

*Accelerating Process Improvement  
Through Collaboration*

***The NAVAIR  
Systems Process Improvement (SPI)  
Community of Practice (CoP)***



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## Definition: What is a CoP?

“Communities of Practice are places of learning where we find out what others already know and can do, and where others find out what we already know and can do.

- ❑ A CoP has a subject which is of interest to people with different backgrounds and different perspectives.
- ❑ A CoP’s prime importance is attached to practical experience and questions. The members exchange experiences and jointly search for answers to their questions and solutions to their problems.
- ❑ A CoP organizes itself: The members agree on the scope and demarcation of the subject, work, and forms of exchange and joint products.
- ❑ A CoP must be fun so that it is personally enriching.” (2)

***The boundaries of the CoP are defined by actual participation, not by affiliation or title.*** (6)

# Definition: What is a CoP?

**There are essentially two types of CoPs (4):**

**Self Organizing** Self-organizing CoPs are also self governing. They pursue the interests of the groups members. Due to their voluntary nature, they are fragile yet resilient. They are fragile in that attempts to manage them can cause the members to disband or go “underground.” Yet they are resilient in that members come and go as interests shift and subjects evolve.

**Sponsored** Sponsored CoPs are initiated, chartered, and supported by management, and are expected to produce measurable results that benefit the organization.

***The NAVAIR SPI CoP is a hybrid, simultaneously both self-organizing and sponsored. Sponsorship from the NSSC was critical to launch and initial momentum, but there is no hierarchy.***

# Rationale and Business Case for CoPs

There are compelling reasons and business cases for establishing communities of practice. Some rationale found by others for this undertaking are:

1. Information superiority provides the joint force a competitive advantage only when it is effectively translated into superior knowledge and decisions. (1)
2. Uncertainty from downsizing, retirements, etc. (1)
3. Reduce time in meetings, on email, on phone (1)
4. Need for greater organizational focus (1)
5. Reduce redundant efforts (1)
6. Need for faster, better informed decisions

# Rationale and Business Case for CoPs

Compelling reasons and business cases for establishing communities of practice ... continued:

7. Sustainable, competitive advantage (4)
8. Continuous innovation (4)
9. Reduce reinvention
10. Avoid repeating same or similar mistakes made by others
11. Accelerated process improvement and implementation
12. Institutionalize organizational and individual learning

# Establishing a CoP Culture

## Enablers and Inhibitors to Successful CoPs (1)

<u>Enablers</u>	<u>Inhibitors</u>
High trust	Fear and suspicion
Sharing is rewarded	Hoarding is rewarded
Team-based work	Individual effort
Process focus	Function focused
Open to outside ideas	Not invented here
Time to share	Too busy to share
Compatible IT	Incompatible IT
Need-to-share	Compartmentalization
Local decision-making	Central, top-down decisions

# NAVAIR and SPI CoP Drivers

The NAVAIR software and systems community continuously evolves, and must find innovative solutions to the challenges of delivering quality systems to the Warfighter as effectively and efficiently as possible.



## ***The times and environment demanded change:***

- ❑ Multiple product teams in dozens of locations
- ❑ Supporting about 85 platforms and programs
- ❑ Seemingly disparate improvement initiatives from executive leadership
- ❑ Increasing demand to reduce the cost of software and systems while increasing quality and reducing cycle time



# NAVAIR and SPI CoP Drivers (cont)

In other words, the NAVAIR software and systems organizations was in the same situation as many other organizations (maybe even yours).

One possible solution was to form a real Community. The formation of a NAVAIR Systems Process Improvement Community of Practice (SPI CoP) promised some ways to meet the challenges:

- ❑ Sharing process improvement best practices and process assets to avoid reinvention
- ❑ Continuously sharing lessons learned so they don't have to be re-learned
- ❑ Sharing resources to accomplish common goals and resolve common problems



# The NAVAIR SPI CoP Vision

*The SPI CoP is a forum for NAVAIR Software/Systems Process Improvement (SPI) teams to share processes, procedures, tools, and lessons learned to improve the timely production and delivery of quality software to the Warfighter.*

# NAVAIR SPI CoP Goals

**To be considered successful, the NAVAIR SPI CoP should achieve these goals and deliver these benefits to the NAVAIR software and systems engineering community:**

1. Establish a NAVAIR community of Process Improvement (PI) advocates from across teams and competencies responsible for providing software-intensive systems to the warfighter.
2. Provide a forum for sharing software / systems engineering and management products such as processes, procedures, lessons learned, tools, and code.
3. Create / use a repository of process improvement products.
4. Communicate insights and products shared by this forum back to the teams and competencies, and where appropriate, advocate their effective use on programs.
5. Provide a collective voice for capturing and evaluating systemic software/systems process improvement issues and needs.

# Brief History of the NAVAIR SPI CoP



**Oct 04** Research conducted to understand communities of practice; began planning charter meeting

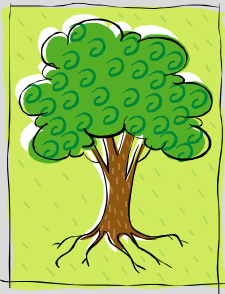
**Nov 04** First meeting in San Diego: initial community representation established; no professional facilitation; prototype agenda;

**Jan 05** e-Room in early stages of design and prototyping



**Feb 05** Second meeting in New Orleans: Standard meeting items piloted; e-Room structure unveiled; first working groups formed; externally facilitated; meeting evaluations introduced

**May 05** Third meeting in Annapolis; Agenda working group formed; training day added as standard feature to meeting agenda; externally facilitated; WGs report progress/status



**Sep 05** Fourth meeting in Las Vegas: highest attendance to date; self-facilitated; Yellow-Belt training; Mission Area Teams leverage meeting

# SPI CoP Successes

**The NAVAIR SPI CoP has resulted in these successes and benefits:**



- ❑ Gives boost to the formation of a consolidated SSEPGs (Strike MAT and Special Mission MAT)
- ❑ Has saved member communities significant effort by preventing reinvention and rework of process assets
- ❑ Is engendering a common language for process improvement among member organizations
  
- ❑ Puts members in touch with expertise and experience they were previously not aware of
- ❑ Enables community members to address systemic, community-wide problems ... no one has to “go it alone”
- ❑ Has dramatically increased the availability of process assets for all members

# Features of a NAVAIR SPI CoP Meeting

## Training Day

SPI CoP meeting double functions as training by adding process-related training day to two-day SPI CoP meeting. Reduces NAVAIR-wide training costs through consolidation.

## Affirmations

Community members provide testimonials of benefits to home organizations' PI efforts resulting from SPI CoP participation.

## Environmental Scan

NAVAIR management has opportunity to address and discuss changes and initiatives that may affect all Community members.

## Souvenir Sessions

Community members present or demonstrate processes or process assets that have worked in their home organizations.

## Working Group Sessions and Out-briefs

Working Groups have opportunity for face-to-face processing of goals and action items. Report progress and status to Community in same meeting.

Ref	Time	Topic	Discussion Leader	Process & Expected Results
<b>Day 2 - Wednesday 14 Sept 2005</b>				
4	0800 - 0830	Introduction and Review for Day 2	K. Smith	Participants introduce themselves. Introductions should include organization represented, model(s) being used for process improvement, and areas of particular interest or expectations for meeting. Facilitator will review meeting agenda with community and make any changes if necessary.
5	0830 - 0900	Affirmations	R. Epstein	Community members briefly describe the benefit they have received from SPI CoP participation. Specifically, we are looking for anecdotes and success stories of Community members having taken practices and souvenirs from the SPI CoP and implemented them in their home orgs, and have enjoyed the benefit of improvement.
		Environmental Scan	TBD	Pre-read: Please take a moment while you're still in your home orgs to briefly document your success stories!
		NSSC/MAT Update		Pre-read: None
		Break		
		Working Group Work	WG Teams	This time slot is for the currently active working groups to meet and continue to address their respective tasks and goals. Prepare outbriefs to deliver on Day 3.
				Pre-read: Per WG if distributed prior to the SPI CoP meeting.
<b>Day 3 - Thursday 15 Sept 2005</b>				

# Success Attributes of the NAVAIR SPI CoP

There are essentially 3 major components of the NAVAIR SPI CoP:



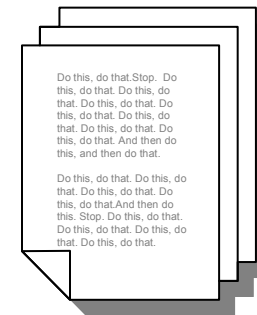
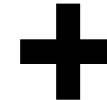
People

The participation of people with subject matter expertise who are willing to share their knowledge with others.



Technology

Shared information technology that provides media for the exchange of ideas and knowledge assets.



Processes

Methods and processes that enable the exchange of ideas and knowledge, and maintain the integrity of knowledge assets.

# Major Attributes of SPI CoP Success (continued)



***People*** are the most important component of the NAVAIR SPI CoP. It took people to form the SPI CoP, and it is for people that the Community thrives.

## ***Some of the attributes and qualities the people in the NAVAIR SPI CoP:***

- ❑ Have knowledge, experience, and expertise in software/systems process improvement
- ❑ Members are representative of NAVAIR Product Teams, and are empowered to make process improvement commitments and decisions for home organizations
- ❑ Have a positive attitude toward sharing their expertise with others
- ❑ Make the time to participate in the SPI CoP



# Major Attributes of SPI CoP Success (continued)

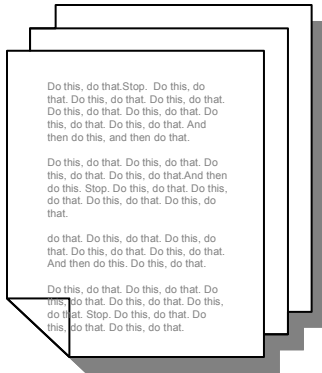


***Technology*** has been critical to the success of the NAVAIR SPI CoP. The appropriate use of technology enhances the experience of the participants.

***Communication and work product sharing has been significantly enhanced through the use of an e-Room (Documentum). The major enablers are:***

- ❑ Discussion threads
- ❑ Organized process asset sharing
- ❑ Easy, user-friendly document search based on standard attributes
- ❑ Simple access control
- ❑ Automated change and configuration management
- ❑ Automated e-Room usage and performance measures (community activity)
- ❑ Intuitive, user-defined database facility

# Major Attributes of SPI CoP Success (continued)



***Processes*** have been important but not critical to a successful SPI CoP. Well designed and executed processes ensures the SPI CoP thrives even when members come and go from the community.

***The critical few processes that have contributed to the NAVAIR SPI CoP success are:***

- ❑ Decision making processes conducive to progress and inclusion (DAR)
- ❑ Agenda development and meeting minutes/action reporting processes
- ❑ Meeting logistics process
- ❑ Processes governing e-Room use
- ❑ Defined measures to collect and analyze to determine SPI CoP goal achievement

# Institutionalizing the NAVAIR SPI CoP

Building the SPI CoP is one thing, making sure it thrives, endures, and continues to deliver value to the community is another. We are still working to ensure the SPI CoP addresses these important institutionalization factors:

- ❑ Collecting and reporting measures and other information that indicate benefits to member organizations
- ❑ Rewarding SPI CoP participation and contributions
- ❑ Developing and applying consensus definitions for concepts such as “good ideas” and “best practices”
- ❑ Monitoring community participation, and using experiential information and feedback from participants to continually enhance the experience
- ❑ Ensuring the media/technology used to support the SPI CoP is cost-effective, easy to use, and is driven by the needs of people (not the other way around)



*We're still on  
the journey.*

# What We Have Learned

In just one short year, we have learned much about ourselves and our Community. Our advice to others thinking about forming a CoP includes:

1. Don't re-learn our lessons.
2. Get members of the community involved as soon as possible in developing the meeting agendas; reward contributions.
3. Establish goals, and continuously review them and measure performance.
4. Use outside experts who have CoP experience to give launch power to start-up structuring and planning. But have weaning plan.
5. Use professional facilitation for meetings, but only up until the Community learns to self-facilitate. Make sure facilitators know content of Community's interests and work.

# What We Have Learned (continued)

If you're planning to form a CoP (continued):

6. Provide incentives for participation until participation becomes the incentive ... "prime the pump."
7. Do not mandate participation.
8. Use technology to enhance communication, learning, and knowledge capture.
9. Find ways to make progress outside of meetings.
10. Make sure every event involves tangible take-aways.
11. Be very flexible. Follow the interests of the Community, even if it leads the Community to morph into something different.
12. Do not form a hierarchy; try to keep the community a network.
13. Don't put too much content into any one meeting; people need more time to focus and address each topic.

# What We Have Learned (continued)

If you're planning to form a CoP (continued):

14. Provide multiple vehicles and avenues for feedback from the community members, and make it obvious that feedback is used.
15. SPI CoP can be a very effective forum for integrating multiple, unintegrated improvement initiatives.
16. Provide initial seed funding for meetings and travel, particularly when community members come from many different organizations.

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