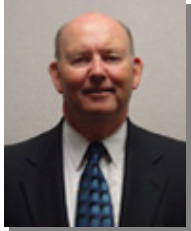




## Message from the Director



### LSDL Products: On the Road Again R6σ®: A Tool for Success

The International Society of Logistics Engineers (SOLE) conference was held 15-17 August and was a great success. There were many outstanding speakers and an Exhibit hall filled with enthusiastic vendors willing to show you the way to the future in logistics. The LSDL booth attracted a steady stream of professionals interested in how LSDL tools could help them solve their present and future difficulties. Our booth was manned by Patty and Dave Tyler, Mike Haas, Richard Herman and Ian Boulton. The diversity of the exhibit team provided a wide range of subject matter expertise, allowing questions on virtually any of the full range of our tool capabilities to be addressed with authority and clarity. The exhibit provided a forum for many interesting and informative discussions.

The Autotestcon 2006 conference was held 19-21 September. LSDL was part of two panels and presented two papers. Richard Negron presented 'An Integrated Information System Approach for Performance Based Logistics' as part of the Maintenance Systems panel. Jarom Wolcott presented 'Using MMIS to Support the Warfighter' as part of the ATS Information Systems panel. Our products were well represented being exhibited in two booths in

addition to the RTSC booth. This was a very large conference and our team members were able to interact with many other interested professionals which improved our opportunity for new business.

Raytheon Six Sigma™ is more than a buzz word; it is a way of doing business in LSDL.

So far this year, our LSDL Team members have participated and/or led six separate cost saving projects using the Raytheon Six Sigma™ process, producing a financial benefit of over \$1 million. Our goal for 2006 is to have ALL of our LSDL Team members qualified as R6σ® Specialists and we are well on our way, with all of our team members having completed training and over 70% of the team being R6σ® Specialist certified. With several more projects currently in the works, we expect to realize even more savings before the end of the year.

Integrating R6σ® practices and principles into our business practices keeps our development costs down and increase the quality of products and services delivered to you, the customer.

### ***Last call for the 2006 EAGLE/iLog conference!***

The conference will be held in London, U.K. on 17-18 October 2006. LBS and Raytheon invite all our EAGLE and iLog users to attend the 2006 user conference. The conference is the ideal opportunity to network with other users and experts in the field, discuss questions and suggestions with the EAGLE and iLog development team members, pick up time and labor saving short cuts and tips, and get a sneak preview of new capabilities in development. We hope to see you all there! For more information, visit us on the web at:

<http://www.raytheoneagle.com/userconf2006.htm>

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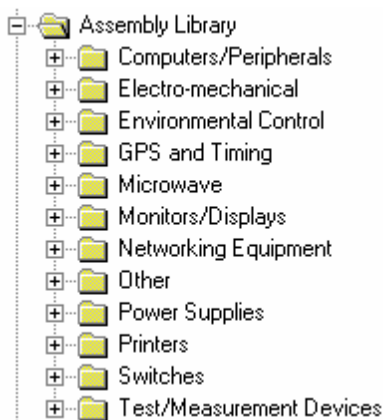


## ASENT's New Assembly Data Manager

ASENT's New Assembly Data Manager was first introduced in the recent 12.0 release. ASENT currently has powerful tools to manage part libraries and maintenance tasks through its Component Data Manager and its Maintainability Data Manager. However, this new capability provides a powerful tool, which allows you to build and manage libraries of assemblies.

Assemblies, sub-assemblies, circuit cards, or anything else that you might want to add can be easily stored and managed in the Assembly Data Manager. These can be items that are either built or manufactured by your company, or they could be purchased or subcontracted assemblies from another company or vendor.

Equipment categories and subcategories can be quickly and easily defined in the tool, and a wealth of information can be stored and associated with each assembly item. The figure below shows an example of some equipment categories that were defined by a user



Example of Equipment Categories

Examples of the types of data that can be associated with each assembly include: assembly name, assembly description, supplier name, supplier part number, internal part number, data source, comments, contact name, contact phone number, contact email address, and a reference URL. Also, the failure rate and MTBF can be stored, along with the temperature and environment that corresponds to these values.

Users can enter either the failure rate or the MTBF value and the other value will be automatically calculated. For example, if you enter the failure rate, then its corresponding MTBF will automatically be calculated.

In addition to some of the data that was just mentioned, you can associate graphics and drawing sheets with your assembly data. You can also associate additional documentation like web sites, or various documents (e.g. Word, Excel, PowerPoint, PDF, etc.) by entering that data into the reference URL field. If this field contains a URL to a web site or a file name, ASENT will launch it with the appropriate application when you double-click on this field. This can be particularly handy for managing large amounts of background data or notes, which may be associated with an assembly, by having this information readily available when needed.

There are a great number of tools built into the Assembly Data Manager to assist you in managing your libraries. Categories and subcategories can be easily added, copied, moved, renamed, or deleted. The same is true for individual assemblies or groups of assemblies.

Another useful feature included in the Assembly Data Manager is its ability to update the failure rate and MTBF values to reflect changes made to the environment and temperature. Often, a user may make a copy of an assembly that is planned for use in a different temperature and environment. By clicking on the **Translate FR for Env & Temp button**, they can enter the new environment and temperature, and ASENT will apply the appropriate multipliers for the new environment and temperature, and update the failure rate and MTBF values accordingly.

In the Assembly Data Manager, most of the comment fields allow up to 255 characters of information, but if you need additional space, you can click on the **Additional Comments button**, and enter as much information as you'd like. Don't forget, you can also have supporting documentation associated with each assembly by making use of the reference URL field.

The information contained in your assembly libraries is readily available to ASENT's Reliability Manager.

(Continued on page 3)



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## Assembly Data Manager (Cont'd from page 2)

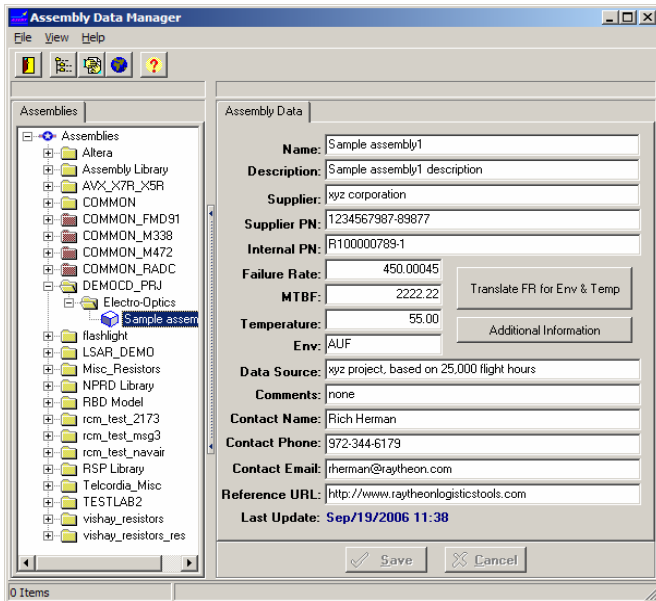
From here, you can quickly define the product tree structure used for reliability predictions by importing items from either other ASENT projects, Excel spreadsheets, or from assembly libraries. The information contained in your assembly libraries can be very useful for supporting proposals or performing reliability predictions.

Rich Herman at: 972-344-6179  
Email: [rherman@raytheon.com](mailto:rherman@raytheon.com)

<http://www.raytheon.com/asent>



## Focus on Customer - ALR67(V)3 Parametric Data Analysis Tool



Assembly Data Manager

The figure above shows an example of an Assembly Data Manager window with a sample assembly selected. The Reference URL field can contain ordinary comments, a web page URL, or a file name path. In the example in the figure above, the field contains the URL to a web page. When you double-click on this field, ASENT will launch the web page, or file, depending on the situation.

The new Assembly Data Manager is just one of many useful tools that you will find in ASENT 12.0. We are planning some opportunities in October where you can join us online to become better acquainted with some of the new features in ASENT. If you would like to arrange a special online meeting specifically for your group or company, please contact us.

**For information on ASENT, or to arrange an online demo, please contact:**

The ALR67(V)3 Counter Measures Radar program based at the Raytheon Goleta site are the original users of the EAGLE Maintenance Management Information System (MMIS). MMIS was initially designed to support the Performance Based Logistics (PBL) contract for the ALR67(V)3 system. A new application is currently being developed for the analysis of parametric data. The Parametric Data Analysis Tool (PDAT) provides the ability to capture and analyze binary test results, display those results graphically, and link results to supporting documentation for faster diagnostic and repair capabilities. The main features of PDAT are that it:

- ❖ Utilizes technology developed from current, highly effective, Graphical Analysis Tool.
- ❖ Provides improved supportability and horizontal integration into other PBL programs.
- ❖ Will be supported by the EAGLE MMIS team and become an additional feature of PBL tools.
- ❖ Provides ability to easily integrate technology developed from current NADEP JAX Analysis tool.
- ❖ Interface with Boeing NAVAIR Smart TPS diagnostics system.
- ❖ Interface with Class 5 S1000D IETP.

The PDAT development effort is being coordinated with IPT members from the Raytheon EAGLE team and the Raytheon ALR67(V)3 PBL and Production Engineering lab. PDAT is divided into 3 main modules:

- ❖ PDAT Display Module - The Display Module transforms translated XML data using style-sheets and provides dynamic parametric data analysis.
- ❖ PDAT Translation Module - The Translation Module commands the PDAT acquire module(s) to return data in a specific XML format.

(Continued on page 4)



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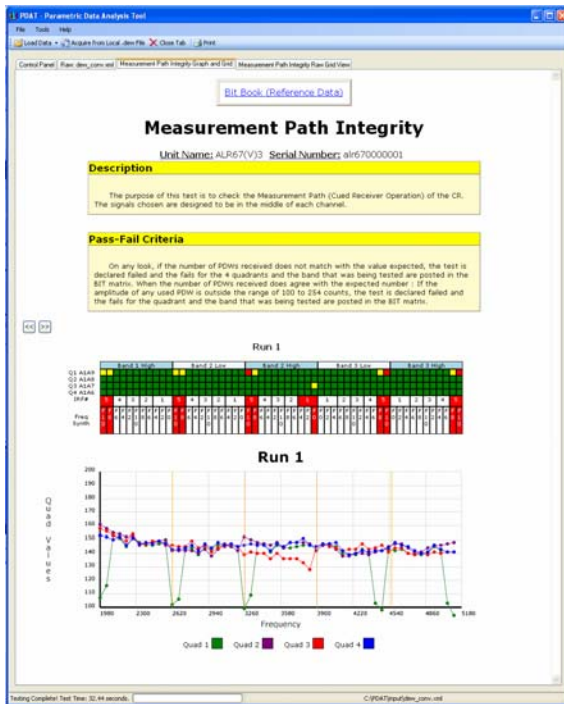


## Parametric Data Analysis Tool (Cont'd from page 3)

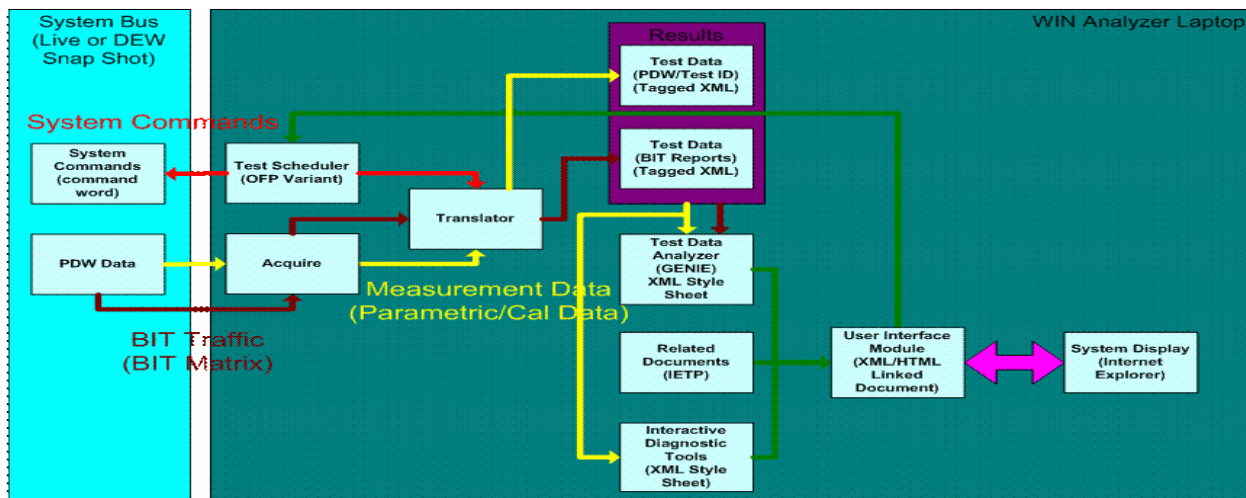
- ❖ PDAT Acquire Module - The Acquire module has the capability to capture binary data from a variety of sources. Some such sources include Mil-Std-1553 data, RS-232 interfaces, GPIB interfaces, etc. It has the capability to receive commands from the translator as to the type of data source and the type of buffer that will be returned for translation.

The main benefits of the PDAT system are:

- ❖ Compares Actual Test Data for diagnostics against historical data
  - Support by historical data and “most likely” events generated from Smart TPS.
  - Processes real system BIT data and compares against historical data to provide more detailed fault analysis.
- ❖ Modular design supports growth enabling future capabilities.
- ❖ Utilizes XML to solve compatibility and integration problems by utilizing common software.
- ❖ Client and Web Based Architecture uses the full functionality of client based applications, but provides means to share and update software as needed over remote locations.
- ❖ Means to provide Operational Support without impacting hardware
  - If implemented will reduce the number of Cannot Verifies (CNV)
  - Potential to catch degradation as it occurs and perform preventative maintenance.
  - Attention can be placed towards actual failures and prepping A/C for RFI.
  - Reduces Wasted Maintenance and BIT False Alarms.



Sample User Analysis Screen



Functional Block Diagram



# ASDL Newsletter



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## Award Winning Paper Presented at AutoTestCon



L-R Ed Giannotti, Ted Antzoulis and Richard Negrón of RTSC

During the recent AUTOTESTCON conference, the paper "An Integrated Information Systems Approach for Performance Based Logistics" Authored and presented by Ed Giannotti, Ted Antzoulis and Richard Negrón of RTSC was awarded the **David M Goodman Best Paper Award for Management Topics**. This was one of only two awards for papers by industry presented at the conference.

Their paper discussed efficient and effective PBL processing using Raytheon's Enhanced Automatic Graphical Logistic Environment (EAGLE™) Maintenance Management Information System (MMIS™) system to integrate asset management, documentation control, Supply Material Availability (SMA), FRACAS data capture, SMART transportation and electronic WAWF processing for active PBLs.

For the AEGIS and NATO PBLs using the MMIS approach, asset fill rates have jumped from below 75% before PBL to greater than 95% today. New UID and RFID requirements are currently being integrated into the PBL MMIS process to enhance the customer asset visibility as well.

## EAGLE and MMIS Span Europe with Training

Logistic Software Development Laboratory employees Michael Haas and James Rosas recently traveled to Paraquellos de Jarama, Spain and Moscow, Russia where they conducted EAGLE and MMIS training.

In Spain, Michael and James conducted a two week EAGLE class for General Dynamics, Santa Barbara Sistemas (GDSBS). The first week's efforts were devoted to basic EAGLE training for new users. James and Michael also helped GDSBS IT personnel to upgrade their server and to create a backup server.



This way to our Spanish Customer

According to Michael, "working with Spanish versions of Oracle and the Windows 2000 operating system presented new challenges. With the help of the EAGLE team back in Tucson and the GDSBS team, we managed to work through all of them."

The second week's sessions concentrated on improving GDSBS data on the Pizarro infantry fighting vehicle program. Plans for a tool to roll up failure rates for sub-systems with differing operating requirements to an overall failure rate for the system were also discussed.

In Moscow, James and Michael provided a one week, crash course in EAGLE and MMIS for RTSC Threat Reduction Operations personnel. They also assisted Threat Reduction Operations IT personnel to configure MMIS on the Threat Reduction Operations server.

Threat Reduction Operations has contracted with the Cooperative Threat Reduction (CTR) Program of the United States. The CTR Program assists the states of the former Soviet Union in controlling and protecting their nuclear weapons, weapons-usable materials, and delivery systems. It is envisioned that MMIS can be used to track the configuration of equipment as well as provide inventory control for various sites.



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## AIMSS Selected as IETM Authoring Tool of Choice for STARS Program

When the Federal Aviation Administration (FAA) needed a state-of-the-art air traffic control system to manage terminal area airspace for both itself and the Department of Defense (DoD), the FAA turned to Raytheon as supplier of the Standard Terminal Automation Replacement System (STARS). When the FAA needed a state-of-the-art manual to support STARS, the FAA worked with Raytheon to choose the Advanced Integrated Maintenance Support System (AIMSS) to create highly interactive technical documentation.

The STARS program modernizes and upgrades terminal automation systems within the FAA Terminal Radar Approach Control (TRACON) and DoD air traffic control facilities, replacing existing equipment with a new open architecture system. STARS receives radar data and flight plan information and presents the information to air



traffic Controllers on high resolution 20" x 20" color displays, allowing the controllers to monitor, control, and accept hand-off of air traffic. The color displays are specially developed for air traffic control and are capable of displaying six distinct levels of weather data (identified by different colors) simultaneously

with air traffic. STARS is capable of tracking up to 1,350 airborne aircraft simultaneously within a terminal area. The system interfaces with multiple radars (up to 16 short and long range), presents up to 128 controller positions, and can include up to 40 airports and a 400 by 400 mile area of coverage.



To support this highly advanced system, Raytheon and the FAA chose to use the AIMSS Authoring Tools Set.

AIMSS allows technical writers to develop highly interactive electronic technical manuals, using a simple graphic interface, which will allow personnel both to more efficiently maintain STARS and STARS technical documentation. The STARS IETM presents a single, user-friendly portal for quick access to thousands of pages worth of data, including descriptive information, maintenance procedures, equipment photographs, and PDF reference documents, using graphical menus based on actual STARS software displays and hardware diagrams.

AIMSS was used to integrate eight manuals, over 9,000 page units of information, which included; system manuals, operator's manuals, and software user's manuals, into one highly interactive IETM. The seamless navigation of this single AIMSS IETM eliminates difficulties technicians experience when having to refer to multiple procedures in multiple manuals during single maintenance activities. The AIMSS IETM also stores site-specific configuration settings, customizing its interface and filtering data to match parameters chosen by the technician or dictated by context.

**For more information about AIMSS or to arrange an on-line demo, please contact:**

**Robert Schwarzberg: 866-773-0557**  
**Email: [aimss\\_support@raytheon.com](mailto:aimss_support@raytheon.com)**

<http://www.raytheonaimss.com>

### Latest Version of Our Tools:

<a href="#">AIMSS</a>	4.7 (August 2006)
<a href="#">ASENT</a>	12.0 (June 2006)
<a href="#">EAGLE</a>	6.02 (July 2006)
<a href="#">iLog</a>	2.0 (December 2005)
<a href="#">MMIS</a>	6.02 (July 2006)

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