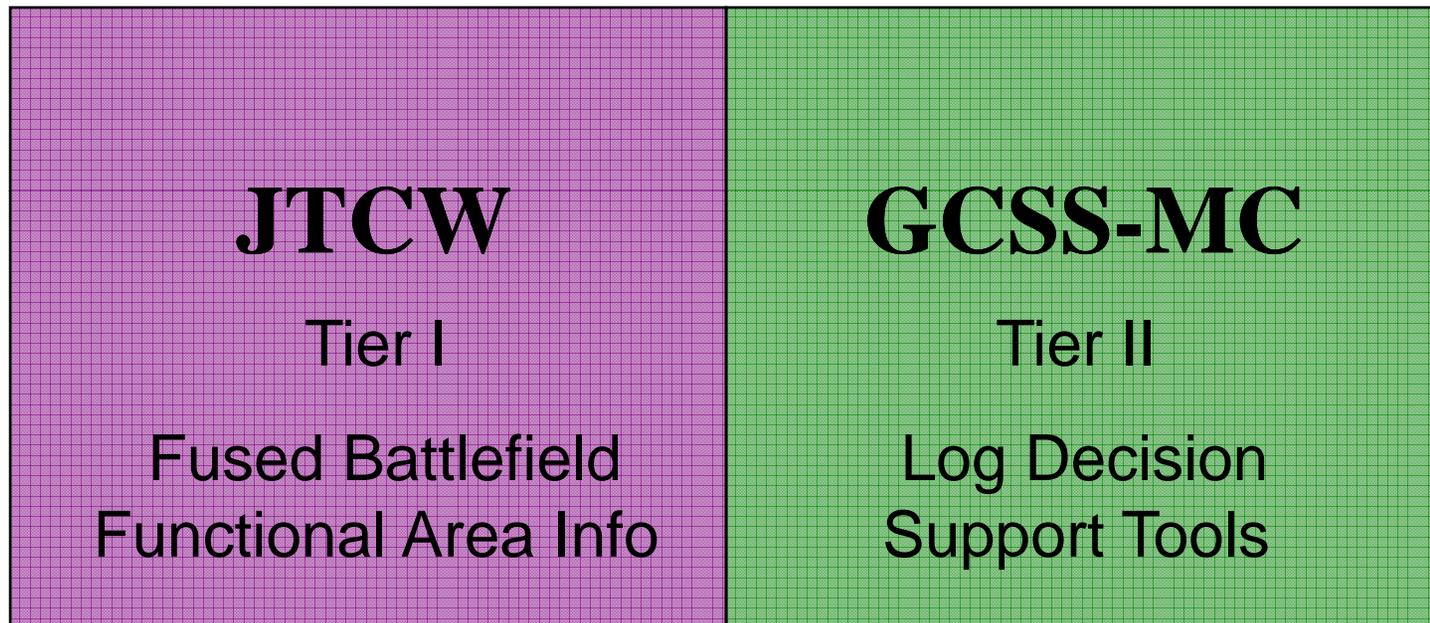
Common Log Picture

Assessments within GCSS-MC

Info Exchange iot enable:

- Operational Planning
- Log COA Development
- Estimates of Supportability

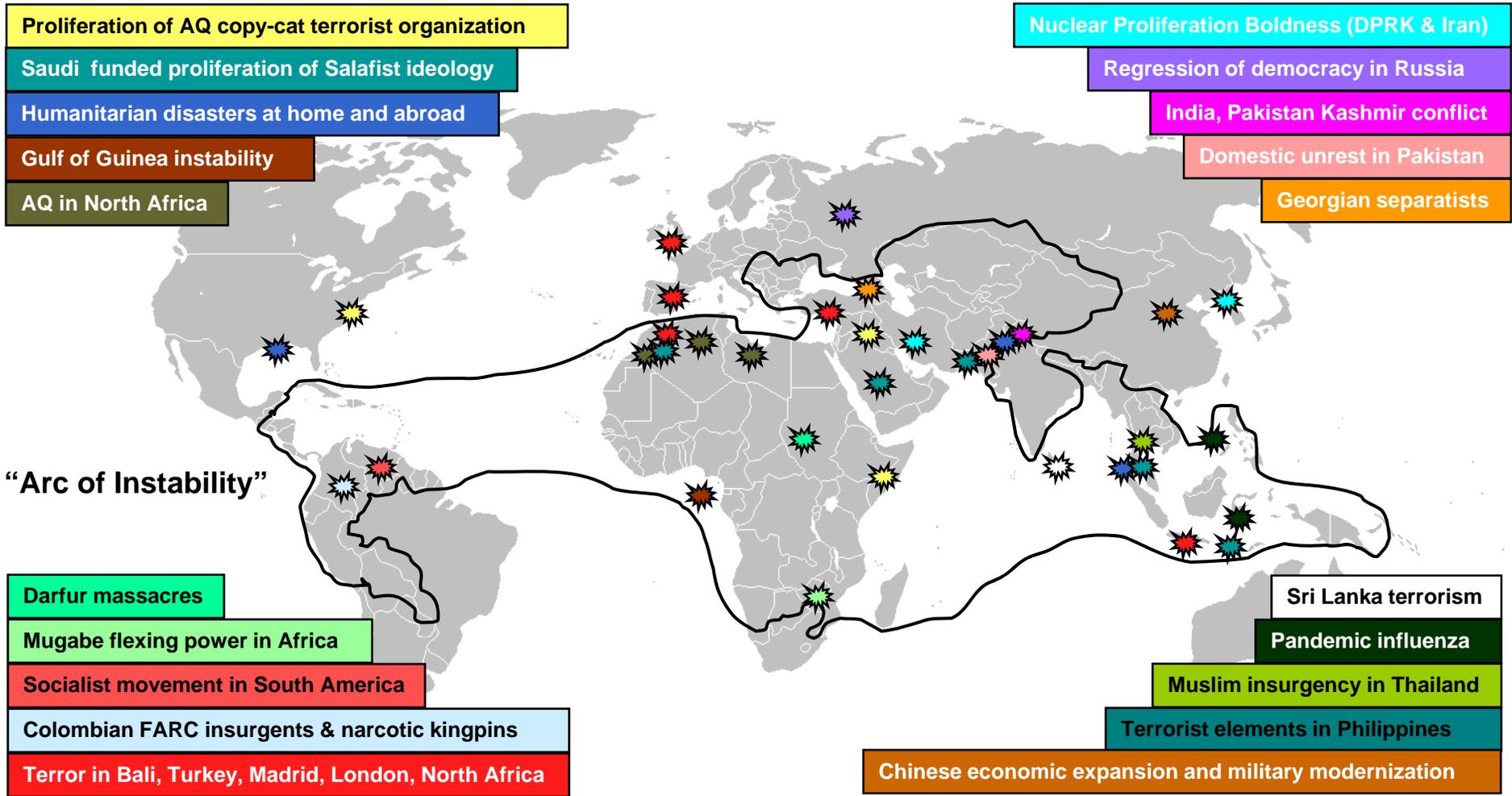
2 “Screens” – Systems View



Why am I telling you this...

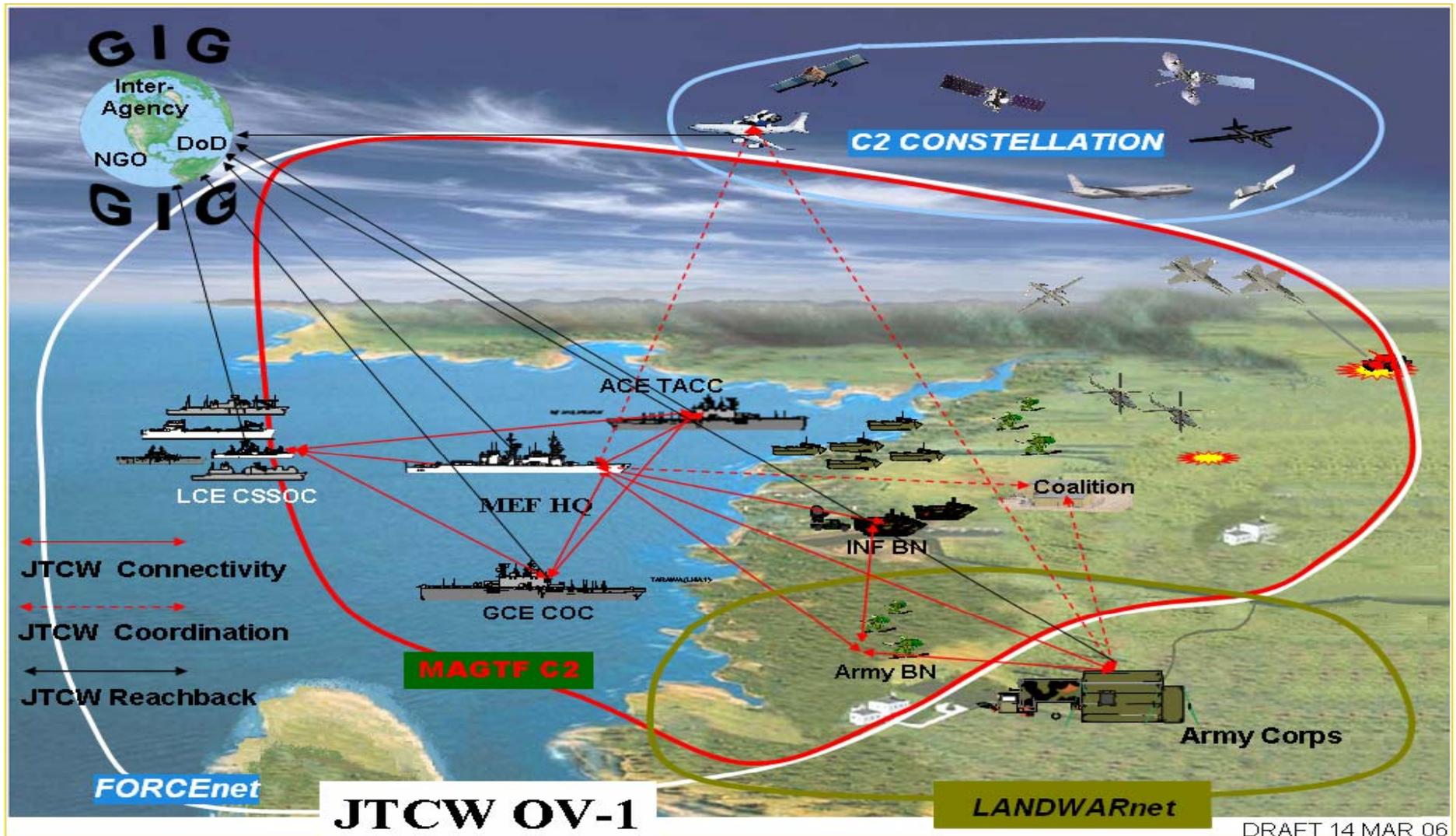
The Reality...

The Global Reality

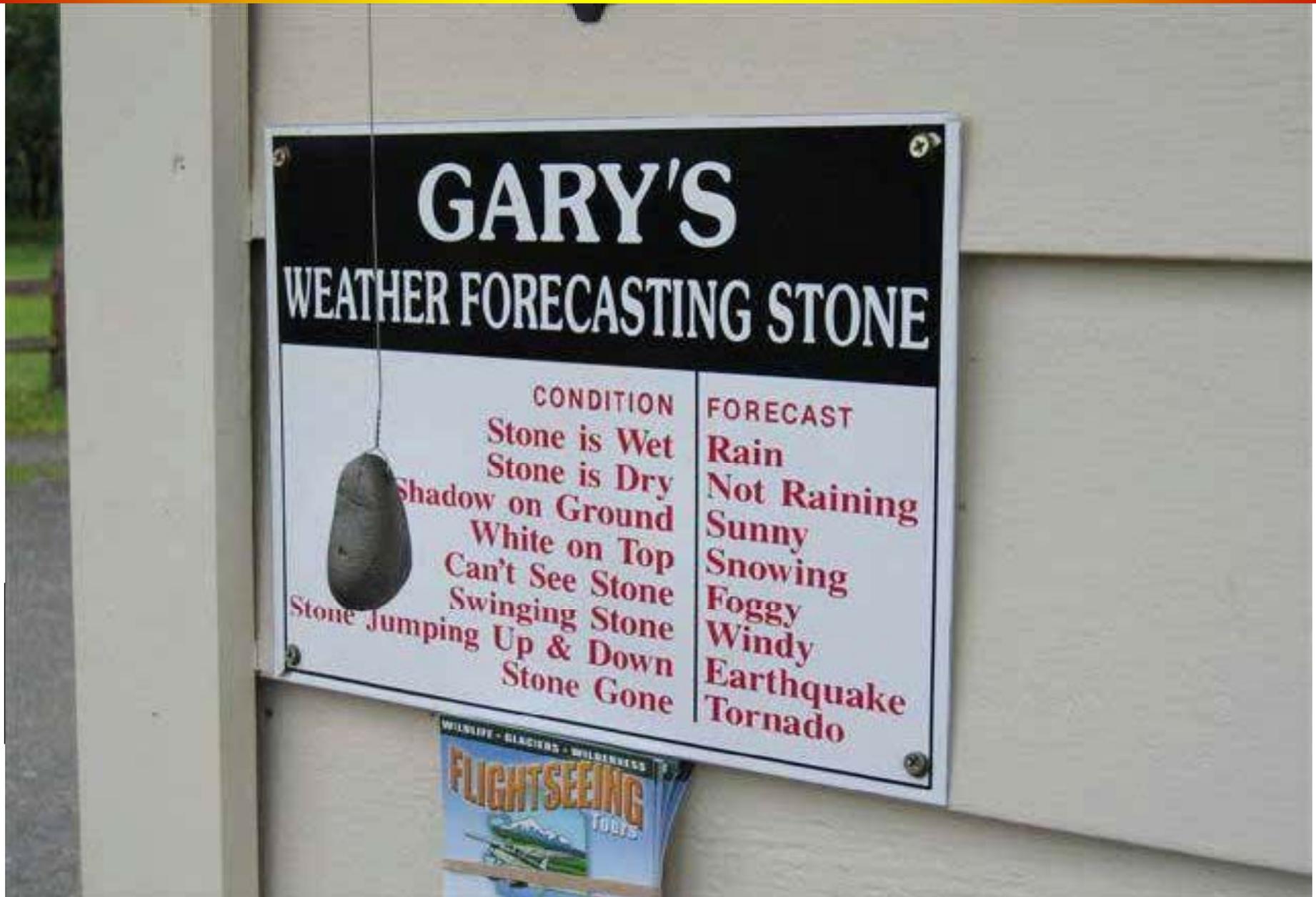


...will demand a sustained forward presence

Operational View



Technology Leverage vs. Technology Reliance



USMC GOAL

C2 & LOG

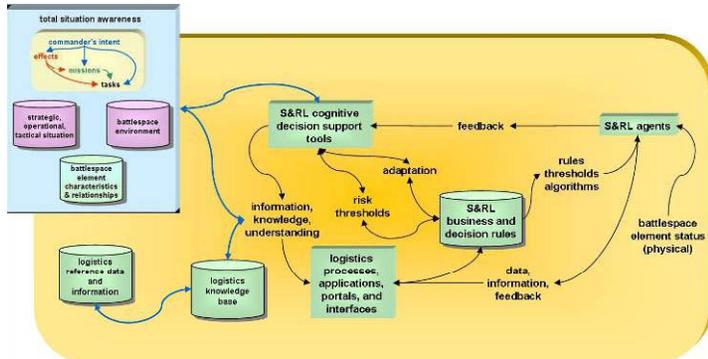
Marines on a staff should not chase data -- they should act upon the *resulting* information that the Intelligent Agents collect & present on a dedicated basis.

GAPS...

- For **AL**
 - Intelligent Agents on platform that control mvt of data / info “off”
- **AL Services**
 - Intelligent Agents & DST that transform data to info
- **MAGTF C2**
 - Amount of fight left in platform & Unit
 - Mult-Level Security (MLS) – sharing info cross-domains
 - Blue Force Situational Awareness (BFSA) Convergence
- **GCSS – MC**
 - Intelligent Agents and Decision Support Tools
 - Planned v. Actual
 - Assessments – Am I doing things right & am I doing the RIGHT things
 - Log COA Development & Injection back into MCPP

Altering Initial Conditions: Proactive Support for Commander's Intent

S&RL cognitive processes supporting planning and development of logistics, operations, and maneuver COAs



LOG Inputs

from OPS

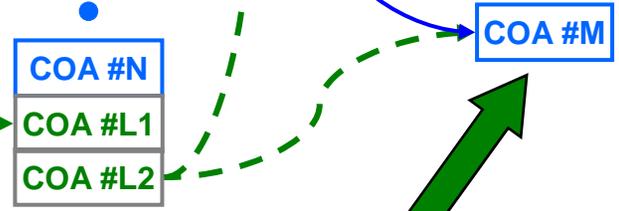
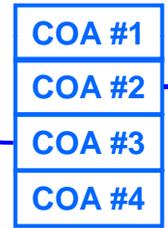
Enemy COA locked in



Enemy COAs locked out



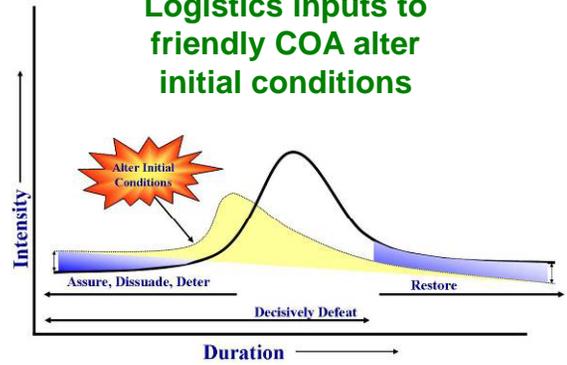
from INTEL



COA #M

Logistics recommendations for operations and maneuver with reduced logistics risks

Logistics inputs to friendly COA alter initial conditions



Friendly COA influenced by logistics-developed operations and maneuver COA recommendations that reduce the risk of uncertainty, increase the probability of success



QUESTIONS ???

