NCO Conceptual Framework: Special Operations Forces Case Study

FINAL BRIEF

Prepared and Presented by Booz Allen Hamilton

21 June 2004

Outline

- Background
  - Objectives of research
  - Scope and assumptions
  - Approach (solution strategy)
  - Discuss data collection and data analysis plan
- Data Analysis
- Discuss implications for NCO
- Recommendations

Objectives of Research

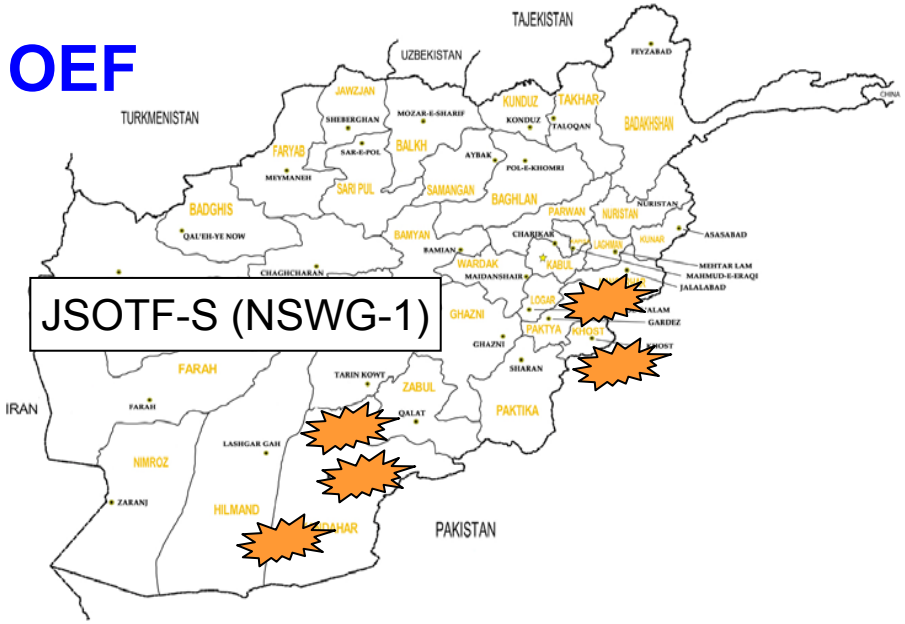
Did the evolution of the MSC between OEF and OIF demonstrate improvements in the *Quality of Networking*, the *Degree of Information Shareability*, the *Quality of Individual Informtion*, the *Quality of Interaction* and the *Degree of Shared Information* …

Did these improvements contribute to an increased Degree of Decision Making (for mission planning) and lead to an increased Degree of Effectiveness (not implicitly quantified)?

Operational Context

- **Objective of the Case Study:**
  - **Examine the effect of the Mission Support Center (MSC) on the Degree of Decision Making within the Naval Special Warfare (NSW) Group 1 (NSWG1).**
- **Key Difference**
  - **Baseline: People, Process, and Technologies within the MSC during Operation Enduring Freedom (OEF)**
  - **Treatment: People, Process, and Technologies within the MSC during Operation Iraqi Freedom (OIF)**

OEF



JSOTF-S (NSWG-1)

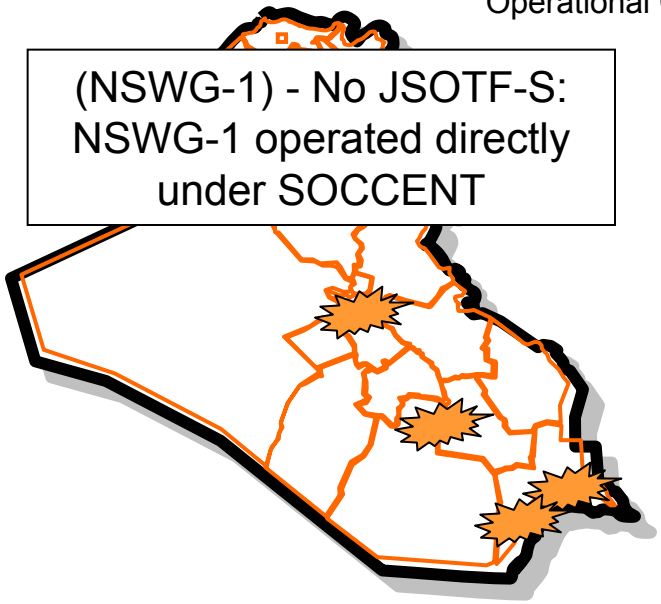
Missions: Special Recon (SR), Direct Action (DA), Maritime Interdiction,Beach Survey, Coalition Operations

Desired Effects: Harass and Destroy Terrorist Forces in Afghanistan

Operational Tempo:
42 SR missions, 23 Direct Action missions, 12 Underway ship takedowns

Significant Missions: Cave Clearing Operation, Operation Anaconda, Hazar Gadam Raid, Short Notice High Value Target Mullah Khairullah Capture, Hydrographic survey

OIF



(NSWG-1) - No JSOTF-S: NSWG-1 operated directly under SOCCENT

Missions: Direct Action, Special Recon Maritime Interdiction, Coalition Operations

Desired Effects: Harass and Destroy Iraqi Forces

Operational Tempo:
70+ Combat Support missions

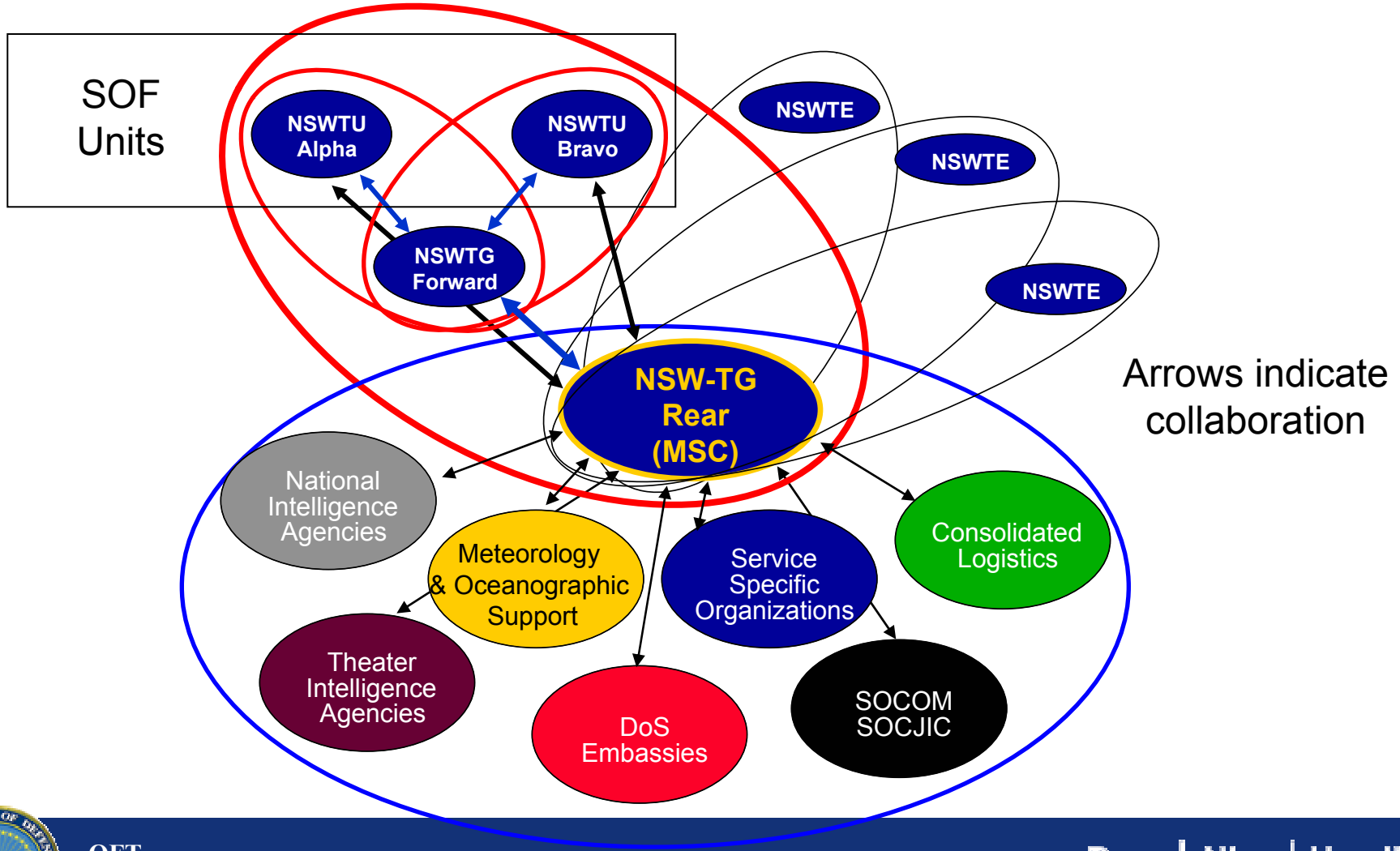
Significant Missions: Al Faw Oil Field, GOPLAT Operations, SR Support to ARFOR/MARFOR, Maritime Interdiction

Distinguishing Baseline & Treatment

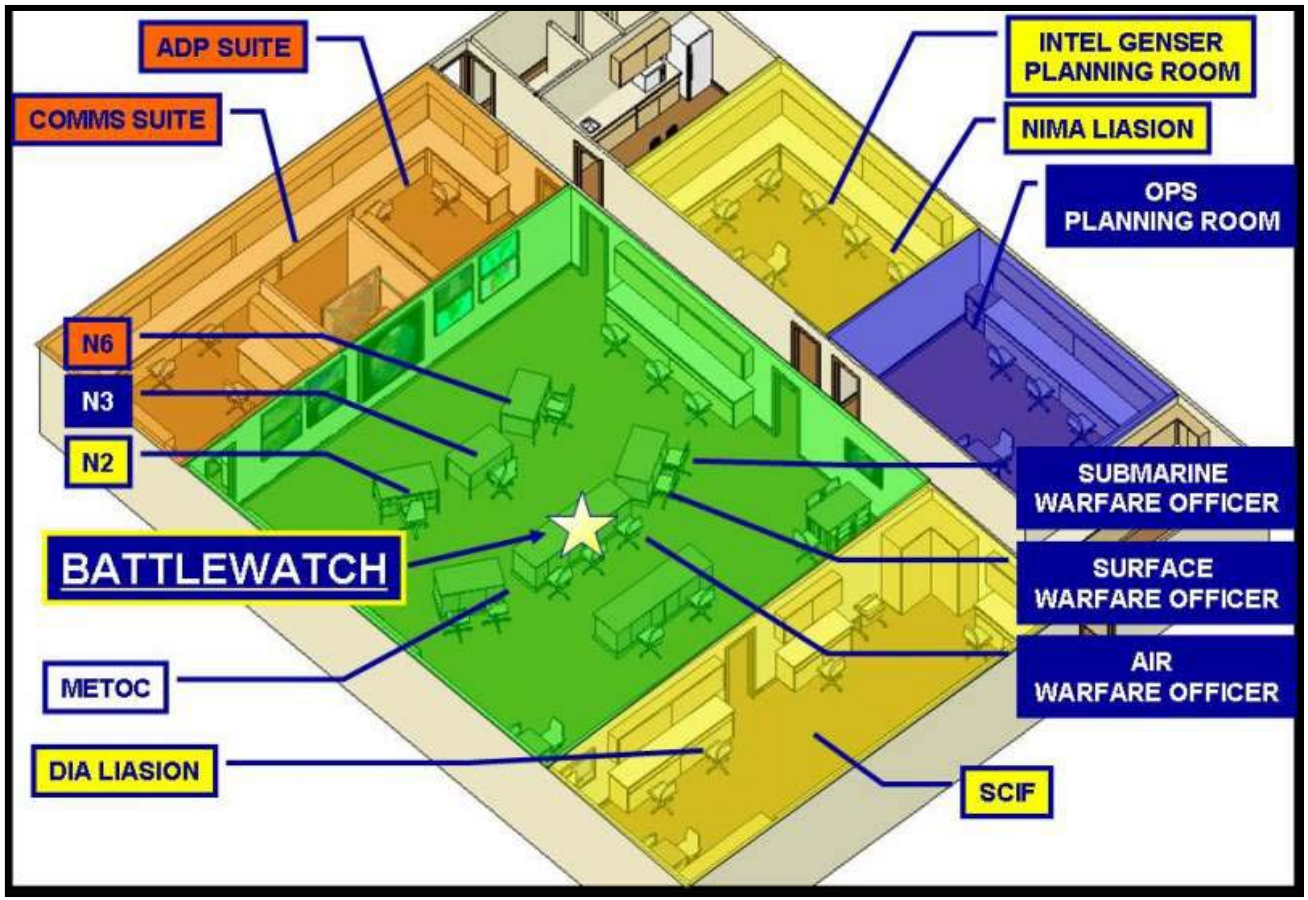
Focus of Case Study

FORCE ELEMENTS	BASELINE Operation Enduring Freedom	TREATMENT Operation Iraqi Freedom
Information Sources	Sensors, HUMINT	Collaborated Intel/Info Sources Sensors, HUMINT
Value Added Services	Microsoft Office(PowerPoint) SATCOM, Phone, Radio, JWICS, SIPRNET Tactical Missions	Federated network, Blue Force Tracking, A3, Global Broadcast System, WEBBE, JWICS, SIPRNET Strategic and Tactical Missions
Command and Control	Mission Support Center ad hoc and distributed MSC	Mission Support Center permanent and co-located; MSC staffed 24 hours, 7days/week
Effectors	Force Composition 30 staff Forward in Theater 30 staff Rear at MSC Supporting 600 SOF Forces (US & Coalition) 5079 METOC requests	Force Composition 110 staff Forward in Theater 75 staff Rear at MSC Supporting 600 SOF Forces (US & Coalition) 7805 METOC requests
Operating Environment	Mountains	Desert

What is the MSC?



What is the Mission Support Center?



- Funded on Experimental Basis 2000 in San Diego, CA
- Maintain situation awareness on all NSWG-1 deployments
- Provide single POC for deployed forces (for log, intel, planning, etc.)
- Centralize blue force monitoring
- Reduce deployed footprint

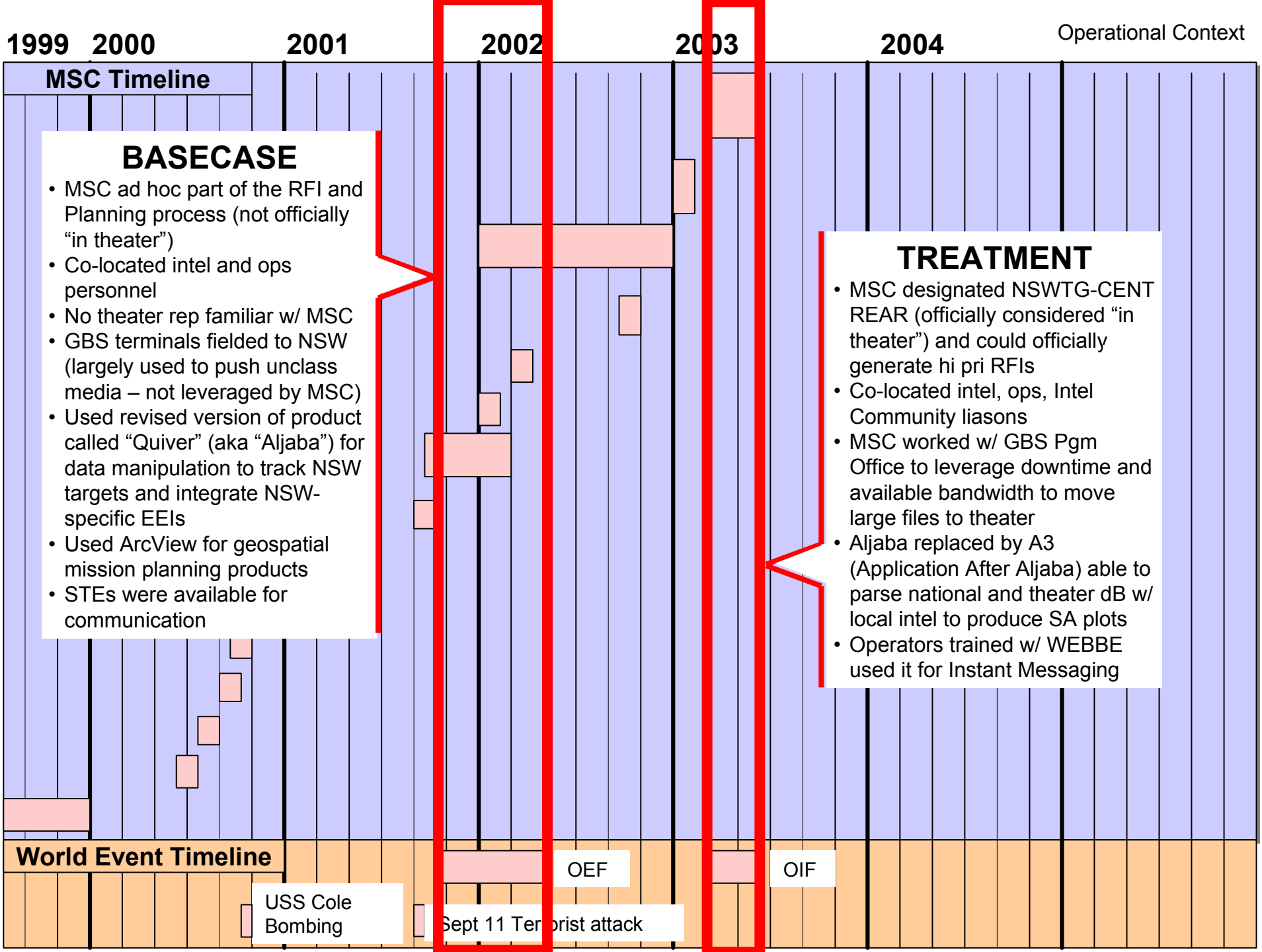
1999 2000 2001 2002 2003 2004

MSC Timeline

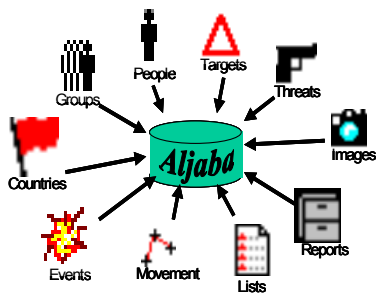
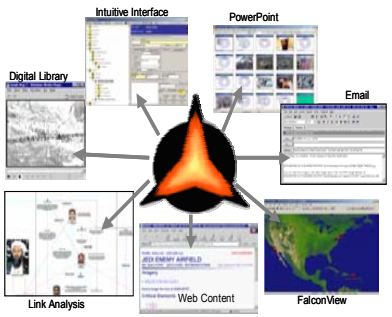
- OIF - MSC provides Tactical Cryptologic Support; plays role in 120+ SEAL Team Five missions
- 2003, MSC supports Cmdr, NSWG-1, SEAL compts, other nav commands
- 5,079 METOC products requested to support combat ops, exercises and training
- Webbe used and accepted by NSW in Millenium Challenge exercise
- MSC cut off from supporting role during Operation Anaconda
- Jan 02, MSC METOC Cell established
- OEF - MSC supported NSW. Reduces JSOTF footprint forward for Task Force K-BAR
- MSC tasked to dev target sets to build "SOF Campaign" to defeat terrorists
- May 01, GBS Transportable Ground Receive Suites (TGRS) fielded
- MSC gathers/tailors info for security measures in response to Cole Bombing
- Full-up MSC in Exercise FOAL EAGLE
- Full MSC in Exercise ULCHI FOCUS LENS
- Aug, MSC Functional
- Jun 2000, Staff training sessions and SOPs dev for each MSC position
- MSC conceived by CAPT William McRaven 1999

World Event Timeline

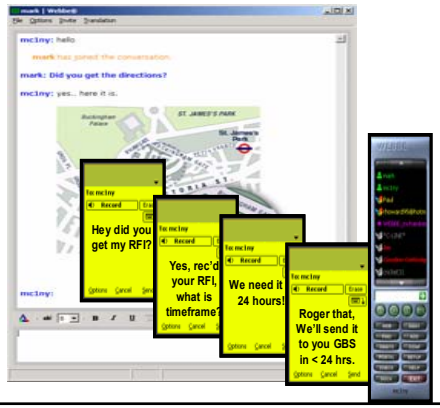
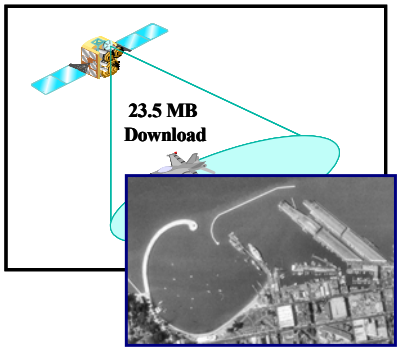
- OEF
- OIF
- USS Cole Bombing
- Sept 11 Terrorist attack


1999
2000
2001
2002
2003
2004
Operational Context
MSC Timeline
BASECASE
• MSC ad hoc part of the RFI and Planning process (not officially "in theater")
• Co-located intel and ops personnel
• No theater rep familiar w/ MSC
• GBS terminals fielded to NSW (largely used to push unclass media – not leveraged by MSC)
• Used revised version of product called "Quiver" (aka "Aljaba") for data manipulation to track NSW targets and integrate NSW-specific EEIs
• Used ArcView for geospatial mission planning products
• STEs were available for communication
TREATMENT
• MSC designated NSWTG-CENT REAR (officially considered "in theater") and could officially generate hi pri RFIs
• Co-located intel, ops, Intel Community liasons
• MSC worked w/ GBS Pgm Office to leverage downtime and available bandwidth to move large files to theater
• Aljaba replaced by A3 (Application After Aljaba) able to parse national and theater dB w/ local intel to produce SA plots
• Operators trained w/ WEBBE used it for Instant Messaging
World Event Timeline
OEF
OIF
USS Cole Bombing
Sept 11 Terrorist attack

What Are the Technologies?

	Description	Key Points
Aljaba 	Updated version of Quiver tool (database originally developed to track SAMs and plot directly to FalconView) used for target tracking by NSW during OEF	▸ Used to track NSW targets ▸ Used to integrate NSW-specific Essential Elements of Information ▸ Repository for: – Images – Target data – Reports – Lists ▸ Did not have the extensive report and tailored product generation capabilities of A3
A3 	Relational database that manages research, cataloging, dissemination, and integration of information. An application that automates majority of intelligence production tasks	▸ Intuitive MS Access front and backend ▸ Could pull and display data from numerous and disparate IC and DoD databases (e.g. RMS, MIDB, SOJICC) along with local intel ▸ Data can be exploited into new products: – FalconView Local Point, Threat and Drawing overlays (SHP files in 3.2) – Tailored PowerPoint presentations – Static Web Pages – Mission Data Cards (target Intel with all associated data categorized and linked.)

What Are the Technologies?

	Description	Key Points
WEBBE 	An instant-messenger communication tool (like MSN Messenger or AOL IM) used for secure multi-point communication	▸ Notes, voice, and files can be sent securely to anyone ▸ Secure voice communication is possible with the option of maintaining a record of what was said ▸ The protocol is light and can be used amid the most severe bandwith constraints ▸ Software application used on handhelds and laptops ▸ Integrates with: – IRC Chat – DCTS – Netmeeting – MSN and Outlook email
GBS 	Satellite broadcast system (based on commercial direct broadcast satellite technology) that acts as a data pipeline to forces with receiver units	▸ Capable of multiple levels of security ▸ Initially used to send unclass media content ▸ One-way dedicated data pipeline for transmission of large data files (e.g. Images) to field units ▸ An extension of the Defense Information Systems Network (DISN) and a part of the overall DoD MILSATCOM Architecture. ▸ NSW fielded 9 GBS Transportable Ground Receiver Suites in May 2001

Scope and Assumptions

- Scope of the case study has evolved based on continuing guidance; Would be nice to provide an end-to-end impact assessment, but not feasible given the scope and timeline to complete
- What the case study examines is the impacts of Mission Support Center and associated technologies (A3, WEBBE, GBS) on the ability to plan SOF missions
  - Minor impact for OEF
  - Large impact for OIF
- End result/mission effectiveness are not specifically addressed, but certain inferences have been made based on data collection/analysis

Approach

USE OTHER BAH Approach

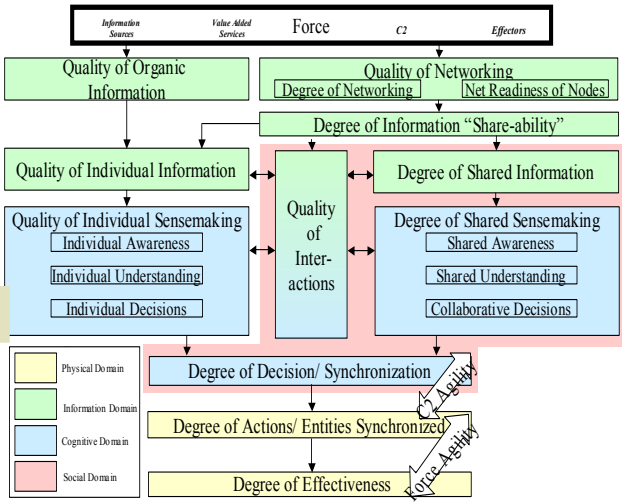
Understanding the Problem

NSWG1 Lexicon

SOF mission planning and execution

A3
Webbe
GBS
MSC

- Role of the case study developers:
- Interpret NSWG1 Lexicon
- Understand/interpret CF attributes
  - Assess impacts
  - "so what?"

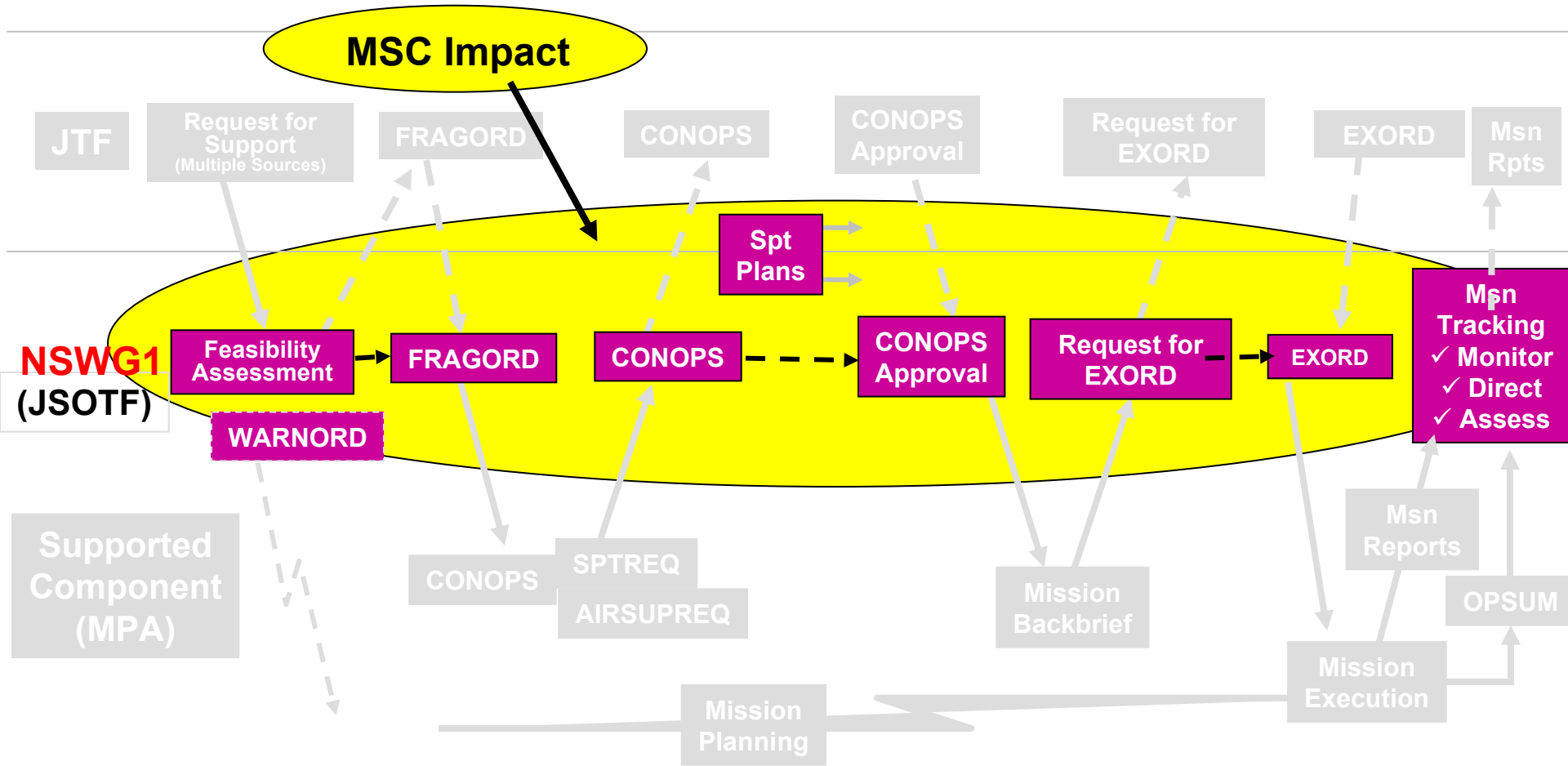


Attributes

Metrics

Variables

SOF Planning and Execution Process

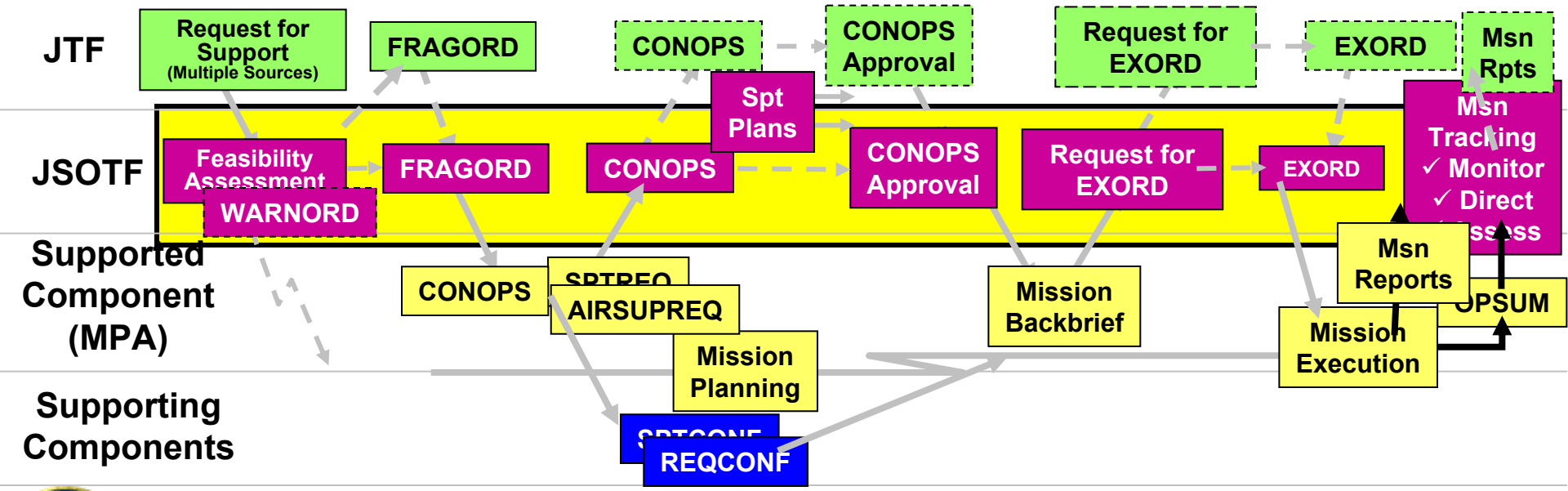


RFIs are part of the feasibility assessment

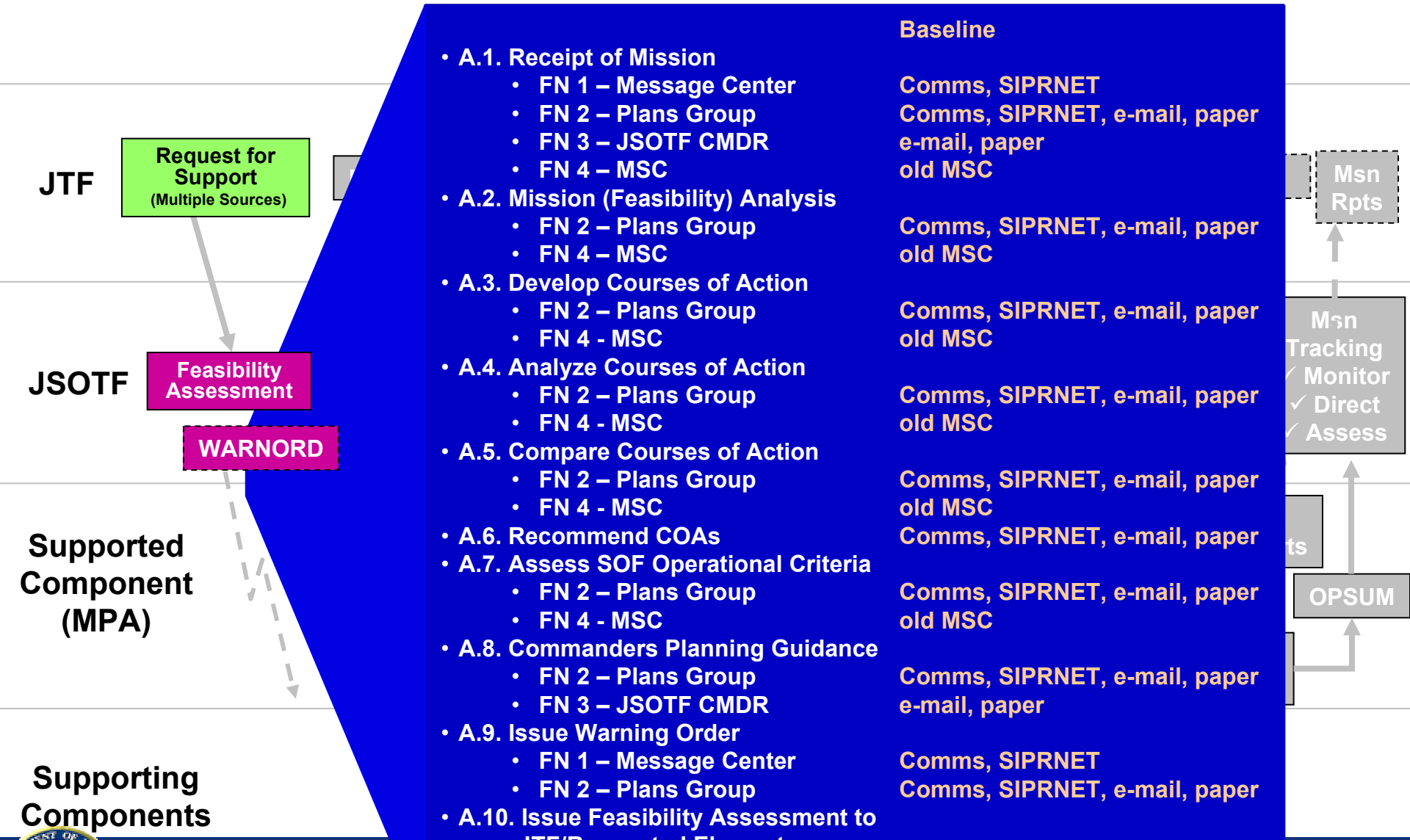
Activity Flow

- Detailed SOF mission planning process activity flow is shown below
- For the purpose of the case study, the SOF Planning and Execution process is assumed to be constant between OEF and OIF
- Mission preparation improvements in efficiency between OEF and OIF are in terms of NCO changes (processes and technology) within the activity flow diagrams
- Activities bounded within the box in the diagram below will be researched in detail using the CF in the case study.

SOF Planning and Execution Process (Baseline and Treatment Case)

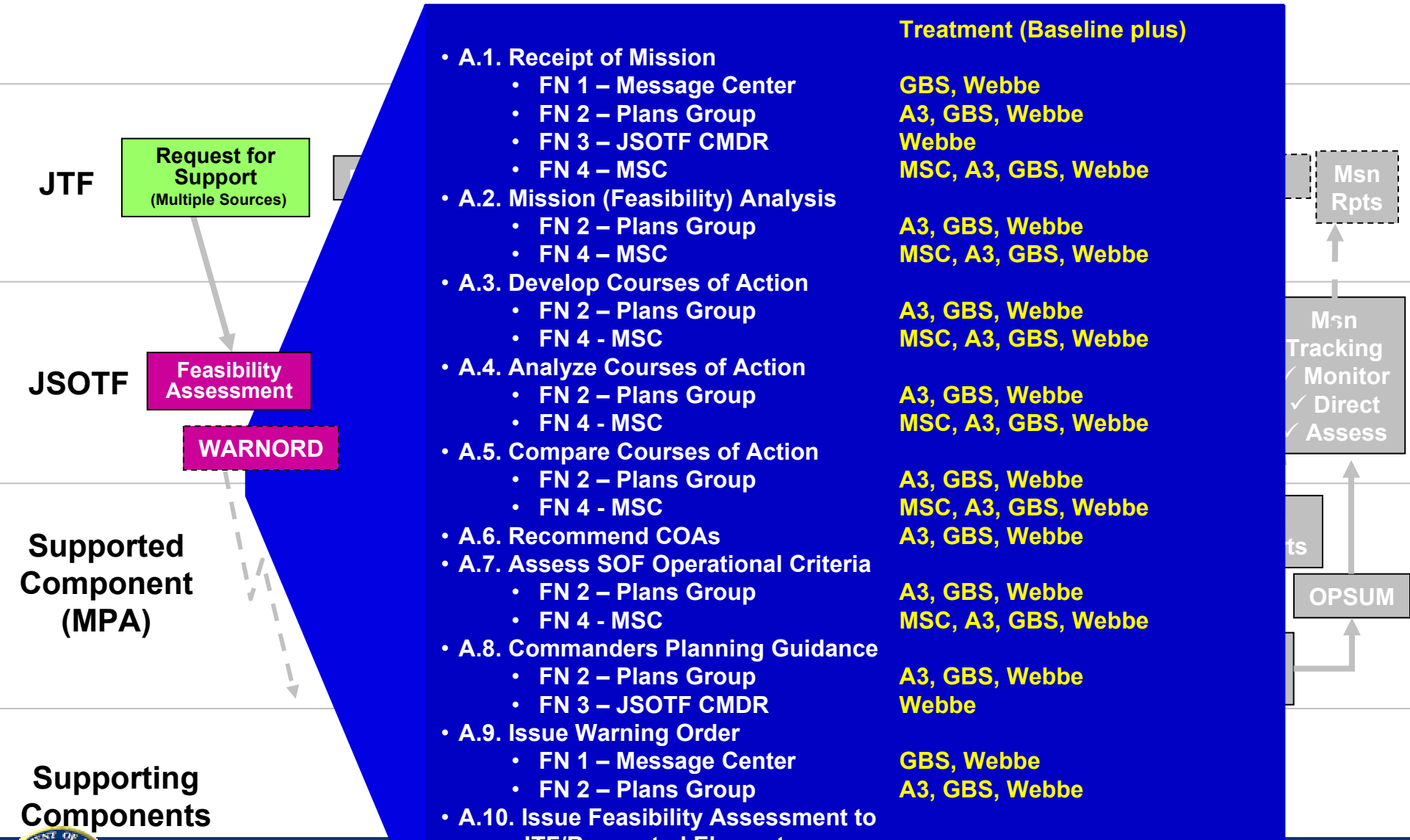


SOF Planning and Execution Process (1 of 5)



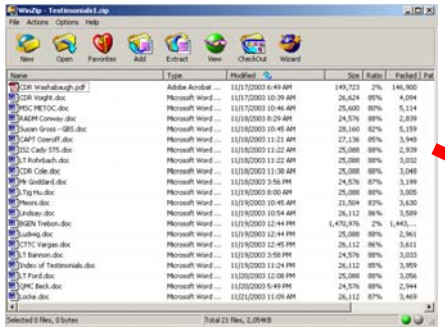
	Baseline
• A.1. Receipt of Mission	
• FN 1 – Message Center	Comms, SIPRNET
• FN 2 – Plans Group	Comms, SIPRNET, e-mail, paper
• FN 3 – JSOTF CMDR	e-mail, paper
• FN 4 – MSC	old MSC
• A.2. Mission (Feasibility) Analysis	
• FN 2 – Plans Group	Comms, SIPRNET, e-mail, paper
• FN 4 – MSC	old MSC
• A.3. Develop Courses of Action	
• FN 2 – Plans Group	Comms, SIPRNET, e-mail, paper
• FN 4 - MSC	old MSC
• A.4. Analyze Courses of Action	
• FN 2 – Plans Group	Comms, SIPRNET, e-mail, paper
• FN 4 - MSC	old MSC
• A.5. Compare Courses of Action	
• FN 2 – Plans Group	Comms, SIPRNET, e-mail, paper
• FN 4 - MSC	old MSC
• A.6. Recommend COAs	Comms, SIPRNET, e-mail, paper
• A.7. Assess SOF Operational Criteria	
• FN 2 – Plans Group	Comms, SIPRNET, e-mail, paper
• FN 4 - MSC	old MSC
• A.8. Commanders Planning Guidance	
• FN 2 – Plans Group	Comms, SIPRNET, e-mail, paper
• FN 3 – JSOTF CMDR	e-mail, paper
• A.9. Issue Warning Order	
• FN 1 – Message Center	Comms, SIPRNET
• FN 2 – Plans Group	Comms, SIPRNET, e-mail, paper
• A.10. Issue Feasibility Assessment to JTF/Requested Element	
• FN 1 – Message Center	Comms, SIPRNET
• FN 2 – Plans Group	Comms, SIPRNET, e-mail, paper

SOF Planning and Execution Process (1 of 5)

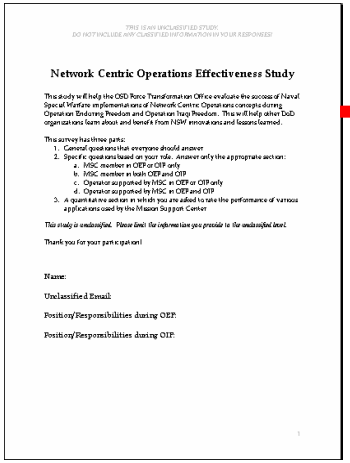


	Treatment (Baseline plus)
• A.1. Receipt of Mission	
• FN 1 – Message Center	GBS, Webbe
• FN 2 – Plans Group	A3, GBS, Webbe
• FN 3 – JSOTF CMDR	Webbe
• FN 4 – MSC	MSC, A3, GBS, Webbe
• A.2. Mission (Feasibility) Analysis	
• FN 2 – Plans Group	A3, GBS, Webbe
• FN 4 – MSC	MSC, A3, GBS, Webbe
• A.3. Develop Courses of Action	
• FN 2 – Plans Group	A3, GBS, Webbe
• FN 4 - MSC	MSC, A3, GBS, Webbe
• A.4. Analyze Courses of Action	
• FN 2 – Plans Group	A3, GBS, Webbe
• FN 4 - MSC	MSC, A3, GBS, Webbe
• A.5. Compare Courses of Action	
• FN 2 – Plans Group	A3, GBS, Webbe
• FN 4 - MSC	MSC, A3, GBS, Webbe
• A.6. Recommend COAs	A3, GBS, Webbe
• A.7. Assess SOF Operational Criteria	
• FN 2 – Plans Group	A3, GBS, Webbe
• FN 4 - MSC	MSC, A3, GBS, Webbe
• A.8. Commanders Planning Guidance	
• FN 2 – Plans Group	A3, GBS, Webbe
• FN 3 – JSOTF CMDR	Webbe
• A.9. Issue Warning Order	
• FN 1 – Message Center	GBS, Webbe
• FN 2 – Plans Group	A3, GBS, Webbe
• A.10. Issue Feasibility Assessment to JTF/Requested Element	
• FN 1 – Message Center	GBS, Webbe
• FN 2 – Plans Group	A3, GBS, Webbe

Analysis Plan Process Flow



NSW After-action Interviews

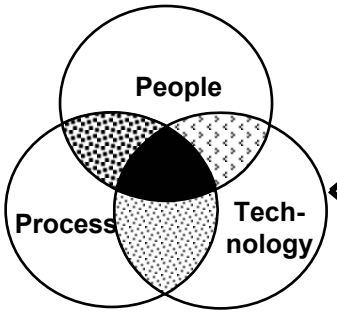


BAH Team Interviews

Other data sources

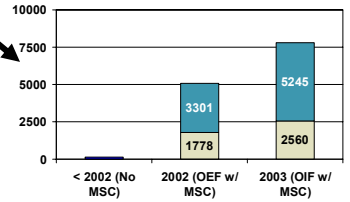
Case Study Database (Archive)

Analysis Plan Process Flow



Analysis of people, process, technology factors

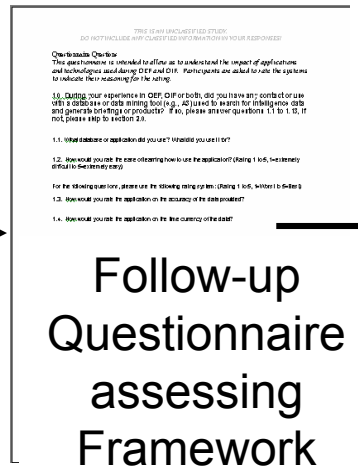
Subjective factors



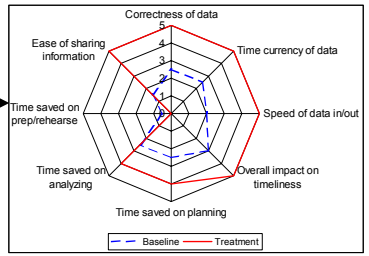
Measures of Performance

Case Study Database (Archive)

Identified Key NCO Framework Metrics



Follow-up Questionnaire assessing Framework Metrics



Assess metrics data

Final report

Archived

Data Collection Plan

- Two primary sources of information
  - 20 detailed after-action interviews conducted by NSW on MSC performance
    - Multiple levels of hierarchy – included flag officers, Navy staff, contractors and intelligence community liaisons
    - Multiple mission perspectives – included operators, forward support and rear support (i.e., MSC)
  - 13 detailed interviews conducted by BAH team on MSC performance in the context of NCO framework, based on interview guidance
    - Included follow-up interviews with subjects of above interviews
    - Included other Special Operations Forces participants from Joint community to facilitate diverse perspectives
- Other sources of information
  - 15 follow-up surveys quantifying MSC in context of NCO framework, based on interview guidance (in progress)
  - Six after-action reports and briefings on MSC and SOF performance

Data Sources – NSW Interviews

1. Brigadier General Gregory L. Trebon, USAF Commander, Special Operations – PACOM
2. Rear Admiral Conway, Commander Expeditionary Strike Group ONE
3. Captain David F. Ozeroff, USNR, Senior Battle Watch Captain, Mission Support Center
4. Norven Goddard, GS-15, Division Director Missile Defense Directorate, US Army Space and Missile Defense Command Battle Lab
5. Commander Brad Voight, Officer in Command, Mission Support Center
6. Mark Meoni, GS-13, SOMPE-M Program Manager, Naval Special Warfare Command
7. Susan Gross, GS-13, N6, Commander Naval Special Warfare Group ONE
8. Doctoral Candidate John R. Lindsay, Department of Political Science, Massachusetts Institute of Technology (former NSWG1 @ MSC)
9. Lieutenant Junior Grade Eric Hu, Assistant Operations Officer, SEAL Delivery Vehicle Team ONE
10. Commander Jason Washabaugh, USN, SOCOM

Data Sources, cont. – NSW Interviews

11. Commander Dave Cole, SEAL, Commander Naval Special Warfare, Liaison Expeditionary Strike Group ONE
12. Intelligence Specialist Second Class Dan Cady, SEAL TEAM FIVE, CENTCOM Intel LPO
13. Lieutenant Ed Rohrbach, SEAL TEAM FIVE, ECHO Platoon Commander
14. Chief Petty Officer Neftali Vargas, Commander Naval Special Warfare Group ONE
15. Wayne Ludwig, GS-14, NIMA Geospatial Analyst, Special Targeting Branch, NIMA
16. Lieutenant Larry Bannon, OPS Naval Special Warfare Group ONE
17. Lieutenant Jim Ford, Senior Intelligence Officer for NSWTG-Cent in OIF
18. John Locke, MSC contractor (Titan)
19. QMC Chris Beck, Combat Systems Officer SEAL TEAM FIVE
20. MSC METOC staff, NSWG1

Data Sources, cont. – Case Study Interviews

1. LT Jim Ford, NSWG1, Senior Intelligence Officer for NSWTG-Cent in OIF; 08/05/03 & 10/15/03
2. LT Jon Lindsay, NSWG1, MSC support; multiple times from 10/20/03 to present
3. Doug Iovinelli, NSWG1, MSC support, December 2003
4. CDR Brad Voigt, Officer in Command, Mission Support Center; 01/13/04 (informal)
5. LT Brady Babcock, NSWG1 Staff cryptologist and acting N2; 01/13/04 (informal)
6. LCDR Banks, JFCOM SEAL Planner during OIF; November 2003
7. LTC (Ret) Bennet, JFCOM Special Forces Ops/Plans Trainer during OIF; November 2003
8. LTC Burkland, JFCOM Intelligence Trainer during OIF; November 2003
9. LTC Hept, JFCOM Strategic Studies; November 2003
10. MC Spenser, JFCOM SEAL Ops/IM Trainer during OIF; November 2003
11. MSG Richardson, JFCOM Ranger Ops/IM Trainer during OIF; November 2003
12. SGM Teske, JFCOM Ranger Ops/IM Trainer during OIF; November 2003
13. Jon Cannon, NSW Task Unit Commander during OEF; April 2004

Data Sources, cont. – After-Action Reports and Briefings

1. NSW Warsaw Network Centric Event UNCLAS, LT Jon Lindsay; 22 June 2003
2. Naval Special Warfare's Mission Support Center, NSW; no date
3. Naval Special Warfare Group ONE Mission Support Center – Vanguard of Naval Special Warfare's Network Centric Enterprise, LT Jim Ford; 28 August 2002
4. Sombrero "A3" – Uniting Operations and Intelligence via the Third Wave, LT Jim Ford & LCDR Ken Elkern; 10 July 2002
5. US Naval Special Warfare: Implementing Network-Centric Concepts, LCDR Ken Elkern; November 2003
6. The Lessons of the Iraq War: Main Report, Eleventh Working Draft, Anthony H. Cordesman & Arleigh A. Burke, CSIS; 21 July 2003

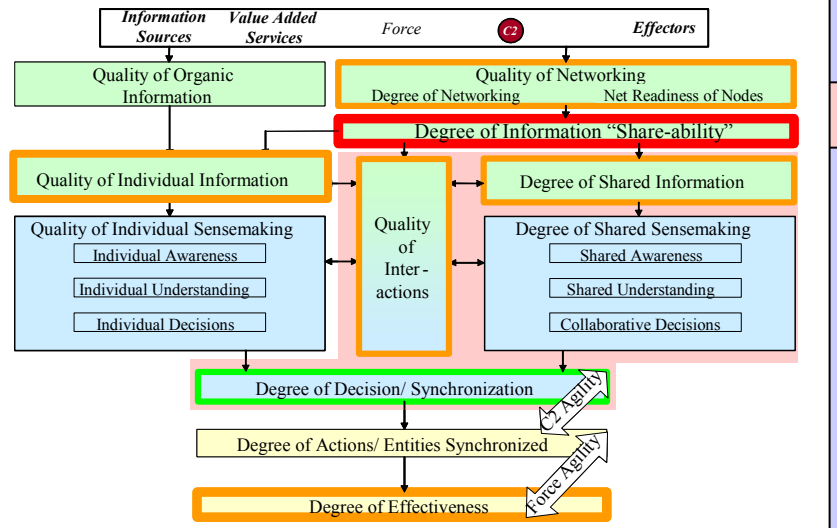
Findings/Insights

- Analysis of data collected has shown demonstrable impacts on:
  - Quality of Networking
  - Degree of Information Share-ability
  - Quality of Individual Information
  - Degree of Shared Information
  - Quality of Interactions
  - Degree of Decision Making (for mission planning)
- Inferences based on data analysis have also been made to tie in impacts on Degree of Effectiveness
- Specific vignettes and stories have been embedded with analysis, findings and impacts to illustrate impacts

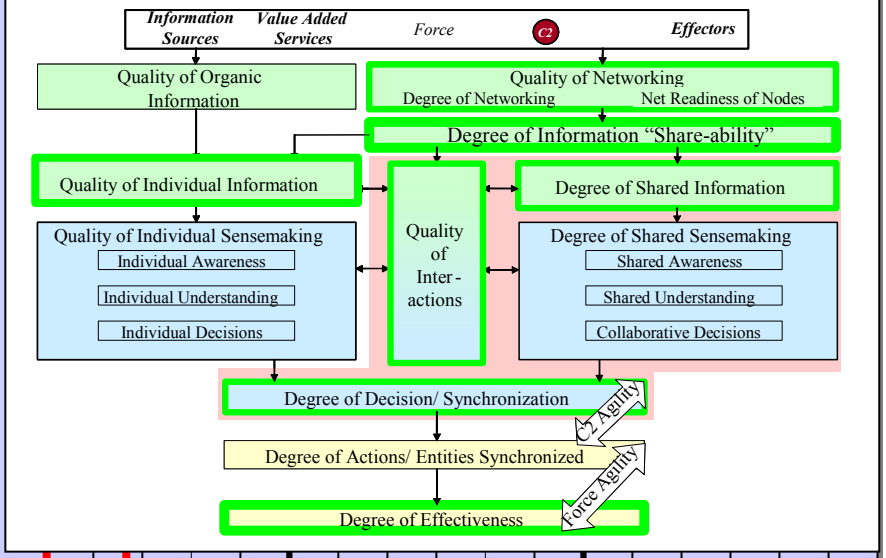
1999 2000 2001 2002 2003 2004

MSC Timeline

BASELINE



TREATMENT



World Event Timeline

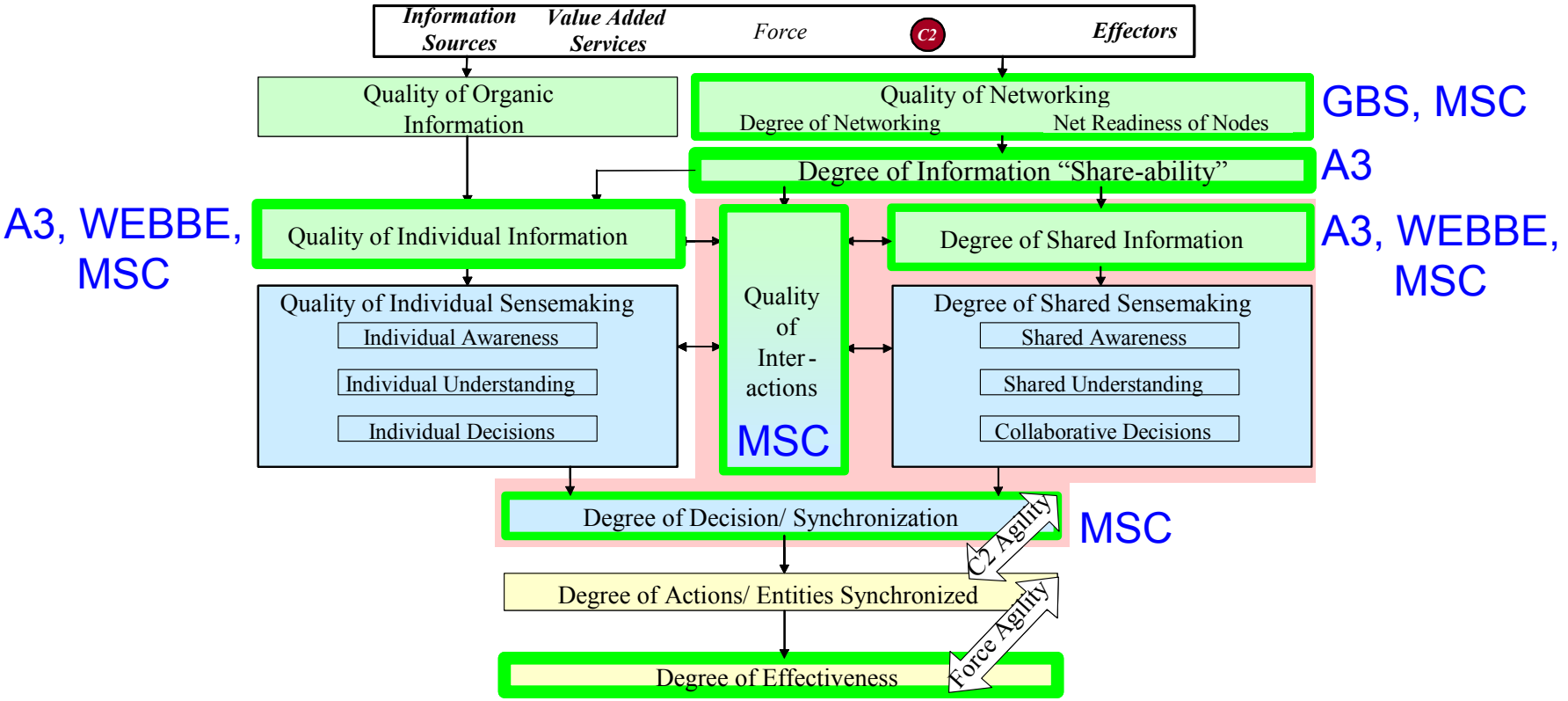
OEF

OIF

USS Cole Bombing

Sept 11 Terrorist attack

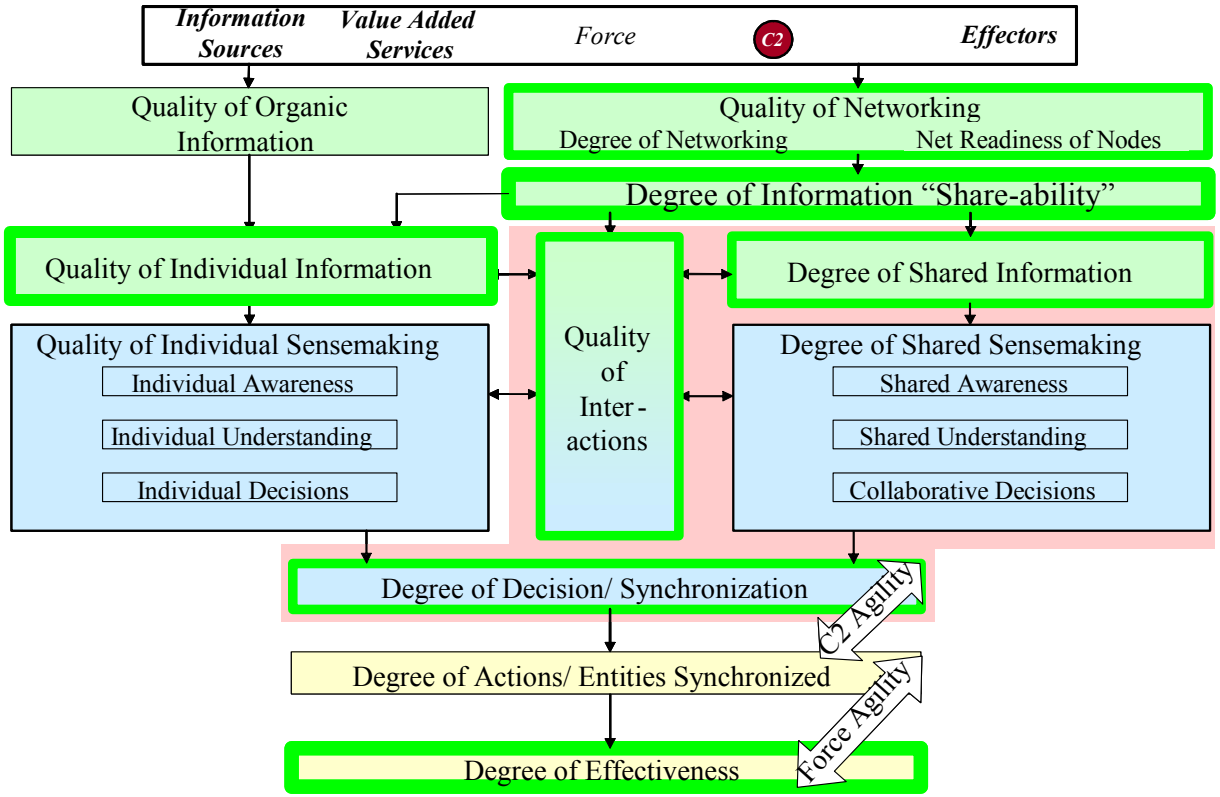
Bottom Line Impacts



The Story Line

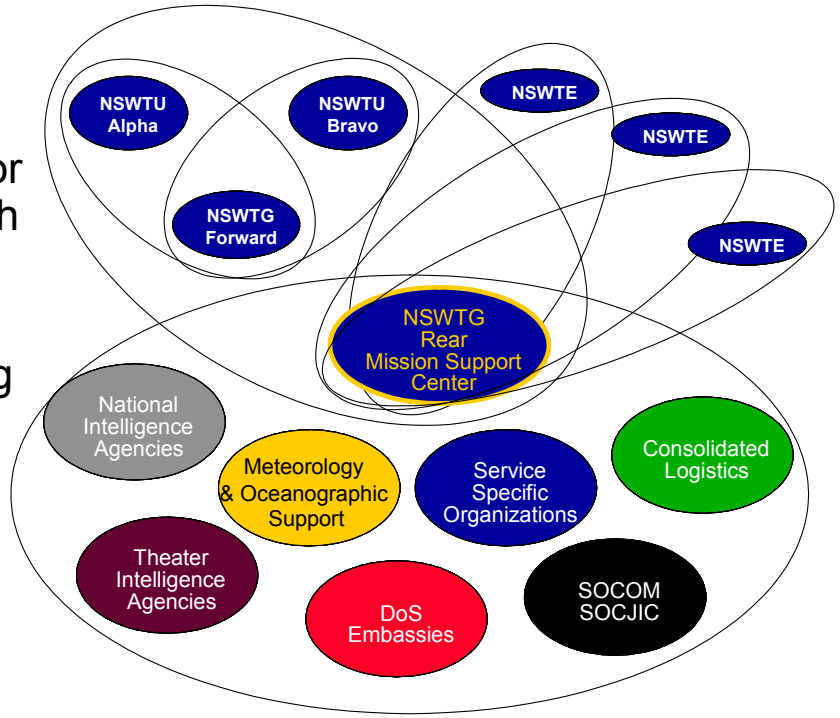
The evolution of the MSC between OEF and OIF…

…demonstrated improvements in the *Quality of Networking*…



Improvements in the "Quality of Networking"

- Connectivity changes within the MSC between OEF and OIF
  - Reservist (INTEL Corp. employee) upgraded MSC LAN
  - MSC and GBS Program Office identified process for MSC to leverage downtime and available bandwidth of GBS system (NSW had already fielded 9 GBS Transportable Ground Receiver Suites May 2001)
  - Operators trained on WEBBE for instant messaging and chat functionality during Millennium Challenge
- Changes in MSC's Reach between OEF and OIF
  - Intelligence Community liaisons operated within MSC for OIF
  - MSC designated "Naval Surface Warfare Task Group Rear" (even though it was in CONUS). This enabled it to formally generate RFIs which could be designated hi priority

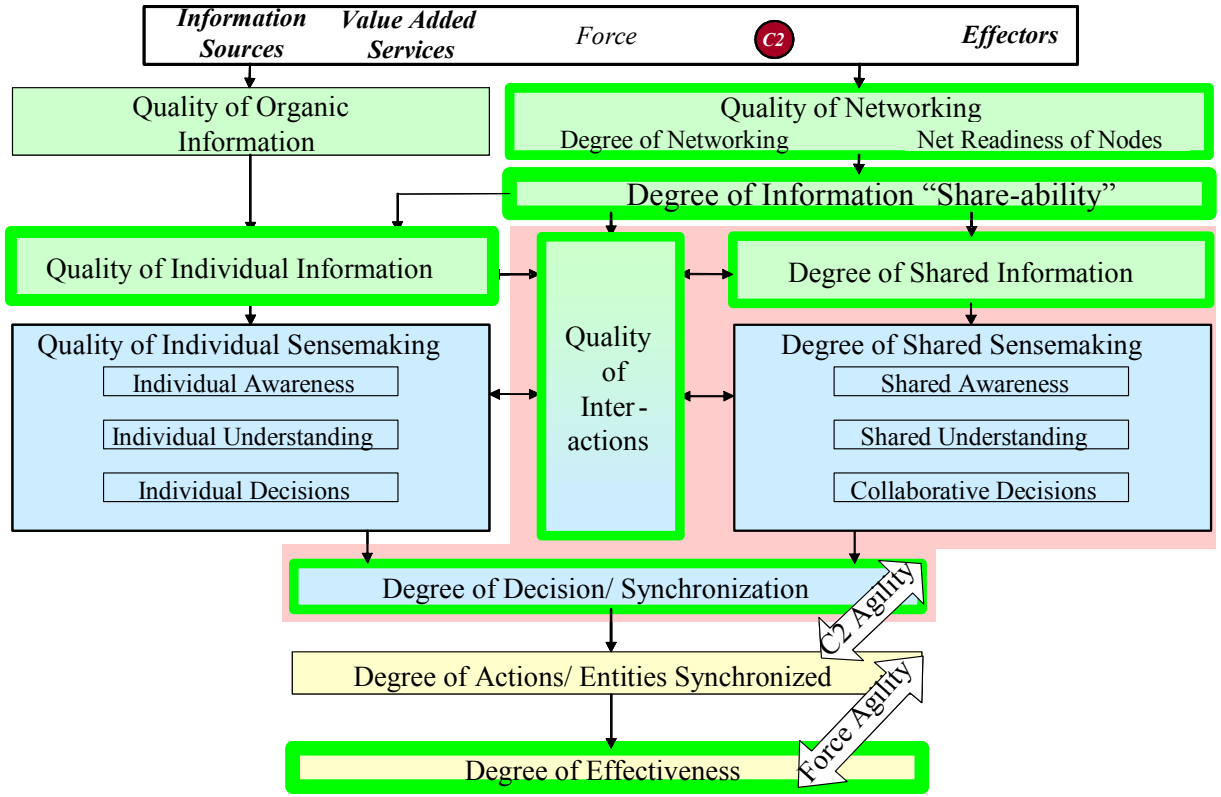


The Story Line

The evolution of the MSC between OEF and OIF…

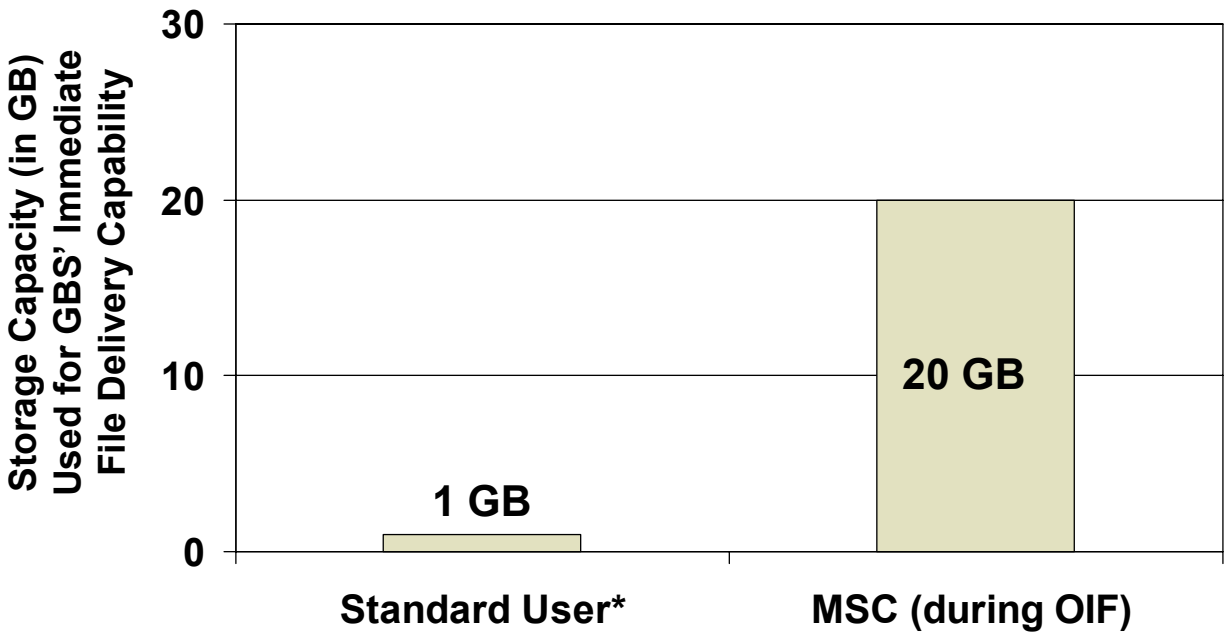
…demonstrated improvements in the *Quality of Networking*…

… demonstrated improvements in the *Degree of Information Shareability*…



Improvements in the Degree of Information Shareability

- MSC increased the Ease of Use by becoming a part of the official RFI process and by having staff forward deployed familiar with the MSC's capabilities
- MSC used GBS as a surrogate FTP site to increase the Quantity of Posted Information



MSC made tremendous use of GBS during OIF

- **NSW completed fielding 9 GBS Transportable Ground Receiver Suites (May, 2001)**
- **On average 2GB/day of information passed through GBS from MSC**
- **In total ½ Terabyte of information passed through GBS from MSC during OIF combat**

**MSC did not use GBS prior to OIF; therefore the only comparison is to a "standard" user.*

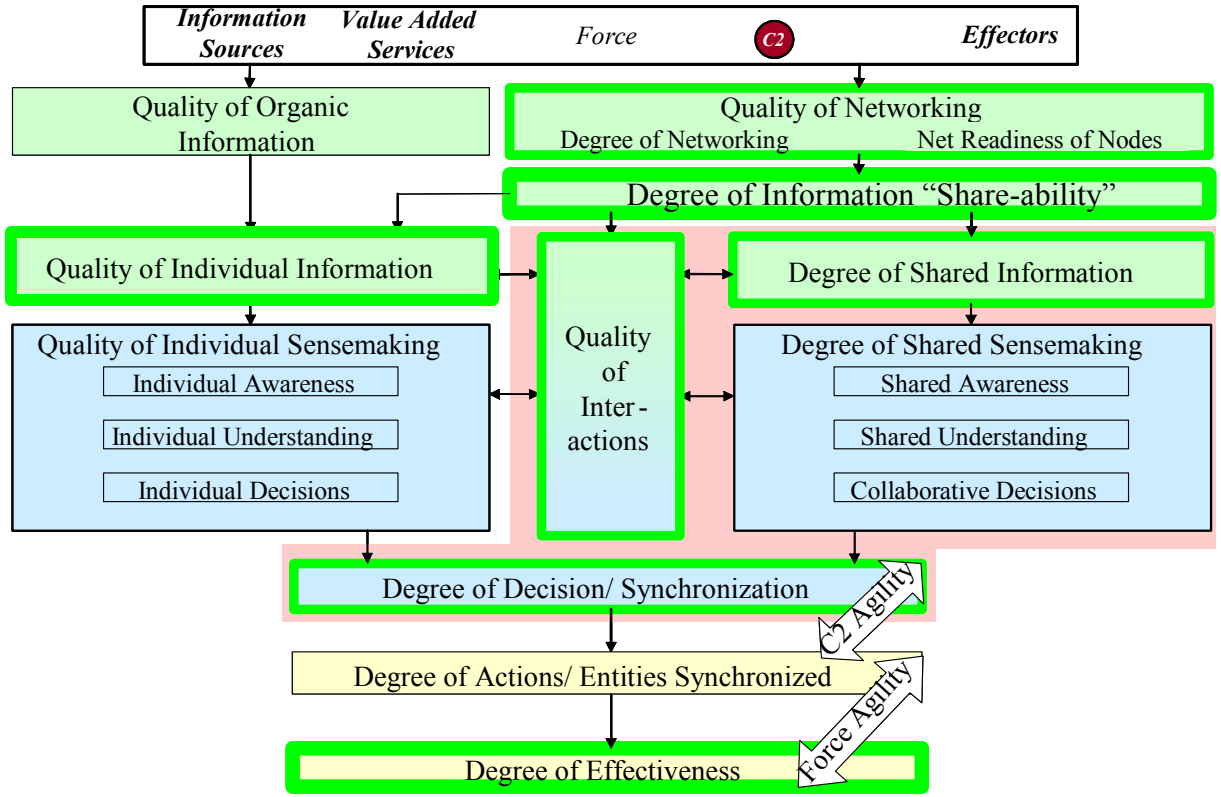
The Story Line

The evolution of the MSC between OEF and OIF…

…demonstrated improvements in the *Quality of Networking…*

… demonstrated improvements in the *Degree of Information Shareability…*

…demonstrated improvements in the *Quality of Individual Information*



The Story Line

The evolution of the MSC between OEF and OIF…

…demonstrated improvements in the *Quality of Networking…*

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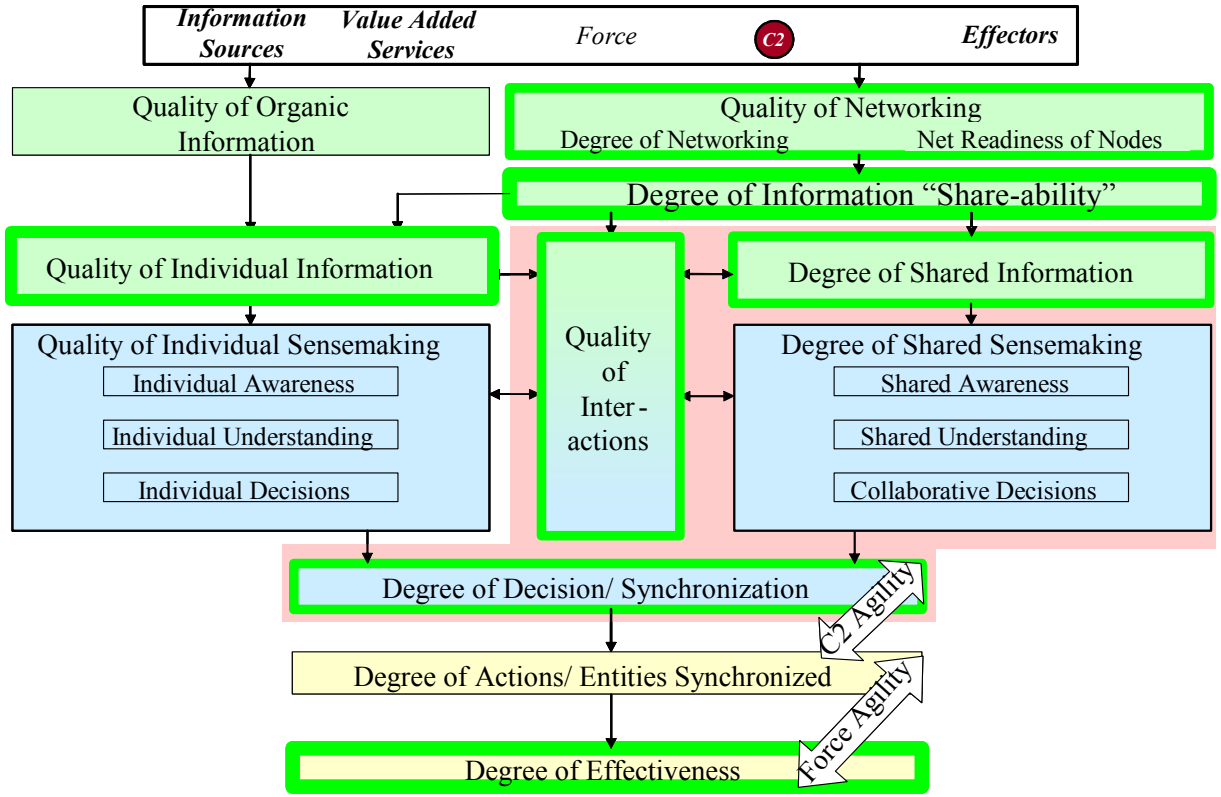
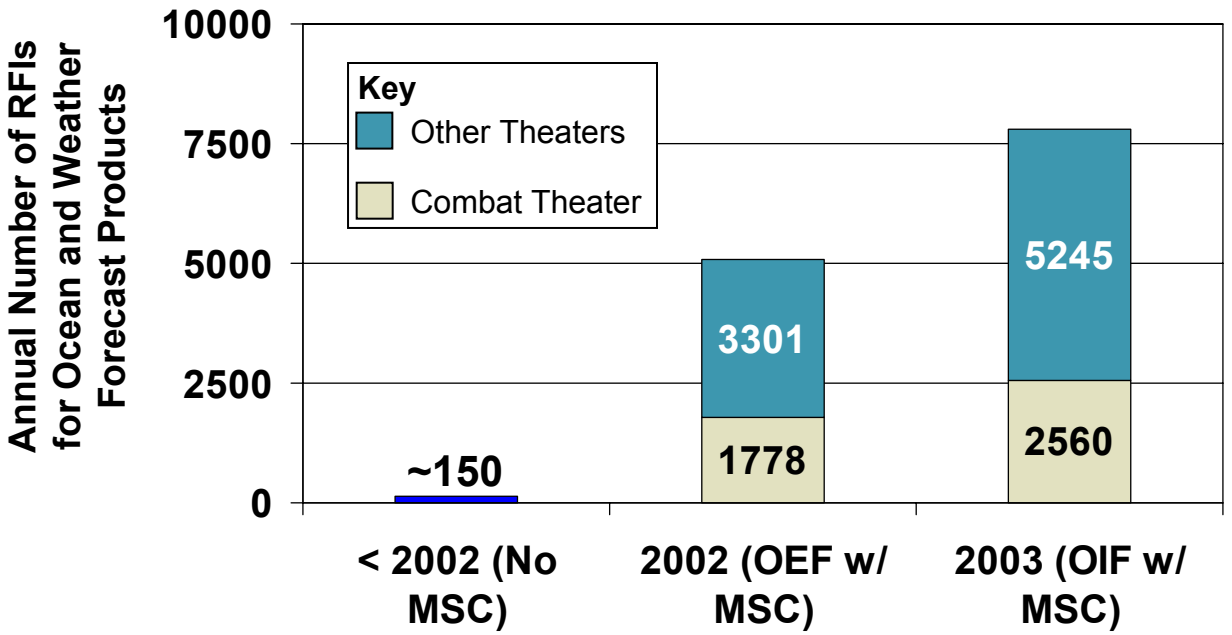
…demonstrated improvements *Quality of Interaction*.



Improved Quality of Interactions

- **The prompt performance of the MSC led to dramatic increases in the number of RFIs – demonstrating both an improved Quantity, and anecdotally, and improved Quality**



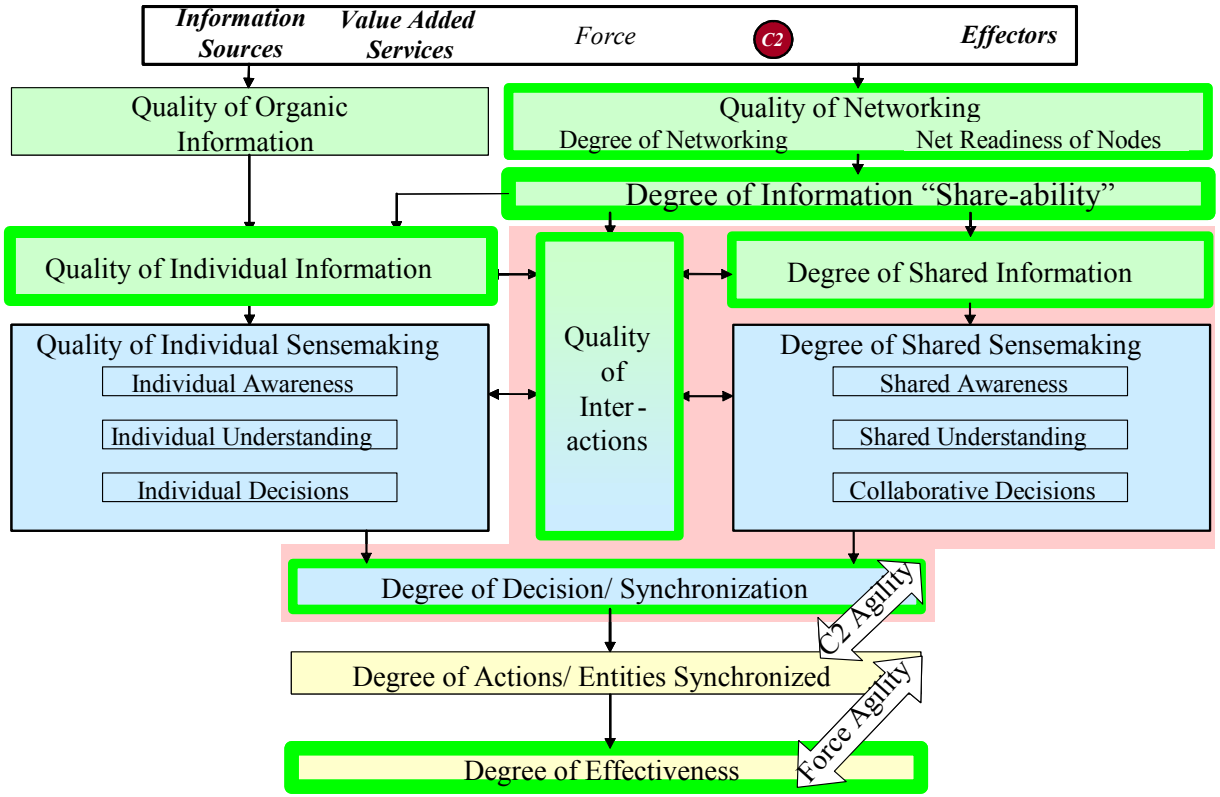
MSC response to the increased RFIs resulted in higher quantity (see METOC RFIs at left)…

…and higher level of quality

- MSC provided "…state of the art" products
- During exercises, commander required that ONLY products from the MSC-METOC be briefed in the command center

The Story Line

The evolution of the MSC between OEF and OIF…



…demonstrated improvements in the *Quality of Networking…*

… demonstrated improvements in the *Degree of Information Shareability…*

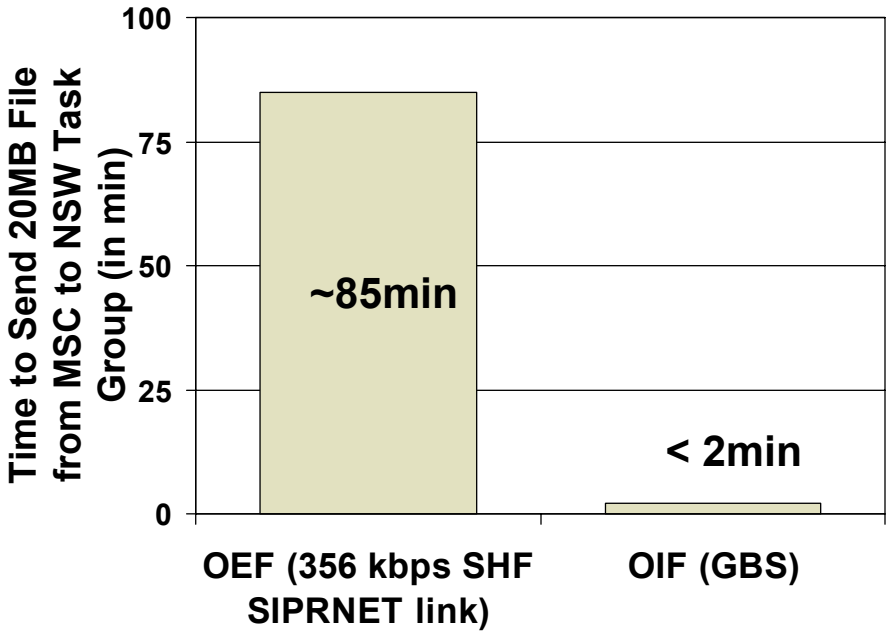
…demonstrated improvements in the *Quality of Individual Information*

…demonstrated improvements *Quality of Interaction*.

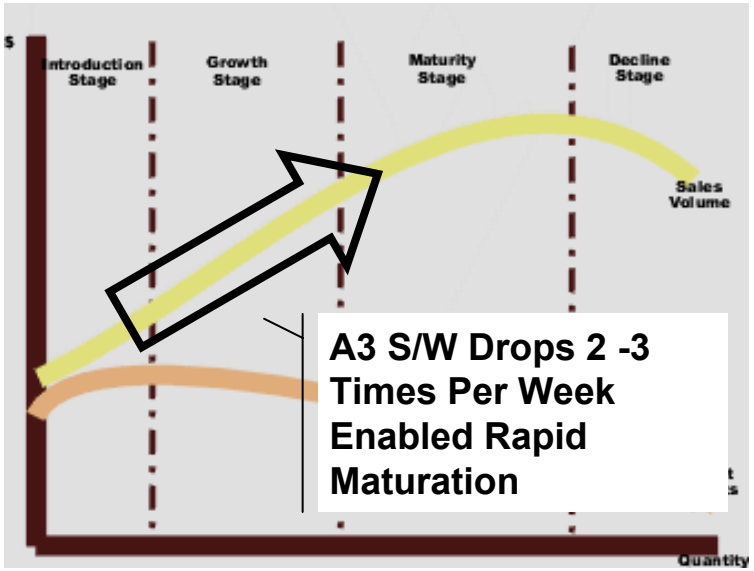
…demonstrated improvements in the *Degree of Shared Information*

Improvements in the Degree of Shared Information (Time Currency of Data)

Access to GBS Enabled MSC to Provide Rapid Data Transfer to NSW TG FWD



Access to GBS Enabled MSC to Rapidly Update A3 based on Real Time FWD Analyst Needs



Notional Product Life Cycle Curve*

Improvements in the Degree of Shared Information (Quality and Quantity)

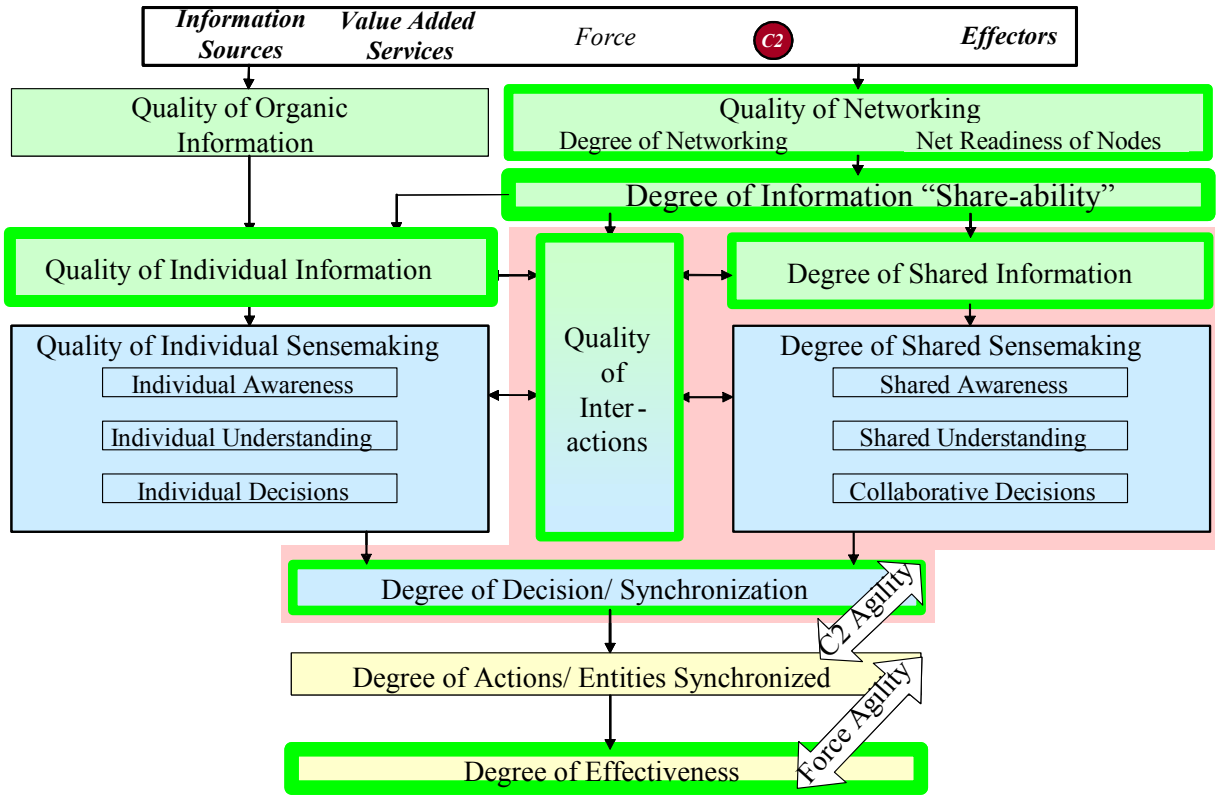
	17 JUN		18 JUN		19 JUN		20 JUN	
	00Z-12Z	12Z-00Z	00Z-12Z	12Z-00Z	00Z-12Z	12Z-00Z	00Z-12Z	12Z-00Z
PERSONNEL	T	T	T	T	T	T	T	T
HELO		V	V	V	V	V	V	V
MK-V				W		W		W
RIB				W		W		W
SDV				S	S	S	S	S
	W: VRB 5 BCMG NW 10-15 BY 12Z V: 4-6 HZ DCRG 1-3 BLDU T: 99/83 SST: 80-83 S: 1-2, 2-4 SEC SS: 2		W: NW 13-18 BCMG NW 15-20G25 BY 12Z V: 3-5 HZ, OCNL 1-3 BLDU T: 99/85 SST: 80-83 S: 1-2, INCRG 2-4, 2-4 SEC BY 18Z SS: 2-3		W: NW 13-18 BCMG NW 15-20G25 BY 12Z V: 3-5 HZ, OCNL 1-3 BLDU T: 97/83 SST: 80-83 S: 2-4, 3-5 SEC SS: 2-3		W: NW 13-18 BCMG NW 15-20G25 BY 12Z V: 3-5 HZ, OCNL 1-3 BLDU T: 98/81 SST: 80-83 S: 2-4, 3-5 SEC SS: 2-3	

W = Surface Winds (KTS)
V = Visibility (NM)
T = Temperature (F)
RW= Rainshowers
TS = Thunderstorm
TB = Turbulence
F = Fog
HZ = Haze
DU = Dust
C = Ceilings
S = Sea Heights
SS = Sea State
HI = Heat Index

= No Impact = Marginal Impact = Significant Impact

The Story Line

The evolution of the MSC between OEF and OIF…



These improvements contributed to an increased <u>Degree of Decision Making (Mission Planning)</u> and increased <u>Degree of Effectiveness</u>.

…demonstrated improvements in the *Quality of Networking…*

… demonstrated improvements in the *Degree of Information Shareability…*

…demonstrated improvements in the *Quality of Individual Information*

…demonstrated improvements *Quality of Interaction*.

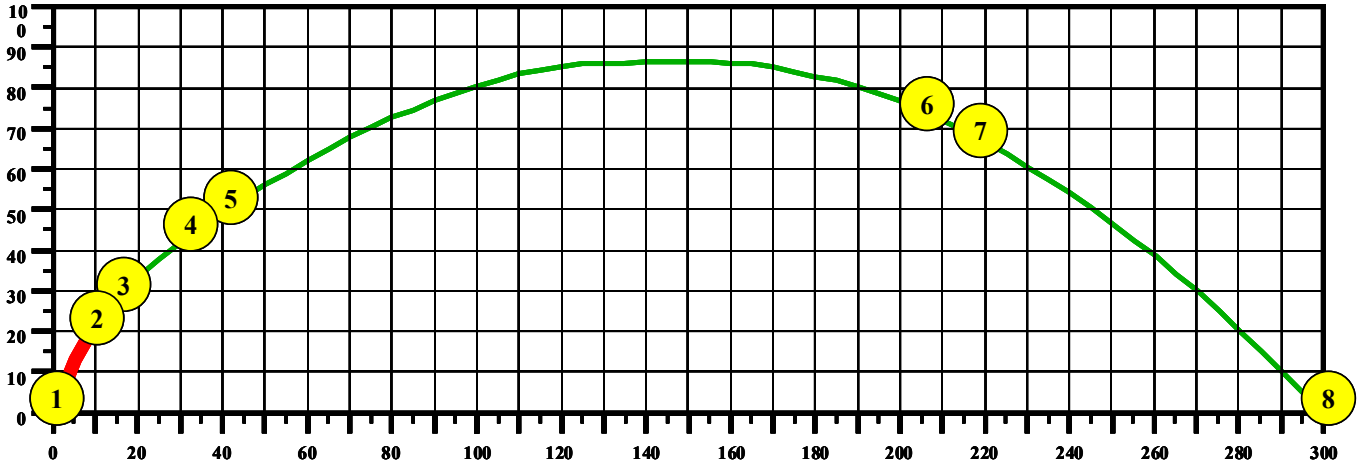
…demonstrated improvements in the *Degree of Shared Information*

High Support to Decision Making (OEF)

Currency of Information

Real-time		
Near-Real time (2-3 minutes)	Tracked SA with digital operational picture of Afghanistan, updated digitally	
Delayed		Tracked SA with 40 maps of southern Afghanistan with pins & stickies updated with position reports
	3-man Task Unit TOC Supported by MSC	**75-man USMC MEU Landing Force Operations Center**

High Support to Decision Making (OIF)



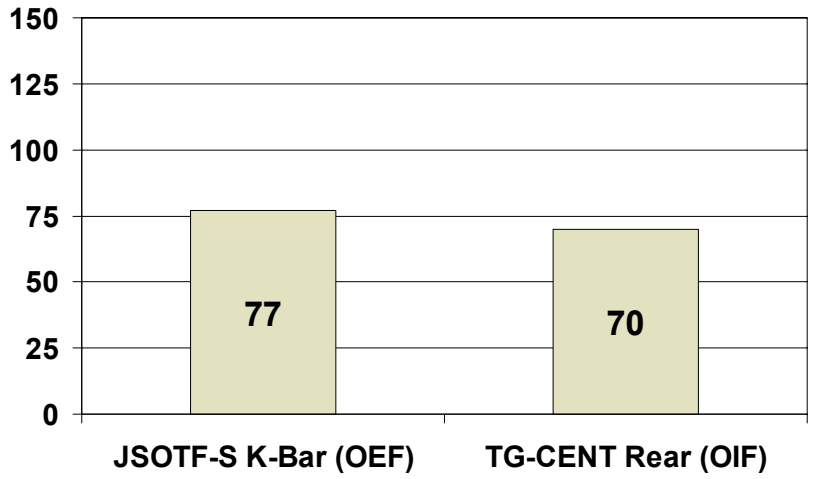
Timeline:

1. 0:00 TBM Launch
2. 0:30 Detect
3. 0:45 Initial Launch Report
4. 1:30 Impact Point Prediction
5. 1:45 "Lightning" Alert/data relayed to MSC
6. 4:00 HPAC product sent forward
7. 4:15 Decision made to stay in/exit from MOPP Condition
8. 6:00 Impact time

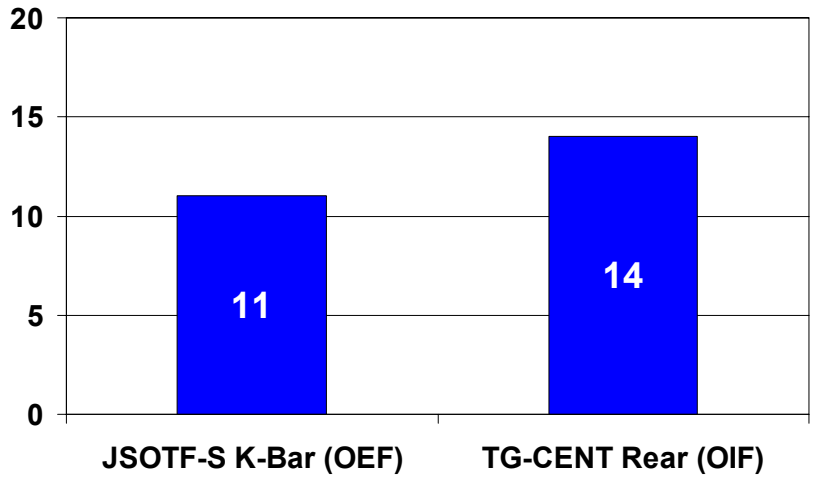
Other forces remained at MOPP-4 for hours while NSW stood down

Degree of Effectiveness (Missions Supported by MSC)

Total Number of Combat Missions Supported by the MSC



Number of Combat Missions per Month Supported by the MSC

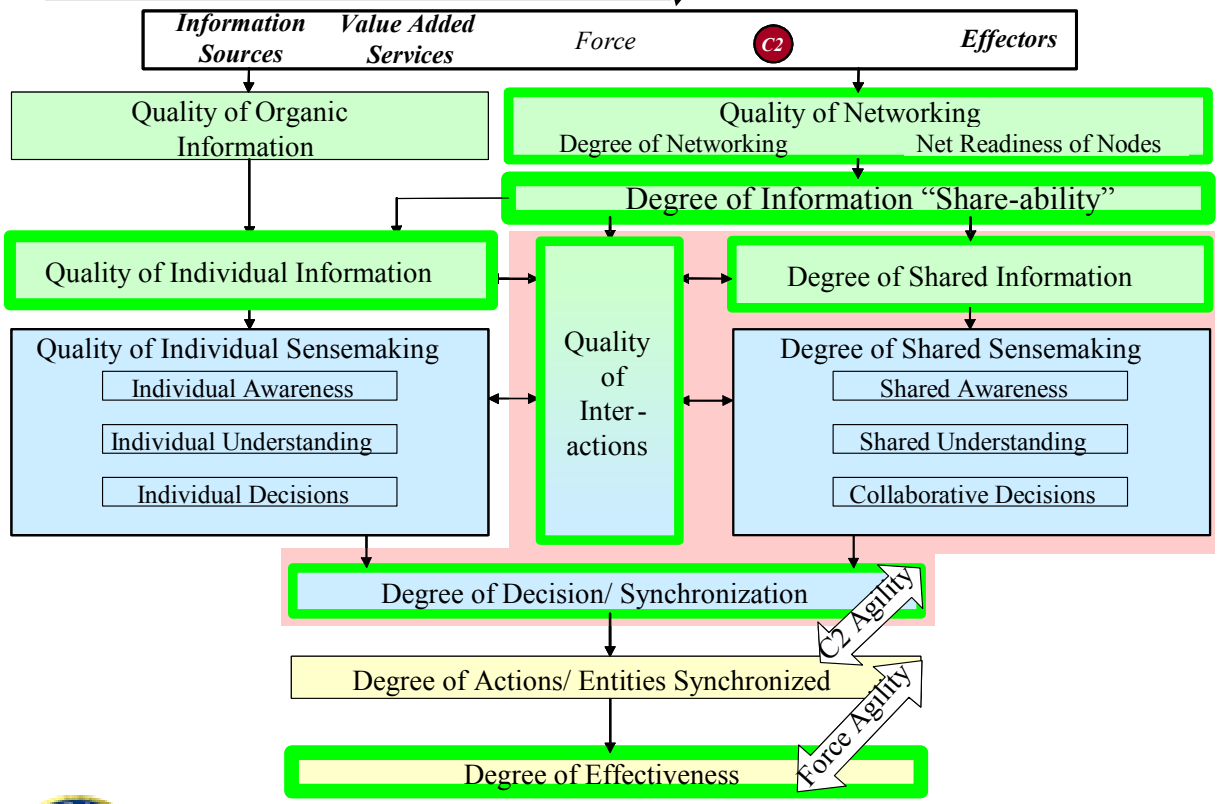


Overall Impact – NSWG1 Perspective

- **Enhanced Command and Control (NSWTG)**
  - Increased mobility of the commander and his key battle staff
  - Effective information management provided commander with rapid, tailored, decision quality information
  - Increased global situational awareness of the operational commander
  - Increased consistency of global planning efforts
  - Increased survivability - reduced force protection concerns
- **Increased Mission Unit Effectiveness (NSWTU)**
  - Increased quality of information – available ***earlier*** in the planning process
  - Increased situational awareness at the unit level
  - Increased time for mission planning and rehearsal
  - Reduced risk - increased probability of mission success
- **Bottom Line:**
  - Altered initial conditions
  - Significantly increased combat power by increasing the number of combat missions that could be simultaneously conducted world wide
  - Decisively impacted events in Global War on Terrorism

The Bottom Line

MSC Increased the Operational Tempo in OIF:
- MSC continued to work while Command Staff moved
- Reduced time to take down and set up Command Staff



A3 replaces numerous disparate applications that do not communicate with capability to store, retrieve intel data, and generate tailored reports

Webbe allows for quick and secure one to one communication with units inaccessible via traditional comms (i.e., Voice)

GBS allows quick delivery of large software packages or packets of intel directly to individual stations or servers

Analysis of After-Action Reports

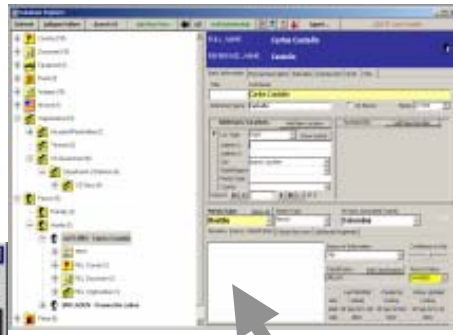
- Current data consists of written statements and recorded answers to interview questions. The following table shows the relationship of data from specific individuals to referenced concepts from the Conceptual framework. The bottom of the table shows a color depiction of the aggregated percentage of references to the specific framework concept.

Legend
< 5 % - RED
5 – 10 % - YELLOW
11 - 15 % - GREEN
> 15% - BLUE

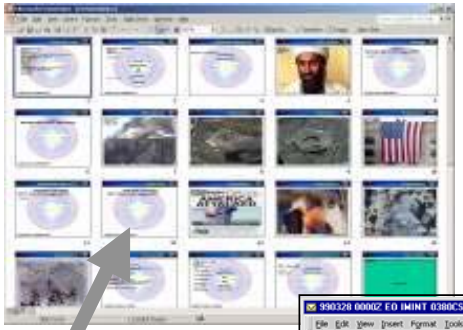
	Person #																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Aggregated
Quality of Organic Information																				
Quality of Networking	x							x		x	x		x	x			x		x	
Quality of Indiv Information			x						x											
Degree of Information Shareability	x	x	x	x	x	x				x			x	x	x	x		x	x	
Quality of Individual Information					x				x											
Quality of Individual Sensemaking																				
Degree of Shared Information					x															
Degree of Shared Sensemaking			x	x		x				x					x			x		
DoSS - Shared Awareness			x	x		x						x		x				x	x	
DoSS - Shared Understanding														x						
Quality of Interactions			x		x	x	x			x	x	x				x	x	x	x	
Degree of Decision/Synchronization	x		x		x	x	x						x							

A3 Data Fusion Flexibility

Intuitive Interface

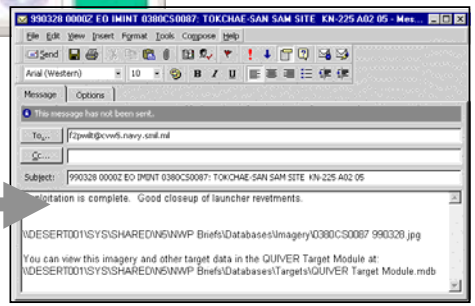


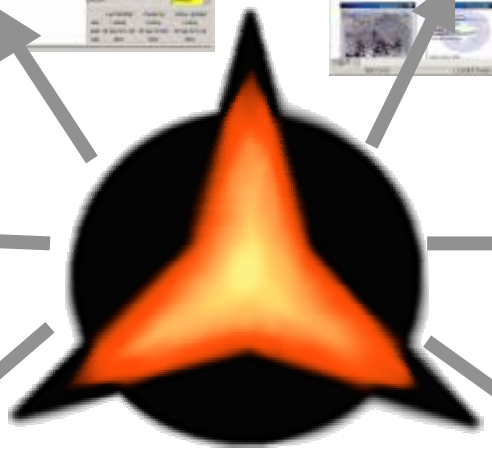
PowerPoint

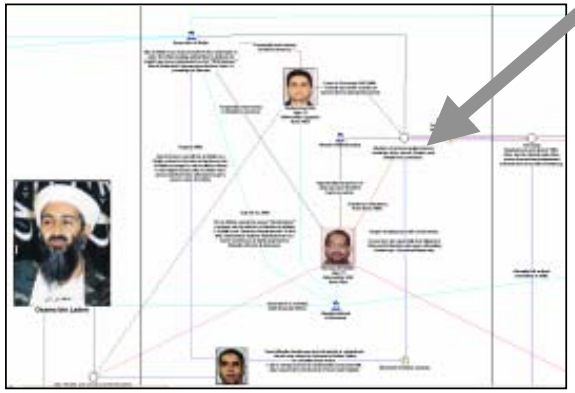


Digital Library

Email

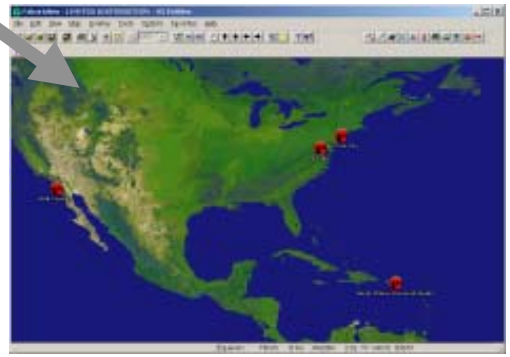






Link Analysis

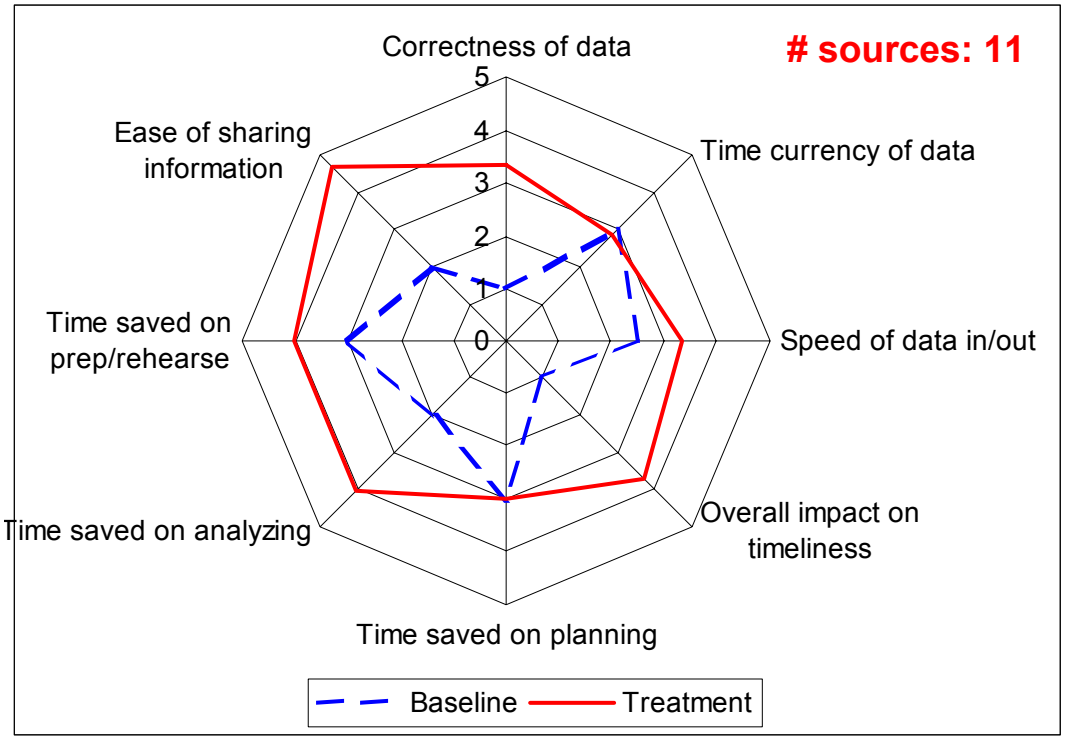
Web Content



FalconView

Overview of Perceived Value of Systems – A3

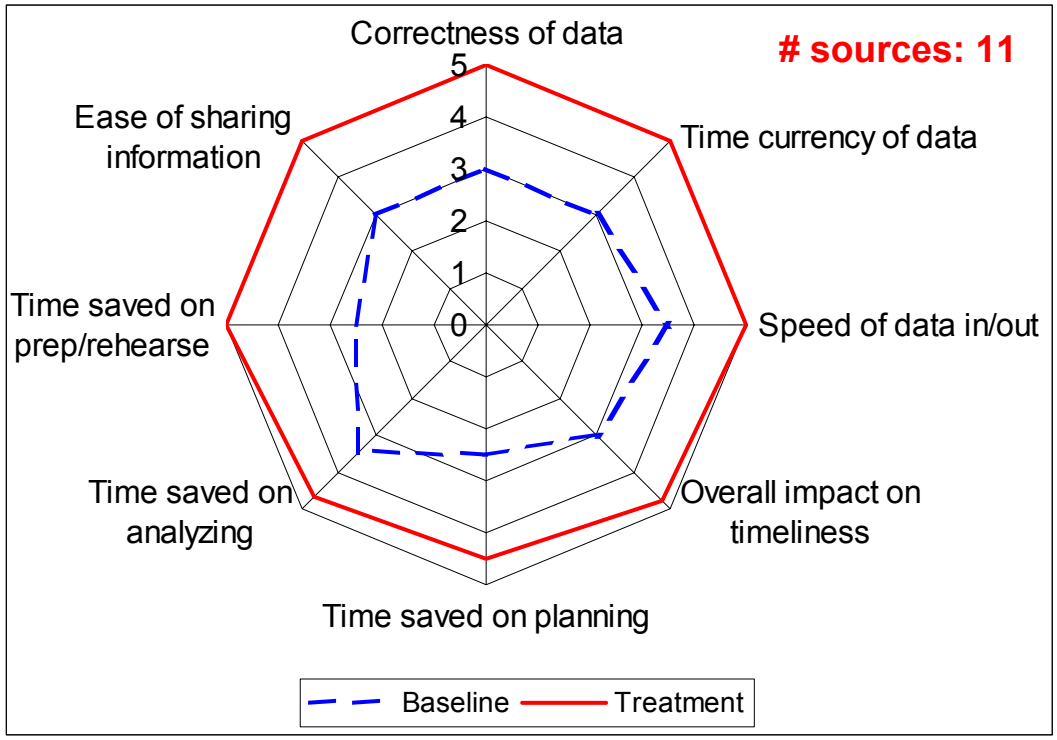
- Rapid data assimilation
- Overlay national, theater, and local intelligence and databases
- Creates automatically tailored reports
- Allowed analysts more time to think and less time “cutting and pasting”



Scale: 1 = worst/difficult
5 = best/easiest

Overview of Perceived Value of Systems – WEBBE

- Instant communications with chain-of-command
- Verbalize orders and record all directives simultaneously
- Communicate simultaneously with multiple, geographically dispersed personnel
- Collaboration
  - application design
  - code debugging
- Also used for near real-time administrative help, even to other regions



Scale: 1 = worst/difficult
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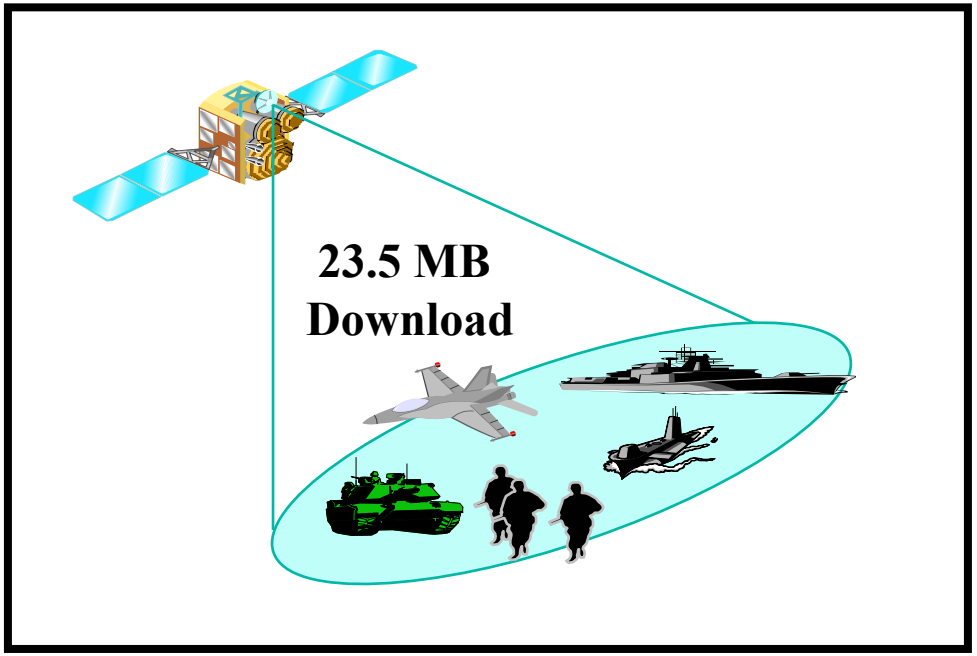
GBS: Faster Data Transfer

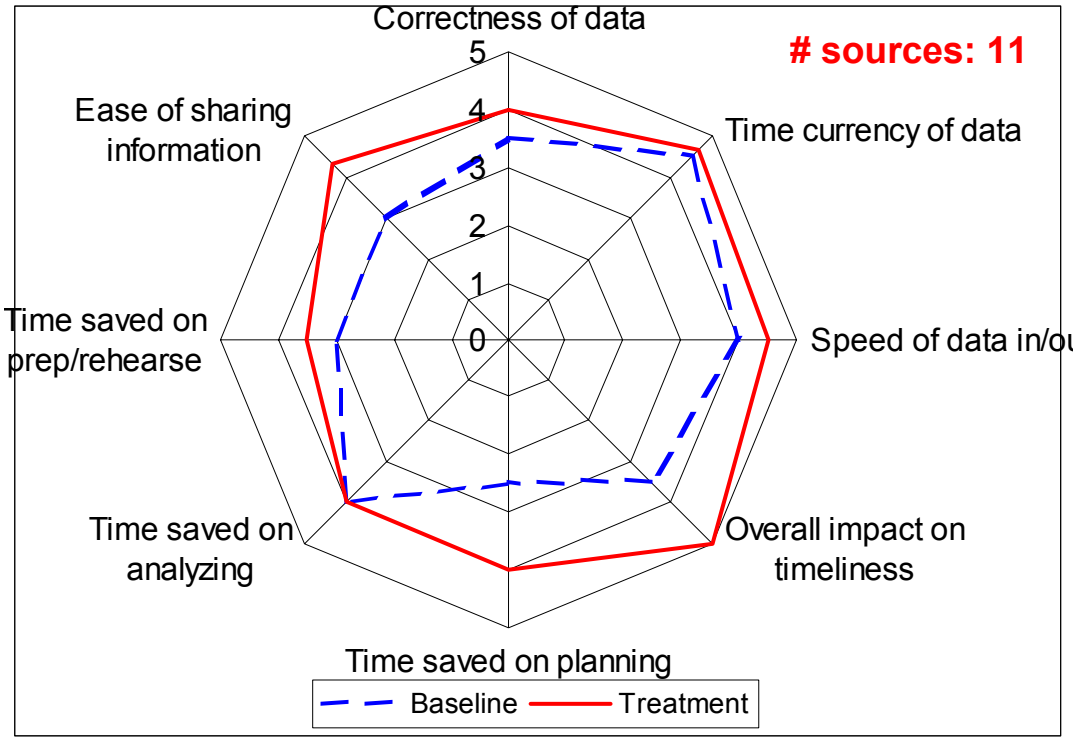
- Enabled dynamic file transfer (FTP) of large files up to ~600 MB to forward deployed units via CONUS Satellite Ground Station
- Files transferred faster from Satellite to forward units than from start point via SIPRNET to ground station
- Biggest challenges: reliability of remote broadcast manager (RBM), finding files sent, and disk space on remote servers



Example: Raw image was 3 Gigabytes
130 Meg cropped image sent via GBS

Overview of Perceived Value of Systems – GBS

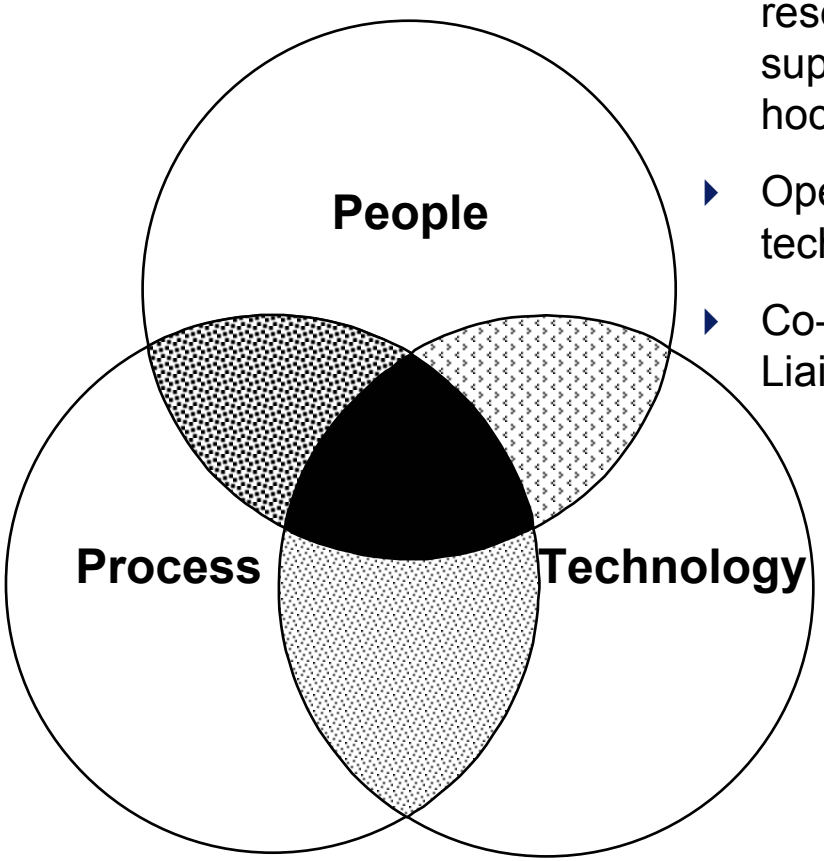
- Data transfer accomplished via GBS:
  - METOC
  - Imagery
  - Custom-tailored Orders-of-Battle
  - Near-real-time A3 uploads



Scale: 1 = worst/difficult
5 = best/easiest

MSC Factors for Success

- IT professionals (active, reserve, contractor) supporting planned and ad hoc development
- Operators trained with the technology
- Co-location of N-staff and Liaisons

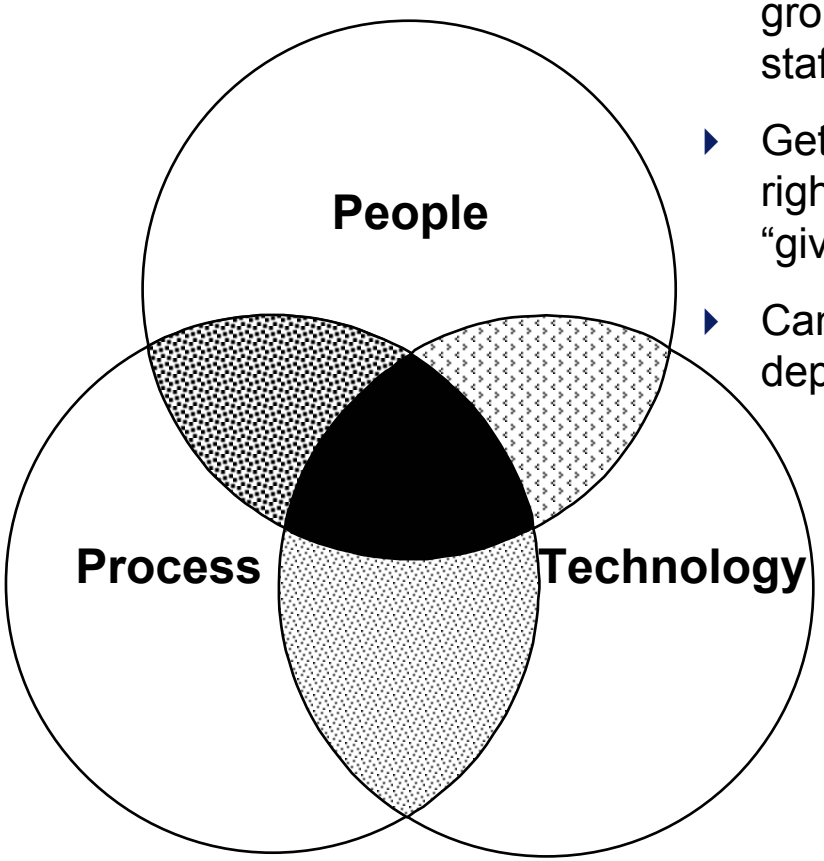


- Part of Official Planning and RFI Process
- Developed Process for close interaction between forward and rear personnel

- Collaboration Tech
- Communication Tech
- Information Management Technology

MSC Inhibitors of Success

- Training an effective core group of multi-intelligence staff is not trivial
- Getting the right RFI to the right person to fulfill is not a "given"
- Can be heavily personality dependent



- MSC personnel involved in most aspects, but rarely had "big picture" information to provide all data necessary
- Difficult to deal with multiple versions of the same data

- Heavy reliance on technology – no longer net-centric if the net goes down (back to pre-OEF)
- BFT only works when it's turned on

Overall Impact

The MSC **takes full advantage of its extensive access to government agencies and intelligence assets**. Bandwidth limitations are continually overcome **using innovative technological solutions**, and the **amount of useful, relevant data sent to forward commanders continues to increase**. Intelligence, METOC, force tracking, and operational planning products are continually developed; packaged to conform to technological and bandwidth constraints forward; **and formatted and sent in a user-friendly manner**.

- CAPT David Ozeroff,
USNR, Senior Battle Watch Captain, Mission Support Center

While I'm certain that the current MSC staff has volumes of information regarding the effectiveness of the the MSC in supporting combat operations, I can tell you from personal experience that the **training and early use of the MSC paid off** at the outset of OEF. … MSC was tasked to develop target sets to build a "SOF Campaign" to defeat terrorist networks in the CENTCOM AOR. In less than 72 hours, the MSC staff produced CONOPS for three separate regional mission sets to defeat the Al Qaeda network in both Afghanistan and the Horn of Africa. Three mission sets were briefed to and approved by General Holland, (Commander, US Special Operations Command) and to Secretary of Defense Rumsfeld, who ultimately approved two of the three, less than a week from initial tasking. The **success of the MSC in producing time sensitive planning products to both NSW operators and SECDEF were critical to not only NSW forces, but proved to be the genesis of USSOCOM's designation as the supported commander** in the Global War on Terrorism.

- Commander Jason Washabaugh,
USN, SOCOM

Outline

- Background
  - Objectives of research
  - Scope and assumptions
  - Approach (solution strategy)
  - Discuss data collection and data analysis plan
- Data Analysis
- Discuss implications for NCO
- Recommendations (and Musings)

"Hard to Quantify" Impacts

- Numbers and types of different missions (whether conducted or not) were not necessarily quantified
- Different methods of reach-back (e.g., MSC or other) – bottom line is that in the heat of battle, whatever needs to be done will get done regardless of network
- Social domain (reach-back or MSC) spans beyond the social domain aspects of the Conceptual Framework and cross multiple domains
  - Includes Quality of Networking, Quality of Individual Information and Individual Sense-making aspects and other command and control aspects
- Leadership domain was not expressly considered

What We'd Do Differently

- Expand scope of case study to include aspects of:
  - Leadership:
    - Include definition and questions targeted at how leadership was or wasn't a factor in mission planning
    - Assess leadership impact on NCO
  - Social Domain:
    - Importance (especially within MSC) and detail how aspects of the social domain factored into better mission planning
    - Assess social domain impact on NCO
- Expand baseline to provide better understandings of NCO to fully quantify metrics for baseline vs. treatment

Lessons Learned

- Nature of SOF deployment impacted ability to perform data collection – key personnel deployed throughout the case study
- Understanding of Conceptual Framework and how it might need to be changed – as evidenced in our “hard to quantify” aspects of the case study for certain technologies and processes
- Educational challenges
  - Learning and understanding NSWG1 lexicon, activities, processes, functions
  - Interpreting this lexicon into the CF

Strengths and Weaknesses of the CF

Strengths

- Ability to take a groups activities, processes and functions and demonstrate how they were/weren't network centric

Weaknesses

- Ability to stratify inputs to a certain attribute is difficult – many activities and processes span multiple attributes