



Visible Battle Rhythm

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“Process where the commander and his staff synchronize the daily operating tempo within the planning, decision, execution and assessment (PDE&A) cycle to allow the commander to make timely decisions.”

–Duffy et al, 2004



- Real-time coordination and synchronization across commands to improve situational awareness and increase the tempo of operations
- Concept and capability enhanced through COP21 TD, part of Coalition CINC 21
- Demonstrated at JWID '04, and
- Canadian Joint Operations Group, '05



- Network Centric Warfare
 - Tempo of operations ↑
 - Geographically dispersed command
 - Distributed decision-making at all levels of command
 - Joint/Coalition operations
 - Involvement of Civilian Orgs / NGO's
- ➔ Increased Situational Awareness required



- *"Battle Rhythm is the most significant thing you do ... the trick is to **marry the cycles**."*
- *"The ability to **synchronize BR with other commands** would be very helpful, particularly if collaboration is necessary."*
- *"The Commander has four or five hard points each day ... and needs to see **interdependencies**."*
- *"Excellence in BR is marked by **flexibility, adaptability** of BR."*
- *"Many of the current frustrations with BR derive from its static nature. If it were more **dynamic**, particularly if tied to decision points and CCIRs, it would be used more often."*
- *"Allow variable display arrangements so that different users could **reconfigure the BR** to suit their preferences and needs."*

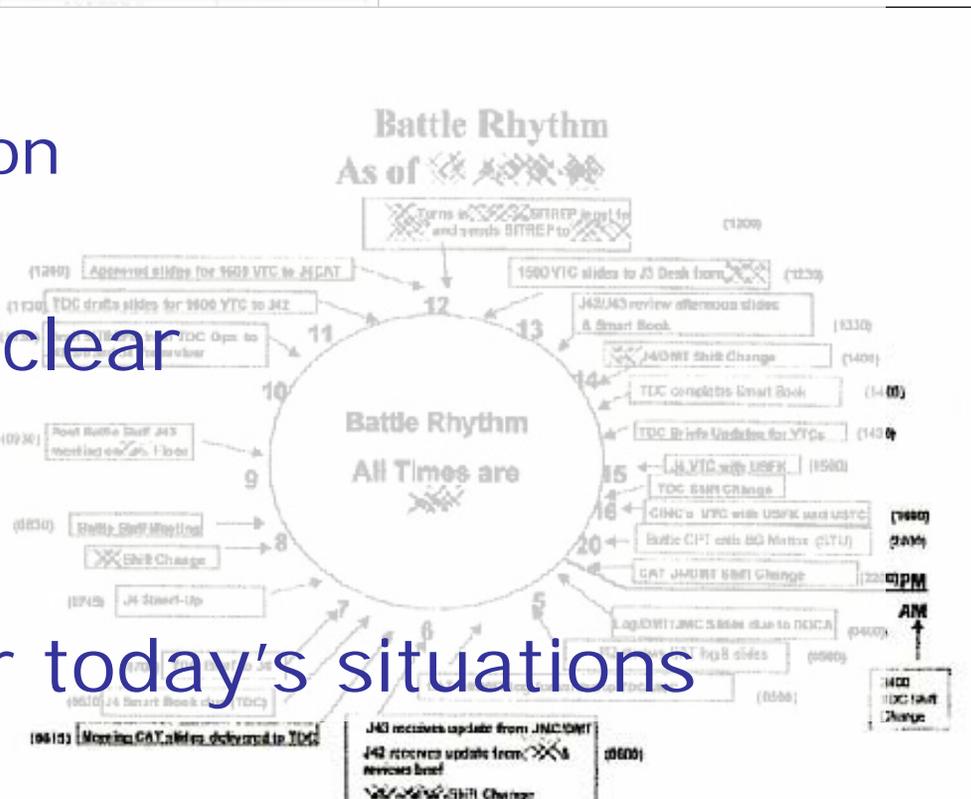


Battle Rhythm

Execution Time	Event	Product Due Time	To
0600	SHIFT CHANGE		
0700	J3 Briefs on SIG EVENTS		
0730	Critical Infrastructure Protection (CIP) Meeting		
1000	CIP Meeting		
1100	CPT		
1200	Force Protection Working Group Meeting (SUN Cancelled)		
1200	NON/WED/FRI YTC SECRET Level		
1400	Asymmetric Threat Fusion Meeting		
1400	SHIFT CHANGE		
1630	J3 Briefs on SIG EVENTS		
1700	J3 Briefs on SIG EVENTS		
1900	(as required)		
2000	SHIFT CHANGE		

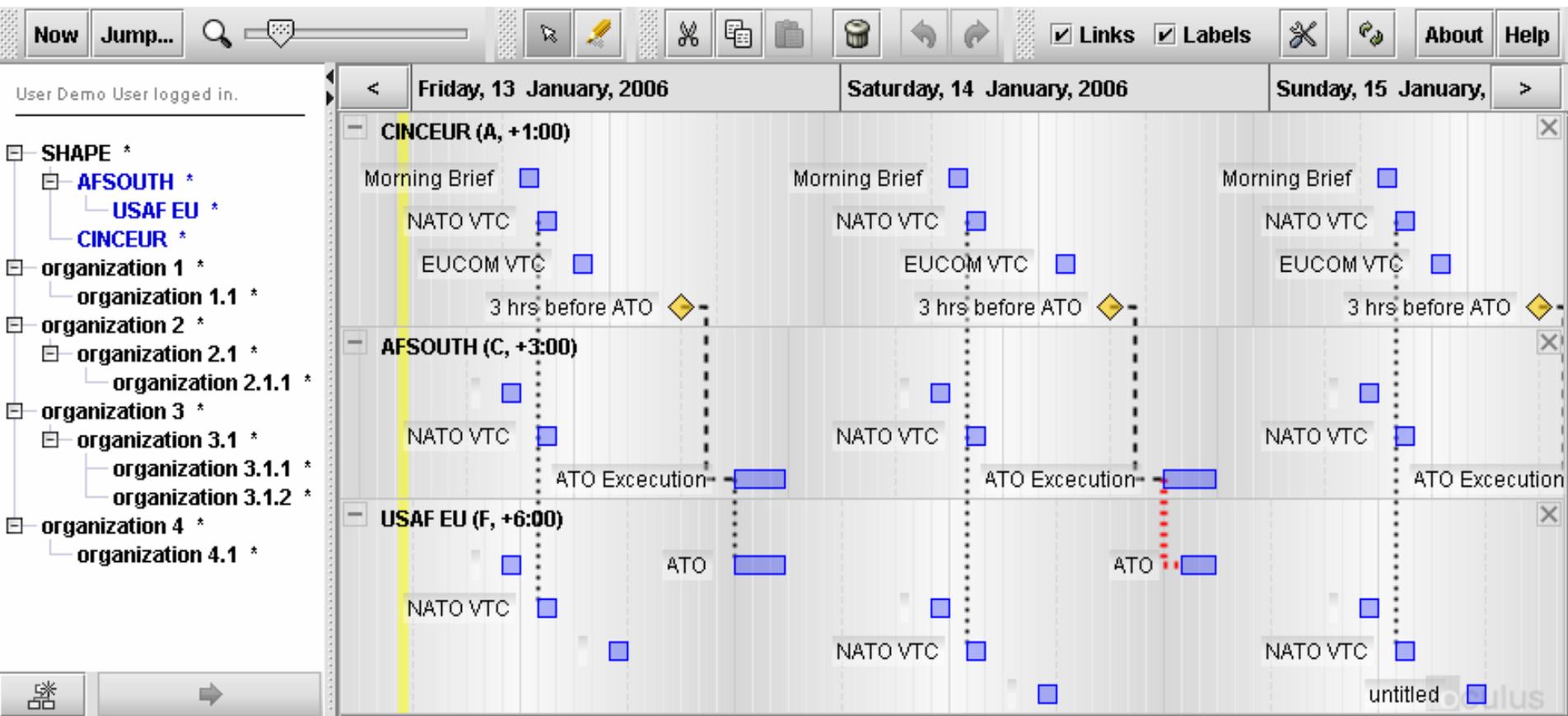
- Static
- Inflexible:
 - Single day
 - Single organization
 - Single time zone
- Dependencies unclear
- Time consuming

➔ Doesn't work for today's situations





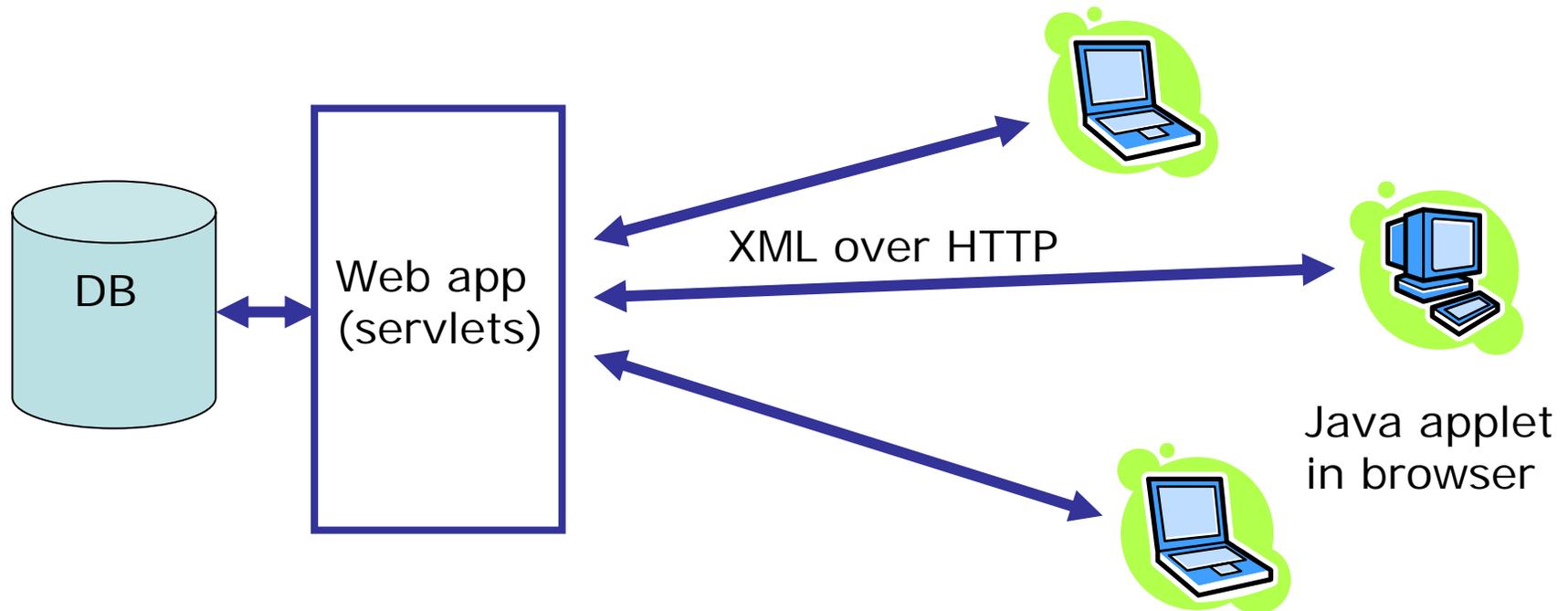
- Information visualization principles
 - **Understand more information in less time**
- Flexible in time
 - Hours, minutes or days, time zones
- Customizable
 - See all & only the relevant information
- Dynamic
 - Real-time updates
- Intuitive
- Distributed

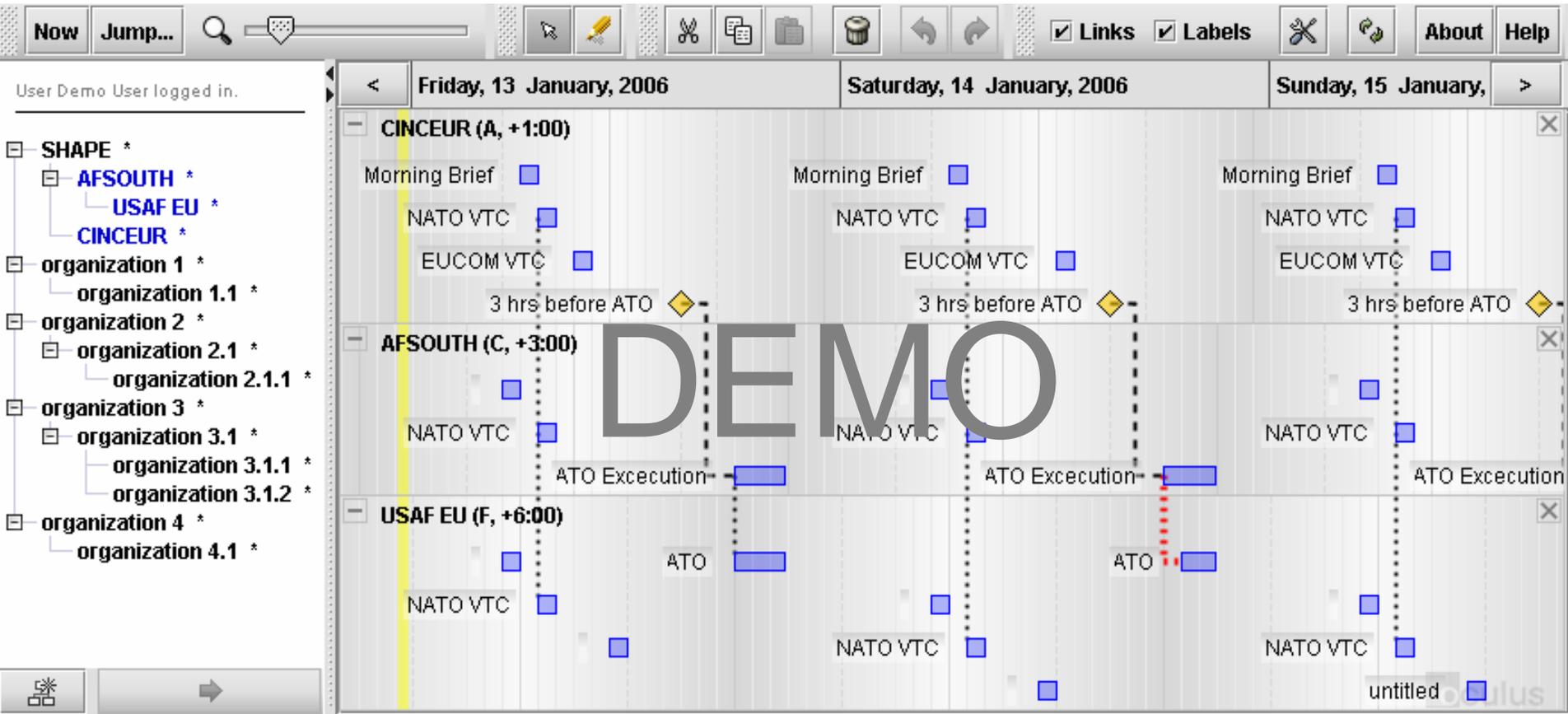


Example data from General Wesley Clark's "Waging Modern War"

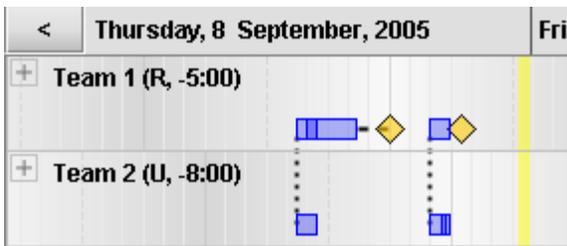
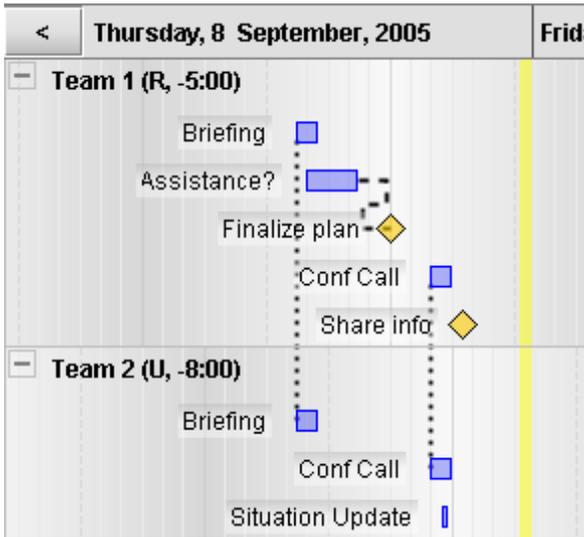


- Server handles synchronizing multiple clients
- Custom XML-HTTP synchronization protocol

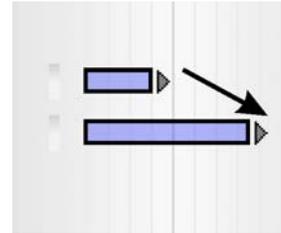




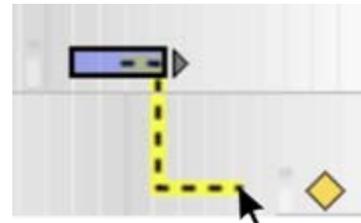
Example data from General Wesley Clark's "Waging Modern War"



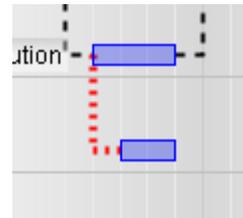
Timelines can be compressed to a one-line summary



Drag to create an event



Drag from one event to another to add a link



Links in conflict stand out in red.



- Advanced prototype
- Demonstrated at JWID '04, and
- CF JOG ('05)

- Excellent feedback
- Immediately comfortable and proficient
- *"I would use it right now if I had it on my desk"*
- JOG: unanimous statement of support for continued development leading to deployment



- Not just for battle...
 - Much time spent between operations
 - Non-traditional battle rhythm users like it too (e.g. planners)
 - Need tools that function throughout the workflow
- Really just for battle...
 - Current features intended as a battle rhythm
 - New roles desire new features
 - Need to limit complexity



- Pilot Project
- Robustness & Scalability
- Many possible new features
 - Event / Link semantics
 - Workflow features
 - Deployment scenarios
 - 3rd party integration



Questions...?