

VHM Impacts to ATE

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The Task




AUTOMATIC TEST SYSTEMS EXECUTIVE DIRECTORATE

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From: DoD ATS Executive Directorate
To: Chairman, National Defense Industrial Association Automatic Testing Committee
Subj: Request for Study and Recommendations Relative to the Impact on Automatic Test Equipment of Enterprise Health Management Approaches

1. "Ten years ago many industry pundits were forecasting the disappearance of ATE, to be replaced with redundant, self-repairing systems, smart diagnostics, prognostics and extensive built-in-test. As predicted, all of these technologies have advanced enormously, but survive today as true partners with traditional ATE augmenting its functions, focusing its applications and working in Harmony to achieve the common goal of maximizing prime systems availability." (Mike Ellis, Technical Program Chair AUTOTESTCON 2009)
2. These improvements to the Health Management Enterprise are indeed contributing to weapon system availability. However, they are being interpreted by some DoD Program Managers and senior leadership as an opportunity to eliminate at-system and off-system ATE.
3. It is requested that the NDIA Automatic Testing Committee perform a study to determine (1) where diagnostics, prognostics or any other elements of Enterprise Health Management have been introduced into a complex platform, and (2) the effects of this introduction on weapon system support, including weapon system availability and ownership costs, as well as any impact to the weapon system's ATE over the life cycle.
4. Please direct questions to the undersigned at (301) 757-6907 (e-mail william.ross@navy.mil) or to Jay Romania at (973)724-5832 (email jay.romania@us.army.mil).


W. A. ROSS
Assistant Director

The Task - Continued

- NDIA Automatic Testing Committee perform a study
 - Where diagnostics, prognostics or any other elements of Enterprise Health Management have been introduced into a complex platform
 - The effects of this introduction on weapon system support,
 - including weapon system availability and
 - ownership costs, as well as
 - any impact to the weapon system's ATE over the life cycle

Participants/Interested Parties List

- Anthony Sedberry
- Bill Ross
- Bruce Scott
- Chris Reisig
- Clark Harmon
- David Droste
- Dennis Hecht
- Derek Marston
- Gene Morin
- Grady Johnson
- Howard Savage
- Jaime Olivas
- Jay Romania
- Jim Westphalen
- Joe Stanco
- John Hutchins
- John Stratton
- Kevin Walters
- Les Orlidge
- Lisa Pollack
- Mark Holtzer
- Mike Heilman
- Mike Stora
- Mukund Modi
- Ron Newman
- Scott Brown
- Steve Butcher
- Steve Karlovic
- Tim Fountain
- Tom Sarfi
- William Birurakis
- Jeff Olsen
- Greg Simpson
- Rick Freeman

Activities to Date

- December '09 Meeting Introduced Task
 - D. Droste Identified as Lead
 - Renamed Task to VHM Instead of EHM Impacts to ATE
- Held Web Meeting 1/20/10
 - Provided Survey Form and Requested Comments and Data Input
 - Added Several New Interested Parties Since Initial Call for Participation
- Held Web Meeting 2/24/10
 - Status of Data Collection

Survey Form

- Survey Form Developed
 - Three Major Sections
- Capture Nature of ED, VHM, Prognostics
 - Need the Characteristics of the On-Platform Implementation to Understand Results
- Identify On-Platform Results
- Identify Off-Platform Results/Impacts

Near Term Actions

- Platform and ATE Developers Provide Input
 - Survey Form as a Guide
 - Previous Public Domain Papers
- Meetings
 - After ATC Meeting Here
 - April TBD – Collate Data
- Need Initial Data/Results by May

Backup

Survey Form

- **Background**
 - POC/Company
 - VHM Target System (Description)
- **VHM Characteristics**
 - Embedded Diagnostics (Implementation)
 - VHM (Beyond just Diagnostics)
 - Include Prognostics
 - Upgrade to Legacy Implementation
 - New design VHM
 - Requirement for Enterprise Connectivity?
 - VHM Separate from Platform Development
 - Describe Weapon System I/F for ED/VHM (Bus, Test Connector, Etc.)
 - Other Comments Relative to VHM System Characteristics (System Complexity, Meas. Accuracy, etc.)

Survey Form - Cont

- **At-Platform Results/Impacts**
 - Operational Availability
 - Maintainer Skill Level (Requirement)
 - Improved Diagnostic Time on Platform
 - Improved Ownership Costs
 - Improved on-Platform Diagnostics
 - IA Issues for Enterprise Connection
- **Off-Platform Results/Impacts**
 - Number of Associated Off-Platform TPSs
 - Diagnostic Resolution (Ambiguity Group Size) Change
 - Diagnostic Time
 - Change to # of Maintenance Levels
 - Change to Fielding (# of) ATE