



Distributed Testing and Training Using Versatile Information Systems Integrated ONline (VISION)

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Presentation Outline



- Network Connectivity
- Collaborative Tool Areas to Support Stages of a Test Event
- Coordination of Distributed Assets
- Web Based Distributed Testing Toolbox
- Example Tools Linked by the Toolbox



VPN Concept Taken to DTCC Level



Monitoring Station



LAN



VPN Concentrator

& Router



VPN Concentrator



& Router

DAUVS

Starship



LAN

VPN Concentrator



& Router

Roadway Simulator



LAN

ADMAS

Trench Warfare

Internet

VPN Concentrator



& Router



LAN

CRCC

ADMAS





Collaborative Tools to Support Stages Of A Test Event

Investigation of Options



Single Interface
Linked Information

Archival and Analysis



Centralized Lookup
Distributed Data

Test Planning



Collaborative
Environment

Observation

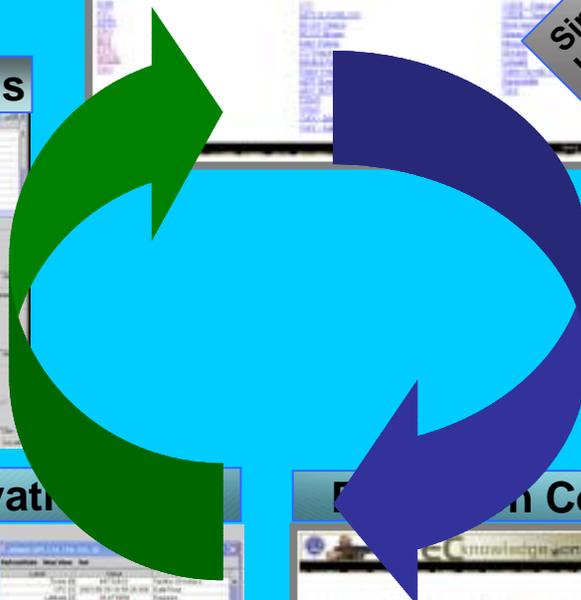


Dynamically Filtered
Distribution

Event Coordination



Centralized Control





Stages Of A Test Event

Investigation of Options

Test Planning

Execution Coordination

Observation

Archival and Analysis

- Investigation of Options - Single Interface
 - Learn about the different test resources available
 - Use a menu checklist to request various resources across the different test centers
- Planning - Collaborative Environment
 - Facilitate the many engineering/business/support interactions required to develop a test
 - Master tool links to the distributed installation schedules, costs, and technical assets
- Execution Coordination - Centralized Control
 - Single master remotely coordinating overarching actions during a test
- Observation - Dynamically Filtered Distribution
 - Maintains test continuity during large exercises
 - Allows for adjustments during operations
- Archival and Analysis - Centralized lookup, distributed data
 - Use Integration Level Hierarchy (ILH) to organize and locate data



Distributed Testing Tools Connectivity



Developmental Test Command Test Center DTCCs

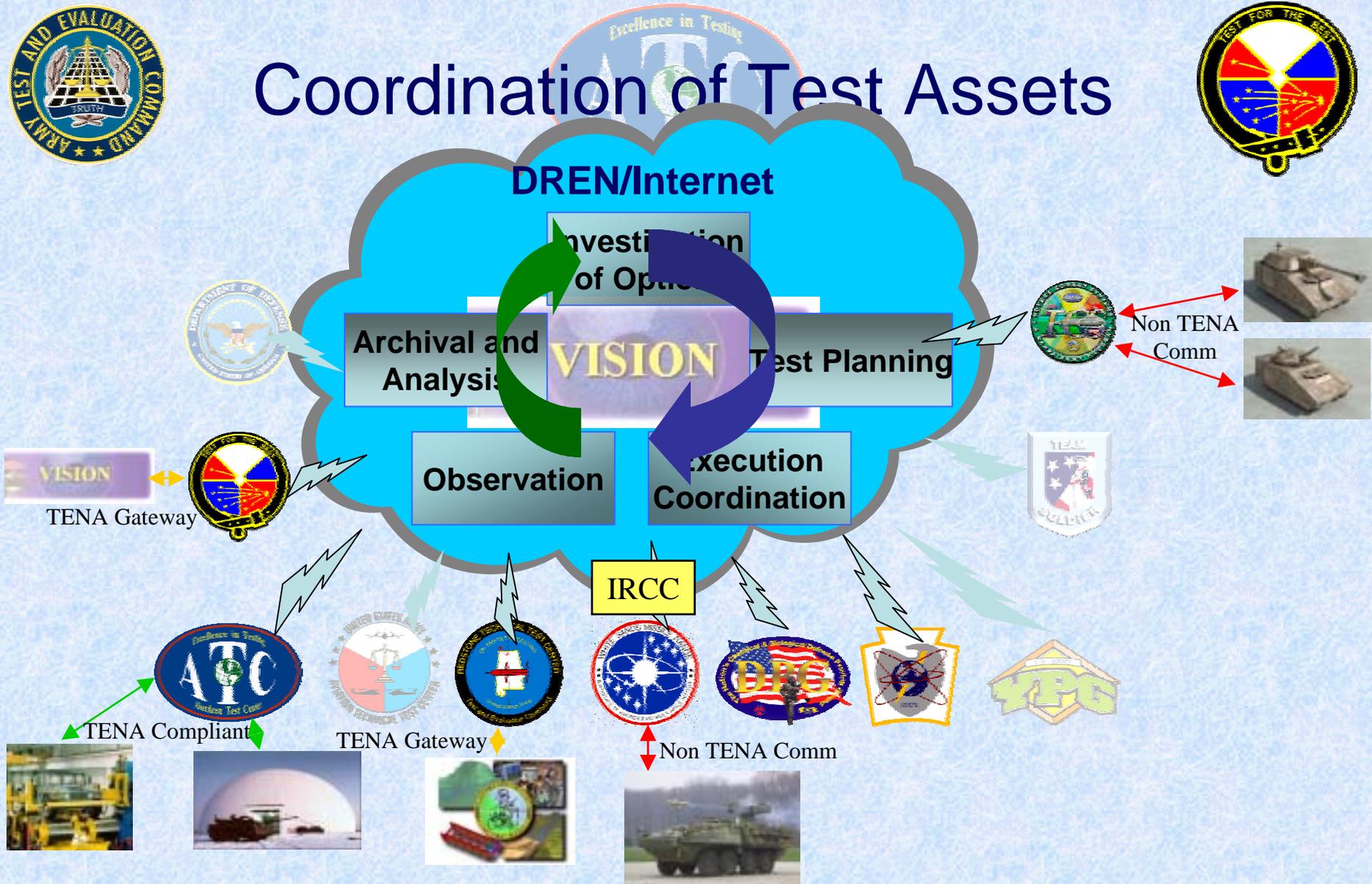
- A single interface should provide a customer, test center, or other installation access to the necessary applications to plan, coordinate, observe execution and analyze a test event.
 - Physical Connection through DREN and Internet using Virtual Private Networks (VPN) or Encryptors
 - Access Interface Services from single location/portal
 - Similar at each test center, an interface exist at a Distributed Test Control Center (DTCC).



Excellence in Testing



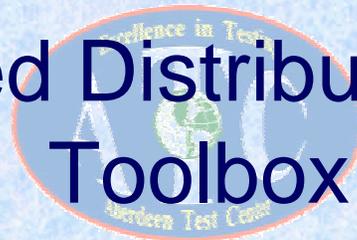
Coordination of Test Assets



- Each DTCC controls, monitors, and archives all data of its installation's assets.
- Can assess different tools for each stage of a test event through the DREN or Internet



Web Based Distributed Testing Toolbox



- Create a single web based interface to assist in all stages of a distributed test event.
- This web based toolbox should allow access to several level of tools
 - *Inherent Functions* will provide basic functions, security, website directory and searching.
 - *Fully integrated tools* including web enabled, database driven applications may be directly integrated into the web toolbox.
 - *Web accessed tools* may provide applets or link to additional web locations to provide greater tool flexibility or commonality.
 - *Linked external programs* will allow the greatest flexibility by launching almost any networked or standalone application.
- Empower the user to designed different groupings of tools to meet specific needs, projects, or test stage.



Vision Digital Library (VDL) Features



Now

- VDL was designed as a tool for document management, collaboration, workflow management, on-line scoring and other features

Now

- Multileveled tiered access permissions hierarchy

- Guest (Read Only)
- Member (Read/Write)
- Coordinator (Read/Write/Delete/Change User permissions)

Now

- Media Players/Data Viewers

- Uses web viewers and applets and can link to additional applications

- Single Log-on

- Requires both VDL and each application to collaborate.
- Currently working with Army Knowledge Online (AKO) to allow all VDL applications to be accessible through AKO using single logon.

- POC Information

- Plan to create a new module that could be catered to distributed testing POC information needs.

- Graphical User-defined Views (Drag-n-Drop)

- VDL does allow users to create favorite lists. This can easily be adopted to also drive links to tools.
- Investigating a graphical drag and drop method to create favorite.

Coming

Coming

Future



ATEC Enterprise (System View)



ATEC Knowledge Online

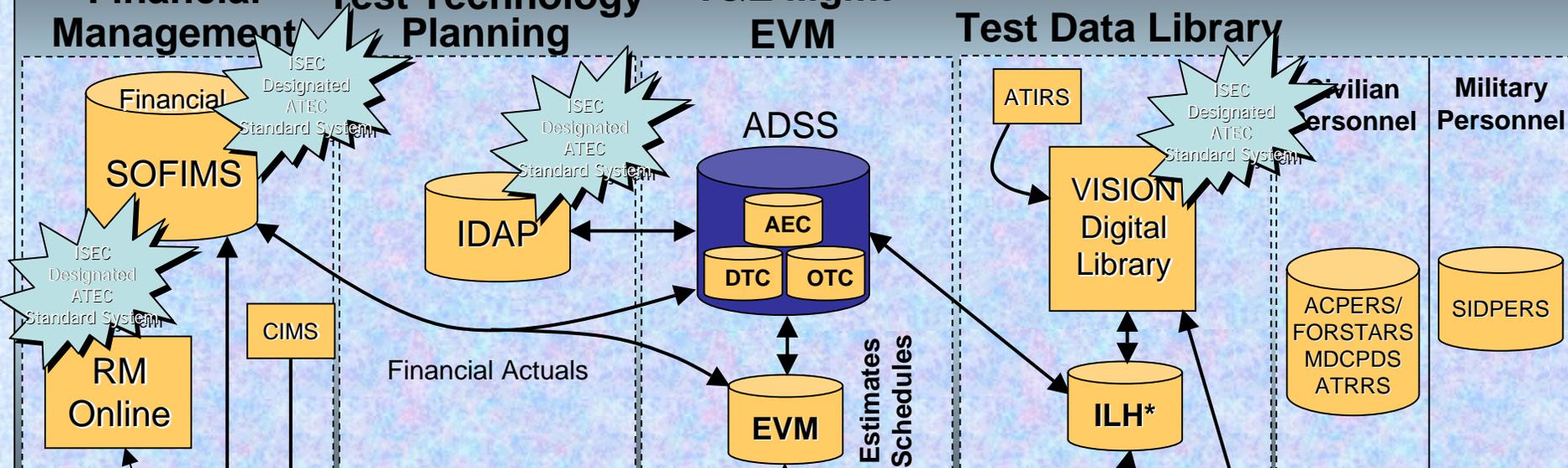
- Request for Test Services
- Models & Simulations (pretest planning, synthetic env)

Financial Management

Test Technology Planning

T&E Mgmt EVM

Document & Test Data Library



GLOBAL:

• Accessible by AKO

• DREN Connectivity

* ILH = Integrated Level Hierarchy



Distributed Tool Areas and Example Applications



Test Planning Tools

- Requirements Traceability
- Scheduling
- Resource (Capabilities) Mgmt
- Cost Estimating
- Connectivity Planning
- Collaborative Environment
- CM Tool

Test Execution Tools

- Visualization (Fixed, Satellite)
- Analysis Tools
- C2 Tools
- Network Status Tool
- Reporting Tools
- Test Status

Post-Test Tools

- Visualization/Playback
- Analysis Tools
- Configuration "Save"

Integration Of External Applications

MS Project Server

ODIN/COGNOS

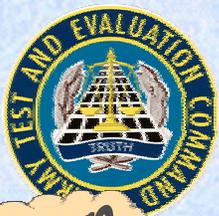
Meeting Zone

Engineering Unit Database



Integration or Link to External Tools

- The web based Toolbox should provide a framework to attach numerous external applications.
 - Several legacy and commercial applications exist that solve specific problems.
 - The toolbox should provide the ability to launch any standalone program.
 - Linking to similar multiple programs allows the user to decide which programs are preferred for different situations.
- Some web enabled tools may be integrated more closely into the Toolbox
- Toolbox should be able to access other websites to utilize web based tools.
 - Currently working to link to the Advanced Collaborative Environment (ACE)

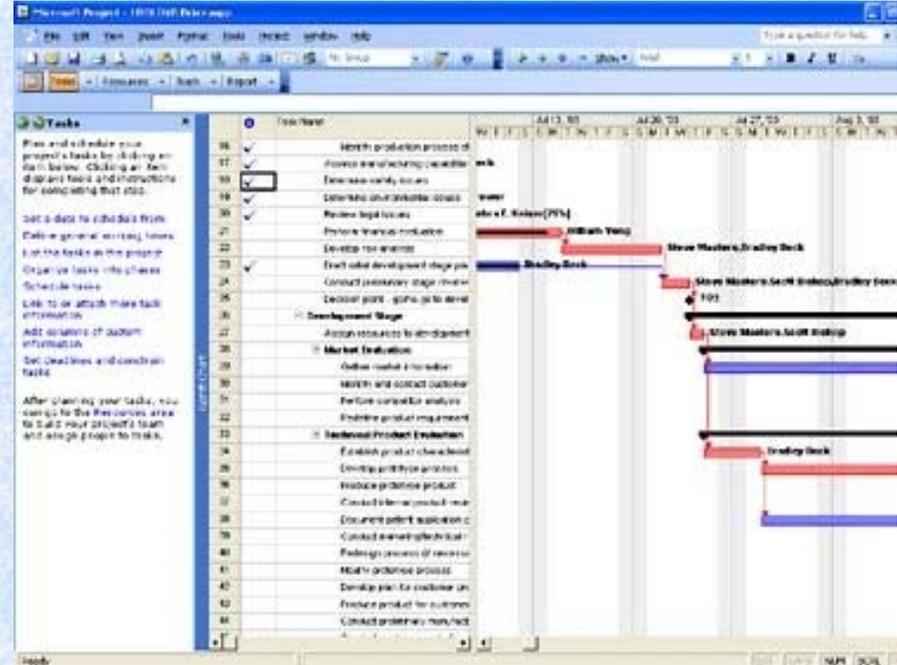


MS Project Server Integration



Future

- MS Project is commonly used for project management activities.
- Integrating MS Project Server into VDL will allow for greater collaboration.
 - Project reports could be viewed over the web rather than submitted.
 - Can be linked to Outlook for calendar and task updates
- A relatively quick integration effort that may lead to a partial solution for several distributed tool areas:
 - Requirements Traceability
 - Scheduling
 - Resource Capabilities Mgmt
 - Cost Estimation.



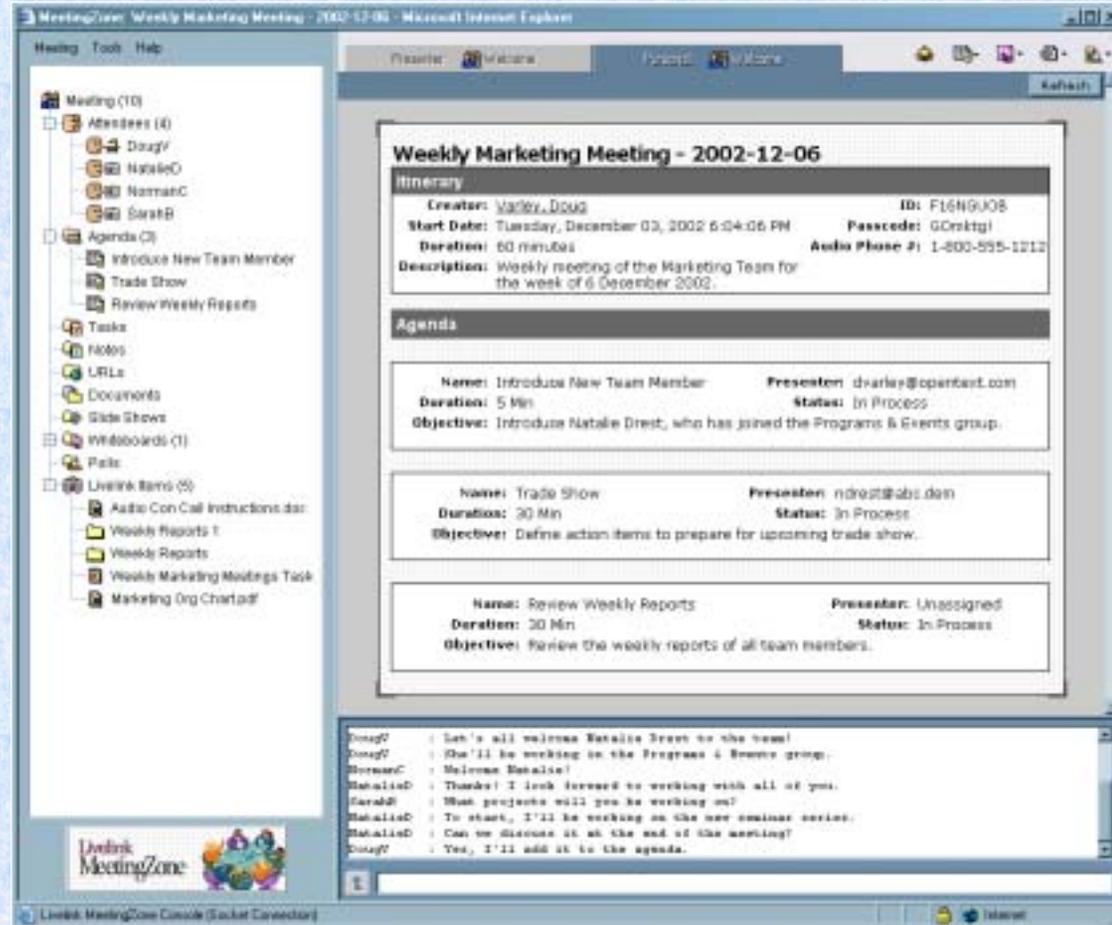


MeetingZone

Future

Collaborative meeting tool for Livelink

- Works in standard Web browsers to set up the following:
 - Prepare an Agenda
 - Invite Attendees
 - Develop Tasks
 - Upload Background Documents
- Collaborative functions include:
 - Application sharing
 - Slideshows
 - Whiteboard
 - Shared notes
 - Group chat
- Archives meeting information in Livelink
- Under investigation for ATEC document collaboration



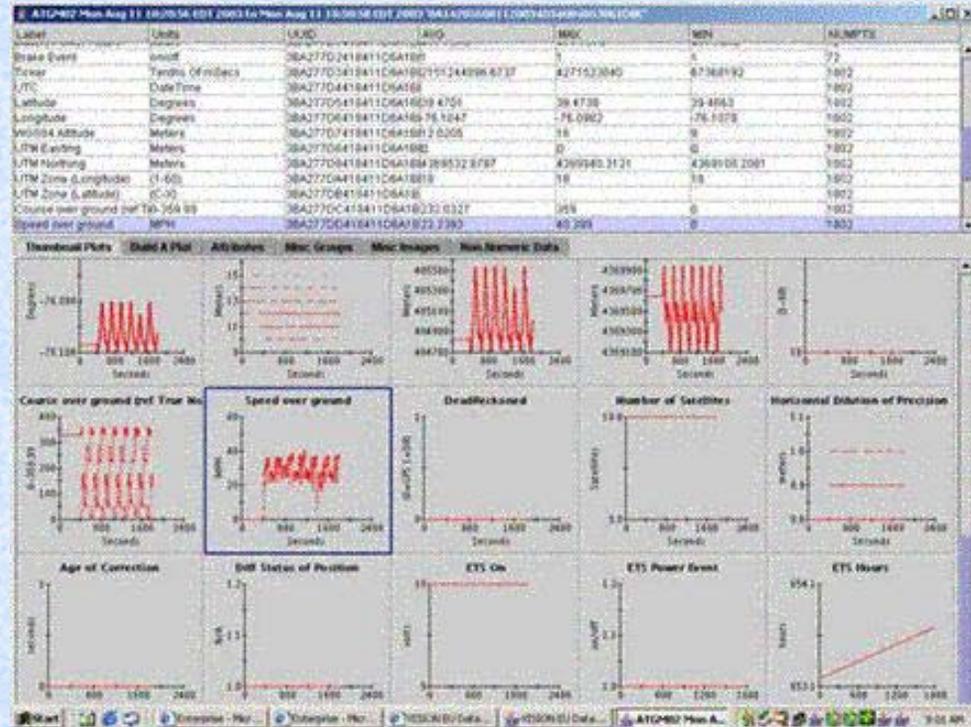


Engineering Unit Database (EUIDB)



Now

- A web enabled database driven application in use at ATC.
- Uses a Hierarchical Data Format version 5 (HDF5) to link a database to the graphical front end.
- Several functions are available:
 - A Calendar view organizes data taken over several days
 - Simple statistical analysis
 - Thumbnail graphs can be selected to view an interactive graph
 - Data querying and filtering





ODIN/Cognos



- **Observer Data Input Nexus (ODIN)**

- A Client/server data collection application currently used to collect hand written data.
- Database and GUI forms are developed, then a software generator creates a Java application.
- Application allows for data entry and will transfer collected data to the server.
- Web enabled capability will be completed soon.
- Future plans include user generated database and forms.

- **Cognos**

- Web based tool to query and view a database.
- Can export data into Excel, PDF, and other format.

ODIN Micro Edition

IncDataGUI

31. SUBSYSTEM: SUIT/PACE

32. INCIDENT CLASS: MAJOR

33. OBSERVED DURING: FLIGHT OPS

34. ACTION: PATCHED

44. INCIDENT STATUS: PRELIMINARY

46. CATEGORIES:

RAM HUMAN FACTORS

RAM PERFORMANCE

47. KEYWORDS:

PATCH/LOST HOLE/TEAR

Cognos Query

ID DATA

ITEM#	TIR_DATA.TIR#	TIR_DATA.REVISION	MAINT_DATA
1	XXXXXXXXXX	XXXXXXXXXX	
2	XXXXXXXXXX	XXXXXXXXXX	
3	XXXXXXXXXX	XXXXXXXXXX	
4	XXXXXXXXXX	XXXXXXXXXX	
5	XXXXXXXXXX	XXXXXXXXXX	
6	XXXXXXXXXX	XXXXXXXXXX	



Future Direction



- Continue to investigate ways to support customers for distributed testing.
- Work with the different Virtual Proving Ground (VPG) Focus Groups.
 - Tools
 - Consider ATEC Knowledge on Line as the web based entry point to link to many applications to effectively perform distributed collaboration and testing.
 - Integration Information Systems
 - Continue the work with ILH, ACE and ADSS.
 - Architecture
 - Investigate tools for assisting the maintenance of networks and Object Models, including Test and Training Enabling Architecture (TENA).
 - Synthetic Environments
 - Support Distributed Test Event 4 (DTE4) using a web based toolbox and linking commonly used tools.