

Issues and Concerns:

- Performance will be very slow (**snails pace**)
- Virtual Developers will need **Netscape 4+**
- Virtual Developers must have an existing **EDF (Landover)** account.
- For *6.1.4DPREP Access U:/Core/Peer Reviews - windows environment only!*
- Need manager approval for *U:/Core/Peer Reviews – Maureen Muganda*
- **6.3.2 Performing a Test Merge - Need to be running X environment!**

Special System Configurations:

- **What type of operating system will Virtual Developers be using?**
- Virtual Developers with **UNIX environment** may not access to **NT machines**¹
- **6.3.2 Performing a Test Merge - process is complex need to be Sr.Unix user**²
- What window environment windows **9X,NT4 or (windows 2000 not supported)**³
- Need WI (work instructions) for system **configuration and set up**
- **Need to have a Virtual Developers administrator**

“DRAFT” ECS Work Instruction

Title: Maintenance and Operations Virtual Developer Work Instruction

Date: 09-20-00

Process Owner: Gary Sloan, Manager, Maintenance and Operations Office

1 STATUS

1.1 This is a new work instruction

2 PURPOSE

2.1 The purpose of this work instruction is to document the procedure for bringing in a Virtual Developer to EDF from the outside.

3 APPLICABILITY/SCOPE

3.1 This process, is used by the Maintenance and Operations Organization in establishing a Virtual Developer.

4 MAJOR STAKEHOLDERS AND SUPPORTING ORGANIZATIONS

4.1 ECS Science Development Department, ECS Maintenance and Operations Department

5 DEFINITIONS

None

PROCESS/RESPONSIBILITIES

The Maintenance and Operations Department manages the DAAC Help Desk Support Team. Its goal is to provide the Data Active Archive Centers (DAACs) with a central point to report All high priority ECS System problems and to manage those problems in a way that provides the Most effective and timely resolution. The virtual developers will work off NCRs and mere fixes Into the baseline effectively.

¹ Developer can not access NT Machines unless third party software is installed.

² *Need to be running X environment (i.e. Linux or Exceed) Exceed is available but requires CCR.*

³ Windows 2000 is not supported by RTSC and may not work for window remote access.

6.1 *Setting Up Access For Virtual Developers Into The EDF*

6.1.1 *Dial-Up Account*

The developer first needs access to the network from a remote location. The developer is required to have a lo-shiva account. This can be obtained through the developer's administrative assistant (**information must be provided into Lotus Notes**). See form "Requirement For Remote User Account".

6.1.2 *Gatekeeper Access*

To have an account created for gatekeeper.hitc.com the developer must contact Maintenance and Operation Manager to request a Requirement for a remote user account form. (gatekeeper.eos.east.com). See form "Lotus Notes Employee Status Change".

6.1.3 *DDTS Access*

The developer will need access to the DDTS system. Before setting up an account your IP address must be given access to the DDTS web site. To do this call 1-800-ECSDATA. To setup a DDTS account the developer must go to <http://newsroom.gsfc.nasa.gov/sit/ddts/ddts.html> and select New User Registration. Follow the registration steps as given on the website.

6.1.4 *STTS Access*

The developer's manager must contact the STTS administrator and provide them with the developer's username. The STTS administrator will then establish a new account.

6.1.5 *DPREP Access*

DPREP access is necessary for performing documentation updates. If the Help Desk setup the user account as described in 6.1.1 then the developer already has access to the documentation database that is found on the server Core in the User directory. **Need manager approval for U:/Core/Peer Reviews – Maureen Muganda (Form #3 TBD)**

6.1.6 *Configuration Management/Data Management Development Machine (Pete)*

It may be necessary for the developer to access the CM/DM development machine's named Pete. Pete's website can be accessed from outside the company intranet via the address <http://cmdm.east.hitc.com>.

6.2 *Peer Review Procedure*

Peer Reviews are only necessary for NCRs that are deemed large capability. In this case procedures establish for large capability NCRs should be followed and the appropriate type of Peer Review should be held. If the Peer Review requires an in-person meeting then these meetings maybe replaced with a teleconference. **For 6.1.4 DPREP Access U:/Core/Peer Reviews only windows environment!**

6.3 *Merge Process For Builds And The Interrogation Of New Code Fixes*

Prior to beginning the merge the developer's manager must contact the Task Leader for the applicable subsystem and obtain approval to perform the merge.

6.3.1 *Creating New Merge Tasks*

Do one of the following to create a task for NCR or development work.

This can be performed though a telnet session. Or if developer has a Xterm emulator.

cnewtask -intg maint_DROP5A -base DROP5A_BASE <development task name> (5A)

cnewtask -intg maint_DROP5B -base DROP5B_BASE <development task name> (5B)

cnewtask <development task name> (6A)

Use cnewtask once only. All subsequent uses of task <task name> begin with

csettask <task name>

6.3.2 **Performing a Test Merge**

Once you complete source code changes in task <task name> and is ready for merging to the baseline, a test merge to the current baseline should be done. This allows the resolution of merge problems prior to merging to the baseline (fixing merge problems on the baseline is difficult and must be avoided).

Create a test merge task to which to do the test merge:

cnewtask ... <test merge task name>

Use the cnewtask command used to create the task the original development task (except with the test merge task name; if you cnewtask a Drop 5B development task, cnewtask a Drop 5B test merge task).

Perform the test merge from the development task to the test merge task:

```
cleartool findmerge . -fver .../<user name>_<development task name>/LATEST -print
cleartool findmerge . -fver .../<user name>_<development task name>/LATEST -merge -graphical
```

The findmerge command is executed in each Clearcase directory in which source code changes were made (or the root directory common to all directories in which changes were made). When findmerge needs assistance in resolving merge conflicts, findmerge invokes an interactive GUI that allows the user to resolve merge conflicts for Clearcase. **6.3.2 Performing a Test Merge need to be running X environment!**

To reduce merge errors, it's wise to compare the merge result in <test merge task name> against the original source code found in <task name> using the UNIX diff command. Keep a copy of changed source code in your home directory against which to difference the test merge results.

6.3.3 **Submitting a Merge**

Follow the instructions for submitting a merge request found at the following web site. Request a merge for the test merge task (<test merge task name> task).

<http://pete.hitc.com/STTS/prot-cgi/stts.pl>

The merge to baseline can proceed when the merge is approved.

6.3.4 **Merging to the Baseline**

Prior to merging to the baseline the merge must have been approved by the task leader.

Log-in to a designated merge platform (i.e. starfire, jenga, and bmw).

Merge to baseline from the task created from the test merge.

csettask <test merge task name>

Use the cmergetask command appropriate to the drop that was referenced when the task was originally created (i.e. if you cnewtask a development task under Drop 5B, use the Drop 5B cmergetask command below). You do not have to change directory to the Clearcase directory in which the source code changes were made; you may remain in your home directory to do this merge.

cmergetask -tobranch maint_DROP5A -base DROP5A_BASE (5A)

cmergetask -tobranch maint_DROP5B -base DROP5B_BASE (5B)

cmergetask -tobranch relb -base RELB_BASE (6A)

The merge to baseline should go smoothly if all merge problems were resolved in the test merge. It is possible for the baseline to change, however, in the period of time between the test merge and the actual merge to baseline, thereby leading to unexpected merge complications to baseline.

6.3.5 *Verifying the Merge to the Baseline*

Create a verify merge task to gain access to source code as it appears now on baseline:

```
cnewtask ... <verify merge task name>
```

Compare the source, now on baseline, against the original source code from the development task using the UNIX diff command.

6.4 *Testing of Code Fixes*

6.4.1 *NCRs Originating from a DAAC*

The NCR is then given to the VATC for advancement to the T-state. The DAAC then proceeds to test the fix and moves it to the V-state provided that the patch fixes the problem.

6.4.2 *NCRs Originating EDF*

The developer is responsible for advancing the NCR to the T-state. Once it has been tested and the problem has been fixed only the Task Leader may take the NCR to the V-state.