PSM Annual Review
Interoperability workshop

Began the Interoperability Workshop at 1345 on Wednesday July 27, 2000. Those in attendance were as follows:

Name	Email	Phone	Organization
Jim Oblinger	oblingerjt@npt.nuwc.navy.mil	401 832 1366	NAVSEA-NUWC
Tom Conrad	conradtp@npt.nuwc.navy.mil	401-832-2045	NAVSEA-NUWC
Dave Zubrow	dz@sei.cmu.edu	412-268-5243	SEI
Jack Ferguson	fergusj@acq.osd.mil	703-602-0851	OSD DUSD(S&T)
Pete Kind	pkind@ida.org	703-845-6657	IDA
Brenda Zettervall	zettervallbt@navsea.navy.mil		ASN RDA Chief Engineer Staff
Carl Buck	carl.buck@vandenberg.af.mil	805-606-2156	30LG/LGPQS Vandenberg AFB
Cheryl Jones	cljones@pica.army.mil	973-724-2644	PSM US Army

After introductions and a brief presentation on the workshop topic and goals there was a general discussion on what the members thoughts were on interoperability. Tom recounted the history of NUWC with regard to open architecture measures and how that led into interoperability. Pete felt that interoperability problem begins in knowing the requirement. It is not clear that we know what we want. He also felt that interoperability was never adequately funded.

The idea of levels of interoperability had been introduced to the group and a discussion followed trying to reach a common understanding of levels of interoperability. Two views of interoperability levels are presented in the slide package and these were discussed. Pete offered that his view was that there were three levels of architecture, Operational, Informational and Technical. Discussion followed discussing the measurement of interoperability at different levels of interoperability or architecture.

Operational Architecture – What are you trying to accomplish?
Informational Architecture – What you need to implement operational?
Technical Architecture – How you implement the system to achieve results?

Brenda brought up the problem of interoperability on legacy systems with new systems. Pete agreed that this was a major problem. The group seemed to agree that interoperability between old and new systems should be limited so as to limit the impact on the new system's development.

Now that some basic issues had been agreed upon discussion came back around to 'what does interoperability mean?' What are the relevant parameters and measures? Reach of system, richness of info. The answer is probably multidimensional.

See slide (metrics relationship) for explanation of dimensions of interoperability.

Tom described what he believes to be the five rights of interoperability. The right **amount** of right **info,** at the right **place,** at the right **time,** in the right **format.** All five must be satisfied to achieve interoperability.

Jim proposed that Interoperability was a development Process characteristic rather than a measure of product characteristics at a point in time. He feels you would have greater confidence in the resulting interoperability of system based on looking at the activities performed during development.

See Flip Chart showing battle force components.
Design reference mission may equate to operational architecture
System O I T Requirements lead to data formats, standards that must be implemented in the technical architecture

The Interoperability slide in the handouts was discussed and eventually found lacking because interoperability was not accepted as an issue. The proposal was that there should be an interoperability ICM with its own set of issues. The constructed table follows:

Interoperability ICM

Issue	Category	Measures
Exocentric Arch	Shared Awareness Robustness of Reach	
Communication/Connectivity	Synchronizability Bandwidth Support for heterogeneous formats	
Interface Definition	Completeness Robustness Currency	
Standards Compliance	Technology Independence	

The workshop ended at this point as mental exhaustion set in.