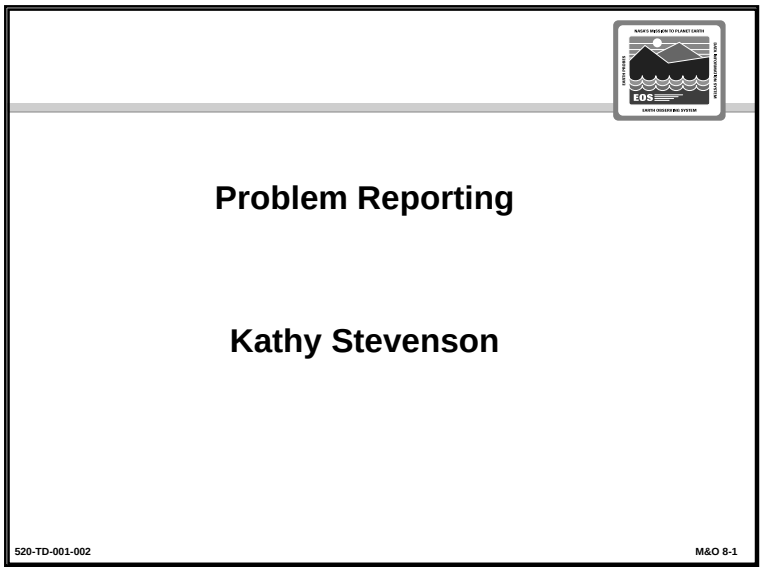
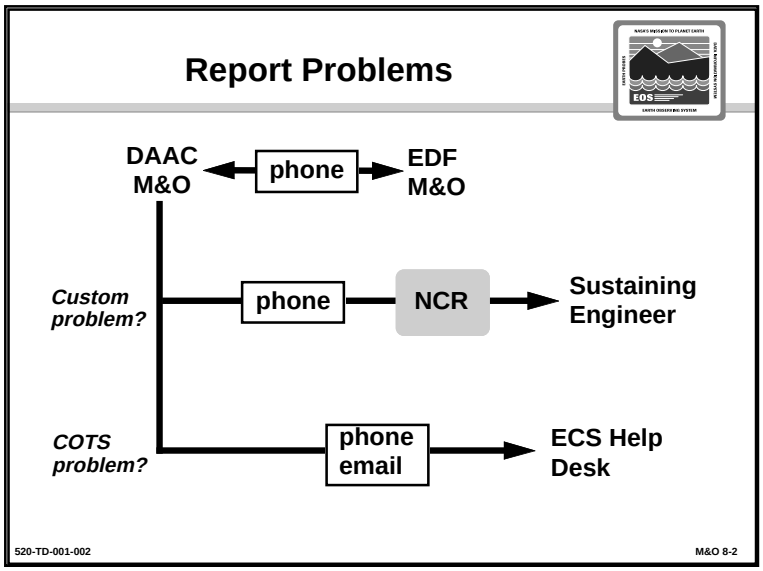


Discussion Topics

Upon completion of this lesson, the M&O will be able to create a problem report for custom, hardware, and COTS software.



Discussion Topics

Problem Reporting process:

- M&O at the DAACs will work closely with the EDF M&O for IR1 operations to try and resolve the problem.
- If it is a custom problem, then you should contact the sustaining engineer by phone. If he suspects that the problem is indeed custom and cannot be resolved, he will direct you to submit a Non-Conformance Report (NCR). Upon receipt of the NCR, he will assign the problem to the appropriate personnel. All NCRs logged during IR1 are classified as Trouble Tickets.
- If it is a COTS hardware or software problem, then call and email the ECS Help Desk; they will log a Trouble Ticket for the problem.
  - All IR1 NCRs/Trouble Tickets will be tracked in the EDF Distributed Defect Tracking System (DDTS) database.
  - DDTS is hosted at **triton.hitc.com**. The UNIX command to access DDTS directly is **`xddts`**.
- If you are not sure about the nature of the problem, write a NCR.

Sustaining Engineering Staff (Custom Problem Reporting)

- **EDF M&O**
  - **Mike Roach**
    - » **phone: 301) 925-0880**
    - » **email: mroach@eos.hitc.com**
    - » **pager: (301) 507-0558**
  - **Al Ward**
    - » **phone: (301) 925-0550**
    - » **email: award@eos.hitc.com**
    - » **pager: (301) 506-9233**
- **IR1 Sustaining Engineer**
  - **Nitin Vazarkar**
    - » **phone: 301-925-0406**
    - » **email: nvazarkar@eos.hitc.com**
    - » **fax: (301) 925-0327**
    - » **pager: (301) 613-8862**

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Discussion Topics

Custom Problem reporting. Custom software will be maintained at the EDF by the development organization. Any troubleshooting procedures will be provided by them at the time of the problem by email or phone. If the EDF M&O cannot correct the problem, the IR1 Sustaining Engineer should be contacted.

- Sustaining Engineers are available 8:15 - 5:00 , Monday through Friday, except planned holidays.
- Planned duration of support is from January to June 1996 (extension through November is likely)

Problem Reporting (COTS Problem Reporting)

- **ECS help desk**
  - **phone: 1-800-ECS-DATA (1-800-327-3282)**
  - **email: help@eos.hitc.com**

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Discussion Topics

In case of problems with COTS hardware or software contact the ECS help desk at 1-800-ECS-DATA (1-800-327-3282). The email address is "help@eos.hitc.com".

ECS
Non Conformance
Report

http://newsroom/sit/ddts/ddts.html

Discussion Topics

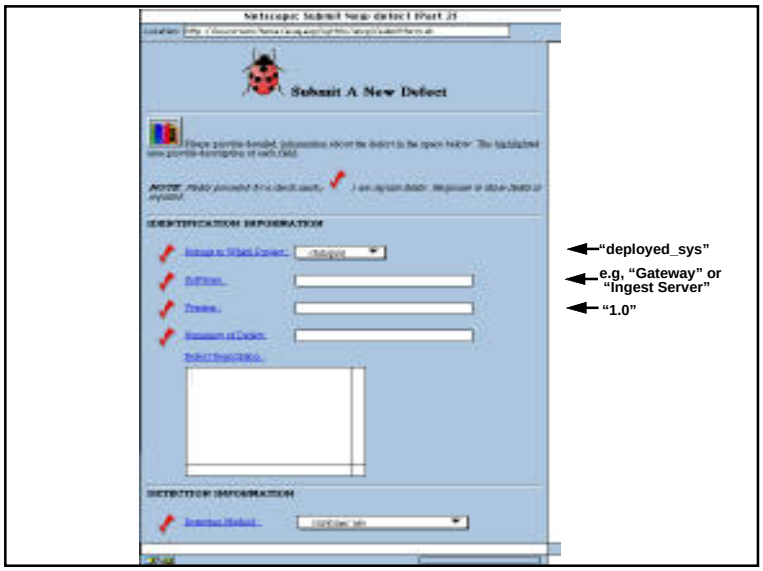
- Ir1 provides a capability for reporting and tracking suspected problems associated with the custom code delivered in Ir1. This is a prototype capability intended for use by the DAAC operations staff only, and is not intended for use as a mechanism for tracking problems with science software.
- The main component of the software discrepancy reporting capability at each DAAC is the Mosaic WWW browser. Mosaic provides access to the NCR Home Page is the user interface for reporting software discrepancies. This capability is usable from the EDF and SSI&T workstations at the DAACs.
- If there problems accessing the interface, then problems can be entered into the DDTS directly.
- If the problem requires a NCR in order for it to be fixed or tracked, the person that is experiencing the problem will generate an open NCR using the WWW interface.
- The Web page is titled "ECS Non-Conformance Report" and is accessed using the following URL: **http://newsroom/sit/ddts/ddts.html**
- The sustaining engineer shall issue a report to the sites on all open NCRs. A follow up teleconference may be organized to discuss any important NCRs. This teleconference can be requested by the sustaining engineer or the DAACs.
- NCRs will not be closed until the problem has been solved to the satisfaction of the person who experienced the problem.
- All underlined words and phrases represent hypertext. An appropriate display is presented when the user clicks on the hypertext:
  - **DDTS** - a description of DDTS to be displayed.
  - **Introduction** - instructions for the use of the NCR Home Page to be displayed.
  - **Submit New NCR** - Submit NCR Page to be displayed
  - **General Search for NCRs** - NCR Search Page to be displayed
    - » **Defect ID** - display which allows the user to enter a Defect ID for an NCR. Once the Defect ID is entered the specified NCR is displayed.
    - » **Submitter ID** - allows the user to enter a Submitter ID. Once the Submitter ID is entered, all NCRs for that "submitter" are displayed.
    - » **Submitted Date** - allows the user to enter a Submitted Date. Once the Submitted Date is entered, all NCRs for that date are displayed.
    - » **Assigned Engineer** - allows the user to enter the name of an Assigned Engineer. Once the name is entered, all NCRs assigned to that engineer are displayed.
  - **Management Report** - presentation of the report display that allows the user to list NCRs, in various output formats, for specified dates.

Discussion Topics

The Submit NCR Page is used to submit an NCR and is displayed in two parts, Part 1 and Part 2. Part 1 of the Submit NCR Page contains two labeled pull-down menus. The menus are displayed by clicking on the boxes to the right of the labels. The user is required to enter information in boxes or make selections from pull-down menus from all items that have a check mark in front of it, as follows:

- Submitter Name: The name of the individual submitting the NCR is entered here.
- Phone Number: The submitter's phone number is entered here.
- E-Mail Address: The submitter's E-mail address is entered here.
- Location: A location name is selected from one of the choices presented by a pull-down menu.
- Submit to Which Class: A class name is selected from one of the choices presented by a pull-down menu. If the User clicks on the hypertext, an brief explanation for this box is displayed. The item to be entered here is **IR-1**

After the user finishes entering the required information, the user selects the continue button. This causes the Part 2 of the Submit NCR Page to be displayed.

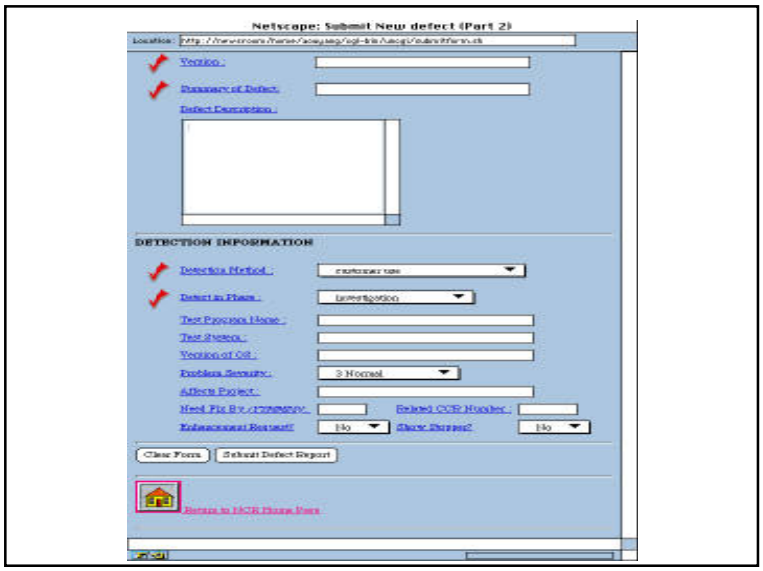


Discussion Topics

Part 2 is too large to be displayed at once. A scroll bar is used to position the display so that desired portions of the display are presented.

The display contains boxes for data entry. All of the boxes have hypertext labels. If the user clicks on a label, then a brief explanation of the box is displayed. The page also contains labeled pull-down menus. The menus are displayed by clicking on the boxes to the right of the labels. The user is required to enter information in boxes or make selections from pull-down menus, as follows:

- Submit to Which Project: A project name is selected from one of the choices presented by a pull-down menu. The menu is displayed by clicking on the box. Select **deployed_sys**
- Software: The name of the software that is the subject of the NCR is entered here **(**e.g.**, Ingest Server, Gateway,** etc**)**.
- Version: The version of the software is entered here **(1.0)**.
- Summary of Defect: A short summary of the defect is entered here.
- Defect Description: A full description of the defect is entered here.



Discussion Topics

- Detection Method: A detection method is selected from one of the choices presented by a pull-down menu. The menu is displayed by clicking on the box.
- Detect in Phase: A phase is selected from one of the choices presented by a pull-down menu.
- Test Program Name: The name of the relevant test program is entered here.
- Test System: The name of the relevant test system is entered here
- Version of OS: The version of the operating system is entered here.
- Problem Severity: A severity designation is selected from one of the choices presented by a pull-down menu.
- Affects Project: The name of the affected project is entered here.
- Need Fix By: A date is entered here to indicate when the problem needs to be fixed.
- Related CCR Number: The CCR number of any related CCR is entered here.
- Enhancement Request: "Yes" or "No" is selected from the pull-down menu to indicate whether or not this NCR is a request to enhance an existing capability.
- Show Stopper?: "Yes" or "No" is selected from the pull-down menu to indicate whether or not the reported problem has the highest severity.

Two buttons are at the bottom of the page.

- Clear Form button. Clicking on this button causes the boxes on the screen to be cleared of any entries.
- Submit Defect Report button. Clicking on this button causes the NCR to be entered into the problem tracking system.

Clicking on the Return to NCR Home Page hypertext causes the NCR Home Page to be displayed.

Discussion Topics

NCR Search Page. The page displays a Class Name pull-down menu. The menu is used to select a defect class. After the class is selected, the CONTINUE button is pressed to display the Search Setup Page.

Discussion Topics

Search Setup Page. The page is used to setup an NCR search and to display NCRs collected and sorted according to the search criteria. The search is performed as follows:

- The Projects pull-down menu is used to select the project for which the NCRs apply. One or more of the six boxes under the States label are selected. Only NCRs that are identified with one of the selected "states" will be collected by the search operation.
- One of Engineer or Submitter is selected when the search is to collect NCRs associated with a specific individual. If either is selected, the name of the Engineer/Submitter is entered in the box on the right.
- One of Project ID, Severity, State, or Date is selected to indicate how the collected NCRs are to be sorted.

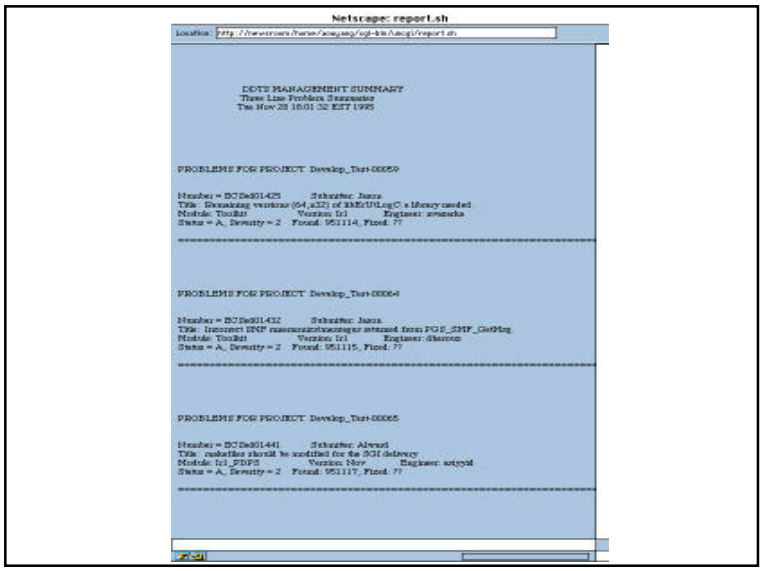
Two buttons are at the bottom of the page.

- Clear button. Clicking on this button causes the screen to be cleared of any entries.
- Search button. Clicking on this button causes the search to proceed and the collected NCRs to displayed on the screen.

Discussion Topics

Selecting **Management Report** from the NCR Home Page will bring up a report display that allows users to list NCRs in a variety of formats for specific time frame.

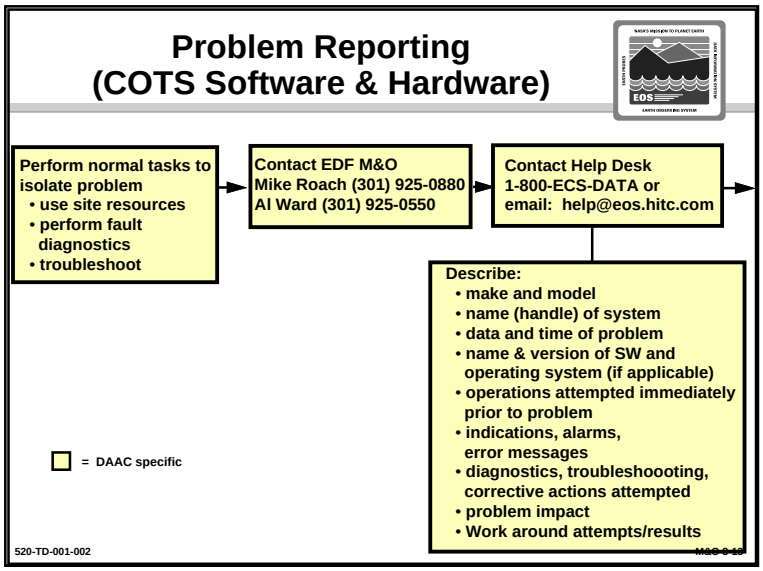
- Report Metrics include:
  - Defects by Project by State
  - Defects by Project by Severity
  - Defects by Assigned Engineer by Severity
  - Defects by Assigned Engineer by State
  - Defects by Submitting Engineer by Severity
  - Defects by Arrival and Repair Rates, and
  - Three Line Summary of all Defects (see next slide)



Discussion Topics

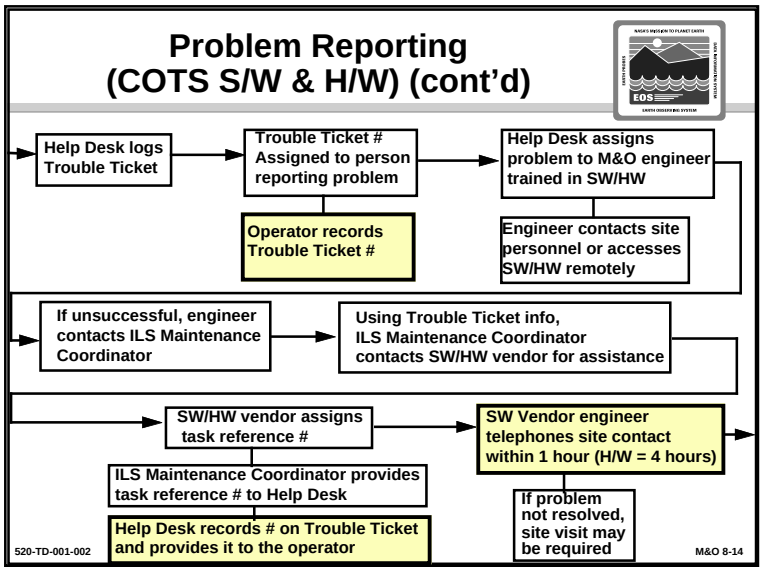
Three Line Problem Summary (DDTS Management Summary) includes the following information:

- Problems for Project
  - Number
  - Submitter
  - Title of problem
  - Module
  - Version
  - Engineer name
  - Status & Severity
  - Date found & when it was fixed



Discussion Topics

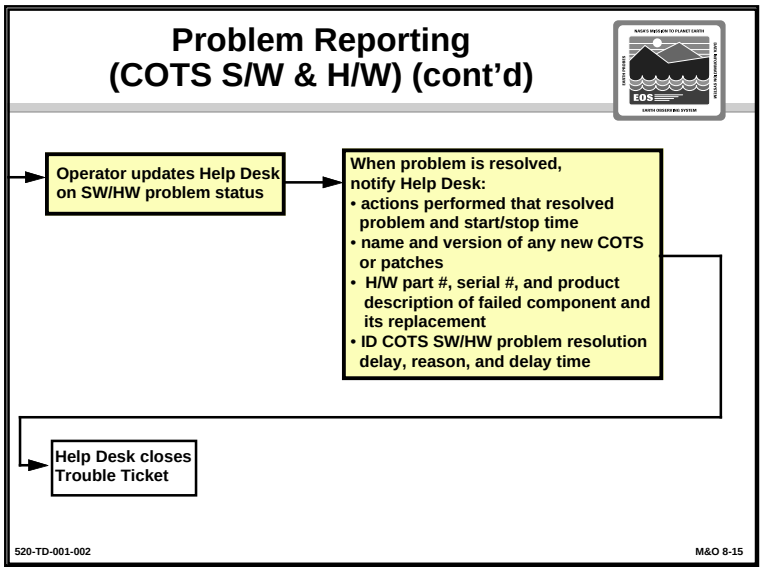
1. Operators, being the first to notice a problem, will perform normal operator tasks to isolate or resolve COTS SW problems (i.e., check power is connected, adjust external equipment controls, etc.). These tasks include using the operator manuals to:
   a. Isolate or resolve the problem by using site resources, such as the site master SW library to reload SW.
   b. Isolate the problem by performing fault diagnostics.
   c. Isolate the problem by troubleshooting.
2. If not corrected, contact the EDF M&O
3. If still not corrected, the help desk is contacted by phone at 1-800-ECS-DATA or e-mail at "help@eos.hitc.com" and provided the specifics of the COTS SW/HW problem and the equipment involved:
   - Make and model of the system experiencing the problem.
   - The name (handle) of the system, i.e., "RAINMAN", or the 8 digit property tag number (It is on a silver stick-on label that states: Property of NASA/GSFC NAS5-60000, the next line is a bar code, under the bar code is the 8 digit number, i.e., 00000XXX).
   - Date and time the SW/HW problem occurred.
   - Specific SW/HW problem being experienced. Include:
     – Name and version of the SW and operating system involved as well as any other SW that is part of the problem. (if applicable)
     – Operations attempted immediately prior to the problem.
     – What indications, alarms, and/or error messages notified the user of the problem or what the applications will not do because of the problem.
     – What diagnostics, troubleshooting, and/or corrective actions have been accomplished/ attempted and results.
     – Impact of the COTS SW/HW problem on site operations and Ir1 mission (minimal, distracting, urgent, or critical) and why.
     – Work-arounds attempted and results.



Discussion Topics

3. The help desk logs the call on a Trouble Ticket, assigns a Trouble Ticket number, and provides that number to the person reporting the problem. The operator, or his/her representative, should record the COTS SW/HW Trouble Ticket number to reference in follow-up calls to or from the help desk.

- The help desk assigns the COTS SW/HW problem, including network SW/HW, resolution task to an M&O engineer trained on and familiar with the type of equipment and/or SW combination experiencing the problem. The engineer may contact site personnel or access the failed equipment remotely to gain addition problem information. If the source of the problem can not be determined, or the problem is confirmed to be a COTS SW/HW failure that can not be resolved using project resources, the engineer will notify the ILS Maintenance Coordinator.
- Using Trouble Ticket information, the ILS Maintenance Coordinator contacts the SW/HW vendor to obtain problem resolution assistance. The SW /HW vendor is provided a site contact (the operator) and phone number in order to expedite direct telephonic support. The SW/HW vendor provides a task reference number which the ILS Maintenance Coordinator provides to the help desk who records it on the Trouble Ticket and also provides it to the operator.
- If it's a software problem, the vendor's service engineer is expected to telephone the site contact person within 1 hour to discuss the COTS SW problem and to make recommendations for resolving it. The SW vendor's service engineer may request a core dump or other data be provided for analysis. The operator will make these arrangements for the Project.
- In some instances the SW developer's service engineer may not be able to resolve the SW problem via telephone conversations and analysis of data dumps. In rare cases, a site visit may be possible. The operator will make the necessary arrangements for such a visit per local site directives.
- If it's a hardware problem, the HW maintenance provider will telephone the site contact person within 4 hours to schedule a time to visit the site and make the repairs.



Discussion Topics

4. The operator will keep the help desk updated on the COTS SW problem's corrective actions and status changes via telephone or e-mail. The help desk monitors the COTS SW problem, via the Trouble Ticket, until the problem is resolved and verified.

5. When the COTS SW/HW problem resolution is verified by the operator, the help desk is notified of the following:

   - Actions that resolved the COTS SW/HW problem and their start/stop times.
   - Name and version of any new COTS SW or patch used to correct the problem.
   - HW part #, serial #, and product description of the failed component and its replacement part.
   - Identification of any COTS SW/HW problem resolution delay, reason, and the delay time.

6. Upon being informed of the problem resolution, the help desk closes-out the Trouble Ticket.

7. Information from the completed copy of the closed-out Trouble Ticket is entered into the logistics database by the help desk.

8. The closed-out COTS SW/HW Trouble Ticket's disposition is determined by the help desk's procedures.