



TSP Implementation Veteran

Lana Cagle
September 2007



Overview

- Background
- Challenges
- Results
- Positive Strategies
- Negative Strategies
- Planned Strategies
- Conclusion



Mission Statement:

We maximize America's Sea Power by applying relevant oceanographic knowledge across the full spectrum of warfare.





N64 Systems Integration



Civilian Staff - 49

Contractor Support - 18

Internal Branches

- Requirements Management

- Software Engineering

- Transition Services

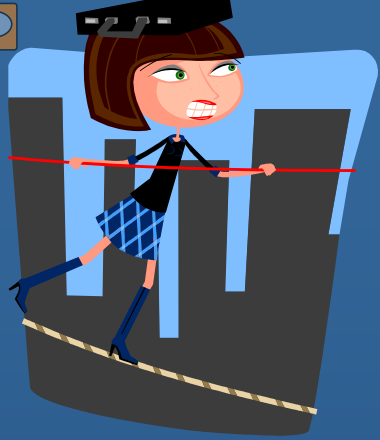
- Enterprise Services

Projects

- Meteorological & Oceanographic
Systems and Applications

- Web Service Applications

- Enterprise Engineering Services



Challenges

Software is not the mission

Software/systems integration efforts

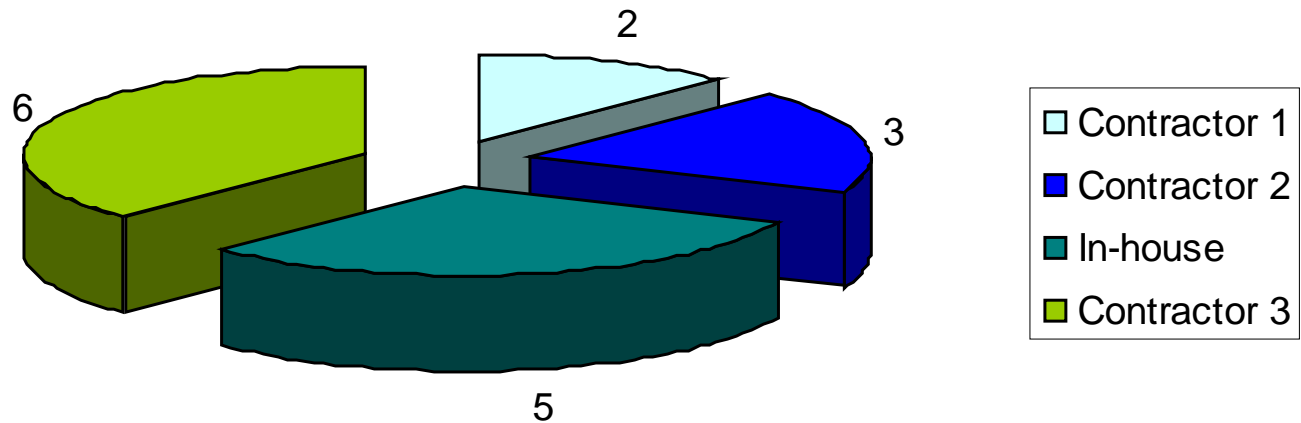
Part-time resources & workbooks

Rush too quickly to tools

Negative perception of defects



No. of Software Engineers



Total - 16



NFWB GF MPL Quality Assurance

GODESS

MODAS

Process Improvement

SOC

Defect Data

Data Services

NAVSAR

Remote Sensor

Training

METBALL

NITESIV

SURF

RMS

TIDES

ISS-60

PSP Instructor

PSP Classes

TSP Pilot

Size Data

Effort, Schedule & Task
Completion Data

TSP Journey

1999 2000 2001 2002 2003 2004 2005 2006 2007



1st

2nd

Launch
Coach

Launch
Coach

Then and Now...



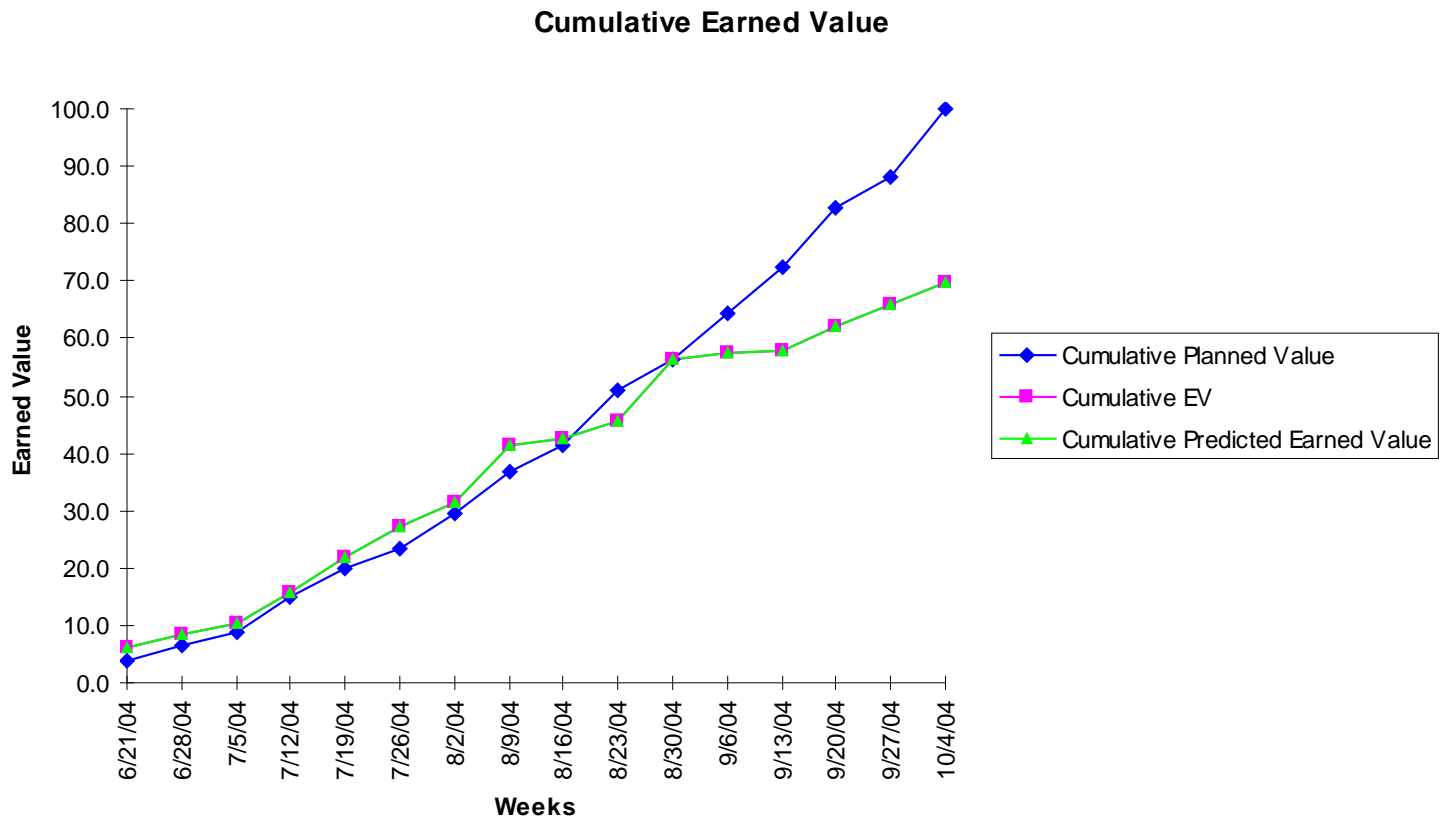
<i>THEN.....</i>		<i>NOW...</i>
↓	<i>Data to support reality/ current schedule</i>	↑
↓	<i>Historical data/ better planning</i>	↑
????	<i>Earned Value (EV)...</i>	96.2 %
<i>Show stoppers</i>	<i>Risks...</i>	<i>Managed</i>
<i>Poor</i>	<i>Communication</i>	<i>Improved</i>

Sustained Capability Maturity Level 3



Then...

Weekly Data	Plan	Actual	Plan/ Actual
Schedule hours for this week	82.0	72.0	1.14
Schedule hours this cycle to date	1083.7	746.6	1.45
Earned value for this week	11.8	3.9	3.02
Earned value this cycle to date	100.0	69.7	1.43
To-date hours for tasks completed	742.1	724.2	1.02
To-date average hours per week	67.7	46.7	1.45





and now...

Week 17 Summary

Schedule hours for this week	35.0	15.0	
Schedule hours this cycle to date	1253.1	1332.8	①
Earned value for this week	4.0	2.7	
Earned value this cycle to date	100.0	95.7	②
To-date hours for tasks completed	1140.6	1328.8	③
To-date average hours per week	73.7	78.4	

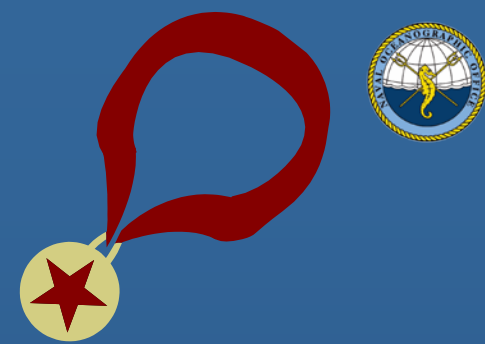
1. 6% ahead in task hours
2. 4% behind in EV
3. 17% underestimation

Measurement Repository



Date	Project	Cost Error	Schedule Error	% Features	ST Defect Density	COQ
3/07	A 1.2	19	0	115	0.7	26.3
9/06	A 1.1	7.3	25	100	0.5	18.3
8/05	B 1.0	-1.4	18.5	141	1.4	35.1
3/06	B 1.1	9.7	-20	125	2	41
9/06	B 1.2	-38	-23	100	0.8	38.5
2/07	B 2.0	-5	-11	124	3.5	33.4
1/04	C1.2	-7	0	80	.24	17
5/05	C 1.3	-14	128	57	0.1	30.8
9/06	D 1.1	201	239	100	2.5	23.1

In General



Recognized as disciplined group and as a result assigned a major role in the establishment and management of the Enterprise Engineering Department

- Start with the process
- Plan the work
- Work the plan
- Collect data
- Improve



Positive Strategies



- Training contractors
- Don't consolidate troublesome workbooks
- Staying connected to management
- Launching all projects even non software
- Applying QA for process compliance
- Automated size counting tool
- Use project scorecard to track project commitments



Project Scorecard

Project Name	Project Manager	Promised Completion Date	Customer	Status & Progress	Problems or Issues
				On Schedule Behind On hold Complete	

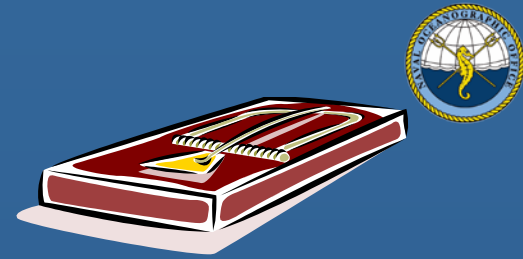


Positive Strategies - 2

- SEI Support
 - TSP Team Member Workshop
 - Task & schedule management
 - Launch meeting 3
 - System defects
 - Inspection Workshop
 - Postmortem facilitation (tool)
 - Quality Manager role mentoring
- Read-Listen-Share-Reflect (RLSR): *Winning with Software*
- Coach assigned Planning Manager
- Updated project report template



Traps to Avoid



Giving in to pressure from team:

- Shorten number of launch days
- SWE not trained
- Missing key people
- Not reading data at team meetings
- Not planning reviews & inspections during launch
- Not showing quality data on project reports
- Not doing quality plan
- Not having summary level view of how projects are doing
- Non functional team dynamics
- Not having a success story
- inadequate launch preparation to understand requirements
- “We’re just learning new technology (prototyping)...”
- Elaborate project summary evaluations



Planned Strategies

- RLSR - *Coaching Development Teams*
- FAQ – TSP Workbooks
- Quality Policy
- Continue to work with SEI
- SEI facilitated launch



An Engineer's Defect Log

Date	Num	Type	Assembly	Injected	Removed	Fix Time	Description
10/1/2006	8	40	Report Creator	CODE	UT	90.0	page size was incorrectly assigned -- should have been caught in code review
10/1/2006	9	40	Requirement Screen	DLD	DLDR	20.0	Need to ensure no field name conflicts between add and other form actions
10/2/2006	10	40	Requirement Screen	CODE	ST	10.0	Going from search to then customer or originator caused saved search parameters to restrict display too much (removed those parameters when originator or customer search done)
10/20/2006	11	60	Requirement Screen	REQ	ST	50.0	Added H and M to archive code (told Greg missing requirements)



Coach's Thoughts

Need more help from the community

Data will drive change

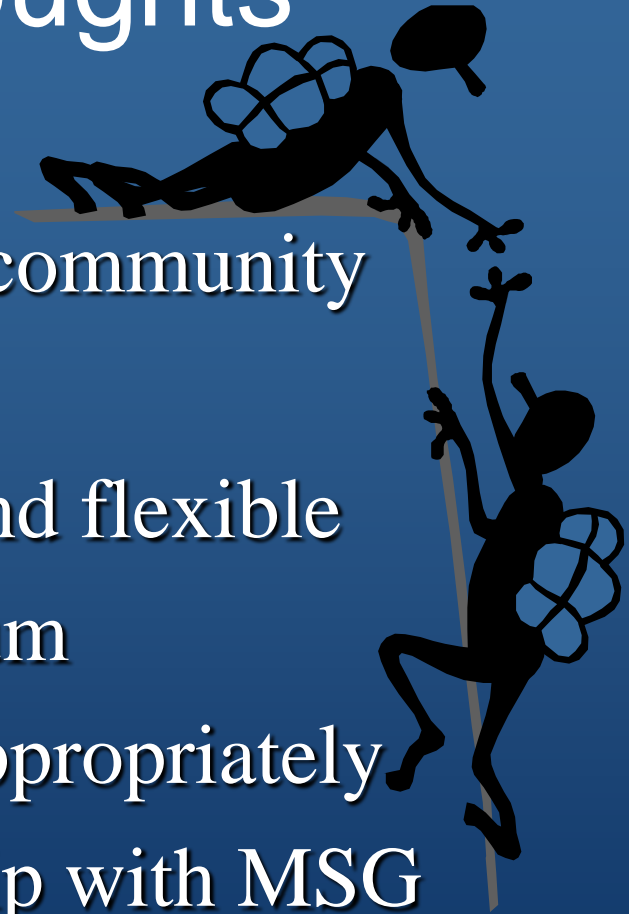
Be helpful, available and flexible

Attend TSP Symposium

Never Use Data Inappropriately

Positive relationship with MSG

Focus released defect density





In Summary

- Begin with the end in mind - yardstick
- Keep data in front of management
- Quality improvement is a journey
- Importance of hiring disciplined professionals who work well with others
- Disciplined professionals respected by their peers as role managers



**SYSTEMS
INTEGRATION**
CODE N64

Vision
We will be the Navy's provider of choice for relevant, quality-engineered METOC IT systems and services.



Mission
We provide relevant, timely environmental information systems and IT services to the METOC professional and warfighter.



Lana Cagle Quality Advisor
Naval Oceanographic Office
Systems Integration Division
Voice: (228) 688-4743
email: lane.cagle@navy.mil