

Project Issue Document

Title: Use of the Virtual Tape System (VTS) for DR Exercises

Date: July 13, 2010

Executive Summary:

The Service Continuity Mainframe Service (SCMS) project is creating an in-house DR solution for the Mainframe platform. For customers' access to tapes, they will utilize the in place VTS solution that clones the tape data to the recovery site. For a DR exercise, a solution needs to be implemented to ensure the production data on the tapes is not overwritten.

Problem Description:

The VTS system is configured such that if a tape is appended at either location, the data will be cloned to the alternative campus' VTS system. If during a DR exercise, the customer test appended their tapes and did not write to scratch tapes, the test data would be cloned to the production system. Any change to address this issue must only affect the DR exercise, because in the event of an actual disaster, the applications will (and should) append the tapes.

Options:

1. Use special commands to limit access to the VTS in DR exercises. When the DR LPARs are created, implement tape control commands with RMM and CA1 (TMS) to prevent appends to any non-scratch tapes.
 - a. For RMM, utilize "Reject Any Out" with volser mask.
 - b. For CA1 utilize the exit TMS UX2F, Check double open / recreate mod.
 - c. For all the technologies, create separate DR scratch pools for Vacaville and Gold Camp exercises

Pros

1. Eliminates risk of corrupting production data on productions tapes
2. No change required for the applications to append tapes in a DR exercise

Cons

1. The script to create the DR LPARs will be different for an actual failover as RMM and CA1 changes will not be implemented.

2. Create another full copy of the tape data. For each exercise, create a copy of all the DR customers' tapes in the VTS system and have the DR exercise point to the copy, which is not cloned back into production.

Pros

1. Eliminates risk of corrupting production data on the tapes
2. No change required for the applications to append tapes in a DR exercise

Cons

1. Additional cost to the customer for the additional tapes required for the copy of all their tapes
2. Failover scripts for a DR exercise will be different than the failover scripts for an actual DR event because the exercise script will point to the copy of the tapes and in an actual disaster, the script will point to the production copy.

3. Additional step of copying the tapes required to setup customer environment for a DR exercise
 4. Additional effort by OTech required to ensure production tapes are inaccessible for the DR environment, but only during a DR Exercise.
3. Modify applications to use VTS scratch tapes during DR exercises. Provide scratch tapes within the VTS system and work with each application team to ensure they do not append tapes during the exercise

Pros

1. The OTech failover scripts will be the same for a DR exercise and actual DR event

Cons

1. Additional work required for each DR customer to review and update their applications for DR exercises.
 2. Customers' application for a DR exercise will be different than the application they would use in an actual DR event
 3. Introduces risk that customer inadvertently corrupts production data on the tapes
4. Emulate a true disaster for testing purposes. Change DR Exercise to actually failover mainframe systems to the DR location for a period of time.

Pros

1. True test of DR. OTech and the customers can be confident that the systems will operate in the event of a disaster.
2. No special changes required for DR exercises.

Cons

1. Failover will require an outage of up to 8 hours for all OTech mainframe customers.
2. Recovery back to the production environment will require an additional outage of up to 8 hours for all OTech mainframe customers.
3. Everything on the mainframe will have to failover, including non-DR customers. Current capacity for DR does not include non-DR customers.
4. Additional costs for mainframe capacity and software.

Resolution:

Option 1 above to use RMM and CA1 (TMS) to limit access to the VTS in DR exercises. This option was chosen because there would be no changes required from the customer, there is no additional cost, and it eliminates the risk of corrupting the production data. This is also the solution that was recommended by the VTS vendor.