

625-EMD-103

EOSDIS Maintenance and Development Project

Training Material for the EMD Project Volume 3: Problem Management

Revision --

July 2007

Raytheon Company
Upper Marlboro, Maryland

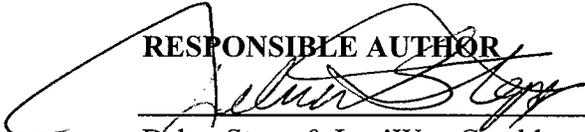
Training Material for the EMD Project Volume 3: Problem Management

Revision --

July 2007

Prepared Under Contract NAS5-03098
CDRL Item 23

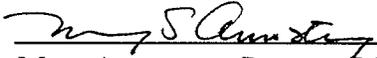
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Upper Marlboro, Maryland

625-EMD-103

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Preface

This document is a formal contract deliverable. It requires Government review and approval within 45 business days. Changes to this document will be made by document change notice (DCN) or by complete revision.

Any questions should be addressed to:

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Revision History

Document Number	Status/Issue	Publication Date	CCR Number
625-EMD-103	Original	July 2007	07-0381

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Abstract

This is Volume 3 of a series of lessons containing the training material for the Earth Observing System Data and Information System (EOSDIS) Maintenance and Development (EMD) Project. This lesson provides a detailed description of the process required for submitting and updating trouble tickets as well as investigating problems and identifying and implementing solutions.

Keywords: training, instructional design, course objective, problem management, trouble ticket, Help Desk, Problem Review Board, Non-conformance Report, NCR, TestTrackPro.

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Contents

Preface

Abstract

Contents

Introduction

Identification	1
Scope	1
Purpose	1
Status and Schedule	1
Organization	1

Related Documentation

Parent Documents	3
Applicable Documents	3
Information Documents	3
Information Documents Referenced	3
Information Documents Not Referenced	4

Problem Management Overview

Lesson Overview	5
Lesson Objectives	5
Importance	6

Slide Presentation

Slide Presentation Description	7
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Introduction

Identification

Training Material Volume 3 is part of Contract Data Requirements List (CDRL) Item 23, which is a required deliverable under the Earth Observing System Data and Information System (EOSDIS) Maintenance and Development (EMD) Contract (NAS5-03098).

Scope

Training Material Volume 3 describes the process and procedures by which trouble tickets are submitted and updated. In addition, the lesson describes in general terms the processes by which problems submitted on trouble tickets are investigated and solutions are identified and implemented. This lesson is designed to provide the operations staff with sufficient knowledge and information to satisfy all lesson objectives.

Purpose

The purpose of this Student Guide is to provide a detailed course of instruction that forms the basis for understanding problem management. Lesson objectives are developed and will be used to guide the flow of instruction for this lesson. The lesson objectives will serve as the basis for verifying that all lesson topics are contained within this Student Guide and slide presentation material.

Status and Schedule

This lesson module provides detailed information about training for the current baseline of the system. Revisions are submitted as needed.

Organization

This document is organized as follows:

- | | |
|------------------------|---|
| Introduction: | The Introduction presents the document identification, scope, purpose, and organization. |
| Related Documentation: | Related Documentation identifies parent, applicable and information documents associated with this document. |
| Student Guide: | The Student Guide identifies the core elements of this lesson. All Lesson Objectives and associated topics are included. The slide Presentation is reserved for all slides used by the instructor during the presentation of this lesson. |

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Related Documentation

Parent Documents

The parent documents are the documents from which the EMD Training Material's scope and content are derived.

423-41-01	Goddard Space Flight Center, EOSDIS Core System (ECS) Statement of Work
423-46-03	EMD Task 101 Statement of Work For ECS SDPS Maintenance
423-46-02	Contract Data Requirements Document for EMD Task 101 ECS SDPS Maintenance

Applicable Documents

The following documents are referenced within this EMD Training Material, or are directly applicable, or contain policies or other directive matters that are binding upon the content of this document:

420-05-03	Goddard Space Flight Center, Earth Observing System (EOS) Performance Assurance Requirements for the EOSDIS Core System (ECS)
423-41-02	Goddard Space Flight Center, Functional and Performance Requirements Specification for the Earth Observing System Data and Information System (EOSDIS) Core System (ECS) (ECS F&PRS)
423-46-01	Goddard Space Flight Center, Functional and Performance Requirements Specification for the Earth Observing System Data and Information System (EOSDIS) Core System (ECS) Science Data Processing System (EMD F&PRS)

Information Documents

Information Documents Referenced

The following documents are referenced herein and amplify or clarify the information presented in this document. These documents are not binding on the content of the EMD Training Material.

609-EMD-100	Release 7.20 Operations Tools Manual for the EMD Project
611-EMD-100	Release 7.20 Mission Operation Procedures for the EMD Project

Information Documents Not Referenced

The following documents, although not referenced herein and/or not directly applicable, do amplify or clarify the information presented in this document. These documents are not binding on the content of the EMD Training Material.

305-EMD-100	Release 7.20 Segment/Design Specification for the EMD Project
311-EMD-100	Release 7.20 INGEST (INS) Database Design and Schema Specifications for the EMD Project
311-EMD-101	Release 7.20 Science Data Server Database Design and Schema Specifications for the EMD Project
311-EMD-102	Release 7.20 Storage Management Subsystems Database Design and Database Schema Specifications for the EMD Project
311-EMD-103	Release 7.20 Systems Management Subsystem Database Design and Schema Specifications for the EMD Project
311-EMD-104	Release 7.20 Order Manager Database Design and Database Schema Specifications for the EMD Project
311-EMD-105	Release 7.20 Spatial Subscription Server (SSS) Database Design and Schema Specifications for the EMD Project
311-EMD-106	Release 7.20 Data Pool Database Design and Schema Specifications for the EMD Project

Problem Management Overview

Lesson Overview

This lesson will provide you with the complete process by which trouble tickets are submitted and updated. In addition, the lesson describes in general terms the processes by which problems submitted on trouble tickets are assigned priorities, investigated, and resolved.

Lesson Objectives

Overall Objective - The overall objective of the Problem Management lesson is for maintenance and operations personnel to develop proficiency in the procedures that apply to the trouble ticketing/problem resolution process for the Earth Observing System (EOS) Data and Information System (EOSDIS) Core System (ECS).

Condition - The student will be given a written description of an operational problem (affecting system hardware, software, documentation, or procedures), access to the trouble ticket system, a copy of 609-EMD-100, *Release 7.20 Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-100, *Release 7.20 Mission Operation Procedures for the EMD Project*.

Standard - The student will use the trouble ticket system without error in accordance with the prescribed process and procedures to submit, update and complete the specified parts of a trouble ticket.

Specific Objective 1 - The student will perform the steps involved in submitting a trouble ticket.

Condition - The student will be given a description of an operational problem to be reported through the trouble ticket system, access to the trouble ticket system (through a workstation or terminal), a copy of 609-EMD-100, *Release 7.20 Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-100, *Release 7.20 Mission Operation Procedures for the EMD Project*.

Standard - The student will perform without error the steps involved in submitting a trouble ticket in accordance with the applicable procedure, including entry of information sufficiently accurate and complete to permit correct assignment of severity.

Specific Objective 2 - The student will perform the steps involved in making a change to an existing trouble ticket.

Condition - The student will be given a description of a change to be made to an existing trouble ticket, access to the trouble ticket system (through a workstation or terminal), a copy of 609-EMD-100, *Release 7.20 Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-100, *Release 7.20 Mission Operation Procedures for the EMD Project*.

Standard - The student will perform without error the steps involved in making a change to an existing trouble ticket in accordance with the applicable procedure.

Specific Objective 3 - The student will describe the general steps in the routine trouble ticket problem resolution process, including the differences that result from assignment of the various priority levels.

Condition - The student will be given a description of a routine operational problem to be resolved through the problem resolution process, a copy of 609-EMD-100, *Release 7.20 Operations Tools Manual for the EMD Project*, and a copy of 611-EMD-100, *Release 7.20 Mission Operation Procedures for the EMD Project*.

Standard - The student will state without error the general steps involved in the routine trouble ticket problem resolution process in accordance with the applicable procedure.

Importance

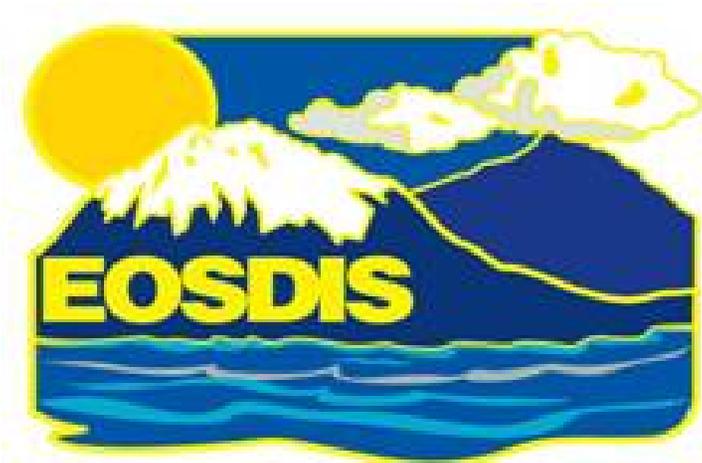
This lesson applies to students who are internal users or operators of the system (including support staff). The lesson will provide them with the knowledge and skills needed for submitting trouble tickets and making additional entries on trouble tickets in the course of investigating system problems reported on trouble tickets. They need the knowledge and skills on the job when they encounter system hardware, software, documentation or procedural problems that they cannot readily fix, that affect other users/operators, or that are system-wide problems. The lesson describes why and how trouble tickets are submitted and updated. In addition, it describes in general terms the processes by which problems submitted on trouble tickets are assigned priorities, investigated and resolved. Consequently, the students will become aware of what happens to the trouble tickets they submit and how clear and complete inputs to the DAAC Support Help Desk ensure the greatest effectiveness of support in problem resolution.

Slide Presentation

Slide Presentation Description

The following slide presentation represents the slides used by the instructor during the conduct of this lesson.

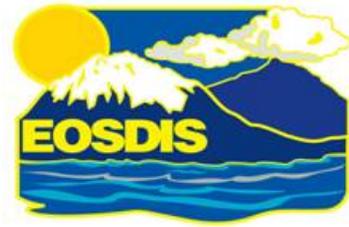
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Problem Management

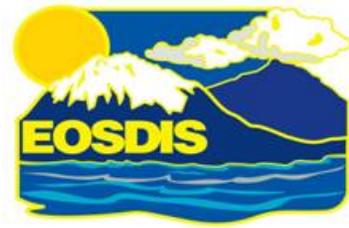
July 2007

Overview of Lesson



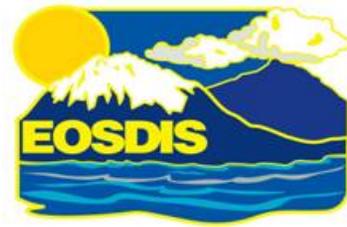
- **Introduction**
- **Writing/Submitting a Trouble Ticket (TT)**
- **Documenting Changes**
- **Problem Management**
- **Practical Exercises:**
 - **Writing/Submitting a Trouble Ticket**
 - **Documenting TT Changes/Updates**
 - **Creating Filters**
 - **Generating Reports**
 - **Documenting Failures and Severity**

Objectives



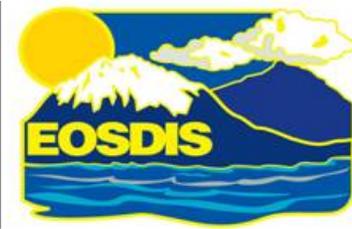
- **OVERALL:**
 - Develop proficiency in trouble ticketing and problem resolution procedures
- **SPECIFIC:**
 - Submit a trouble ticket (TT) with concise and complete data to enable correct assignment of severity
 - Update an existing TT
 - Describe the steps in the routine problem resolution process
- **STANDARD:**
 - Mission Operation Procedures for the EMD Project – 611-EMD-100

Importance

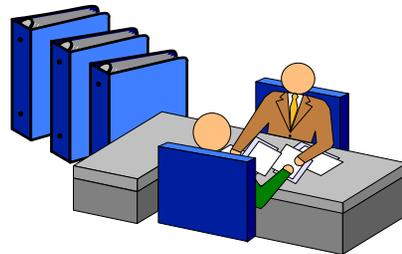
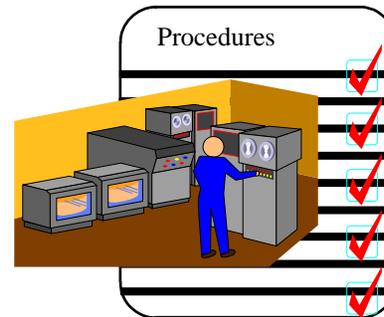
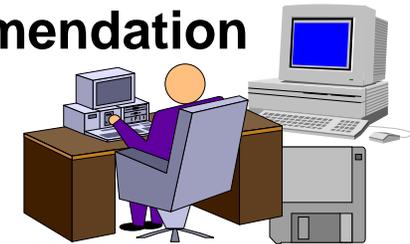


- **All EMD internal system users are affected by this process**
- **If a problem occurs with system hardware, software, documentation, or procedures, it is necessary to apply problem management tools and procedures**
- **Concise and complete inputs to the EDF Support Help Desk determine correct assignment of severity to ensure effective support in problem resolution**
- **Release 7.20 new client/server architecture changes will allow for All defects (Trouble Tickets and NCRs) to be stored in one centralized database - the Seapine TestTrack Pro (TTPro) System. TTPro objectively replaces both DDTs (NCRs) and Remedy (TTs) systems.**
- **Defects lifecycle starts with its submission and generally ends with its resolution. TTPro uses this lifecycle concept and manages bugs, using a state transition tracking mechanism.**

Writing a Trouble Ticket (TT)



- **Electronic document for:**
 - Reporting/recording problems
 - Recording an system enhancement recommendation
- **Problems affect these system components:**
 - hardware
 - software
 - technical documents
 - procedures

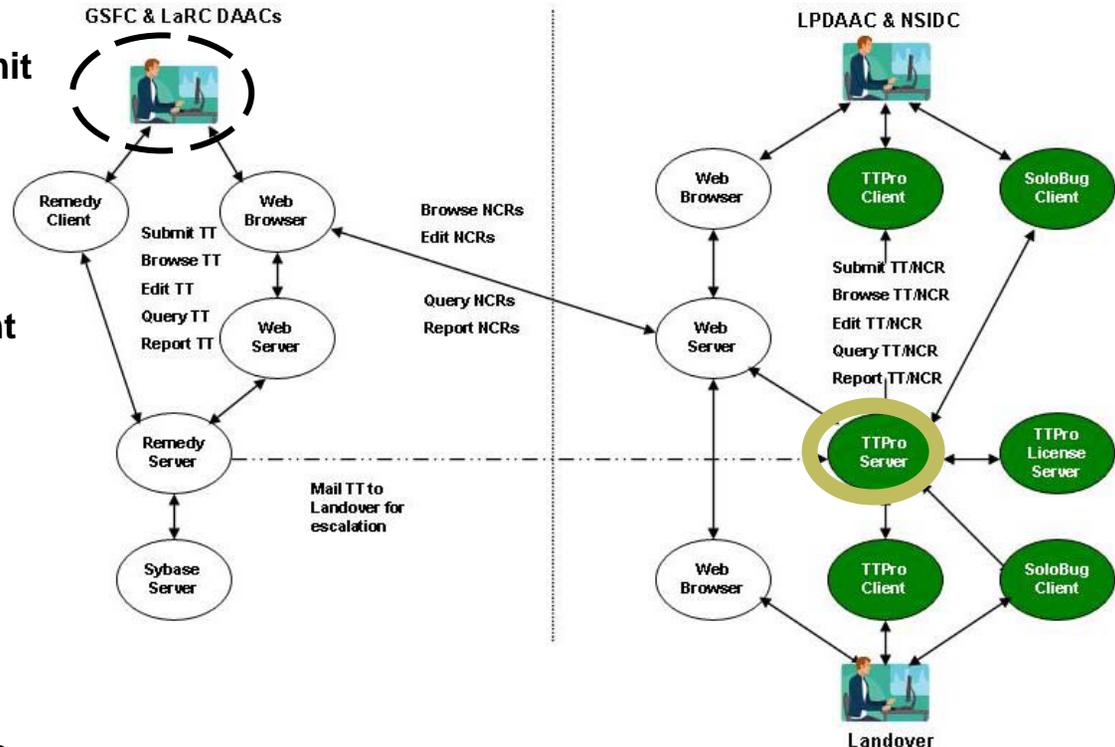


TestTrack Pro Architecture for EMD

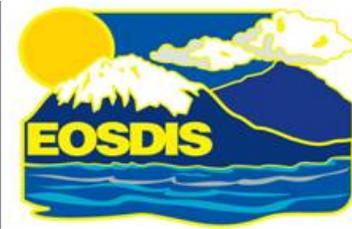
(moving from Remedy/DDTS)



- GSFC and LaRC DAAC will...
 - submit TTs via mail to Landover for escalation.
 - convert TTs to NCRs and submit via Web Browser to TTPro Server at Landover for escalation.
- LP DAAC and NSIDC will...
 - use direct link into TTPro Client to submit, update, browse, and/or query TTs at Landover.
- Landover will...
 - use a direct link into TTPro Client to maintain TTs and NCRs.
- The TTPro Client will...
 - handle both TTs and NCRs within a centralized database grouped into *Projects* – omitting the historical Remedy and DDTS systems.



Writing a Trouble Ticket (cont.)



- TTs may be submitted by Operations or Sustaining Engineering personnel at the Distributed Active Archive Centers (DAACs)
- Existing Trouble Tickets numbers will now have a 2-digit site prefix (i.e., GSFC = 10; LaRC = 20; LPDAAC = 30; NSIDC = 40)
- Trouble Tickets transfers (workflow of events) through its lifecycle from “Open” state to “Closed” state as detailed:

Event	Description	New State	Data Added to Defect	Assignment Change
Assign	Assign ticket to one or more team members	No change	Assigned to	New
Propose Solution	Identify fix	Solution Proposed	Due date; Version; Effort to fix	None
Start to Implement	Notify submitter and others that work on fix has begun	Implement Solution	Work start date	None
Fix	Move trouble ticket to fixed state and capture resolution	Fixed	Effort, Affects Documentation, Affects Test Plan, Resolution, Version	None
Escalate	Elevate ticket to PRB for advice or resolution	Escalated to PRB	Requested Category	None
Close	Move ticket into Closed state	Closed	Resolution	Clears

Writing a Trouble Ticket (cont.)



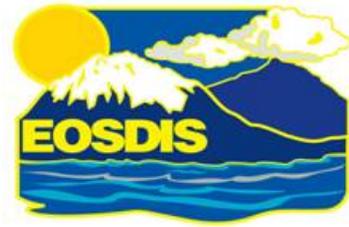
- **If a configuration change is required, a Configuration Change Request (CCR) is prepared as...**
 - It provides documentation for the configuration management process
 - a TT leads to a CCR only if a proposed configuration change (e.g., changing a baselined system Configuration Item)
- **TestTrack Pro Defect System provides a consistent means to ...**
 - report (by documenting) system problems
 - classify severity of problems
 - track a problem occurrence to its resolution
 - centralizing maintenance of both TT and NCRs

Writing a Trouble Ticket (cont.)



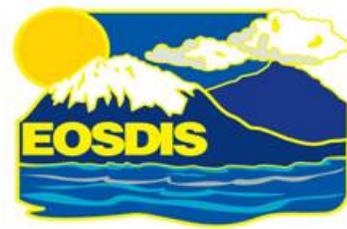
- **TestTrack Pro Defect System provides a consistent means to...**
 - access via Web or PC based Graphical User Interface (GUI)
 - common data entry and TT retrieval format
 - centrally store TTs (and NCRs) in one database
 - generate pre-defined reports (i.e., detail, list, distribution, trend)
 - utilize e-mail interface (automatic notification) capability
 - define TT (and NCRs) “life cycle” through workflow events
 - allows customized local escalation and action rules

Writing a Trouble Ticket (cont.)



- **Supporting documentation must be handled separately**
 - not recommended to attach a file or software code details in TestTrack Pro
 - send/give material via e-mail to the TT system administrator
- **Configuration Management Administrator (CMA) at each site serves as TT system administrator**

Writing a Trouble Ticket (cont.): Procedure



- **Launch Seapine TestTrack Pro Defect Tool**
 - Access TTPro via the web or via PC client
- **Login to configured server connection**
 - Ensure one or more working configured server connections
 - If first-time user, must setup/configure server connections
 - Multiple logins is prohibited
 - Use TT Administrator provided Username and Password
- **Set User Options**
 - Highly recommended for all users to set “Adding Multiple Trouble Tickets” options before creating/editing defects
- **Open TTPro Main Trouble Tickets GUI, by default**
 - Connect to assigned Project to activate Project List Window
 - Click “Add” button to create new TT

Writing a Trouble Ticket (cont.): Procedure (Illustrated)



If a first time User, the Seapine TestTrack Pro Add/Edit TestTrack Pro Server screen appears ... or the Seapine TestTrack Pro Login screen appears...

Nu...	Summary	Type	Status
2335	Path for IAS polling directory too long for IAS sy...		Pending (PRB review), not assigned
2431	Path for IAS polling directory too long for IAS sy...		Pending (PRB review), not assigned
2299	PDPS -Set Up		Pending (PRB review), not assigned
2327	PDPS -Set Up		Pending (PRB review), not assigned
2357	PDPS -Set Up		Pending (PRB review), not assigned
2390	PDPS -Set Up		Pending (PRB review), not assigned
2422	PDPS -Set Up		Pending (PRB review), not assigned

Writing a Trouble Ticket (cont.): TTPro Main Trouble Tickets GUI



- **Upper Panel** – Generally defines all related parts of the TT or problem.
- **Lower Panel** – display tabs that support TT series of events or lifecycle flow. There are seven events that elevates the Problems to NCR status (or triggers other workflow features).
- Field names in bold text “**required**” entry, although all related fields should be input.
- Trouble Ticket numbers are assigned after data entry of problem is committed – depress **OK** button in lower panel of window
- Use the “restore” button to show scroll bars and **OK** and **Cancel** buttons.

Upper Panel

TestTrack Pro - Development_TTs - [Edit Trouble Ticket #3006032]

File Edit View Create Activities Email Tools Window Help

Summary: 8mm stacker units must be accessible for training Dec 4, 1998

Status: Forwarded, not assigned
Type: <not set>
Product: <not set>

Entered by: powell, powell
DAAC Trouble Ticket: EDF00000003061
DAAC POC: Jeff Powell
Duplicate of:

Submitter Site: EDF
Priority: Low
Component: <not set>
Severity: High

Date Entered: 11/12/1998
Machine Name:
CCR/NCR: ECSed19222

Lower Panel

Detail Workflow Workaround Source Code Notify Links History

Current Report: powell, powell - 11/12/1998 1 of 1

Found by (Submitter): powell, powell Date: 11/12/1998 Version: xy

Description:

Machine = e0dis02, Mode = all, Drop = 4px.10+

Ralph Fuller expects to be able to access the 8mm stacker units for Data Distribution Lesson during ECS on-site training scheduled for the week of November 30, 1998.

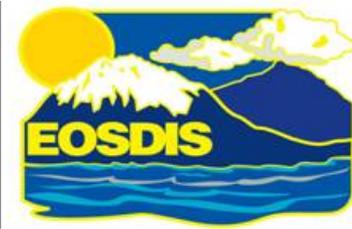
Ticket Status : Forwarded
Software Resource :
Hardware Resource :
Submitter ID : powell
Submitter Home DAAC : EDF
Submitter Phone : 605-594-6837
Submitter eMail : powell@EDFmail.cr.usgs.gov
Create-date : 11/12/98
Last-modified-date : 11/17/99
Last-modified-by : AR_ESCALATOR

OK Cancel

Logged in as: pjohson

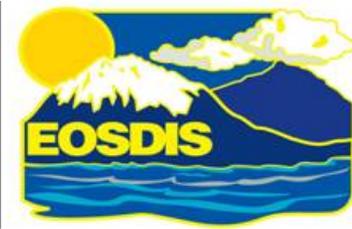
start Pamela A. Johnson... TestTrack Pro - D... Microsoft PowerP... 8:28 AM

Writing a Trouble Ticket (cont.): Procedure



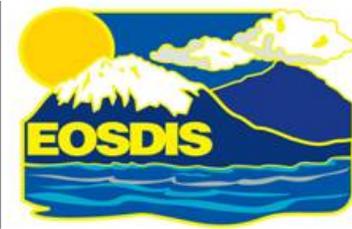
- **Submit TT by populating all areas of the “Open, not assigned” TT screen. Ensure all mandatory entries:**
 - The “Status” indicates the state and event of the TT; is auto-populated by system and is a non-editable field
 - Type a brief/concise description of the problem, but not a solution in “Summary” field (appears in Project List Window)
 - “Entered by” field is auto-populated by system, which identifies submitter and should be changed only as appropriate using list
 - The “Found by (Submitter)” is auto-populated by the system, but should be changed only as appropriate. This field is located in the lower panel of form on the Details tab that indicates the submitter of the problem

Writing a Trouble Ticket (cont.) Procedure



- **Fill in “optional” fields (some entries mandatory to support effective problem resolution), including those fields on the lower panel tabs:**
 - **Detail**
 - **Workflow**
 - **Workaround**
 - **History (view only)**
- **Verify all fields data entry of TT**
- **Submit the TT**
 - **Click the “Add” button to commit data to the database**
 - **The Add Trouble Ticket screen closes and the TestTrack Pro Defects Project Window appears**
 - **TTPro will automatically generate email notification as assigned**

Writing a Trouble Ticket (cont.) Procedure



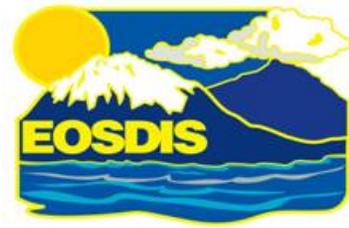
- **Exit the TestTrack Pro System to ensure license release**
 - There are limited licenses and users should not remain idle in system when not being used.
 - **Select File, Logout & Disconnect from TTPro menu**
- **Send backup information/documentation to the TT database administrator**
 - **send e-mail cover message**
 - identify TT number
 - provide Submitter ID
 - include relevant information concerning attachments

Documenting Changes



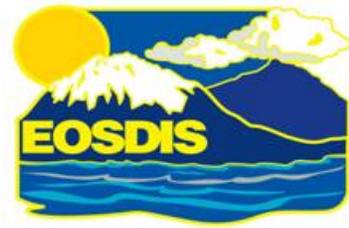
- **Trouble tickets are modified at various stages of problem resolution, for example:**
 - assignment to a technician for problem resolution
 - resolution log entries
 - changes of status
 - forwarding to another site
- **Access privileges**
 - controlled by the database administrator
 - determine which TT fields an operator/user may modify

Documenting Changes (cont.): Reviewing and Modifying Open TTs



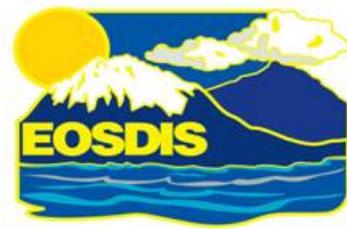
- **Launch TestTrack Pro User Tool**
 - Follow procedure to access system
- **Open Search/Find TT by number or description from Project List Window**
 - Locate TT from list and double-click or click “Edit” button (to view TT, click the “View” button)
 - Sort list by clicking column headings
 - Use pre-defined filter to narrow list to “Open Defects”
 - Select search option from menu by number or description
- **Review/Modify TT data fields**

Documenting Changes (cont.): Reviewing and Modifying Open TTs



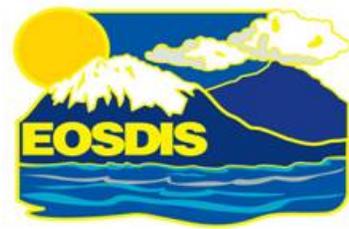
- **To Escalate TT to EDF:**
 - Select from menu, Activity, then Escalate
 - Populate the Escalate screen
 - A system script (SOAP API) is generated automatically to create a NCR
 - System generated notifications are sent to EDF and TT owner of a new NCR status
- **Commit changes/updates**
 - click the “Add” button
- **Exit the TestTrack Pro System to ensure license release**

Creating Filters



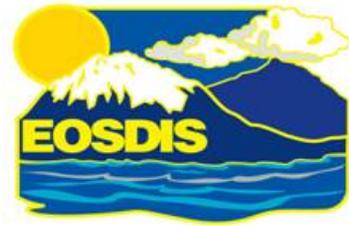
- **Filters allow simplified sorting of selected records and list on those defects that meet set criteria on the browse screen**
 - Utilized a pre-defined filter from “Filter” list box on main screen
 - Create customized filter by selecting Filter from the Activities menu of main TTPro screen
 - Click “Add” button, on filter dialog screen to create new filter
 - Add criteria or restrictions from the “Add Restrictions” dialog box and selecting the “Restricted By” criteria from list box
 - Select, as an option, the range (value) from the “From/To” field
 - Commit filter by selecting the “OK” button
- **Customized filters are stored within the pre-defined filter list**

Generating Reports



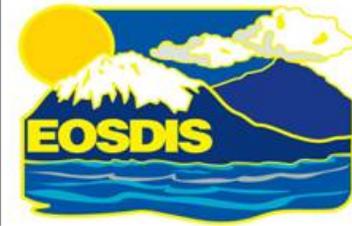
- **TTPro has a pre-defined set of reports generated for local and system-wide usage**
- **There are several pre-defined reports type:**
 - **Detail which displays all open defects, weekly, and ordered by defect number containing key details of problem**
 - **List which displays the summary of problems**
 - **Distributed which identifies team assignment**
 - **Tend which identifies the number of TT of each problem type in the Open state over time, grouped and ordered by month**
- **Select the “Report” option, from the “Create” menu, then select report type to generate a pre-defined report**
- **Customize a report by selecting available alternate fields of a pre-defined report template or create/generate new template**

Problem Management



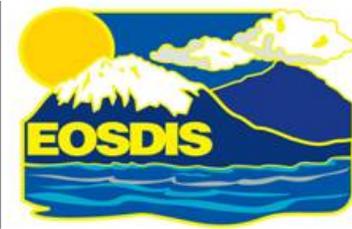
- **Control Board Reviews**
 - **EMD Problem Management is administered through system-level and site-level control board reviews**
 - **Control boards oversee the analysis, recommendations, and actions taken to resolve system/site problems concerning hardware, software, documentation, and procedures**
 - **Operations (OPS) Deployment and the site-level organizations resolve routine maintenance issues at the system-level and site-level, respectively, uses TTPro to track system problems**
 - **TTs may evolve into Non Conformance Reports (NCR), as required, which may then be utilized to generate Configuration Change Requests (CCR) to effect changes to the approved baseline**
 - **To ensure controlled change, NCRs are tracked using the TestTrack Pro system in the ECS Development Facility (EDF) and CCRs are tracked manually by Systems Engineering**

Problem Management (cont.)



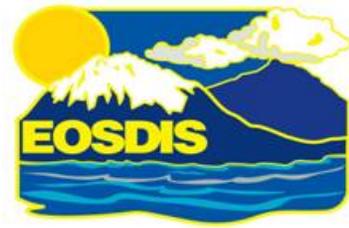
- **The trouble ticket process is the main vehicle used to record and report problems with the operational system**
 - **Required changes to the system level baseline, are forwarded to EDF, for review and NCR conversion consideration**
 - **TTs and CCRs that are repaired locally, and result in site-unique extensions to the system level baseline, are tracked**
 - **The Problem Review Board (PRB) designee is responsible for tracking TTs after being received from the sites, and for propagating system problem resolutions for site visibility**
 - **CMAAs also support the activities of the local review board, including generating status reports, and implementing resolutions, instructions, and changes**

Problem Management (cont.)



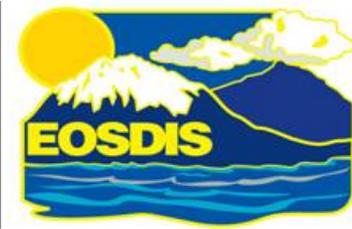
- **Maintenance engineers, at respective levels, record all activities in the trouble ticket**
 - This information can be used to determine critical maintenance concerns related to frequency of occurrence, criticality level, and the volume of problems experienced
 - The maintainability analysis guides critical changes, volume and type of support components to be utilized, and focuses further development efforts
- **TT submission triggers an internal review by the site's review board**
 - **Primary objectives of the internal review:**
 - Quickly identify and correct problems that fall within the site's capability to maintain, review and validate the priority of the problem
 - Elevate to the system level those problems that either exceed their capability to repair, or that require a change to the system level baseline

Problem Management (cont.)



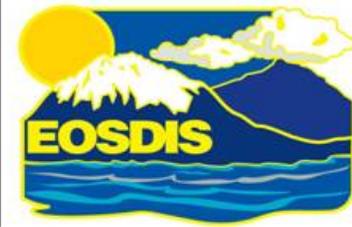
- **Problems passed from the sites to the ECS system level, are reviewed by the EMD Problem Review Board (PRB)**
- **PRB performs a preliminary review of each trouble ticket**
 - **Confirms the severity assigned by the site**
 - **Checks the completeness of information and data relevant to the problem**
 - **Determines whether the TT requires a change to the system-level operational baseline**

Problem Management (cont.)



- **The PRB has the authority to direct resolutions to trouble ticket problems that do not change (or in any way affect) the EMD operational baseline and baseline documentation**
 - **An NCR is required when a Technical Investigation (TI) determines that the operational baseline must be changed in order to correct the problem identified in the trouble ticket**
- **The PRB is not a voting board**
 - **Membership is appointed for the purpose of providing timely, direct technical support to the Chair, who has the decision-making responsibility and authority**

Problem Management (cont.)



- **Roles and responsibilities of PRB participants:**
 - Follow a nominal agenda that includes the following discussions:
 - Open trouble tickets
 - Deferred trouble tickets
 - Aging high trouble tickets
 - Review of all Severity 1 (Sev 1) NCRs (OPS and Rel#)
 - Review of new OPS NCRs
 - Convert any TTs that identify a system non-conformance and have the appropriate information into an NCR
- **NCRs requiring operational baseline changes within the contract's scope are evaluated by the Science Development (SCDV) CCB**
 - Changes that are within the scope of the contract are Class II changes as described in 110-EMD-001, Configuration Management Plan for the EMD Project

Problem Management (cont.)



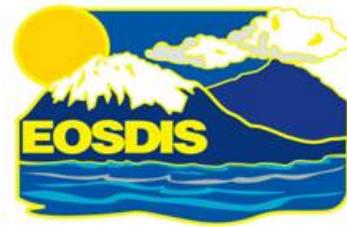
- **Roles and responsibilities of the SCDV CCB:**
 - Review, approve and schedule; review and backlog; or reject each NCR's proposed resolution, or cost and schedule input from the Responsible Engineer (RE)
 - Approve the schedule for the deployment of configuration changes in the form of a 'drop'
 - Approve the content of each block
 - Manage and adjust the schedule and contents of each block in accordance with program priorities and the progress of NCR work-off
 - Review the status of all backlogged NCRs on a periodic basis; schedule NCRs for a future block as appropriate
 - Collect and report on NCR statistics

Problem Management (cont.)



- **Assessing/Categorizing Problem Severity**
 - **TestTrack Pro Trouble Ticket tool provides fields for rating the submitter impact and priority of a problem**
 - **It is intended that the submitter of a trouble ticket use the “Severity” field of the TT to rate the impact of the problem**
 - **The “Priority” field is intended for use by the DAAC for those problems that will be handled locally, but is typically reserved for use by DAAC Support Help Desk staff in assigning priorities for handling problems referred to them**
 - **The DAAC Support Help Desk reviews the information provided by the DAAC to determine if the problem has been described in enough detail to warrant the recommended severity**
 - **If there is insufficient information, the DAAC submitter or point of contact is contacted for additional input**

Problem Management (cont.)



- **Assessing/Categorizing Problem Severity (cont.)**
 - **In determining severity of the problem, the DAAC Support Help Desk considers the following factors:**
 - **Impact on the ability to ingest, process or distribute satellite data**
 - **Frequency of occurrence**
 - **Availability of an adequate work-around**
 - **The priority categories are approximately equivalent to categories specified in the Performance Assurance Requirements document**
 - **EOS Performance Assurance Requirements for ECS, Goddard Space Flight Center (GSFC), 420-05-03**

Problem Management: Priority/Severity



As Documented in NASA 420-05-03	As Used/Interpreted by the EMD Project
<p>Category 1: System/Service cannot perform critical function or imposes major safety hazard. (Priority 1) Presents an immediate impact to development, operations, services, or data processing functions; imposes major safety hazard to personnel, systems, or space mission resources; or results in loss of one or more essential mission objectives.</p>	<p>HIGH (Severity 1): An NCR which causes:</p> <ul style="list-style-type: none"> – Inability to perform a mission-critical function (i.e., Ingest/Pre-Processing/Archiving of Science Data, Planned Processing, Browse/Order/Distribute); – Performance of a mission-critical function to be so degraded that production minimum goals cannot be achieved; – A mission-critical function to be performed improperly, resulting in permanent loss of data; and for which no workaround exists or for which no workaround can be accommodated by DAAC operators given a detailed workaround procedure is documented but the procedure is inadequate based upon the complexity of the procedure, the abilities of an adequately trained and experienced operator, or both.
<p>Category 2: System/Service substantially impaired. (Priority 2) Substantially impacts development, operations, services, or data processing functions; fails to operate within critical performance specifications; or cannot effectively or efficiently fulfill baseline requirements.</p>	<p>MEDIUM (Severity 2): An NCR with the consequence that:</p> <ul style="list-style-type: none"> – The performance of a mission-critical function is degraded and may prevent achieving production minimum goals; – A mission-critical function can be only partially performed, or performs improperly, resulting in temporary loss of data or incorrect data results; – A situation (actually or potentially) severely compromises ECS mission readiness or operational integrity; – A condition exists to produce a severely degraded mission-critical function, but a workaround will allow operations to continue temporarily without permanent loss of data or severely impaired performance/workload/schedules.
<p>Category 3: System/Service slightly impaired. (Priority 3) Causes minor or no substantial impact to development, operations, services, or data processing functions. Support may be degraded, but mission can still be accomplished.</p>	<p>Severity 3: An NCR with the consequence that:</p> <ul style="list-style-type: none"> – A non-critical mission function (e.g., Advertising) cannot be performed, or yields incorrect results; – Unexpected events occur which can be corrected using normal operational procedures with minimal impacts to performance/workloads/schedules – A condition exists to produce a degraded mission-critical function, but a workaround will allow operations to continue indefinitely without severely impaired performance/workload/schedules.
	<p>Severity 4: Improvement (Nuisance; e.g., a typo).</p>
	<p>Severity 5: Enhancement (Identified for next release).</p>