

Testing Document

Test Set 1: Fault Tolerance

Test 1: Basic Failover

Test Description: This tests that the client can handle a basic process crash fault. In the event of a process crash, the client should switch from primary to backup and continue operating.

Test Procedure:

1. Start up all components; however skip starting of the executives. We don't need to start the executives because this test does not test automatic recovery.

Script clean up

Script runServer1 starts the primary.

Script runServer2 starts the backup.

Script runclient starts the client.

2. Crash Server1 using kill-9

Expecting to see from client window:

“Unable to call TrafficControl_PositionUpdate ,

Exception:IDL:omg.org/CORBA/COMM_FAILURE:1.0

Oops..Server crashed..Switching to Replica..

Resolving TrafficControl object....

Calling ReplicationManager::GetPrimaryServer...

Replication Manager tells me to switch to TrafficControlServer2.”

Expected to see on sacred machine:

“ALARM: server 1 is DOWN

primary change from: 1=>2

Client contacted me and GetPrimaryServer returns: 2”

3. Verify:

- a. The client catches the resulting exception.

- b. The Replication Manager tells Server2 to become the primary

- c. Server 2 loads the state from the database.

- d. The client contacts the Replication Manager and switches over to Server2.