precisely

Assure iTERA HA v6.2 Role Swap Checklist

Introduction

This procedure is used for performing a role swap on your production system. If you need assistance, contact Support. (If you want to perform a virtual role swap, follow the instructions in the Virtual Role Swap checklist.)

IMPORTANT

Precisely recommends that you review this complete document a week prior to performing a role swap in order to refresh your knowledge, better understand the process, and ensure that you are aware of, and account for, the unique equipment and processes within your environment.

IMPORTANT

Document separately any additional steps that you must perform for your particular environment.

Precisely recommends that a role swap be performed, at minimum, on a quarterly basis and the virtual role swap test monthly (or whenever major changes to applications occur).

When preparing to perform your first role swap, Precisely recommends that you schedule a System Health Check through our Professional Services department (this is a billable service). While optional, the System Health Check will help ensure that iTERA is correctly configured and is ready for the role swap. The System Health Check includes additional role swap training, if needed.

NOTE

If performing a migration, extensive testing of your backup node is required. Consult with the Professional Services department for pricing and additional details.

IMPORTANT

A role swap can only be performed on a machine defined as BACKUP 1. In order to perform a role swap to BACKUP 2, it must first be promoted to BACKUP 1. See “How to Promote Backup 2 to Backup 1” in the Role Swap chapter of the Assure iTERA HA v6.2 User Guide for instructions. A REPLICATE node cannot be used in a role swap.

Section One: Role Swap Pre-Planning Procedure

This procedure is used for performing a role swap on your production system. If you need assistance, contact Support. (If you want to perform a virtual role swap, follow the instructions in the Virtual Role Swap checklist.)

IMPORTANT

Precisely recommends that you review this complete document a week prior to performing a role swap in order to refresh your knowledge, better understand the process, and ensure that you are aware of, and account for, the unique equipment and processes within your environment.

IMPORTANT

Document separately any additional steps that you must perform for your particular environment.

Precisely recommends that a role swap be performed, at minimum, on a quarterly basis and the virtual role swap test monthly (or whenever major changes to applications occur).

When preparing to perform your first role swap, Precisely recommends that you schedule a System Health Check through our Professional Services department (this is a billable service). While optional, the System Health Check will help ensure that iTERA is correctly configured and is ready for the role swap. The System Health Check includes additional role swap training, if needed.

NOTE

If performing a migration, extensive testing of your backup node is required. Consult with the Professional Services department for pricing and additional details.

A role swap can only be performed on a machine defined as BACKUP 1. In order to perform a role swap to BACKUP 2, it must first be promoted to BACKUP 1. See “Promote backup2 to backup 1” on page 19 for instructions. A REPLICATE node cannot be used in a role swap.

IMPORTANT

This section should be performed at least one week prior to the role swap.

Section One: Role Swap Pre-Planning Procedure	Assi-gned	Done
1. Ensure the Monitoring Checklist is run regularly each day up through the day of the role swap. Correct any issues that exist. Do the steps in the weekly section 24 to 48 hours before the role swap.		
2. Ensure the Assure Audits (`WRKAUD`) and the audits in the Audit Command Console are running regularly and that all audits have been run at least 24 hours prior to the role swap. Correct any issues before proceeding with the role swap. The Audit Command Console will be automatically ended when the role swap is initiated, but the Assure Audits will remain active. If, after you have performed the role swap, you will be performing another role swap within a short period of time to return production to the original server and the Assure Audits are not scheduled to run during the time you are in a swapped state, then it is best to leave them active. However, if the Assure Audits run during the role swap, they will fail. This will not affect the integrity of the role swap, but the Role Swap Readiness Monitor will report an error for the audit test that will need to be addressed in order to continue with the role swap. You can either address the error when it occurs or disable the audits. To disable all Assure Audits that use the instance-level value for the Audit level policy, do the following: a. On the backup node, access the Work with Audits display (WRKAUD). b. Press F16=Inst. policies, then F9=All parameters to view policies for the instance. c. Note the current value for the Audit level policy (usually *LEVEL30). d. Type *DISABLED for the Audit level policy value and then press Enter. If you need to disable the Auditing level policy for any audits that have overrides, refer to the instructions in the Auditing chapter of the Assure iTERA HA User Guide.		
3. Review the list of all non-IP hardware and update the plan for switching them during the role swap. If not already done, develop a written plan for handling all non-IP devices during the role swap. Otherwise, review the list and verify that the actions are still correct.		
4. Review the Device Configuration Replication screen (5.4) to verify that all necessary devices have been replicated. This could include remote printers, hand held scanners, or other devices that require special configuration.		
5. iTERA uses the standard IBM subsystem QCTL when performing role swap processing. If your system configuration requires a different subsystem, contact Support for assistance with modifying parameter E2QCTLSBS.		

Section One: Role Swap Pre-Planning Procedure	Assi-gned	Done
6. Verify that you have an alternate sign on method and test it prior to performing the role swap. Precisely strongly recommends that a group of display devices be attached to the controlling subsystem (e.g., QCTL, *BASE). Remember that iTERA will be ending the user IP address and you may be ending your version of QINTER. Any system where QINTER will be ended should have an alternate sign on method in QCTL or *BASE. If devices have not been defined to QCTL or *BASE the console may be used to sign on after the role swap.		
7. Using option 30.22 on all systems, review all IP addresses. List what they are used for and how they will be handled during a role swap. This is especially important for all user IP addresses. Refer to the Assure iTERA HA Reference Guide for information on how IP addresses are managed using 30.22. **IMPORTANT** If you do not want the user IP address to end on the primary, remove it from 30.22 by selecting option 4=Remove.		
8. Document the processes you will use to end and start user jobs. Precisely recommends that you update the E2USRDWN and E2USRUP programs to perform these functions for you. Copy the E2_CUST file from the iTERA installation library. Modify and recompile the E2USRDWN and/or E2USRUP CL programs in the installation library then make a backup copy of the programs and store them in a non-replicated library. (These programs are overwritten each time an iTERA service pack is applied.) E2USRDWN and/or E2USRUP may be different between nodes.		
9. Develop and document your test plan. Indicate all testers and what they will be testing. Review and revise it, as needed.		
10. Use the command `WRKACTJOB` to review and document the user jobs and processes running on the primary system. Print the screens for post-role swap comparison. After the role swap you will be checking the subsystems on the new primary to ensure that the requisite jobs are running.		
11. Ensure that the iTERA software is at the current service pack release level. If not current, perform the update at least a full week week prior to the role swap. Do not load a service pack update during the week of the role swap unless you are told to do so by Support in order to fix a specific issue.		
12. Review the preferred states for all iTERA-managed triggers on all nodes (4.23). Generally, triggers should have the following: – *Preferred State - PRI* = Enabled – *Preferred State - BKP* = Disabled Refer to the iTERA Reference Guide for more information.		

Section One: Role Swap Pre-Planning Procedure	Assi-gned	Done
13. Review the preferred states of all iTERA-managed constraints on all nodes (4.24). Generally, iTERA-managed constraints should have the following: – *Preferred State - PRI* = Enabled – *Preferred State - BKP* = Disabled Refer to the iTERA Reference Guide for more information.		

14. Check the iTERA subsystems on all nodes to ensure they will run enough jobs. The default number of jobs in the iTERA subsystem is 100 (50 for the E2SYSJOBQ and 50 for E2JOBQ). A large number of journals will increase the need for additional jobs.
 	
Verify that the *Maximum Active Jobs* value on the primary is set the same as (or higher than) the current backup.
 	
a. Execute the following command on both the primary and backup 1:
 	
`WRKSBSD ITHA61`
 	
(Use the iTERA subsystem name. It is the same as the product library name.)
 	
b. Select option 5=Display
 	
c. Select option 1=Operational attributes.
 	
d. Compare and verify that the *Maximum jobs in subsystem* field on the primary is equal to or larger than all other nodes. If not, return to the *Work with Subsystem Descriptions* screen (F12 twice), select option 2=Change, and change the value for *Maximum jobs*, then press Enter.
 	
e. Select option 5=Display from the *Work with Subsystem Descriptions* screen.
 	
f. Select option 6 to display the job queue entries.
 	
g. The total number of entries for both job queues should equal the number specified in the subsystem description. To change the number of job queue entries, use the following commands.
 	
`CHGJOBQE SBSD(ITHA62) JOBQ(E2SYSJOBQ) MAXACT(nnn)`
`CHGJOBQE SBSD(ITHA62) JOBQ(E2JOBQ) MAXACT(nnn)`
 	
(where nnn is the number of entries)		

15. IBM provides a security tool, Analyze Profile Activity (ANZPRFACT), that can be used to determine which user profiles have not been used for a set number of days. This command is also accessed using GO SECTOOLS option 4. The command will disable user profiles that have not been used since the number of days indicated on the command. iTERA replicates the last used date of user profiles starting in 6.2.07. There is no longer any special processing required if ANZPRFACT is used.		

Section Two: Pre-Role Swap Checks

Perform the steps in this section within two hours of the role swap.

IMPORTANT

If you have more than one installation of iTERA verify that you are signed on to the correct instance on all nodes. Also verify that you are signed on with the iTERA Admin profile.

Section Two: Pre-Role Swap Checks	Assi-gned	Done
1. On all nodes, review your job scheduler application (Job Scheduler, Advanced Job Scheduler, Robot). Place any scheduled jobs that may submit during the role swap on hold. If replicating jobs through iTERA's Job Scheduler Replication, use 5.5, F15=Set Status, opt H=Hold all jobs, on the primary to hold the scheduled jobs. If using another job scheduler application (Advanced Job Scheduler or Robot), use that application to place the jobs on hold. Make note of the the jobs placed on hold for post-role swap job handling (see "Section Eight: Final Steps").		
2. End (`E2ENDSBS`)then restart (`E2STRSBS`) the iTERA subsystems from the primary. (The purpose of this step is to recycle the job logs so that when the actual role swap is executed, the subsystems will end more quickly.)		
3. If performing the role swap in conjunction with a system migration you may want to save the local journal receivers on the current primary into a save file.		
4. In Non-Mirrored Object Replication Check (4.30, primary), verify that all objects that need to be replicated are being replicated. The Last Sync Date/Time data should be current (within the last 24 hours). If not, use F9=Sync NM-Library to sync all objects. This is scheduled to run in Job Monitor Maintenance (2.21).		
5. If you have a multiple target node environment, execute the Communication Test (30.7) on the node that will become the new primary. Test communications to all other target nodes in the environment (specify *FULL for the Scope parameter.) Correct any issues prior to continuing.		

Section Three: Final Pre-Role Swap Checks (30 minutes before role swap)

Perform the steps in this procedure 30 minutes prior to the role swap.

Section Three: Final Pre-Role Swap Checks (30 Minutes Prior)	Assi-gned	Done
1. Optional: Notify users that the system will be down in thirty minutes.		
2. Perform the following steps to verify that the system is ready for the role swap. The items listed below should be checked in the order listed. Any issues encountered should be investigated and resolved before proceeding. a. Update the System Monitor (1.1 F10, primary). Check the following: – *V*erify that the *% Total Disk Storage Used* displayed for the Backup 1 node is well below the acceptable threshold. – *Local/Remote Journals Active, Apply Jobs Active* and *Network/Subsystem Active* should all indicate YES values (there should be no *NO indicators). – *Journal Entries Not Applied* should be caught up. – *Objects Requesting Sync* should be NONE. – Press F14=Role Swap Readiness, F16=Expand/Compress. **IMPORTANT** The AUDIT test may be in WRN status because the Audit Command Console has been ended. No other tests should be in FTL, SEV, ERR, or WRN statuses. Any test in FTL or SEV status *must* be resolved prior to initiating the role swap. **IMPORTANT** Continuing a role swap with severe errors will result in data loss or in the role swap not completing correctly. If you proceed with the role swap, data may not match between primary and target systems and the lost data may not be recoverable. b. Check the Heal Status Summary screen (3.7; backup). Verify there are no pending Heal requests. c. On all nodes, review the iTERA message log (1.1 F11=E2MSGLOG). Do not proceed with the role swap until all high severity errors have been resolved. d. On all nodes, check the iTERA subsystem to ensure it is active and that there are no jobs (other than E2A_MQW_nn) in MSGW. (MSGW is a normal status for iTERA Alert job E2A_MQW_nn. It will not affect the role swap.)		

Section Four: User Shutdown

IMPORTANT

QRB stands for Quick Rollback and is used to indicate the *minimum* steps that must be performed if returning to the original primary after only a short period of limited testing. Perform all subsequent role swap steps if you allow your users or IT staff to update more than a limited amount of easily verifiable data.

IMPORTANT

Verify that all users have finished processing before ending the subsystems.

IMPORTANT

After initiating the role swap and until the role swap is confirmed as "Complete", never perform any action on any node in your environment that will cause iTERA subsystem jobs to end or that will sever communications between systems. These actions include, but are not limited to, performing an IPL on any system and putting any system into a restricted state.

IMPORTANT

All steps in this section are executed on the primary node, unless otherwise indicated.

Section Four: User Shutdown	Assi-gned	Done
1. End all user applications and user-related subsystems. a. If you have updated the E2USRDWN exit program use option 40.20 to end all user jobs. Otherwise, use 40.21 (or `WRKACTJOB`) to end all third-party applications. b. End your version of QINTER to ensure that users no longer have access to the primary. c. End all user interfaces (e.g., ODBC and JDBC connections that do not use the user IP address).		
2. If you are using WebSphere MQ Replication, end the Queue Managers, verify that the MQ apply jobs are caught up a. End all MQ Queue Managers using your company's established protocols. Make sure the QMQM subsystem is not active. b. Verify that the MQ mirroring process is caught up using the Mirror Process Monitor (1.1, F16=Process Monitor). Verify that there are no exposed entries for the MQ journals. c. On the target, select Work with Apply Jobs (3.4) and verify that the MQ journal apply job are inactive.		
3. Sync exclusively locked objects. a. Select 40.24 (or 4.22). b. Do one of the following: – To replicate individual objects in the list, select option 9=Sync Object for any necessary objects. – To replicate all objects in the list, press F10=Sync Roll Request. Press F10 to confirm replication of all necessary exclusive locked objects. c. Synced objects will display Y in the *Roll Sync* columns. If any objects still show *EXCL or *EXCLRD in the *Current State* column, investigate and resolve the issues before continuing. **IMPORTANT** If you perform the role swap with objects still in *EXCL or *EXCLRD state you may have data integrity issues. d. Check Objects Requesting Sync (1.1 F6). Ensure that all objects finish syncing before continuing.		

Section Four: User Shutdown	Assi-g ned	Done
4. Verify that there are no other jobs running. (QRB) a. Select 40.22, Monitor New Journal Entries b. Press F7=Reset Start. c. Periodically press F5=Refresh and check to see if the number in the *New Entries* column changes (press Page Down, if necessary). If it does, there are jobs running that must be ended. Use option 7=Display New Entries to determine which jobs are still running. Decide whether to the cancel the job or allow it to finish running.		
5. Check the Object Monitor (1.4) to verify that it is caught up. (QRB) • The *Present Delay* field should be less than 10 or so. • *IFS remain to process* should be 0 before continuing.		
6. If replicating spool files, check the Spool File Monitor (1.6). Verify the *To Be Processed* value is zero.		
7. Perform final check of the System Monitor. (QRB) Update the System Monitor (40.25, F10=Update Monitor). Verify there is no latency, that there are no objects requesting sync, and that there are all 'YES' indicators.		
8. Select the Monitor Journal Entries screen (40.22) press F5=Refresh to verify that there are no new entries caused by user jobs (entries from QAUDJRN are acceptable). (QRB) **NOTE** You do not need to press F7=Reset Start. (This was already done in step 4.) **IMPORTANT** If there are new entries, it indicates there are still jobs running. Use option 7=Display New Entries to determine which jobs are still running. If any new entries are from user jobs, decide whether to end the jobs or allow them to finish processing. User jobs must be completed prior to executing the role swap.		
9. Verify communications are working between all nodes in the environment. Execute the Communication Test (30.7) on the current primary node. Specify the name of the BACKUP 1 node for the *Remote System* and *FULL for the *Scope* parameters. Repeat test to all and between all other target nodes in the environment. Correct any issues prior to continuing. (QRB)		

Section Five: Perform the Role Swap

IMPORTANT

QRB stands for Quick Rollback and is used to indicate the *minimum* steps that must be performed if returning to the original primary after only a short period of limited testing. Perform all subsequent role swap steps if you allow your users or IT staff to update more than a limited amount of easily verifiable data.

IMPORTANT

Make certain that you are signed on with the iTERA admin profile and that you are the only person signed on with it. Use one of the following methods to determine this.
- Use `WRKACTJOB` and locate the subsystem that is used for interactive jobs.
- Use the command `WRKSBSJOB SBS(sbsname)`
(Replace "sbsname" with the subsystem your system uses for interactive jobs). For example, `WRKSBSJOB SBS(QINTER).`

IMPORTANT

If you attempt a role swap then need to abort it for any reason, contact Support immediately for assistance.

IMPORTANT

***NEVER* end the apply jobs from this point on.**

Section Five: Perform the Role Swap	Assi-g ned	Done
1. Execute the role swap **on the BACKUP 1** node. (QRB) a. Select menu option 40.30. b. Select F16=Role Maintenance. c. Select F16=Initiate Roleswap. The Role Swap Readiness tests are automatically executed. If all tests return an OK status, no results are displayed. However, if a test returns a status of FTL, SEV, ERR, or WRN, the test results are displayed on the screen. • If the test in error is a target system test, use the F7 key to display the Role Swap Readiness Monitor and resolve the issue(s). • If the test in error affects another node, log on to the primary with the iTERA Admin profile and resolve the issue. After all issues have been investigated and resolved then on the Role Swap Readiness Test Errors screen on the target system press F5=Refresh to update the test results screen. If all test errors have been resolved, the role swap processing will be allowed to continue. **IMPORTANT** Continuing a role swap with severe errors will result in data loss or in the role swap not completing correctly. If you proceed with the role swap, data may not match between primary and target systems and the lost data may not be recoverable. Precisely strongly recommends continuing with the role swap only after all issues have been resolved. If any test remains in SEV status, a pass code (obtained from Support) is required in order to proceed.		

2. If there are unapplied journal entries, the following screen is displayed:
`: WARNING - UNAPPLIED ENTRIES FOUND :`
`: YOU ARE PERFORMING A LIVE ROLE SWAP. :`
`: This is NOT a Virtual Role Swap :`
`: New Primary System . . . . . SYSTEM2 :`
`: Unapplied Entries . . . . . 589 :`
`: WARNING: :`
`: Not all journal entries have been applied. If you continue the :`
`: process then the role swap will be delayed until the entries :`
`: have been applied. :`
`: F3=Exit F5=Refresh F7=Journal Apply Statistics :`
`: F12=Cancel F22=Continue with Role Swap :`
Press F5=Refresh periodically and note the change in the number of unapplied entries. When Unapplied Entries is zero, role swap processing is automatically resumed. (You do not have to wait on this screen for the entries to finish processing. You may press F22=Continue with Role Swap to continue. The role swap process will automatically monitor for the completion of the apply jobs before continuing.) If desired, you may press F7 to review the Journal Apply Statistics screen and then use F12 to return to this screen.		

Section Five: Perform the Role Swap	Assi-gned	Done

3. Review the confirmation screen. (QRB)

   Verify that the screen heading indicates “Initiate Role Swap Confirmation”.

```
.....................................................................:
:Initiate Role Swap Confirmation                                     :
:YOU ARE PERFORMING A LIVE ROLE SWAP.                                :
:This is NOT a Virtual Role Swap                                     :
:                                                                    :
:New Primary System . . . . . . . . . . . . . . SYSTEM2              :
:                                                                    :
:Enable Disabled Profiles . . . . . . . . . . . *YES  *NO *YES       :
:Run User Startup Program . . . . . . . . . . . *NO   *NO *YES       :
:Start TCP/IP Interfaces  . . . . . . . . . . . *NO   *NO *YES       :
:Start Journal Apply Jobs . . . . . . . . . . . *YES  *YES, *NO     :
:Start Replication Processing Jobs  . . . . . . *YES  *YES, *NO     :
:                                                                    :
:WARNING:                                                            :
:Do NOT manually end or start iTERA Jobs or Subsystems during the    :
:Role Swap Process.  Contact iTERA support if problems occur.        :
:                                                                    :
:Press F10 to Initiate Role Swap                                     :
:                                                                    :
:F3=Exit  F5=Refresh  F10=Role Swap  F12=Cancel                      :
.....................................................................:
```

IMPORTANT

Verify that the screen indicates “Role Swap”. If it indicates “Failover”, do not continue with the role swap. Most likely, it indicates there is a communications failure between systems. Contact Support immediately in order to troubleshoot and resolve the issue.
If the screen indicates “Virtual Role Swap” you have selected the wrong function. Press F3=Exit then select the correct function.

- For the first role swap performed in your environment, Precisely recommends setting the Enable Disabled Profiles, Run User Startup Program, and Start TCP/IP Interfaces parameters on the confirmation screen to *NO. For subsequent role swaps, set as desired.
- For the Start Journal Apply Jobs and Start Replication Processing Jobs parameters, the default behavior for role swap recovery is to start all apply jobs and replication processing jobs (*YES). However, some users may want to perform additional validation before allowing users to access the system and processing to continue. If you choose to set the Start Journal Apply Jobs and Start Replication Processing Jobs parameters to *NO, replication processes will be prevented from starting automatically. You will then have the opportunity to manually verify that information and data on the new primary is correct and complete. Once verified, subsequent steps in this checklist will instruct you when to manually start the apply jobs and replication processing jobs.

Refer to the F1 Help text or the iTERA Reference Guide documentation for these settings in order to understand the impact these parameters will have on your role swap.

Review the parameters and set as needed, then press F10 to accept.

Section Five: Perform the Role Swap	Assi-gned	Done
4. Check role swap progress **IMPORTANT** ***Do NOT change any iTERA files or data areas, end any iTERA programs, or start the iTERA subsystem manually.*** ***Do NOT end any iTERA jobs in QCTL unless instructed to do so by Support.*** Monitor the role swap from the Role Swap Monitor screen on the backup node until the role swap has completed. The *Status* field in the middle section will indicate "Complete" when the role swap has finished.		

Section Six: Post Role Swap Activities

IMPORTANT

QRB stands for Quick Rollback and is used to indicate the *minimum* steps that must be performed if returning to the original primary after only a short period of limited testing. Perform all subsequent role swap steps if you allow your users or IT staff to update more than a limited amount of easily verifiable data.

Section Six: Post Role Swap Activities	Assi-gned	Done
1. Sign off all nodes, then sign back on to all nodes with the iTERA admin profile. (This clears the cache memory and QTEMP.)		
2. If you specified *NO for the Start Journal Apply Jobs parameter in the role swap confirmation screen, then after performing any manual validation, start all inactive apply jobs on the target node using 3.4, option 13=Activate Process State, and then 14=Restart Job. The Process State field for each inactive apply job will be ManStart.		
3. If you specified *NO for the Start Replication Processing Jobs parameter in the role swap confirmation screen, then after performing any manual validation, start the required jobs using E2STRMON on all nodes, and then release job MXAUDITSCD in the MIMIXSBS on all nodes.		
4. Review the System Monitor (QRB) a. 1.1, F10, primary. Verify that the journals and apply jobs are active. (YES status in all appropriate columns.) You may need to update the monitor more than once if all statuses are not correctly reported. b. Press F7=E2SBS. Verify that the subsystem and all necessary jobs are active. c. Press F14=Role Swap Readiness. Verify that no tests in the Role Swap Readiness Monitor (with the exception of IPCONWRN, which can be resolved later) are in ERR status.		
5. Check Triggers (4.23) on all nodes (QRB) Press F7=Toggle View until the *Triggers with an Error Status* view is displayed. Verify that there are no triggers in an error status. If the library name shows in red text, it indicates the library is no longer being replicated and you do not need to correct the triggers in that library. You may need to set other triggers to the node's preferred state. For more information on triggers, refer to the Assure iTERA HA Reference Guide. **NOTE** iTERA does not modify the state of triggers in non-replicated libraries.		

Section Six: Post Role Swap Activities	Assi-gned	Done
6. Check Constraints (4.24) on all nodes (QRB) Press F7=Toggle View until the *Constraints with an Error Status* view is displayed. Verify that there are no constraints in an error status. If the library name shows in red text, it indicates the library is no longer being replicated and you do not need to correct the constraints in that library. You may need to set other constraints to the node's preferred state. Constraints that indicate REQ in both the *Pri* and *Bkp* fields (under Preferred State column) cannot be changed. For more information on constraints, refer to the iTERA Reference Guide. **NOTE** iTERA does not modify the state of constraints in non-replicated libraries.		
7. Optional: If replicating spool files and you want all output queues released on the new primary, execute the command `E2RLSOUTQ`.		
8. If necessary, change the system name. Refer to the procedure "System Name Change During Role Swap" in the *i5/OS Guidelines* appendix of the *Assure iTERA HA User Guide.*		
9. If using ODBC, JDBC, or any other communication protocol, you may need to change the new primary *LOCAL RDB entry to be the same as it was on the old primary. Refer to the procedure "Change the *LOCAL RDB Entry" in the *i5/OS Guidelines* appendix of the *Assure iTERA HA User Guide*.		
10. If you are using WebSphere MQ replication, start the process. On the new primary, start the QMQM subsystem and all MQ Queue Managers using your company's established protocol.		

Section Seven: User Signon

The steps in this section prepare the system for access by users.

IMPORTANT

QRB stands for Quick Rollback and is used to indicate the *minimum* steps that must be performed if returning to the original primary after only a short period of limited testing. Perform all subsequent role swap steps if you allow your users or IT staff to update more than a limited amount of easily verifiable data.

Section Seven: User Signon	Assi-gned	Done
1. Move any necessary devices. (QRB)		
2. Redirect your user IP address(es) to the new primary. (QRB)		
3. Start necessary user subsystems and interfaces, etc. (QRB) Optional: Call the E2USRUP program, if created. (The CL source program in the source file E2_CUST in the iTERA installation library.)		
4. If you specified *NO for the *Enable Disabled Profiles* parameter in the confirmation screen, enable them now (5.1, F17 – new primary).		
5. Notify users that they can use the system (QRB).		

Section Eight: Final Steps

IMPORTANT

Do **NOT** perform the steps in this section if you will be performing another role swap to return to the original configuration.

Section Eight: Final Steps	Assi-gned	Done
1. On all nodes, select option 6 to enter the Audit Console, press F11=Start Auto Audit, then F7=Ignore Setup Time, to start the Audit Console. The Assure Audits are designed to stay enabled during a role swap. However, if you disabled them, re-enable them now. a. On the new target, type `WRKAUD` and then press Enter. b. Press F16 =Inst. Policies and then F9=All Parameters to view policies for the instance. c. For the Audit level policy, specify *LEVEL30 (or the value that was previously specified for the policy) and then press Enter.		
2. For three-node environments, execute WRKAUD on the replicate node, then press F5 to refresh the audit compliance status.		
3. On all nodes, select menu 3.32. Review the values in the *JrnRcv RtnHrs* fields. Due to limited disk space on some target systems, the retention hours may have been set lower than on the primary. Since the backup node is now the primary, the retention hours should be reviewed and may need to be adjusted. To change the default retention hours for a journal receiver, select option 2=Change on the desired journal, specify the *Journal Receiver Retention* value as desired, then press Enter to accept the change.		

Section Eight: Final Steps	Assi-gned	Done
4. On the primary, do one of the following: – If replicating jobs through iTERA's Job Scheduler Replication, set the scheduled jobs on the new primary. Select 5.5, F15=Set Status, option P=Use Primary System Status. – If using another job scheduler application (Advanced Job Scheduler or Robot), use that application to release the jobs that were placed on hold in section 2.		
5. On the target, do one of the following: – If replicating jobs through iTERA's Job Scheduler Replication, set the scheduled jobs on the new target. Select 5.5, F18=Job Sched Maint, F15=Set Status, option B=Use Backup System Status. – If using another job scheduler application (Advanced Job Scheduler or Robot), use that application to hold the jobs that should not run on the target machine.		

Supporting Procedures

Promote backup2 to backup 1

A Role Swap, Virtual Role Swap and Failover can only be performed on a machine defined as BACKUP 1 in the Node Maintenance screen (30.21 or 40.30, F16). In order to perform these functions on a machine defined as BACKUP 2, it must be first promoted to BACKUP 1. Use the following procedure to promote a BACKUP 2 node to BACKUP 1.

NOTE

A Replicate node cannot be used in a Role Swap or Virtual Role Swap test.

Step	Pri	Bkp
1. Sign on to all nodes using the iTERA admin profile.		
2. End the iTERA subsystem (`E2ENDSBS`).		
3. On the primary, select Node Maintenance (30.21). Select option 8=Promote Current Role on the node defined as BACKUP 2. The *Current Role* field will display BACKUP 1. The node *previously* defined as BACKUP 1 will now be defined as BACKUP 2.		
4. If the system that was promoted is to *stay* in the BACKUP 1 role, then change its *Preferred Role* to BACKUP 1 using option 9=Promote Preferred Role.		

Step	Pri	Bkp

5. On all nodes, clear the following files by executing the commands:
`CLRPFM E2PXMONS`
`CLRPFM E2PXAMON`		

6. Sign off all nodes.		
7. Sign on all nodes using the iTERA admin profile.		
8. Start the iTERA subsystem (`E2STRSBS`).		
9. On the primary, check the System Monitor to ensure that all nodes display correctly (1.1, F10=Update Monitor).		