



Navy Warfare Development Command

Pacific Rim Innovation Symposium After Action Report



NWDC Innovation Campaign Division 01 November 2012

Note: This report is a pre-decisional draft pending RADM Kraft's AAR brief to ADM Haney



Context and Desired Outcome



Context

- NWDC hosted the Pacific Rim Innovation Symposium on 10-11 October

Desired Outcome

- Provide leadership and participants awareness of results and observations
- Identify follow-on actions



TRAINING
INTEGRATION

Contents

ANALYSIS



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- Pacific Rim Innovation Symposium Objectives
- Highlights
- Accomplishments
- Key Lessons
- Breakout Group Discussions
- Actions / Way Ahead

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Symposium Objectives

- Educate junior leaders on importance of innovation
- Introduce resources for transforming ideas into capabilities
- Solicit ideas to address current Fleet challenges



Highlights

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- Need to move beyond the “tyranny of the Program of Record” mentality
- Must provide compelling story / evidence if you want leadership advocacy for your new ideas
- Learn cyber, even if its not your primary job
- Use strategic communication vs. shouting louder to move ideas forward

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Highlights

- Need realistic, “sweaty palms” training
- Must understand our own EM signature
- Policy is often greatest barrier to innovation
 - Know the regulations better than those who administer them
- Leadership needs to look across the whole organization for good ideas



Highlights

- Periodically revisit “failed” ideas
 - Today’s failed idea may be tomorrow’s solution
- Think inside a new box
 - Most organizations have to function inside a set of parameters
 - Defining new parameters can focus innovation
- Create a dashboard for CGCD (status of concepts and ideas)
 - Need way to track progress

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Importance of Innovation

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- Innovation bestows initiative in warfighting
 - CNO established new concept development/concept generation process; emphasis on moving ideas from conception to implementation
 - CPF: We need to huddle together to identify problems and solutions
- We need more people who are part of the “right brain Navy” thinking in a “left brain” way
 - Left brain: technical, acquisition-minded, operational
 - Right brain: creative, research, academic

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Resources for Transforming Ideas into Capabilities



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- New Concept Generation / Concept Development (CGCD) Instruction describes the process for transforming ideas into capabilities
- The Innovator's Guide available online at:
<https://www.nwdc.navy.mil/default.aspx>
 - Ways to think about innovation & application to the Navy
- Navy Center for Innovation Blog site
<https://www.nwdc.navy.mil/ncoi/blog/default.aspx>
 - Ask questions, propose ideas, debate & discuss
- Navy Warfare Development Command Concept Harvesting
<https://www.nwdc.navy.mil/ncoi/default.aspx>
 - Propose & submit new concepts, ideas





Solicit Ideas to Address Current Fleet Challenges



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- Four breakout groups met over two days
- Each group focused on one of four topics of interest to PACFLT
- Groups presented key issues and solutions
- Groups identified additional areas for discussion / analysis



Breakout Group Sessions



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- How does information dissemination need to change IOT enable the force to fight effectively in a limited communications environment?
- How do we prevent white shipping / fishing vessels from giving away our position in a contested environment?
- How can we change the F RTP to account for multiple fleets' missions?
- If the adversary A2AD network includes subsurface weapons as well as air / missile systems, how can the US maintain momentum into the denied area?

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Breakout Group

Areas for Further Analysis



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- Info Dissemination: IT system supply model, tactical cloud, alternative communications paths
- A2 / AD: Deception, intelligence, force multipliers, non-kinetics, training
- White Shipping: Intel prep (avoidance), deception/obscuration, communication denial, commercial vessel control
- FRTP: After OEF, what can be removed and what should be added to focus workups and evaluations on warfighting, mission and AOR priorities

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Breakout Group: Info Dissemination



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Analysis of the Subject / Highlights of Discussion

- Navy moving to single system/networks (i.e. CANES)
- Redundancy affects battle effectiveness
- Can't be tactically blind/down
- Taking away legacy comm systems on newer platforms
- Training challenges
- Replacing parts can be challenging, affects time, readiness, fuel, costs

Recommended Solutions, Fixes, or Take-Aways

- Have server replacement parts/components on supply ships or reinstitute MAMS policy on all ships
- Utilize AVN AIMD supply model
- Implement Tactical Cloud On Demand data replication
 - As long as one ship in a CSG is up, you have capability
 - Need to optimize bandwidth, data compression
- Other alternatives: Optical system, airborne relay



Breakout Group: Information Dissemination



- Other areas of discussion included:
 - Finding new ways to compress data
 - Use of biologics to transmit data
 - Finding time, space, and balance to train sailors on both new and legacy systems
 - Creating a culture of OPSEC (no cell phones off the fantail)



Breakout Group: Momentum in Denied Areas



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Analysis of the Subject / Highlights of Discussion

- Assuming capable opponent who can detect and track over large area.
 - How to remain unlocated.

Recommended Solutions, Fixes, or Take-Aways

- Deception
 - Multiple cheap unmanned vehicles as decoys
 - See classified version for additional discussion points



Breakout Group: Momentum in Denied Areas



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Analysis of the Subject / Highlights of Discussion

- Assuming a capable opponent with ability to cover/track over a large area.
 - How do we enable ability to operate when required.

Recommended Solutions, Fixes, or Take-Aways

- Intelligence
 - See classified version for additional discussion points



Breakout Group: Momentum in Denied Areas



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Analysis of the Subject / Highlights of Discussion

- Assuming a situation where US is at a numeric disadvantage.

Recommended Solutions, Fixes, or Take-Aways

- Force multipliers
 - Leverage cooperative nations capabilities.
 - Numerous unmanned vehicles capable of autonomous operations to
 - Detect and report
 - Decoy
 - Tag high interest vessels
 - Distributed sensors



Breakout Group: Momentum in Denied Areas



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Analysis of the Subject / Highlights of Discussion

- Distance will provide logistic issues for ammo resupply.
- GPS/ Internet/Satellite

Recommended Solutions, Fixes, or Take-Aways

- Non-kinetic weapons
 - Directed energy
 - Jammers/soft kill directed at missile acquisition/seekers
- Training
 - Lost capabilities need to be revisited
 - Timing source independent of GPS



Breakout Group: White Shipping



I. Visual Compromise: How to Avoid

1. Innovation in Intelligence Preparation of the Sea Space

- A. Satellite
- B. Existing AIS / routes of merchant shipping
- C. Thermal
- D. Human Intelligence

2. . Obscuration

- A. Smoke screen
- B. Leverage Weather / atmospheric conditions
- C. Night
- D. Use of terrain / shipping as cover
- E. Light / lasers



Breakout Group: White Shipping



II. If Compromised, then...

1. Disrupt / Deny Communications

- A. Electro-Magnetic Pulse, Directed
- B. Using a UUV / USV / UAV delivery

2. Misinformation

- A. Intercept, Repeat, Alter Transmissions
- B. Psyops / Media misinformation campaigns
- C. Confusion via friendly white shipping via signals

3. Physical Control of Vessel, via USV / UUV

- A. Foul rudder
- B. Redirect ship
- C. Slow ship

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Breakout Group: White Shipping



III. DESIGN

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1. Near Term

- A. Disguise – physically changing the profile of the ship
 - i. Deceptive lighting enhancements
 - ii. False masts
 - iii. Shading (color, etc)

2. Far Term

- A. Angled mirror surfaces. “All you’d see is more ocean and sky” THE GREAT CHROME FLEET
- B. Lower profile in design
- C. Concealment via holograph
- D. Use of USVs / buoys for deception e.g. false radar hits and holographic ships, decoys



Breakout Group: FRTP & Experimentation



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Analysis of the Subject / Highlights of Discussion

- Time constrained – Little capacity for more than minimum requirements to be met.
- Inspection driven process – Units are always “cramming” for the next event vice maintaining a steady-state proficiency.

Recommended Solutions, Fixes, or Take-Aways

- Workload analysis – Prioritize and eliminate selected requirements to enable more focus on the highest priorities, e.g., warfighting.
- Tailor workups and evaluations for specific AORs and the most probable missions within that AOR.



Recommendations

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- Demonstrate resolve to remove obstacles
 - P4 to Commanders to lead / inspire discussion on tactical creativity
 - Condense admin / training requirements to allow time for tactical discussion and development
 - Overhaul Navy web sites / software tools with focus on user
 - Expand strategic comms campaign on innovation through publications, blogs, and speeches by senior leaders
 - Identify and address policy constraints affecting innovation
- Energize broad, top-down advocacy for innovation
 - Create "executive level team" (Qualcomm model) to gain awareness of innovation activities across the Navy enterprise
 - Conduct innovation outreach events directly with the Fleet
 - Formally instill innovation into training and educational classrooms across the career spectrum
- Leverage private sector technology and processes
 - Build relationship with industry leaders, invite to future Innovation events
 - Explore use of VBSS teams for benign engagement and tracking of high interest ships / personnel / cargo
- Enhance realism in training by finding ways to inject stress / pressure into our Fleet training

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NWDC Actions and Way Ahead



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- Engage senior Navy leadership to sustain support for innovation campaign
 - Deliver AAR to COMPACFLT & COMUSFF
 - Recommend innovation actions to CNO – innovation CEB, “innovation month”, etc
 - Utilize Rhumb Lines to get innovation message / process out
- Future efforts and events
 - SIPR blog site under development, Nov 2012
 - Partnering with Naval Post Graduate School for online crowd-sourcing wargame, Winter 2012 ([MMOWGLI Event](#))
 - Work with ONR to investigate development of a digital seabag “app”
 - Navy Center for Innovation website & blog, updated weekly
 - Determine optimum mix of innovation symposia and smaller, more focused events
 - Continue NWDC efforts to partner with industry leaders, such as Maersk, to leverage their ship tracking and forward area sensor information
- Continue to encourage Sailor engagement and feedback
 - Post symposium products on Pacific Rim Innovation Symposium website
 - Advertise NWDC as innovation resource ([NWDC NRFK INNOVATIONS@navy.mil](mailto:NWDC_NRFK_INNOVATIONS@navy.mil))
 - Strive to make it easier to innovate



NWDC Actions and Way Ahead



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- Move out on products
 - 24 proposals submitted to date; several are in the review pipeline right now
 - The Innovator's Guide is being read both inside and outside the Naval Service
 - Number of "hits" on Navy Center for Innovation Blog and subpages averages 100/day
 - Google, USNI, SPAWAR and Navy.mil all help push audience to our sites
 - Recommendations from Junior Leader and Pacific Rim Innovation Symposiums are being incorporated into follow on events and products
- Develop incentives for innovation
 - Create an essay / innovation contest
- Find effective ways to engage with junior members
 - Shipboard, schoolhouse, internships
 - Key challenge: why innovate when you can "work around"
- Define innovation audience(s)
 - Develop plan to pursue and engage appropriately, effectively