



***DARPA*Tech**

2002 Symposium

Transforming
Fantasy



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Program Manager

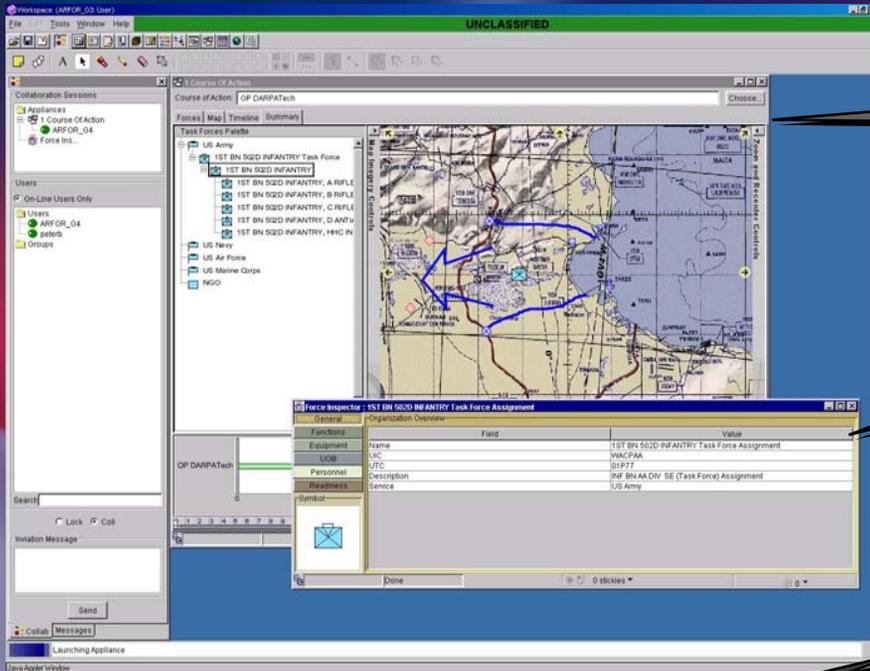


Joint Theater Logistics

Web-based Collaborative C²



“Deep” Collaboration

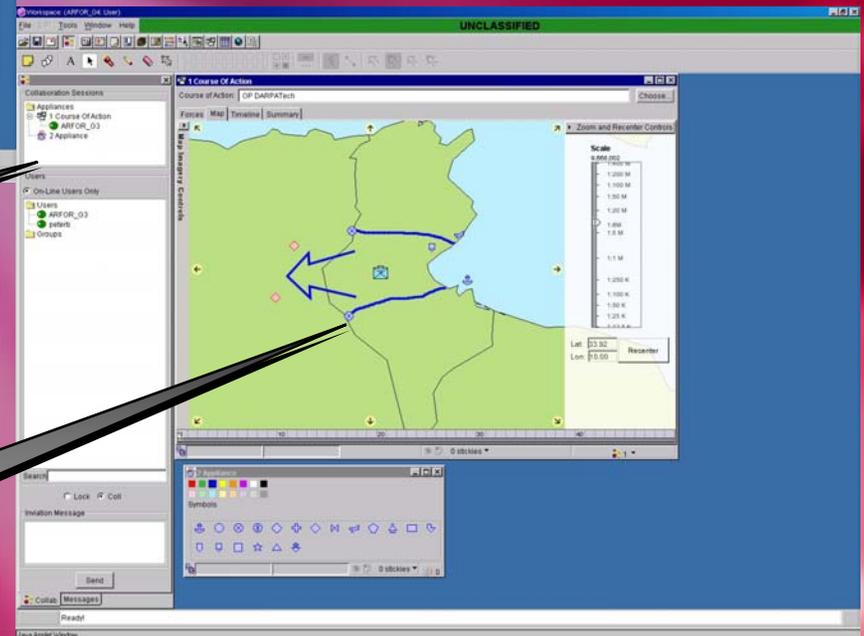


Blueprint

Content

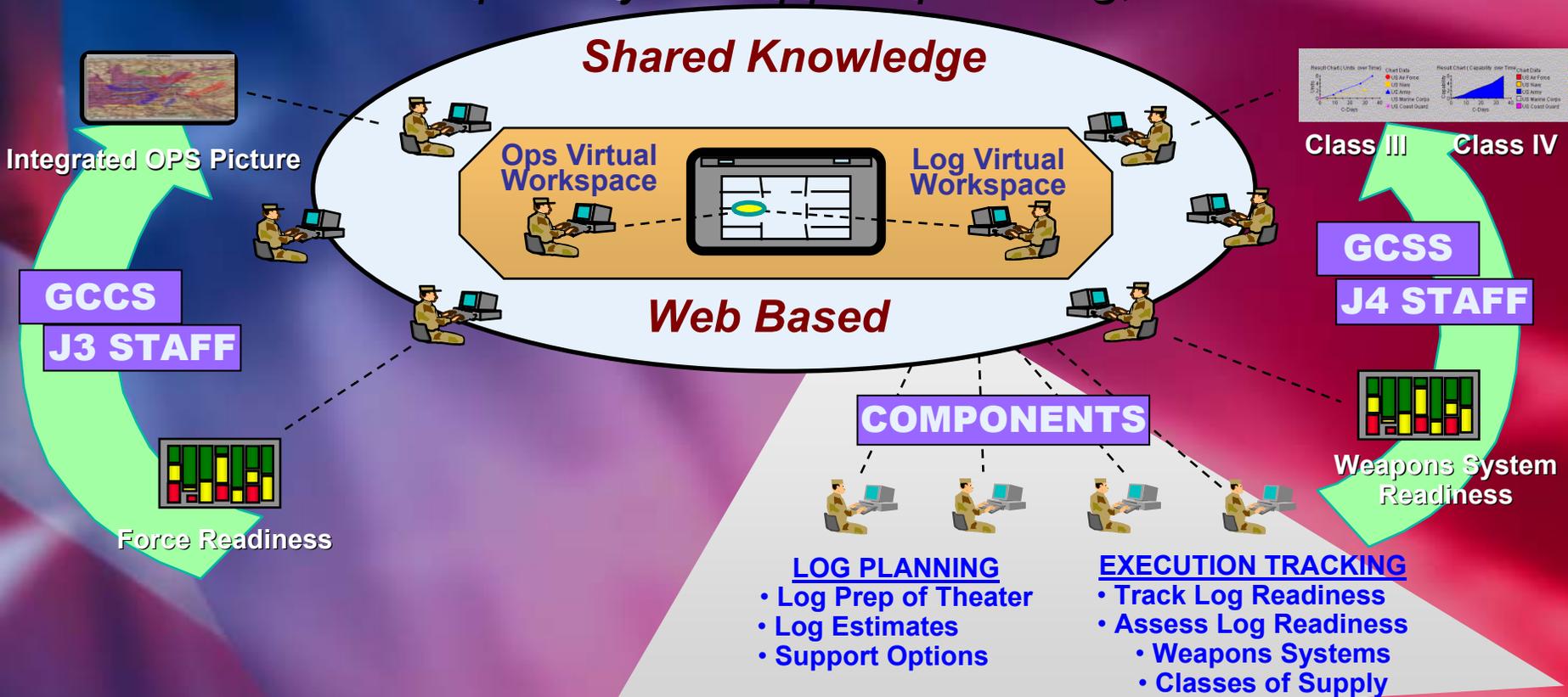
Synchronous
Collaboration

Markings



Joint Theater Logistics (JTL) ACTD

Provide the Warfighter with a near real time operations & logistics collaborative capability to support planning, execution & C2



Integrated, Accurate, Timely, Shared Situational Awareness and Assessment

“Collaborate the Content, Blueprint, and Marking”



Collaborative C²

Drag & Drop Forces on Map

Identify & Build Forces To Be Deployed

Adjust Locations Over Time

Alter Disposition & Other Attributes

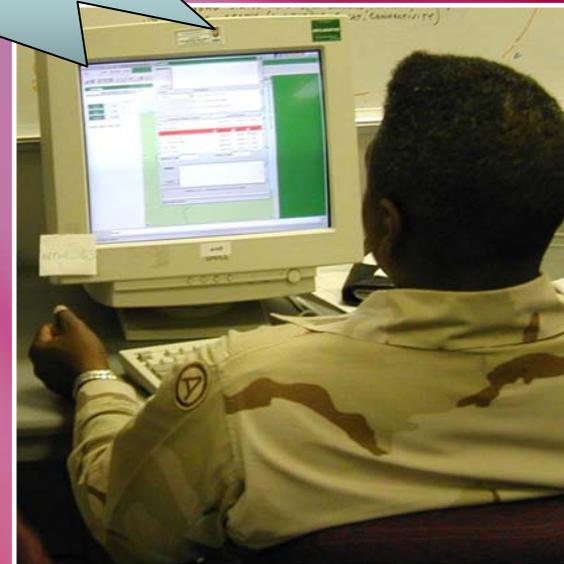
Assess Plan Over Time

The screenshot displays a complex military planning interface. At the top, a green bar indicates the status is 'UNCLASSIFIED'. The main window is divided into several panes:

- Map:** A central map showing a geographical area with various force icons placed on it. A 'Zoom and Re-center Controls' pane is visible on the right side of the map.
- Task Forces Palette:** A tree view on the left side listing various units under 'US Army' and 'US Navy', including '1ST BN 87TH INFANTRY' and 'CVN 71 ROOSEVELT T Task Force'.
- Force Editor:** A window titled 'Force Editor : 1ST BN 87TH INFANTRY Task Force Assignment' is open, showing an 'Organization Overview' table.
- Assessment Charts:** Two horizontal bar charts are visible, one at the bottom left and one at the bottom right, showing the composition of forces.

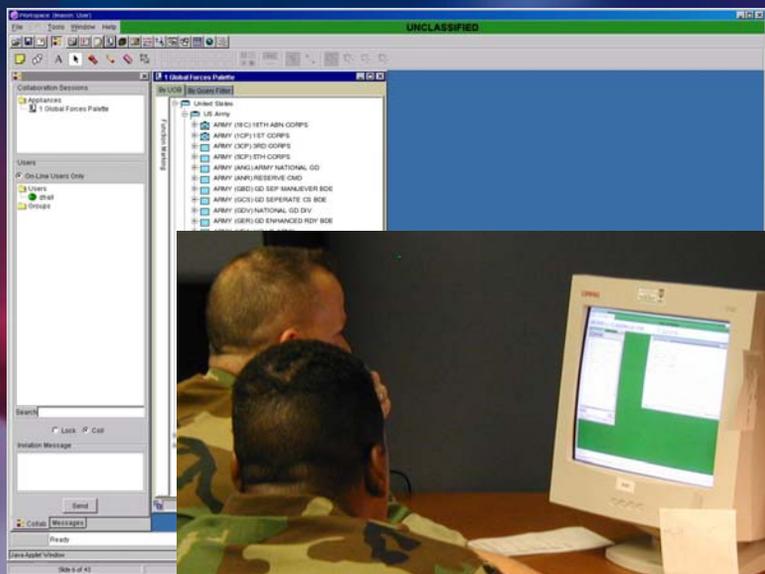
General	Field	Value
Functions		
Equipment	Name	1ST BN 87TH INFANTRY ...
	UIC	WAP2AA
	UTC	8222
Personnel	Description	null (Task Force) Assign...
Symbol	Service	US Army

“Collaborative” Solution?

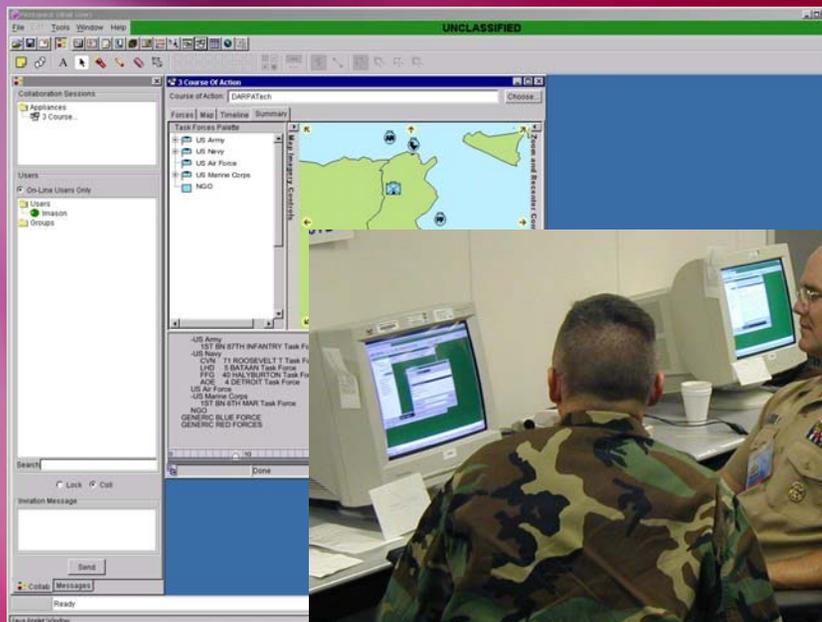
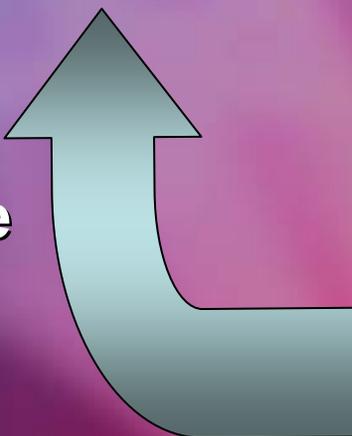


Human Collaboration

Collaborating on the underlying DATA!

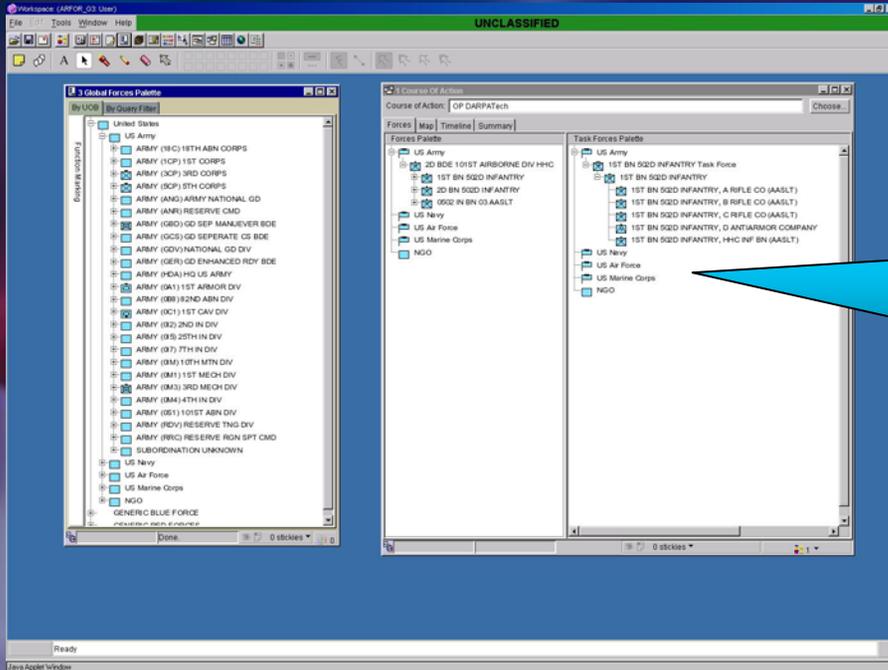


Requesting collaboration on the course of action.....

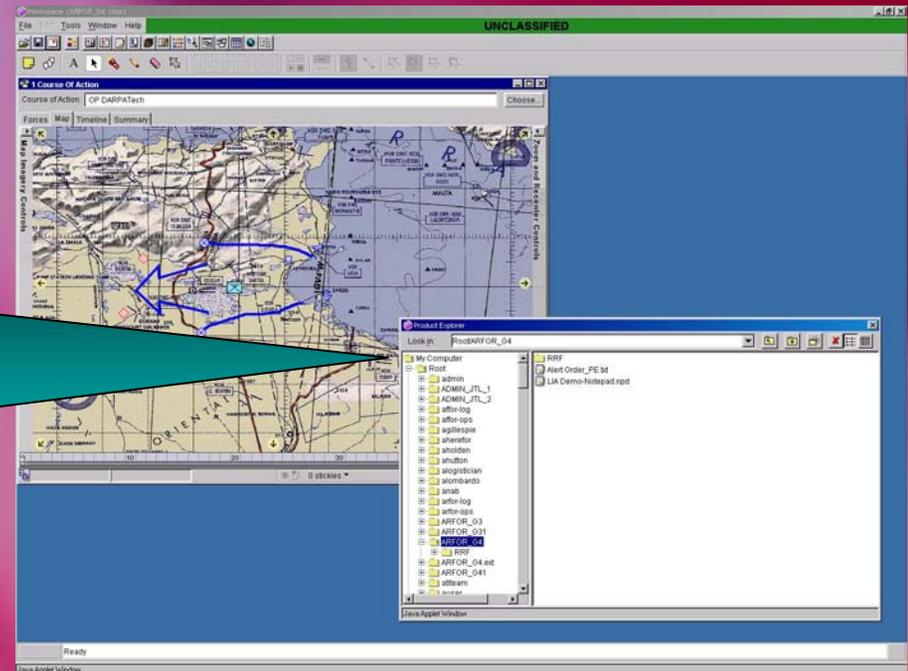


Why Is This Unique?

Operator shares
the COA portion
w/ the Logistician



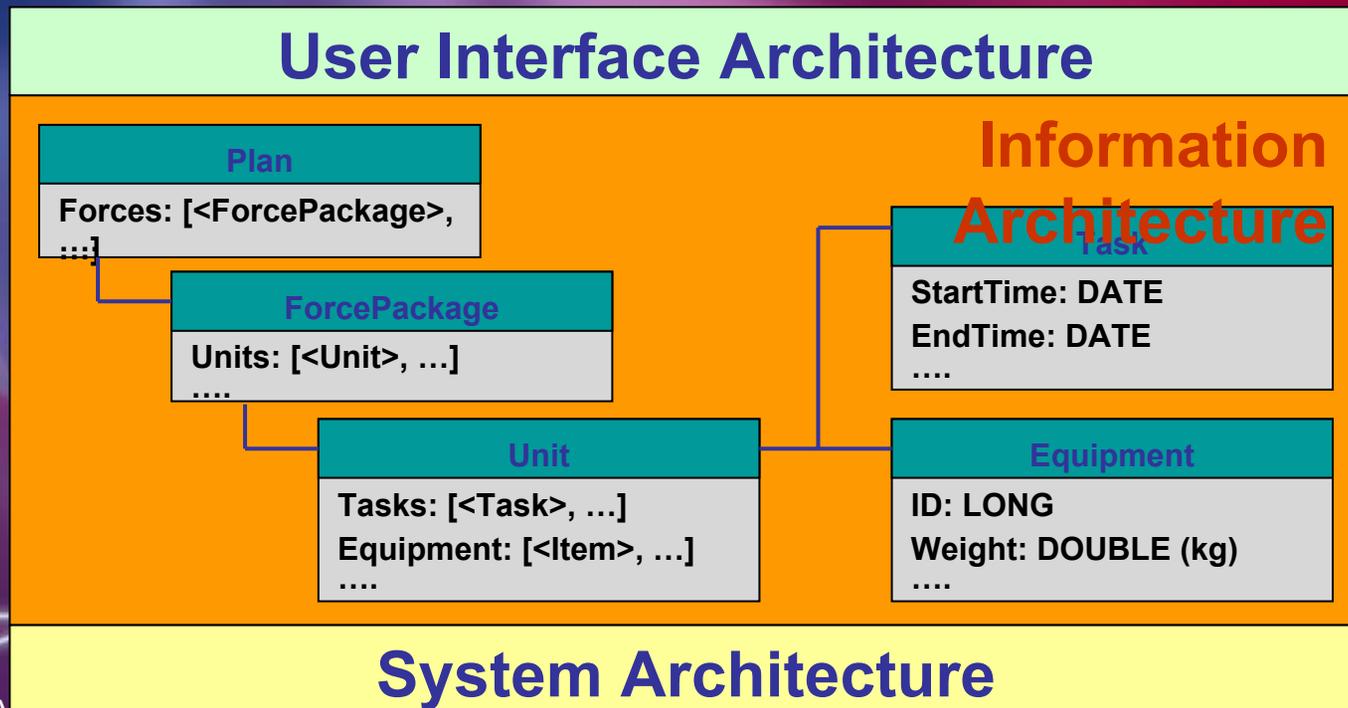
Logistician can now
save plan data for
further analysis



Information Architecture

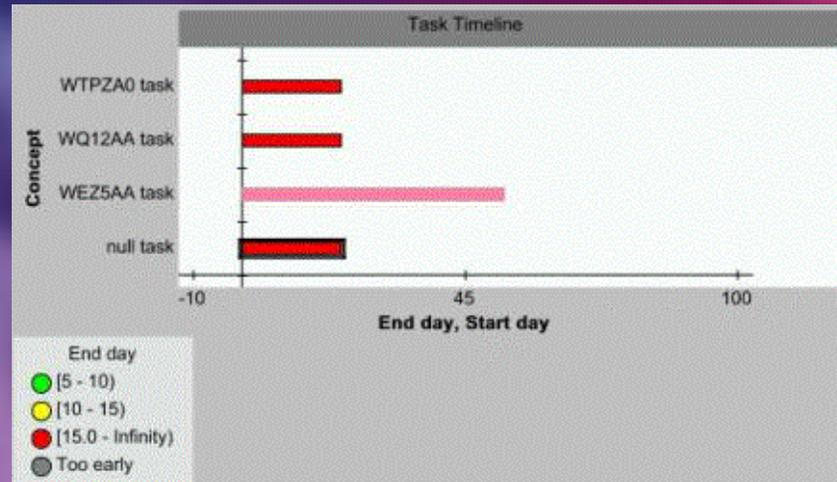
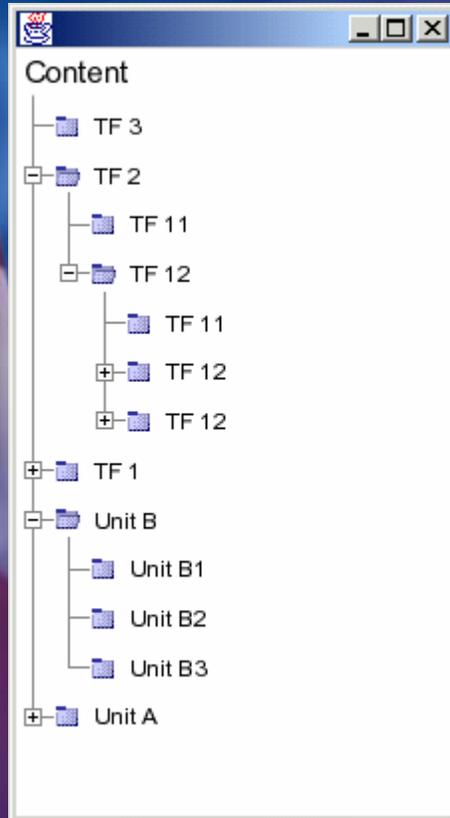
User-centric entity-relationship model of the domain

- ▶ Driver for UI design and system architecture
- ▶ Underlying *Information Architecture* is entirely visible
- ▶ *IA* is exposed directly via Drill-Down and DnD



Viewing of Information Charts

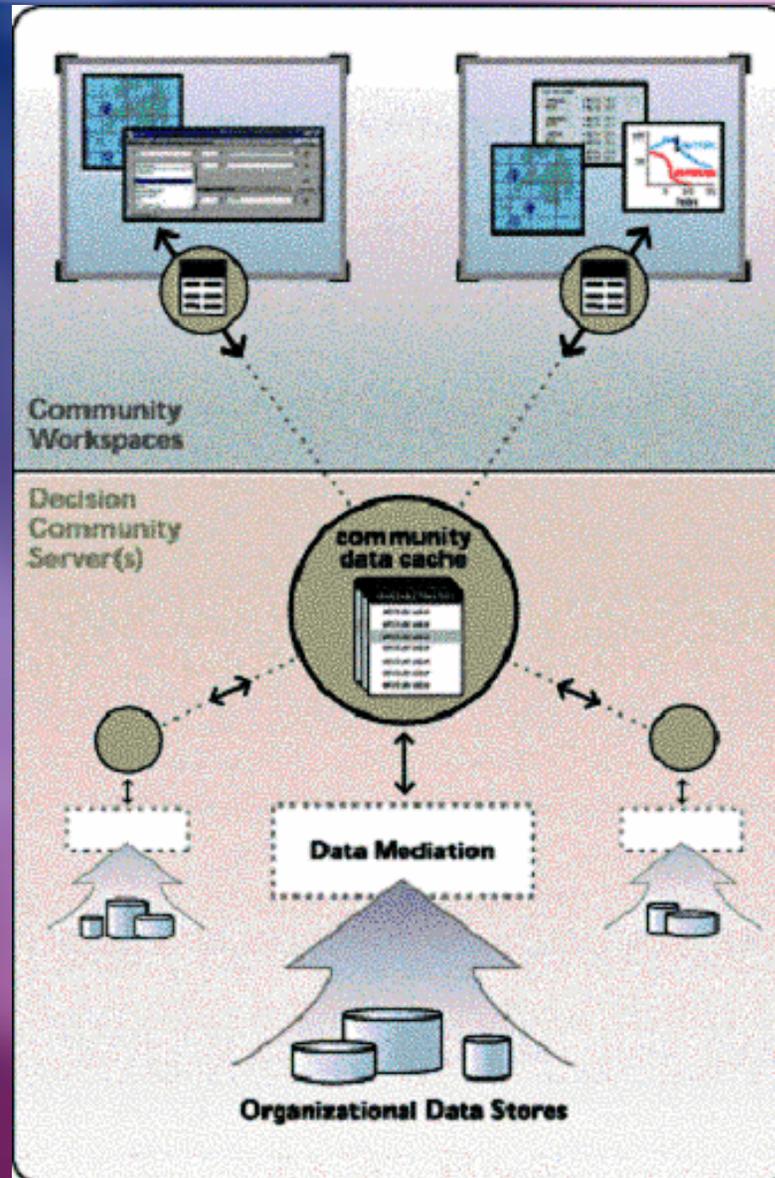
Trees



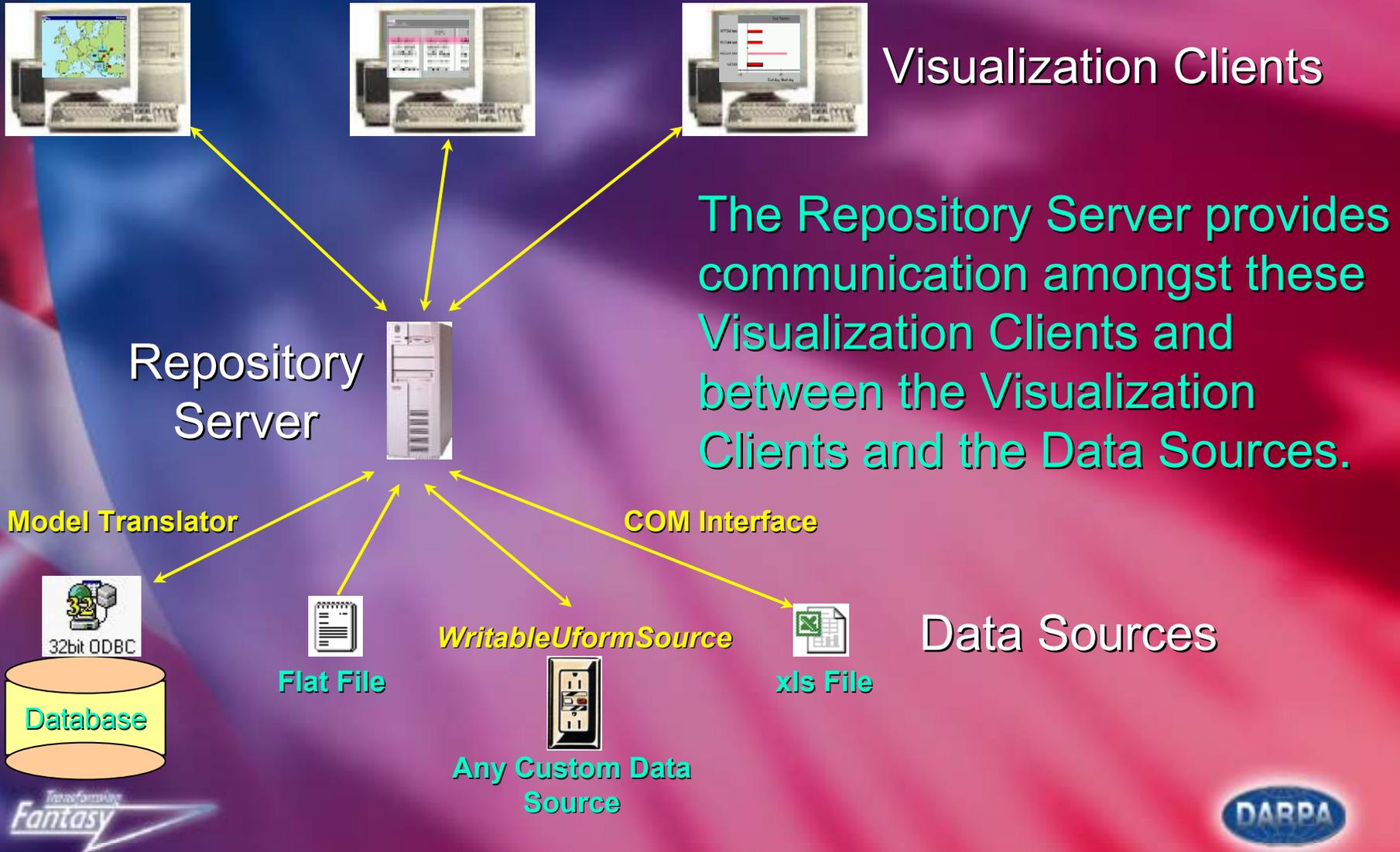
Tables

	Echelon	Role	s2525a hierarchy...
ÜYİDWH0...	CO	Special Ops/Unco...	
<i>Unit type</i>			
ÜYİDBH...			1.X.6.3.1
ÜYİDWEV...	CO	Supply	
ÜYİDWB1...	CO	Maintenance	
ÜYİDWA4...	HHC	Communications	
ÜYİDWAC...	CO	Engineer	
ÜYİDWD0...	BTY	Artillery, Air Defense	
ÜYİDWDL...	CO	Maintenance	
ÜYİDWE3...		Transport	

Decision Community

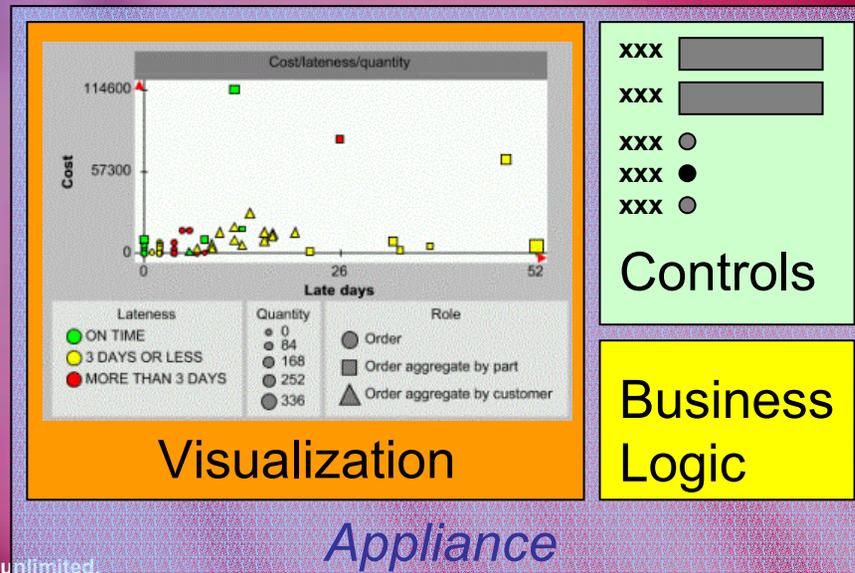


Decision Community Architecture



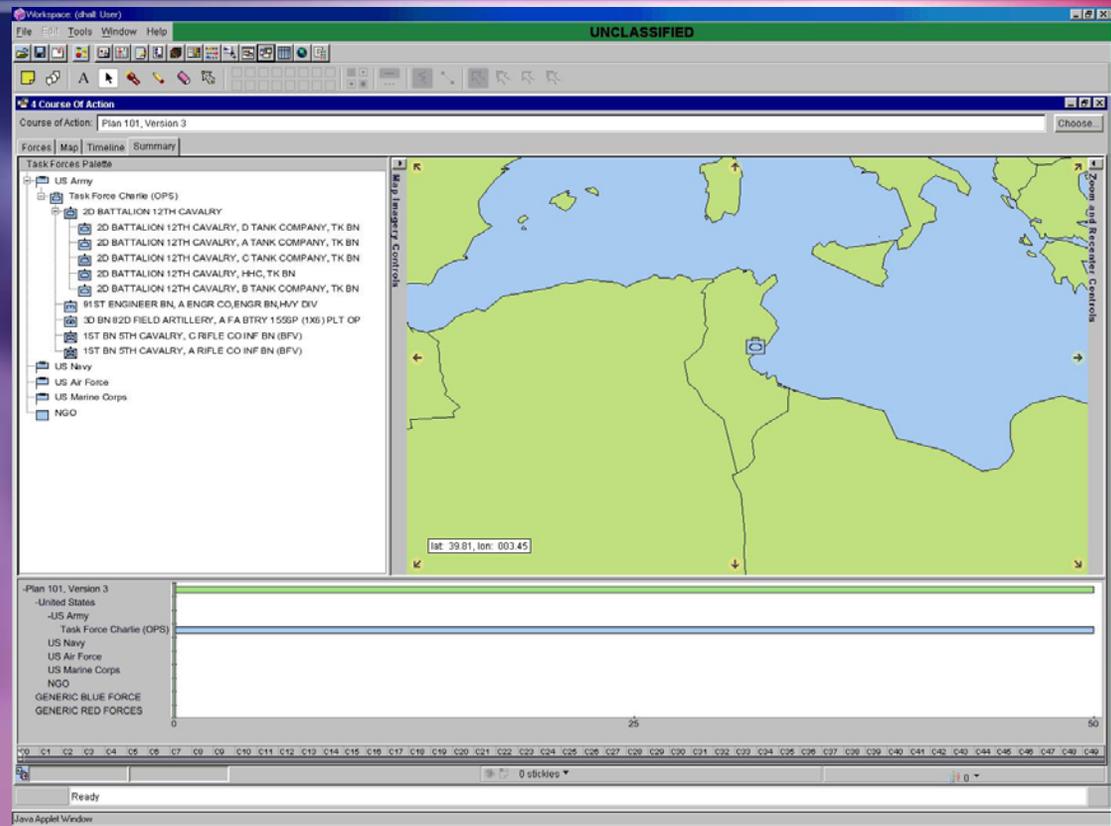
Appliance

- ▶ Visualization Component with custom controls & business logic
- ▶ Most solutions consist of a series of tailored Appliances
- ▶ Typical use of *JTL VizFramework*:
 - Build custom Appliances from Java components
 - Plug custom Appliances into the JTL Workspace
- ▶ Central operation in Workspace is dragging Uforms between Appliances



Container

Containers don't visualize data elements, but contain multiple other Appliances

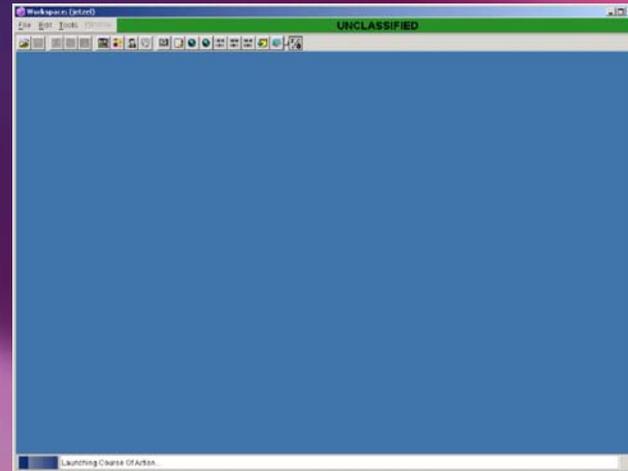


Containers can be used to group Visualizations & Appliances for presentation purposes or to apply collaboration to a multitude of Appliances

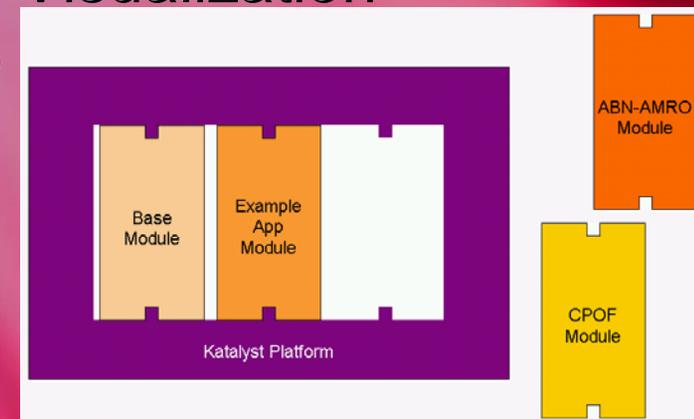


Workspace

- ▶ Hub for Visualization Components and Appliances
- ▶ Palette of Collaboration Tools
- ▶ User Account Management
- ▶ State Saving and Persistence



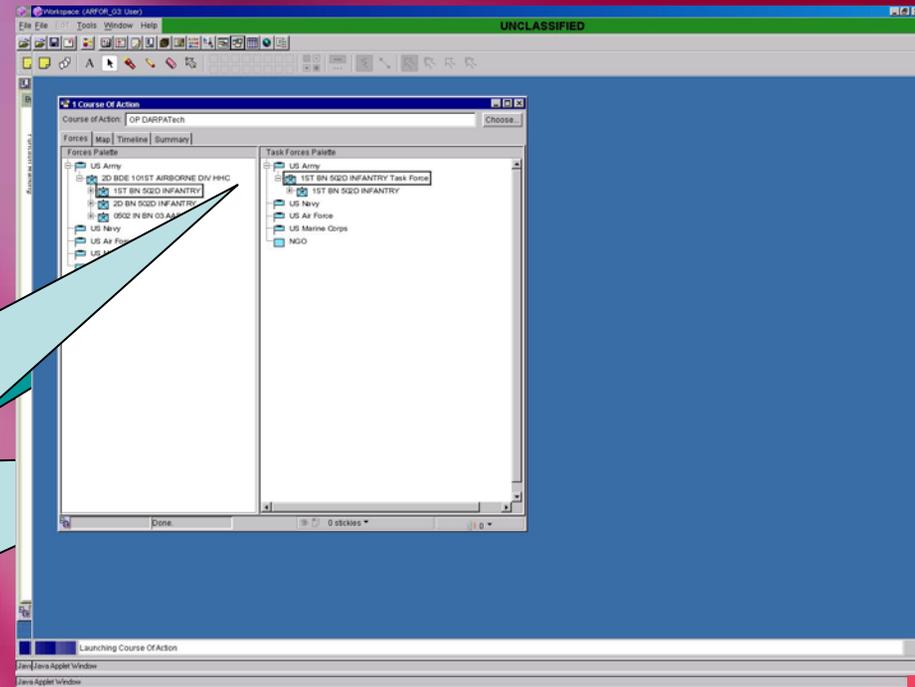
▶ *JTL VizFramework* provides a simple example Desktop (plus collaboration tools, client-server communications and data access) into which Appliances and Visualization Components can be easily plugged into



Drag-And-Drop

The Army Operator
see the new units in
the Forces Palette...

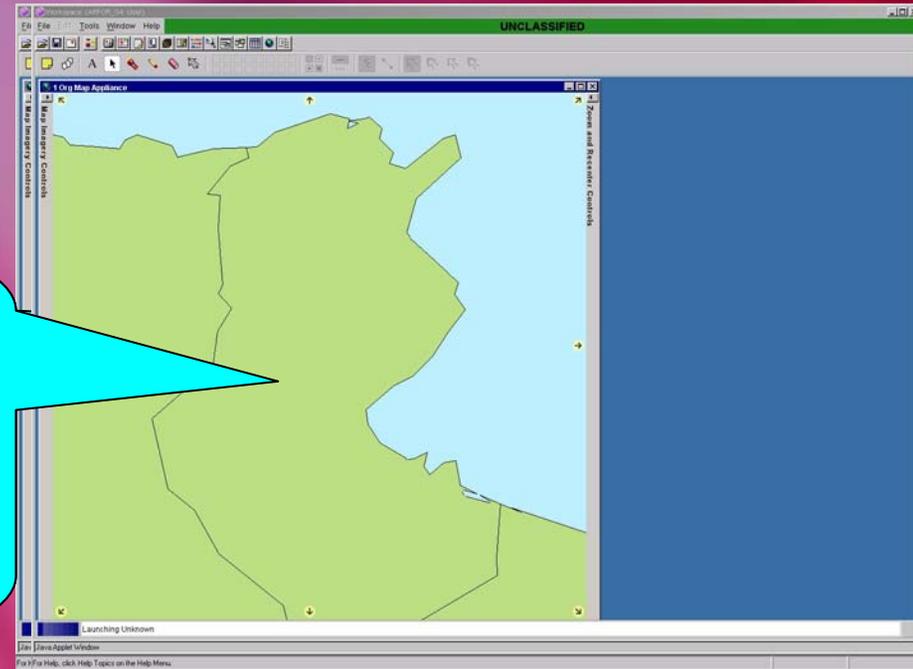
...and creates a new
battalion TF in the
Task Force Palette



Shared Content

The ARFOR G3 will drag & drop this unit on the map...

...which he is collaborating on with the ARFOR G3



Shared Marking

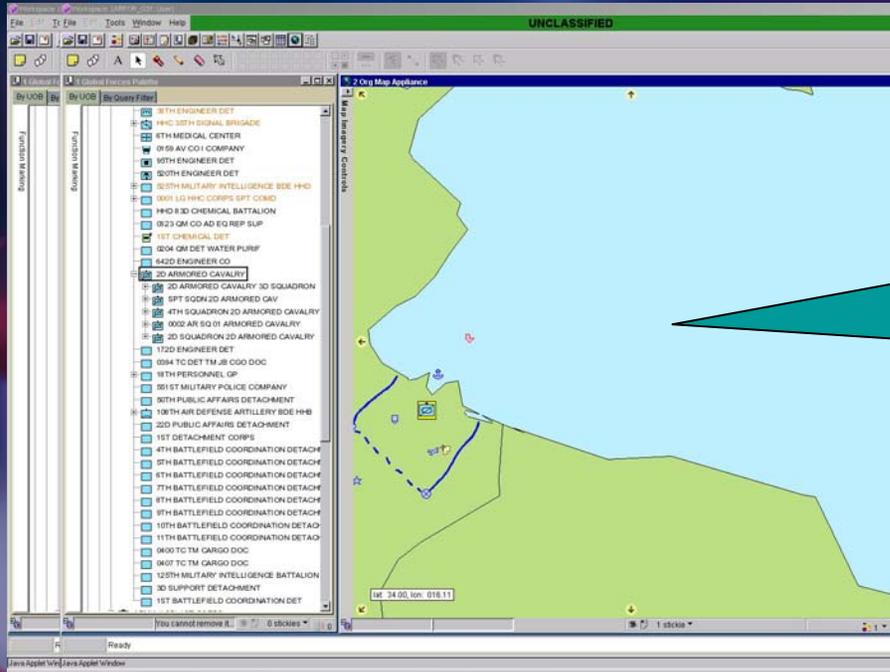
The G4 drops a sticky

The G3 has "inked"
2nd ACR AO...

info about incident...

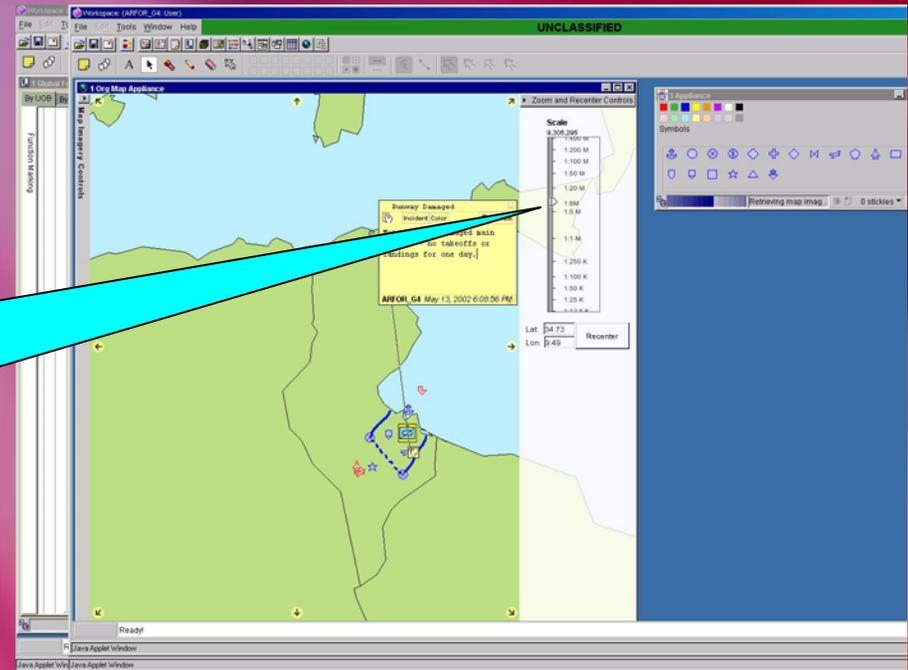
...while the G4 drags &
drops various graphic
symbols

Shared Blueprint



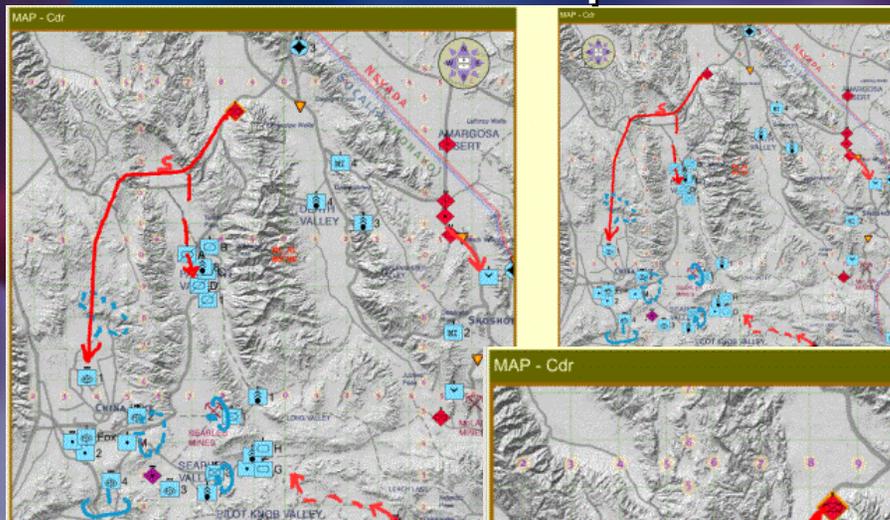
The G3 pans right on his map...

...while G4 zooms out on his map



“Deep” or 3D Collaboration

Shared Blueprint



Shared Marking

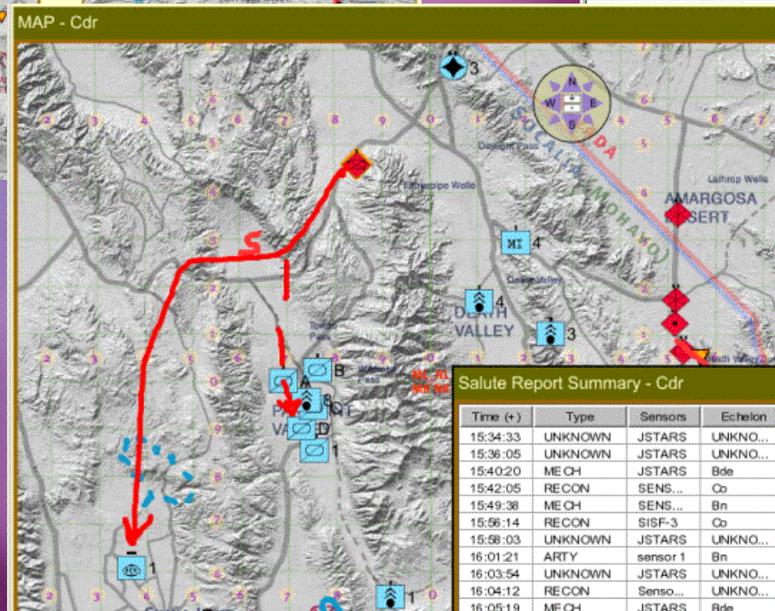
StockDemo - Table			
	Label (+)	Open	Lo
jdbc:odbc:StockDemo.Stocks.1	1	15.46	1
jdbc:odbc:StockDemo.Stocks.2	2	14.87	1
jdbc:odbc:StockDemo.Stocks.3	3	12.87	1
jdbc:odbc:StockDemo.Stocks.4	4	13.43	11
jdbc:odbc:StockDemo.Stocks.5	5	13.75	1
jdbc:odbc:StockDemo.Stocks.6	6	13.00	1
jdbc:odbc:StockDemo.Stocks.7			1
jdbc:odbc:StockDemo.Stocks.8			1
jdbc:odbc:StockDemo.Stocks.9			1
jdbc:odbc:StockDemo.Stocks.10			9
jdbc:odbc:StockDemo.Stocks.11			1
jdbc:odbc:StockDemo.Stocks.12			1
jdbc:odbc:StockDemo.Stocks.13			1
jdbc:odbc:StockDemo.Stocks.14			1
jdbc:odbc:StockDemo.Stocks.15			1
jdbc:odbc:StockDemo.Stocks.16			1
jdbc:odbc:StockDemo.Stocks.17			1
jdbc:odbc:StockDemo.Stocks.18			1

Marking

- Drill Down
- Collapse

No Color (unmark)

- Blue
- Green
- Pink
- Yellow
- Red
- Purple
- Light Green
- Orange

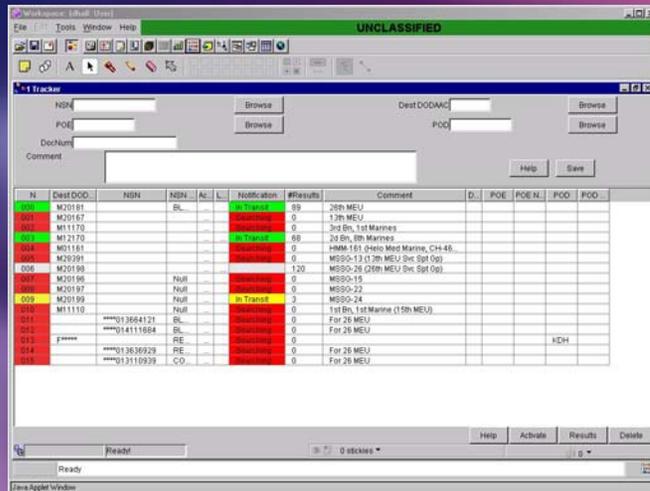
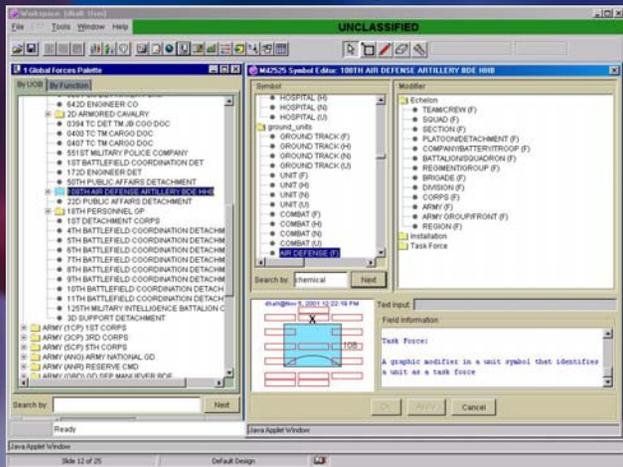


Shared Content



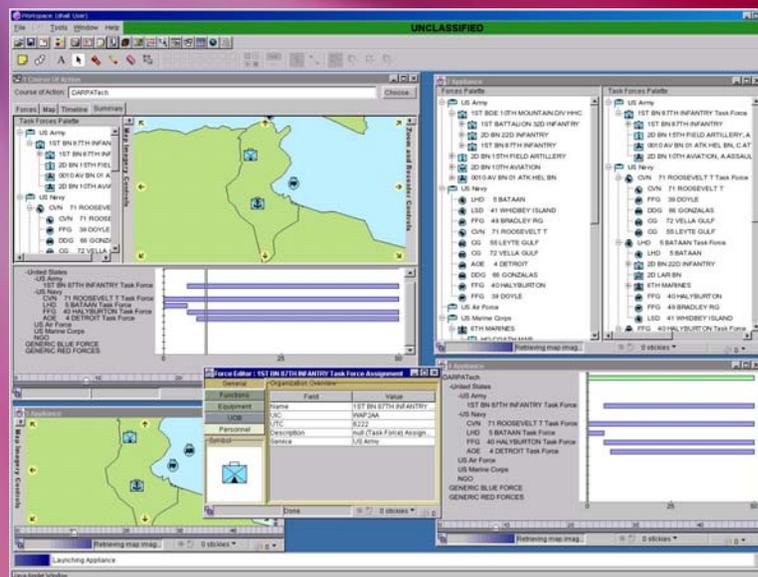
During March Exercise 3

Mil Std 2525B Symbol Editor



Agent enabled
Cargo and Pax
Tracker sorting
through GTN
feed data

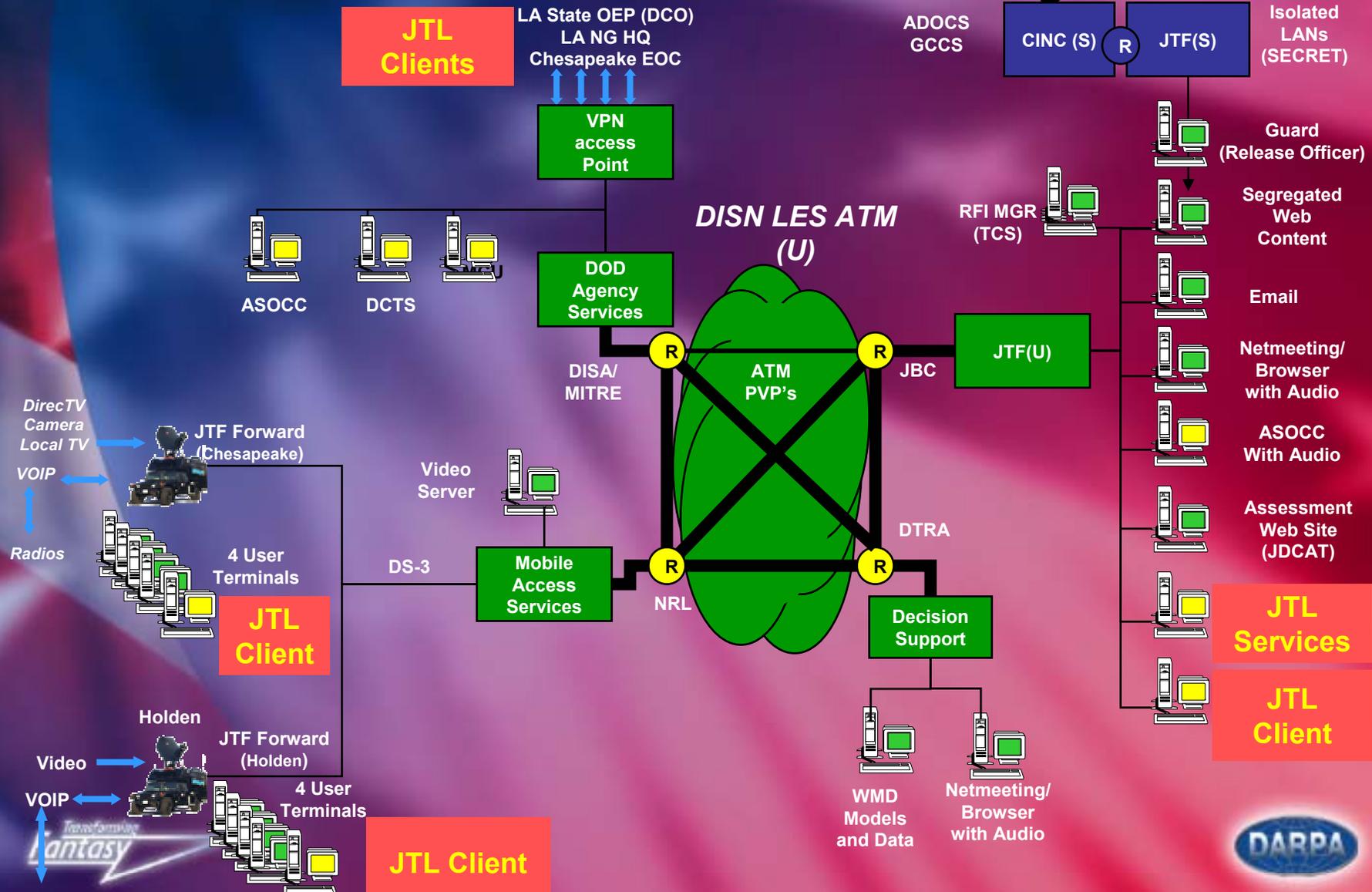
Global Forces Palette
with Peacetime UoB
from the Conventional
Forces Database



The First Temporal Course of Action Planner



At Homeland Security Demo



JTL Appliances

The screenshot displays a complex software interface for mission planning and monitoring, titled "JTL Appliances". The interface is divided into several functional areas:

- LSA Cube - Purple Sunset:** A control panel for mission parameters, including "Mines Weapons Systems" and "Fuel Ammo Repair Infra OA".
- COAST-L:** A table showing performance metrics for various operations.

COAST-L	CO1	CO2
SUPPLY OPERATION	30	30
MAINTENANCE	30	30
ENGINEERING	30	30
TRANSPORTATION	30	30
SERVICES	30	30
HEALTH	30	30
HOST NATION SUPPORT	30	30
Measure of Effectiveness (Average)	42	35
Rank	2	2
- Graphics Palette:** A set of icons for visualizing data and mission elements.
- Purpose Editor:** A tool for defining mission purposes and categories, such as "All Operations", "Command and Control", and "Strategic Attack".
- COA - Purple Sunset:** A central map view showing the Mediterranean Sea and Algeria, with various force elements and mission tracks overlaid.
- Incident Sticky:** A panel for tracking and managing incidents, including details like "COL Sanders" and "Bridge at Condor Creek".
- TimeMap:** A series of maps showing mission progress over time, with labels like "Green Noon", "Purple Dawn", and "Purple Sunset".
- Notepad:** A text editor for notes and commands, including "IMMEDIATE" and "BT" markers.
- Forces Library:** A list of available force units and their capabilities, such as "0001 SC BN HHC" and "0002 SC BN COA CMI".
- Global Forces Palette:** A selection tool for choosing force units from a global list.
- Force Inspector:** A detailed view of a selected force unit, showing its "Equipment", "Personnel", and "Status".
- Force Editor:** A tool for configuring and editing force units, including "Equipment List" and "Functions".
- Symbol Editor:** A tool for defining and editing mission symbols, such as "DIVER" and "SEA SURFACE TRACK".
- Optempo Sketcher:** A bar chart showing "OPTEMPO Task Legend" with values for different mission phases like "Attack", "Defend", "MTC", "Move", "Reserve", and "Peace".
- Product Explorer:** A tree view of the mission's product structure.
- Collaboration Manager:** A tool for managing communication and collaboration between users.
- Generic Table:** A data table for mission parameters.
- Generic Map:** A map view for geographical context.
- Watchboard:** A dashboard for monitoring mission status and key metrics.
- Tracker:** A tool for tracking mission progress and resource status.
- Notebook:** A workspace for organizing mission-related information, including "Mission", "Intelligence", and "Log Plan".

Joint Theater Logistics

**Operations
Logistics
Collaboration**

GCSS

*Advanced Concept
Technology Demonstration*



<http://oak.man.external.lmco.com/jtl/public>





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