

Request for Information
for
Follow-On Study to the Integrated
Communications, Navigation and Surveillance Strategic Study

Background: The Joint Planning and Development Office (JPDO) funded Integrated Communications, Navigation and Surveillance (ICNS) Strategic Study was successfully completed through a contract managed by the NextGen Institute. The ICNS Strategic Study identified the strong dependencies between the C, N, and S functionality and the NextGen operational capabilities. The study showed that implementing NextGen capabilities, such as Trajectory Based Operations, Self Separation, and Super Density Terminal Operations depends on a highly reliable and robust application of CNS resources. The current ICNS architecture provides single thread implementation of crucial information flows, and failure of any single element can have wide ranging impacts on the far-term NextGen system implementation. The ICNS Strategic Study identified ICNS needs, draft requirements, and a limited set of alternative ICNS architectures that provide more robust solutions for the NextGen capabilities.

The ICNS Strategic Study also demonstrated innovative utilization of the Joint Planning Environment (JPE) to support expert-based “table top” simulation of the far-term NextGen enterprise. Utilization of use case techniques allowed mapping of operational scenarios to NextGen planning elements within the JPE, providing a basis for the formal analysis of architectural needs, constraints and trade-offs.

Description: The Joint Planning and Development Office (JPDO) seeks broad input from the private sector through NextGen Institute on potential areas of follow-on study to the recently completed ICNS Strategic Study. The JPDO will use any information provided for the purpose of considering one or more future JPDO funded NextGen Institute studies. All inputs should be targeted at the NextGen in the post 2018 time frame. This is not to be construed as a commitment by the JPDO to fund a future study, nor will the JPDO pay for information provided through this request. The following broad categories for organizing potential inputs are provided as suggestions by the JPDO; however, this is not meant to constrain inputs and all relevant suggestions are welcome.

1. Requirements Concepts and Analysis: The ICNS study was not able to develop a full Required Total System Performance (RTSP) concept, nor was it able to consider a more complete safety and performance requirements analysis.
2. Analysis of Alternative Architectures: The ICNS study considered only a limited number of alternative ICNS architectures and limited depth of study of architectural robustness.
3. Methodology: The ICNS study developed analysis methodology that efficiently used the JPE and provided planning tools, such as operational scenarios, that can be re-used for other purposes. Further development and documentation that codified, validated, and extended methods and reusable planning tools to be used in conjunction with the JPE would be of value to the JPDO.

Resources for Respondents: Technical documents and presentations from the ICNS Strategic Study can be found at the NextGen Institute's website: www.ncat.com/ngats/index.html or through the JPDO website: www.jpdo.gov/.

Information for Respondents: The JPDO requests responses through the NextGen Institute by COB October 30, 2009 in the form of white papers limited to ten pages maximum. All white papers shall include the company or institute name, point-of-contact, address, phone number and email. Responses may include references to material available in the public literature. Proprietary information will not be accepted.

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