



# ‘TRAIL BOSSING’ *the* NIE

## A conversation with COL John Wendel

**L** leading the hardware and software integration efforts to support the Network Integration Evaluation (NIE) is COL John Wendel, Deputy Program Executive Officer (DPEO) Network Integration. Wendel is working complex system-of-systems engineering tasks to support the emerging network acquisition strategy, while overseeing the brigade-level integration, systems engineering, and test readiness of six independent Systems Under Test and more than 20 Systems Under Evaluation for the June-July NIE. Following is a discussion with Wendel on the scope, method, and ramifications of the NIE.

### AGILE ACQUISITION

The series of NIEs “ultimately will help the Army make better acquisition decisions and establish a network baseline. We’re forcing levels and degrees of integration that we’ve never thought of by pulling together schedules, performance aspects, technical requirements, and various other pieces of the pie,” says COL John Wendel, DPEO Network Integration. (U.S. Army photo courtesy of PEO Integration.)

**WHAT DOES THE NIE MEAN FOR THE ARMY?**

We’re changing our way of doing business, and the NIE is a key enabler of this. The Army is developing an agile acquisition process, to allow rapid infusion of industry and government network technology and allow for Soldier-driven evaluations of this technology during semiannual events.

What will come out of these events will be a fundamental change in how we deliver capabilities to our Soldiers. We will deliver network capabilities in sync with the Army Force Generation (ARFORGEN) process, meaning that deploying units will get the latest network capability in the form of capability sets directly linked to the two-year ARFORGEN process. Deploying units will thus receive integrated, tested, and evaluated capabilities. NIEs will help to lessen the in-field integration burden on our operational units by providing relevant operational environments in which to evaluate new technologies and capabilities that make up capability packages and sets before fielding the new systems to operational units.

The NIEs will also provide a means to evaluate relevant capabilities in parallel and make incremental improvements based upon a disciplined feedback cycle. The effort will help facilitate rapid evaluation of commercial and government network solutions to establish a network baseline and then rapidly build from it.

**WHAT ARE SOME OF THE INTEGRATION CHALLENGES THE ACQUISITION COMMUNITY IS FACING, LEADING UP TO THE NIE?**

When the Army fields network capabilities, not all Soldiers receive them at the same time.

Part of our challenge during the NIE is to figure out how to make sure units that have the new capabilities can talk to units that don’t have all the new capabilities. It’s all about proper capability integration and real-world, Soldier-driven, operationally relevant evaluations. It’s a learning process, and that’s what this entire community is working to solve.

Part of the challenge of ensuring proper capability integration is looking at how we can synchronize program-of-record schedules and test and evaluation events, while at the same time infusing developmental and emerging capabilities into the events. This takes an enormous system-of-systems engineering effort—something that the Army is now poised to take on coming out of the Future Combat Systems and Early Infantry Brigade Combat Team programs.

But it’s more than just aligning programs; it’s also forcing a culture change within the acquisition community—getting

program managers and systems engineers to no longer look only at their programs as individual efforts, but instead to develop their programs to ensure that they integrate into the brigade formation and exhibit appropriate interoperability. I would argue that this change of culture is one of the biggest challenges, but we are making great headway even in this first NIE. Bringing together 30-plus capabilities within a matter of months is no small accomplishment.

**WHAT HAVE YOU LEARNED SO FAR, EARLY IN THE NIE PROCESS?**

One of the largest lessons learned so far is that teamwork across various and diverse Army commands is key to this effort. To conduct the NIE and to ensure proper integration throughout the Agile Process, the Army has established a triad that includes oversight from three key organizations: Program Executive Office (PEO) Integration, the Army’s Test and Evaluation Command, and the Brigade

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## NETWORK CONNECTIVITY

A Warfighter Information Network-Tactical Increment 1 Battalion Command Post Node provides network connectivity to Soldiers from the 2nd Brigade Combat Team, 1st Armored Division during Week 2 of the NIE. (U.S. Army photo by Claire Heininger Schwerin, PEO Command, Control, and Communications-Tactical.)

Modernization Command. As a team, we are looking at acquisition, test, evaluation, and requirements processes to seek a better way of doing business to get technologies and capabilities to Soldiers faster. We're here to figure out how the Army can manage capabilities that are available now and leverage technologies that may address requirements down the road that we haven't even thought of yet.

The purpose of this Agile Process is to provide a holistic and integrated approach for the acquisition, testing, evaluation, and fielding of information technology across the Army's range of operations. The Agile Process incorporates information technology from any available source including programs of record, government-off-the-shelf/commercial-off-the-shelf,

and industry development, and it provides the Army with flexibility to respond to rapidly changing requirements due to the speed of war, pace of information technology development, and changes in how the Army fights.

### HOW WILL THE ARMY EVALUATE THE VARIOUS SYSTEMS IN THE NIE?

The NIE is broken into two major categories: Systems Under Test and Systems Under Evaluation. There are six Army programs of record under formal test or assessment, which will lead to an acquisition milestone for the program. These systems are driving the Army's network architectural backbone. Additionally, there are more than 20 developmental and emerging networked and non-networked

technologies categorized as Systems Under Evaluation. These technologies will be evaluated under realistic field conditions to help gauge utility, maturity, and performance in response to emerging capability requirements.

There will be three different types of evaluations during NIE. Type I will evaluate capability solutions under test—programs of record that require formal testing to achieve an acquisition decision. Type II will evaluate developing capability solutions—existing programs of record with sufficient maturity levels to accelerate, and Theater Provided Equipment. Type III will evaluate emerging capability solutions and may identify potential uses or fill gaps, receive design recommendations, or require Soldier feedback.

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**HOW WILL THE ARMY BENEFIT FROM THE INTEGRATION WORK TAKING PLACE DURING THE NIE?**

The major semiannual integration events ultimately will help the Army make better acquisition decisions and establish a network baseline. We’re forcing levels and degrees of integration that we’ve never thought of by pulling together schedules, performance aspects, technical requirements, and various other pieces of the pie. Doing the integration work upfront at Fort Bliss, TX, and White Sands, NM, before putting these systems in the hands of our Soldiers is extremely beneficial because it alleviates having to force painful arbitration and integration work on our deployed troops.

**WHAT TOOLS ARE HELPING TO FACILITATE NIE SYNCHRONIZATION EFFORTS? IN OTHER WORDS, HOW ARE YOU CARRYING OUT AN EFFORT OF THIS MAGNITUDE?**

All of the program and product managers are working together for the first time. This has never been done, and while it’s uncomfortable, it is very good for the Army.

We have hundreds of subject-matter experts from the test, acquisition, and

requirements communities down here at Fort Bliss providing full-time support to this monumental effort. The integration scope exceeds anything I’ve ever seen.

We’ve identified trail bosses and assembled the best overlapping and complementary team to make sure we can synchronize the technologies into a composite brigade formation, while working to ensure proper instrumentation from a data collection standpoint.

The materiel development community has designated a trail boss for each of the 2nd Brigade, 1st Armored Division battalions, who have the overarching responsibility to ensure that the materiel development community is meeting all of the unit’s needs for the systems in the NIE, including planning, fielding, installation, performance checkout, integration, instrumentation, support, and maintenance.

We’ve established a knowledge management repository to create a common operational picture across the entire Army enterprise. It’s a single domain where everyone involved in the integration work can post schedules, updates, master plans, and so on.

Additionally, we’ve created a “horse-blanket” as a way to bring all entities

together. This enables us to look at thousands of platforms across the brigade and decide where we’ll put them, when we’ll move equipment, and where it will go, as well as how we will improve various platforms during the process.

This is the first year the Army has undertaken this type of large-scale test and evaluation, and we’ve been empowered to meet this challenge and to figure out how to streamline efficiencies. These events will help inform long-term network strategy and will provide valuable feedback to develop doctrine.

We do not expect that all aspects will go perfectly during the June-July NIE, but it is important to remember that these events are not individual activities but part of a culminating process that will allow the Army to establish a network baseline and then fill it with the best applications and systems that the network can handle.

A large part of NIE’s success will be attributed to taking the lessons we learn as we work to integrate the individual parts of the network into the whole, and use those lessons to help inform the process as we move into the 2012 evaluation cycle.

—By PEO Integration staff