



Disaster Recovery for a Host/Remote Environment

Phon Shuffitt

Agenda

- ☐ Environmental conditions
- ☐ Prepare for any event
- ☐ Phased approach
- ☐ Interim period during recovery
- ☐ Preparation for Endeavor Recovery
- ☐ Plan for Recovery
- ☐ Expected Results
- ☐ What's next



Environmental Conditions

- ❑ **Endevor source management on development but production running executables**
 - Full Mirror Image – great not much to do
 - If not how will the environment be recovered (Rebuilt from backup or totally built from scratch)?
- ❑ **Plan for the effort either way so that your assets are covered in any situation**

Prepare for any event

☐ Utilize the Endeavor Unload/Validate Utility

- Each environment
- Package dataset
- Weekly or include daily incremental of change, your choice?

☐ Security Rules

- What rules protect Endeavor?
- What rules protect external datasets

☐ Endeavor entities and artifacts

- Endeavor Product Libraries and CLIST for access
- Customizations of Endeavor
 - Store updates under Endeavor for version control
- Endeavor libraries (PCF, ECF, MCF, BASE, DELTA, ACM, PARM Lib)

☐ All safe and transported over to Remote site

☐ Procedures outside of Endeavor used?

Phased Approach

- ❑ **In the event of DR what is needed now versus what will be needed later**
- ❑ **Need to be able to fix/track any production abend as a result of the disaster recovery event itself**
 - Standard procedures with separation of duties, audit should still be high up on the totem pole
 - What tools and processes are needed to support this?
- ❑ **Need Endeavor and all proven procedures available at some point in time**
- ❑ **Retrofit the changes that were made for emergency processes during the recovery**

Interim Period during recovery

- ❑ Endeavor restore process may take awhile for set up
- ❑ So do you have a backup provisioning plan to support emergency fixes for the interim?
- ❑ Does critical applications have a process that allows compiles outside of Endeavor, if so:
 - Copy those processes from host (development) environment over to production/remote LPAR. (alternate naming for DSN protection) on a regular schedule
- ❑ **Interim Process:**
 - DB2 or CICS regions needed for lower prior to push to prod regions?
 - DEV group - TSO/ISPF logon proc may need to be modified on remote
 - Rename datasets that were copied from Remote with alternate DSN for tool/process access
 - Creation of HLQ to reflect region specific libraries and created libraries
 - Designate a changed source library to track changes throughout DR effort until Endeavor is brought up for SYNC.



Preparation for Endeavor DR

- ✓ **Endeavor product libraries**

- If you have Remote Footprint Synchronization Utility installed then you already have product libraries in place

- ✓ **Security rules copied from HOST side for Internal/External datasets rules.**

- ✓ **JCL to create libraries**

- PCF, ECF, ACM Datasets
- MCF for each stage
- Parmlib

- ✓ **JCL to rebuild/populate the Endeavor files**

- ECF, ACM

- ✓ **Current copy of Unload Files**

Plan for Endeavor Recovery

❑ How/Where will Endeavor be restored?

- A rebuilt development environment? Then all files need to be copied from REMOTE storage site to this newly rebuilt environment (or may already be in place)
- Production environment/Remote? Then you should have all the files you need, just need to build it.



Plan for Endeavor Recovery (cont.)

- 1. Security Rules in place**
- 2. Endeavor Product libraries in place**
 - a) Authorized
 - b) CLIST for access
 - c) Assemble the customizations (if needed) NOTE: RFS Utility has ACM null and ALTID off
- 3. Execute JCL to define the Endeavor libraries needed**
- 4. Execute JCL to perform a RELOAD of the source:**
 - a) Environment that houses the processors – generate them (note: would need licensed compiler for that environment and possibly product licenses to support developer testing tools)
 - b) Environment that supports Emergency fixes
- 5. Generate any source changes needed to support the recovery**



Plan for Endeavor Recovery (cont.)

1. **Run a Footprint Validation report to check production library integrity to the source that has been restored - C1BM5000**
2. **Rebuild the ACM Xref/Root with - BC1JACML**
3. **Rebuild the Element Catalog - BC1PCSYN**
4. **Start making emergency fixes as needed**
5. **Evaluate the lower regions rebuilding**

Expected Results

- ☐ Endeavor source code completely restored
- ☐ Retrofit one off fixes to Endeavor for sync
 - This will also validate the setup is complete
- ☐ Then the application development can make changes to continue in support a recovery of the application as needed
- ☐ Once HOST LPAR restored/rebuilt what else is needed?
- ☐ NEXT?

What is next?

