297-1001-546

DMS-100 Family

NORESTARTSWACT / MTCSWACT User's Guide

Base 11.4 Standard 04.03 March 2000

NORTEL NETWORKS™

DMS-100 Family

NORESTARTSWACT / MTCSWACT User's Guide

Publication number:	NTP 297-1001-546
Document status:	Standard
Document release:	04.03 (Base 11.4)
Release Date:	March 2000
Writer:	SWACT-Base (S.B.) Product

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Printed in Canada

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Publication History

March 2000

Standard 04.03(Base11.4). Document updated to modify MTCSWACT MOP, and after its review by CC Warm SWACT GPS/Design.

April 1999

Standard 04.02 (Base11.4). Document updated after its review by CC Warm SWACT GPS/Design. Document released for CSP10.4.

March 1999

Draft 04.01 (Base 11.4). Two new chapters were added to the document as follows:

•The XA-Core MOPs for both NORESTARTSWACT and MTCSWACT were added. The new NORESTARTSWACT MOP for XA-Core is called NORESTARTSWACT MOP (XA-Core) while the new MTCSWACT MOP is called MTCSWACT MOP (XA-Core).

The following chapters have been updated as indicated:

•NORESTARTSWACT MOP (CM-Core): The name of the NORESTARTSWACT MOP for CM-Core was changed to NORESTARTSWACT MOP (CM-Core).

•MTCSWACT MOP (CM-Core): The name of the MTCSWACT MOP for CM-Core was changed to MTCSWACT MOP (CM-Core).

•Appendix A: Documentation for TASTOOLCI command increment was added, as well as documentation for the ABORTMTCSWACT command.

•Appendix C: A procedure was added for ABORTMTCSWACT.

July 1998

Standard 03.01 (Base11). Document updated after its review by CC Warm SWACT GPS/Design. Document released for CSP10.

June 1998

Draft 03.00 (Base11). The following chapters have been updated as indicated:

•About This Document: Updated list of officetypes that support the NORESTARTSWACT process.

•Appendix A: Updated list of LIMITED_PRESWACT and POSTSWACT steps.

•Appendix B: Updated list as in Appendix A for information on how to recover from failures in those steps.

April 1996

Standard 02.06 (Base05).

The Site Preparation section has been updated as follows:

•Table 2 was updated to correct a typo.

•The paragraph preceding Table 2 was changed.

December 1995

Standard 02.05 (Base05). The following chapters were updated as indicated:

•Site Preparation: A warning regarding the use of X25 terminals for the procedures NORESTARTSWACT and MTCSWACT was added. A table listing office parameters which affect PM Call Processing EXECs was also added.

•About this document: Updated to reflect NORESTARTSWACT support for DMS-250 (officetype OFF250) offices that have applied patch FLA13 or have Base06 or better.

November 1995

Standard 02.04 (Base05). Document updated to clarify MTCSWACT MOP with respect to Tape Primary Billing devices, and their recovery after the MTCSWACT. Software version changed from CSP04 to Base05.

August 1995

Standard 02.03 (CSP04). Document released for CSP04.

April 1995

Draft 02.02 (CSP04). Document updated after testing by SWACT product test group.

February 1995

Draft 02.01 (CSP04). Document updated after its review by GPS, SWACT product test, and SWACT design.

January 1995

Draft 02.01 (CSP04). Major revision and title change. The previous title was “NORESTARTSWACT User’s Guide”. With the inclusion of MTCSWACT information and MOP in this release, the name of this NTP has been changed to its present form. MTCSWACT is a new utility available in CSP04 and later.

September 1994

Standard 01.02 (BCS36). The following chapters have been updated as indicated:

•Site Preparation: Added a warning that the NORESTARTSWACT Partial Outage time will increase if the site has non XPM+ ISDN peripherals.

•NORESTARTSWACT MOP (CM-Core): Step 25 updated because of an MMI fix patched with ACK38.

•Appendix A: Command Summaries: Updated to add a new POSTSWACT step (RESTORE_PASSWORDS) introduced with patch ALK05.

•Appendix B: Supplementary Procedures: Updated to add a new POSTSWACT step (RESTORE_PASSWORDS) introduced with patch ALK05.

May 1994

Standard 01.01 (BCS36), initial release of this document.

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About this Document

In BCS36, a new utility for performing a CC warm SWACT (SWitch of ACTivity) was deployed. This utility is called ‘no-restart-switch-of-activity’ (NORESTARTSWACT). In CSP04 a new utility was created to simplify special applications of the NORESTARTSWACT utility. The new utility is called ‘maintenance switch of activity’ (MTCSWACT). This document describes the process for executing a NORESTARTSWACT and a MTCSWACT on DMS - 100 Family switches.

The **NORESTARTSWACT** process is supported from BCS36 onward for the following officetypes:

- DMS-100
- DMS-200
- DMS-100/200
- DMS-200 with TOPS
- DMS-100/200 with TOPS
- DMS-250 (**ONLY** with patch FLA13 or Base06, and have an officetype of OFF250))
- DMS-300 (With patch ACK57 or BASE10, and have an officetype of OFF300 **OR** with patch ACK71 or BASE11, and have an officetype of OFFCOMB300)
- DMS-500 (**ONLY** with patch WIG33 or BASE08)
- MTX offices (**ONLY** with patch ACK59 or BASE10)
- SCP offices (**ONLY** with patch JSL03 or BASE07)

The **NORESTARTSWACT** process is supported from BCS36 onward for the following platforms:

- Supernode
- BRISC
- SNSE
- XA-Core (since Base11.4)

The **NORESTARTSWACT** process is not supported for the following switch configurations:

- STP offices
- Any NT40 offices

The **MTCSWACT** process is supported in all offices and configurations where NORESTARTSWACT is supported. MTCSWACT is available from CSP04 and onward.

Conventions

The following is a short list of different DMS architectures and their naming conventions used in this document:

- A CM-Core switch contains an active and inactive CPU.
- An XA-Core switch contains two or more Processor Elements (PEs).
- In an XA-Core environment, the term **SPLIT** refers to the state when the two sides of the switch (active and inactive) are running independently of each other. **UNSPLIT** refers to the state when the two sides are running the same load, and are in step with each other. When in **UNSPLIT** mode, the inactive side is ready to take activity from the active side should the need arise.
- In a CM-Core environment, the term **OUT OF SYNC** refers to the state when the two sides of the switch (active and inactive) are running independently of each other. **IN SYNC** refers to the state when the two sides are running the same load, and are in step with each other. When **IN SYNC**, the inactive side is ready to take activity from the active side should the need arise.

How this document is organized

The information in this document is organized in the following manner.

The *Introduction* chapter introduces the NORESTARTSWACT utility and its uses. This chapter also introduces the MTCSWACT utility and its uses.

The *Site Preparation* chapter provides an overview of steps and preparations the Telco/Carrier must make before executing a NORESTARTSWACT or MTCSWACT.

This is followed by the *NORESTARTSWACT MOP (CM-Core)* (Method of Procedure). This section contains a summary of the procedure and a series of detailed steps needed to execute a successful NORESTARTSWACT in a CM-Core office. The MOP is organized into 31 distinct steps and these are subdivided by 10 areas marked as summary steps.

This is followed by the *NORESTARTSWACT MOP (XA-Core)* (Method of Procedure). This section contains a summary of the procedure and a series of detailed steps needed to execute a successful NORESTARTSWACT in an

XA-Core office. The MOP is organized into 29 distinct steps and these are subdivided by 10 areas marked as summary steps.

The *MTCSWACT MOP (CM-Core)* follows the *NORESTARTSWACT MOP (XA-Core)*. This section contains a summary of the procedure, and a series of detailed steps needed to execute a successful MTCSWACT in an CM-Core office.

The *MTCSWACT MOP (XA-Core)* follows the MTCSWACT MOP (CM-Core). This section contains a summary of the procedure, and a series of detailed steps needed to execute a successful MTCSWACT in an XA-Core office.

Appendix A: Command Summaries contains a table of LIMITED_PRESWACT and POSTSWACT steps that may run in your office while executing the NORESTARTSWACT MOP. There is also documentation on CC warm SWACT, what commands are used in this MOP, and what logs are (and could be) generated during a NORESTARTSWACT CC warm SWACT procedure. The TASTOOLCI increment is also documented in this Appendix.

Appendix B: Supplementary Procedures contains additional procedures which may be referenced during the NORESTARTSWACT or MTCSWACT process. These include recovering from failed LIMITED_PRESWACT and POSTSWACT steps as well as using the ‘PAUSE’ option with MTCSWACT.

Appendix C: Aborting the CC Warm SWACT contains information on how to stop the procedure at any step and return to a state prior to the execution of the MOP.

Appendix D: MTCSWACT Messages details MTCSWACT problem and informational messages. MTCSWACT messages and explanations of these messages are presented in tables representing phases of MTCSWACT execution.

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Introduction

The NORESTARTSWACT Utility

The **NO**-**RESTART**-**SW**itch-of-**ACT**vity (NORESTARTSWACT) utility enables one to avoid performing a manual restart on the active side of the switch, thus avoiding a reportable call processing outage. The total system outage during a NORESTARTSWACT is less than 30 seconds. The total system outage associated with the NORESTARTSWACT is output in a SWCT101 log.

Office parameter and table changes requiring a restart, or patch application which requires a restart are candidates for using NORESTARTSWACT. By making use of the NORESTARTSWACT utility, one can perform the required restart on the inactive side, and then switch activity to that side without causing the restart that is normally associated with a switch of activity.

The NORESTARTSWACT utility is available only in offices with BCS36 or higher software. It is not available for NT40 offices.

When using this utility, if an error occurs that cannot be corrected by local maintenance personnel, contact the next level of support.

Uses of NORESTARTSWACT

The following is a list of activities for which the NORESTARTSWACT utility can be used and IS supported:

- Table changes requiring restart activation and MTCSWACT is not appropriate. See the next page for details on when to use MTCSWACT.
- Patch application requiring restart activation when MTCSWACT is not appropriate. See the next page for details on when to use MTCSWACT.
- Hardware changes requiring restart activation.
- ETAS use to switch activity away from bad hardware.
- NPA splits/moves requiring restart activation.

Another possible use of NORESTARTSWACT, is to update PM exec lineups when they are affected by a table change or patch application. This should only be considered if all PMs need to be updated and with the understanding

that a system outage will result. The preferred method of updating PM exec lineups is to load the inactive units, warm SWACT the XPM, load the newly inactive unit and warm SWACT the XPM back to its original orientation.

The following is a list of activities for which the NORESTARTSWACT utility should not be used and IS NOT supported:

- Switching activity away from corrupt or questionable software on the active side of the switch.

The MTCSWACT Utility

A popular use of the NORESTARTSWACT utility, is a replacement for active side restarts (for office parameter changes). However, to use NORESTARTSWACT for this simple maintenance activity, the MOP contains too many manual steps. To address this, the **M**ain**T**enan**C**e **SW**itch of **ACT**ivity (MTCSWACT) utility was created. MTCSWACT is an enhancement to the current NORESTARTSWACT utility. MTCSWACT can be used where the activity starts with the switch in-sync/unsplit, and NORESTARTSWACT would have been used. Since MTCSWACT uses the NORESTARTSWACT utility to facilitate an activity switch, the total system outage is less than 30 seconds. The total system outage associated with the MTCSWACT is output in the SWCT101 log.

MTCSWACT was designed to replace the active side restart procedure, required when activating a restart dependant office parameter. The total execution time of MTCSWACT is 20 minutes or less.

In order to use the MTCSWACT utility, the following conditions must be satisfied:

- Data changes MUST be made while the switch is IN-SYNC/UNSPLIT.
- The command MUST be started while the switch is IN-SYNC/UNSPLIT.

Uses of MTCSWACT

The following is a list of activities for which the MTCSWACT utility can be used and IS supported:

- Table changes requiring restart activation. The table changes must be made while the switch is in-sync/unsplit.
- Patch application requiring restart activation. The patch must be applied while the switch is in-sync/unsplit.

The following is a list of activities for which the MTCSWACT utility cannot be used and IS NOT supported:

- Table changes that require new call processing execs to be downloaded to any PM.

- Patch application that requires new call processing exec to be downloaded to any PMs.
- Any activity that requires the procedure to start when the switch is out-of-sync.

NORESTARTSWACT or MTCSWACT, Which to Use?

After reviewing the criteria for NORESTARTSWACT and MTCSWACT, it may be unclear which procedure to use under various conditions. The following table shows when each utility is supported and recommended.

Table 1: NORESTARTSWACT or MTCSWACT?

Maintenance Activity	NORESTARTSWACT	MTCSWACT
Data change (table change or patch application) that requires a restart to activate. Data change can be made while the switch is IN-SYNC/UNSPLIT.	•Supported[1] •Not Recommended[2]	•Supported •Recommended[3]
Data change (table change or patch application) that requires a restart to activate. Data change is made while the switch is out-of-sync/split.	•Supported •Recommended	•Not Supported[4] •Not Recommended
Data change (table change or patch application) that requires a restart to activate. Data change also requires call processing execs to be downloaded to any PM/XPM.	•Supported •Recommended	•Not Supported •Not Recommended
Switching activity away from bad CORE hardware.	•Supported •Recommended	•Not Supported •Not Recommended
Hardware changes requiring restart activation.	•Supported •Recommended	•Not Supported •Not Recommended
NPA splits/moves requiring restart activation	•Supported •Recommended	•Not Supported •Not Recommended
Switching activity away from a software corruption (e.g. load corruption or mismatches)	•Not Supported •Not Recommended	•Not Supported •Not Recommended

1. “Supported” means that the utility is available, but it may not be the best one to use. Check to see if it is the recommended utility as well as a supported utility.
2. “Not Recommended” means that there is another utility which will better suit your activity.
3. “Recommended” means that this utility is the best one for the activity you have chosen.
4. “Not Supported” means that the utility is not to be used for the chosen activity. In the case of MTCSWACT, the utility will not function if the conditions are not correct for its operation (e.g. switch is out of sync).

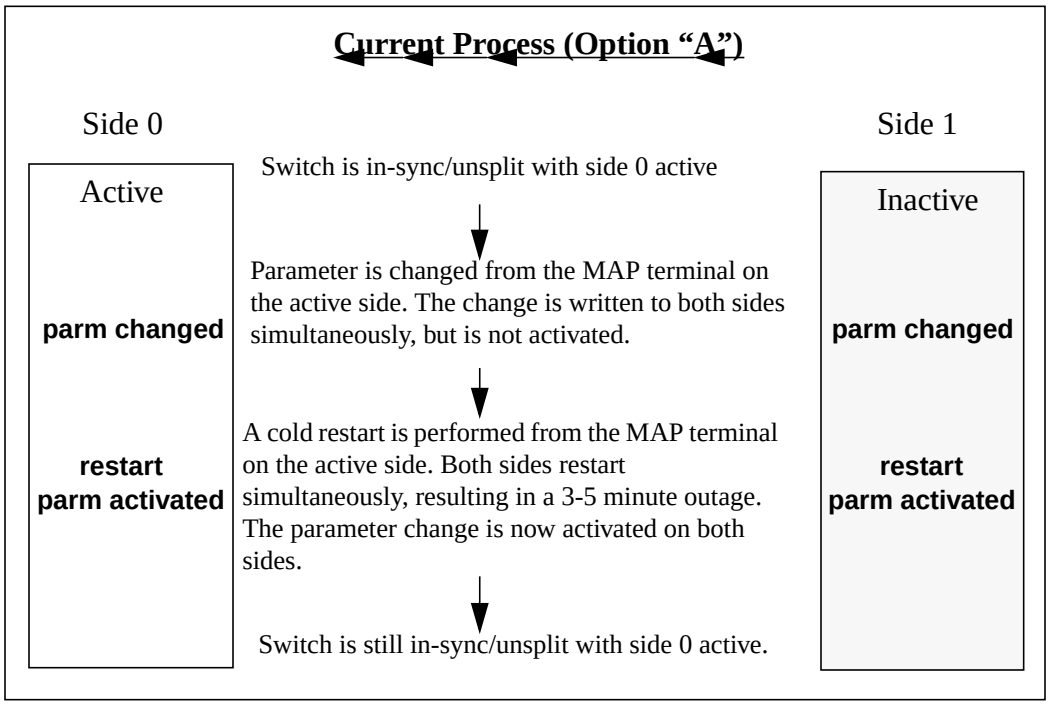
Comparing MTCSWACT to a NORESTARTSWACT and Active Side Restarts

If a user had to make data changes that needed a system restart to activate prior to CSP04, they had to either execute a NORESTARTSWACT or initiate an active side restart. The NORESTARTSWACT procedure is too complex for simply activating a patch or a table which requires a restart. An active side restart (while quite a quick method) would cause a call processing outage dependent on the length of time the specific restart took to complete.

Now these changes can be accomplished by using the MTCSWACT utility. The following diagrams detail the steps involved in active side restarts (both while the switch is in-sync, and when it is out of sync), using the NORESTARTSWACT utility, and using the MTCSWACT utility. These are presented so the user can better understand the MTCSWACT utility and how it relates to previous methods.

> ***Note:*** The following diagrams are to be used as examples only. Side 0 designates the side of the switch that starts out ACTIVE, and Side 1 designates the side of the switch that starts out INACTIVE.

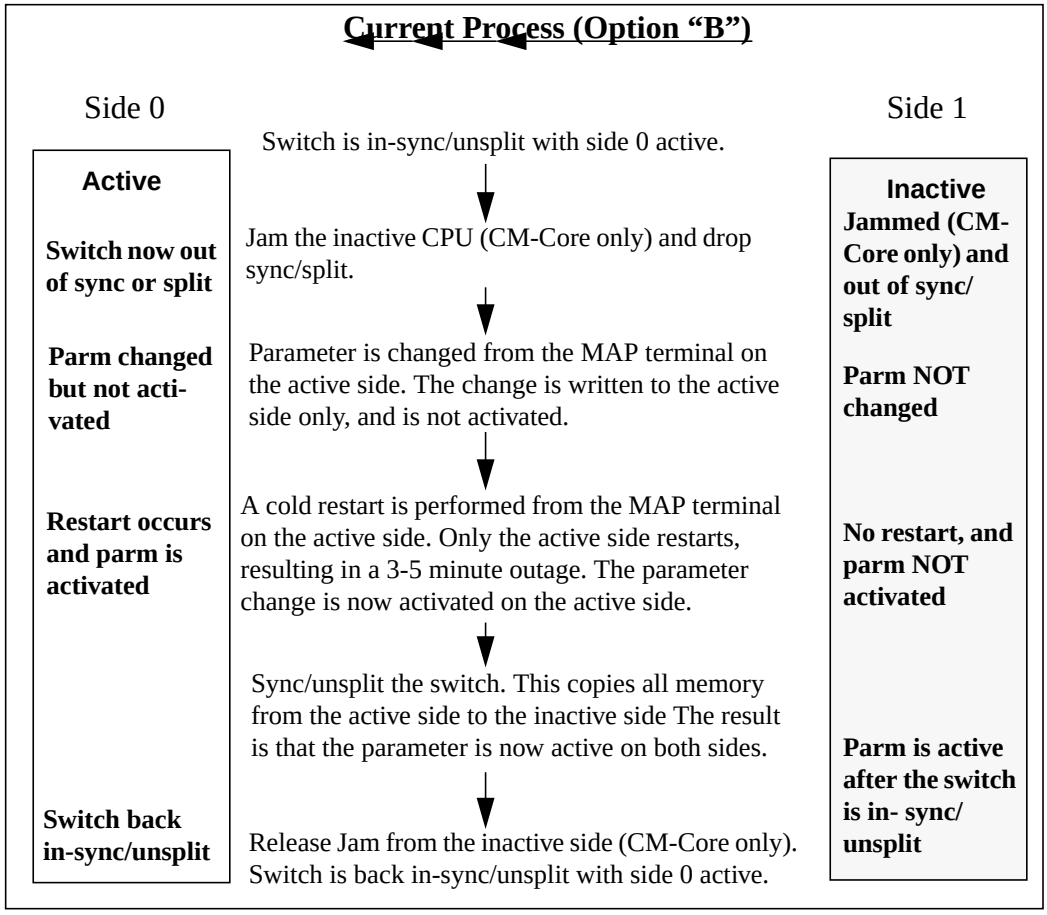
FIGURE 1. Active Side Restart: Change Activation While switch is In-sync/Unsplit



In Figure 1, the change is made while the system remains in-sync/unsplit. The parameter changed in this example required a Restart Cold to activate. This restart is initiated while the switch was still in-sync/unsplit. The system

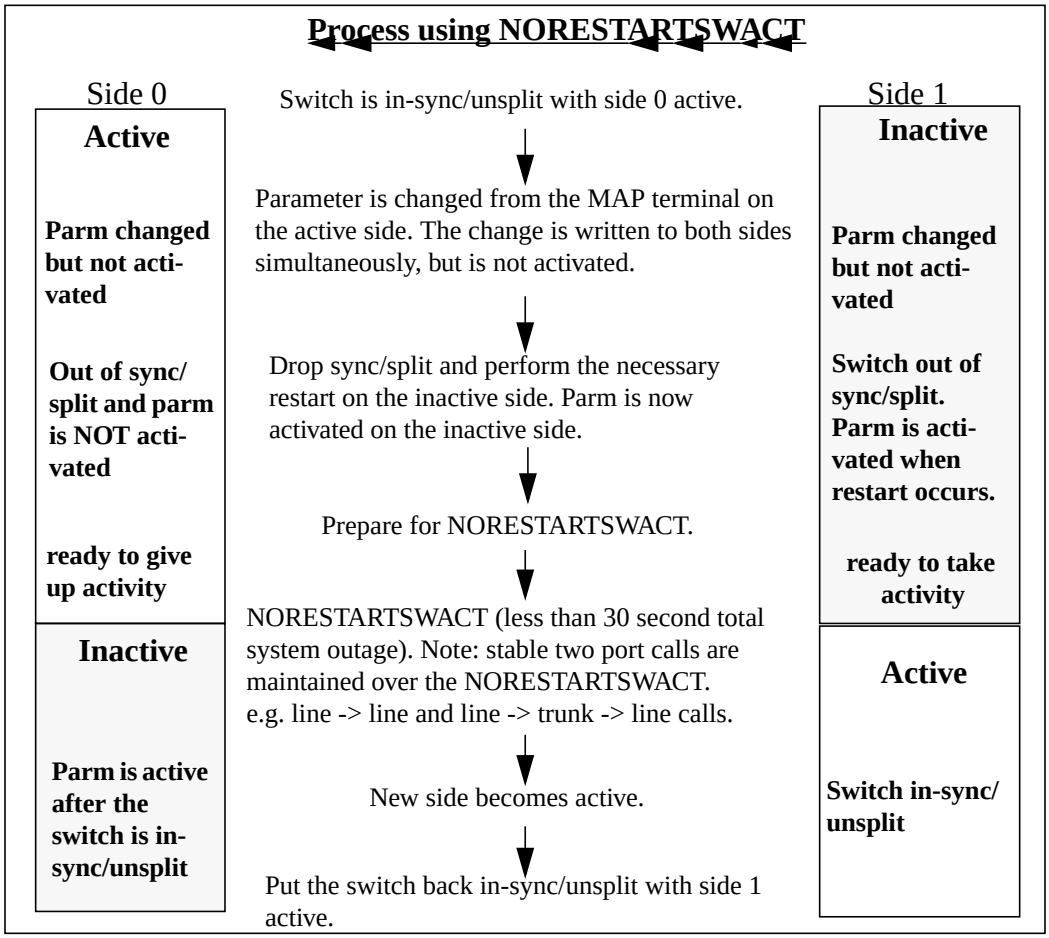
restarts both sides and when it recovers from the restart, the switch is still in-sync/unsplit, and the process is complete.

FIGURE 2. Active Side Restart: Change Activation While CPUs Not In-sync



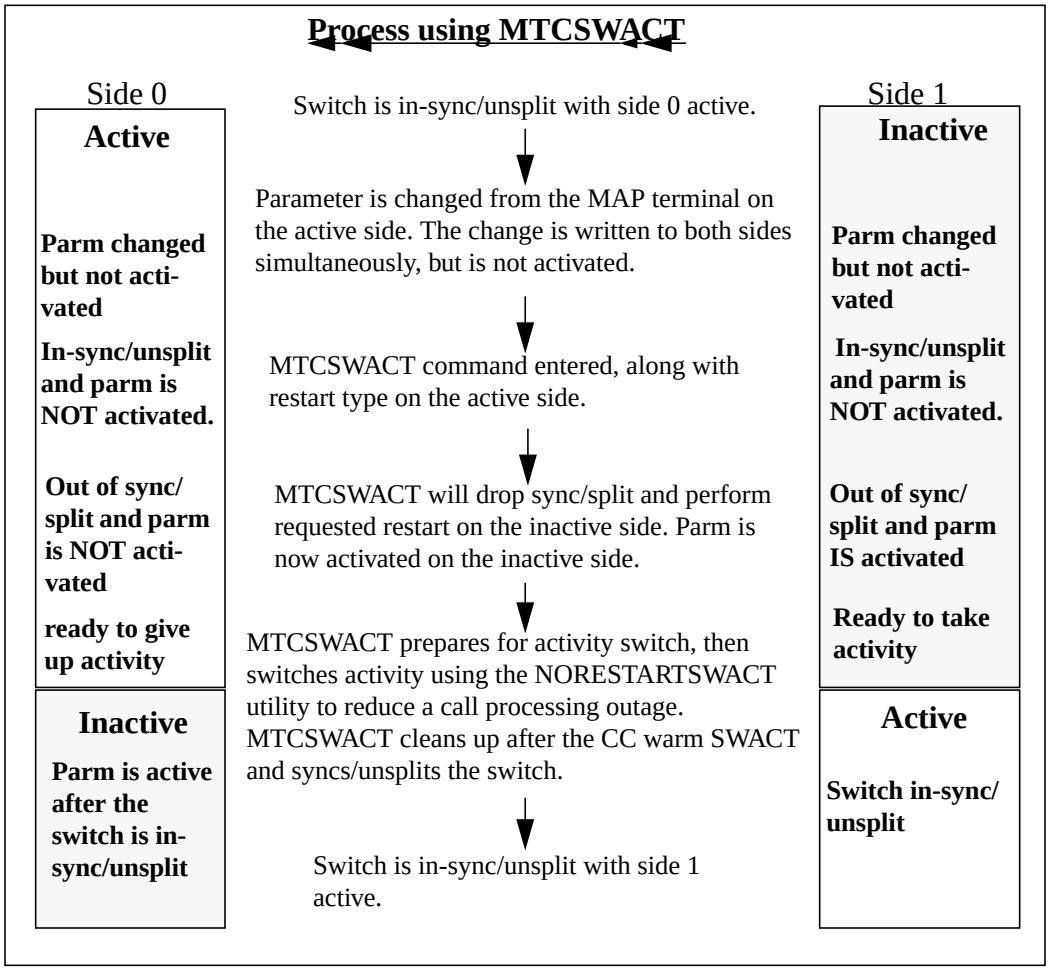
In Figure 2, the same parameter change as detailed in Figure 1 is being executed, but this time both the change and restart are done while the switch is out of sync/split. Once the restart is complete the switch is put back in-sync/unsplit.

FIGURE 3. NORESTARTSWACT change activation



In Figure 3, the change is made on the active side while the switch is still in-sync/unsplit. In this way, both sides have the change but the change has not been activated. The user then drops sync/splits and performs the Restart Cold on the inactive side which activates the change on the inactive side, while, not affecting the active side at all. Activity is then switched to the side that has the change activated by using the NORESTARTSWACT command. After the SWACT finishes, the total system outage will be less than 30 seconds. This procedure is detailed in this document in section “NORESTARTSWACT MOP (CM-Core)” on page 27 for CM-Core switches and in section “NORESTARTSWACT MOP (XA-Core)” on page 49 for XA-Core switches.

FIGURE 4. MTCSWACT change activation



In Figure 4, the change is made on the active side while the switch is still in-sync/unsplit. This way, both sides have the change but the change has not been activated. The user invokes the MTCSWACT command and it will drop sync/split the switch, perform the required restart on the inactive side, switch activity, and then sync/unsplit the switch before finishing. This process will take 20 minutes or less. This procedure is detailed in this document in section “MTCSWACT MOP (CM-Core)” on page 71 for CM-Core switches, and also in section “MTCSWACT MOP (XA-Core)” on page 93.

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Site Preparation

Administrative functions

The following items need to be taken into account prior to scheduling the NORESTARTSWACT MOP (CM-Core) or NORESTARTSWACT MOP (XA-Core) (these only apply to the NORESTARTSWACT procedure):

- The NORESTARTSWACT MOP (CM-Core) procedure makes use of the CM Reset Terminal Interfaces (RTIF). Ensure that there is access to these terminals when required by the MOP.
- TOPS training positions are not supported over the NORESTARTSWACT. Ensure that no TOPS positions are in the training state prior to starting this procedure.
- The NORESTARTSWACT MOP (XA-Core) procedure requires that access be obtained to the TASTOOLCI increment through TOOLSUP. If the password to access TASTOOLCI is not known, the next level of support must be contacted in order to obtain the password.

The following items need to be taken into account prior to scheduling either the NORESTARTSWACT or MTCSWACT procedure on both CM-Core and XA-Core switches:

- SFDEV should be clean, such that all non essential files are removed. This will make room for files created by the LIMITED_PRESWACT command used in the NORESTARTSWACT procedure, and temporary files created by the MTCSWACT procedure.
- All devices/Peripheral Modules (PMs) need to be in an Inservice, Inservice Trouble, or OFFL state prior to starting either procedure. Ensure no devices are MANB (manual busy), SYSB (system busy) or CBSY (C-Side busy). If devices are MANB, SYSB, or CBSY, correct them by either returning them to service or changing their state to OFFL. This includes the inactive units of XPMs and DS-1 carriers as well, but also note that inactive units of XPMs can’t be off-lined if the active unit is inservice. Trunks

and lines may be left in a MB/INB/RES or MB/INB/HAZ/CUT state respectively.

- All released patches pertaining to your load should be applied before starting this procedure.
- Both procedures use the NORESTARTSWACT utility to switch activity. The NORESTARTSWACT MOP can be completed in less than one hour. The MTCSWACT process completes in 20 minutes or less. However, the duration of the system outage is less than thirty (30) seconds. Note: stable two port calls are maintained over the NORESTARTSWACT. e.g. line -> line and line -> trunk -> line calls. These attributes make the NORESTARTSWACT utility a very attractive tool to use when changing tables, office parameters, activating patches, or implementing hardware changes that would normally require a restart on the active CPU (consult the section entitled “Introduction” to determine which utility is best suited for your activity). However, there is still a system outage, and as such, Northern Telecom recommends that use of the NORESTARTSWACT or MTCSWACT utility be scheduled to take place during low traffic periods to minimize the impact on the office. This should be no different than normal Telco/Carrier practices governing Active Side Restarts.
- Do not use X25 terminals to perform either the NORESTARTSWACT or the MTCSWACT procedure. X25 ports do not survive a CC warm SWACT and may cause you delays when logging in after the CC warm SWACT. In the case of MTCSWACT, the user will not be logged in automatically after the CC warm SWACT, and the switch will not synchronize as part of the automated MTCSWACT procedure. The switch will need to be put back in-sync manually.
- Advanced notification of the use of the either procedure must be provided by the site to operator services, service control centres, repair bureau, and other special services. This should be no different than normal Telco/Carrier practices governing Active Side Restarts.

Warnings

NORESTARTSWACT Warning

Please note that if any PM or XPM requires EXECs to be loaded during the NORESTARTSWACT there is the potential for the 30 second target to be exceeded. XPM+ peripherals do not require EXECs to be loaded during SWACT. If PMs or XPMs require EXECs to be loaded during the NORESTARTSWACT, they will be listed on the MAP display where the NORESTARTSWACT command was entered.

Table 2 on page 25 is provided as a reference detailing which office parameters affect call processing EXECs in Series I PMs. If you need to change any of these parameters, consult the NTP where the office parameter is described for a detailed procedure. Be sure to make these parameter changes outside the NORESTARTSWACT MOP (i.e. either before or after using this MOP). **DO NOT** change any of these office parameters during the NORESTARTSWACT MOP. Changing any of these parameters during the NORESTARTSWACT MOP will cause your office to load call processing EXECs during the SWACT. As noted above, loading EXECs during a NORESTARTSWACT may cause the office to experience a call processing outage greater than 30 seconds.

The table indicates the name of the parameter and in which table the parameter resides.

Table 2: Office Parameters which Affect Series I Call Processing EXECs

Parameter Name	Office Table
WK_DD_PRE_DIAL_DELAY	OFCSTD
REC_MIN_WK_TIME	OFCSTD
REC_MAX_WK_TIME	OFCSTD
REC_MIN_DD_TIME	OFCSTD
REC_MAX_DD_TIME	OFCSTD
SWHK_FLTR_TIME_640MS_ENABLED	OFCSTD
SWHK_FLTR_TIME_400MS_ENABLED	OFCSTD
CHANNEL_UNIT_601_PRESENT	OFCSTD
EA_REC_MAX_WK_TIME	OFCSTD
MF_LAST_DIGIT_DELAY	OFCENG
MINIMUM_CHARGE_DURATION	OFCENG
GLOBAL_CUTOFF_ON_DISCONNECT	OFCENG
EBS_TO_TRUNK_TRD_TIME	OFCENG
LONG_TIMED_RELEASE_DISC_TIME	OFCENG

MTCSWACT Warnings

MTCSWACT does NOT support hardware changes or retrofits, as these activities involve initiating the CC warm SWACT while the switch is out-of-sync/split.

MTCSWACT does not download call processing EXECs to any PM or XPM. Therefore MTCSWACT cannot be used in situations that require call processing EXECs to be downloaded.

Hardware state changes or software data changes made after the switch has dropped sync will NOT be reflected on the new side after the CC warm SWACT initiated by MTCSWACT. Depending on the changes made, this could cause a service degradation. If these changes must be made before the CC warm SWACT, abort the MTCSWACT procedure at the next user prompt, make the needed changes and restart the MTCSWACT procedure. Consult the section entitled “Aborting the MTCSWACT Procedure” on page 160 for more information.

General Warnings

The NORESTARTSWACT or MTCSWACT procedure described in this document is not for the purposes of a software upgrade.

All hardware must be in an ‘OK’ state prior to starting either the NORESTARTSWACT MOP or the MTCSWACT MOP. An ‘OK’ state is defined as INSV (Inservice), ISTB (Inservice Trouble) or OFFL (Off-line). Hardware that is not ‘OK’ should either be returned to service or moved to an off-line state before starting either procedure. Both MTCSWACT and NORESTARTSWACT will flag any hardware to the user that requires attention (i.e. not in an OK state).

Ensure that no hardware changes or retrofits unrelated to why this procedure is being used are in progress during the NORESTARTSWACT/MTCSWACT procedure. Affected hardware must be made INB (installation busy), or OFFL (OFF Line) and any software changes (i.e. table updating) should be postponed while the switch is out-of-sync.

The commands as described in this document are not for the purpose of performing a Software Upgrade. For more information on using CC Warm SWACT commands to perform software upgrades, see the “Software Delivery ONP/Hybrid Software Delivery Procedures” NTP (297-8991-303).

NORESTARTSWACT MOP (CM-Core)

CAUTION: The following procedure is only to be used on a CM-Core switch. It is not intended to be used in an XA-Core environment.

Summary of the procedure

This section describes the steps necessary to perform a successful NORESTARTSWACT. Please refer to Table 1, “NORESTARTSWACT or MTCSWACT?,” on page 17 to determine which utility you should use depending on your activity.

The following table summarizes the steps necessary to use the NORESTARTSWACT utility, and the approximate time, in minutes, needed to do each step. The times given for specific steps are elapsed times and not actual run times. Note that the times are approximate and will vary according to different switch configurations and sizes.

Step	Description	Approximate time in minutes
1	Verify availability of the NORESTARTSWACT utility on the switch.	1 minute
2	Make necessary changes while in-sync if possible, in order to reduce the out of sync time (i.e. table changes, parameter changes, apply patch). Stop the Journal File.	(unspecified)
3	Drop sync on the computing module (CM).	3 minutes
4	For changes that must be made while out of sync, log into the mate side and make the changes now.	(unspecified)
5	Perform restarts on the inactive.	4 minutes
6	Perform the LIMITED_PRESWACT procedure.	20 minutes
7	Prepare Billing devices for NORESTARTSWACT.	4 minutes
8	Perform the NORESTARTSWACT procedure.	0.5 minutes
9	Perform the POSTSWACT procedure.	20 minutes

Step	Description	Approximate time in minutes
10	Sync the CM Start the Journal File	4 minutes

NORESTARTSWACT Procedure

Use this procedure to perform a NORESTARTSWACT. To use the check boxes to the left of each step, photocopy the document and check off the steps as they are completed.

Summary Step: 1 - Start Console logging and Query Swact Type

	Step	Action
		At the MAP
☐	**1.**	Start logging your console session in case the need arises to review the steps performed. **> QUIT ALL;RECORD START ONTO <device>** Where <device> is either a disk volume (SFDEV or other) or Terminal/Printer The best choice for a device is a printer. However, the user can have it record to a file on some other device as well. If you choose a disk volume, a file called RECORDFILE will be created. ***Note:*** The LIMITED_PRESWACT step 'CHECK_DISK_VOLS' may flag this open file and ask that it be closed in order to continue. Also, files stored on SFDEV are more difficult to retrieve once activity has been switched.
☐	**2.**	Verify the NORESTARTSWACT availability by entering the following command from the CI level of the MAP terminal. **> QUIT ALL;BCSUPDATE;SWACTCI;QUERYSWACT** *Example of a MAP response:* `NORESTARTSWACT is recommended for initiating a CC Warm SWACT. Further checking will be done when SWACT is invoked.` If the NORESTARTSWACT utility is not supported in the office, the MAP response will indicate that RESTARTSWACT is the recommended procedure for performing a CC warm SWACT. In this case, this procedure cannot be used, and the user will have to use a RESTART on the active CPU to activate their change.

Summary Step: 2 - Make Data Changes on Active Side and Stop Journal File

Step	Action
	At the MAP
☐	**3. Make changes.**

Make the necessary changes while in-sync if possible**.** Some of the changes which can be made while in-sync include office parameter changes, table changes, and applying patches which require a restart to activate them. Make note of the types of restart(s) needed to activate the changes.

Note: Any change that is made while the switch is in-sync remains in effect on the inactive side even after the drop sync and restart are complete. It is not necessary to log in to the mate CPU to verify the change.

Note: As an alternative to making changes while still in-sync, is to make them on the inactive side after the switch drops sync. This way, if you encounter problems after the CC warm SWACT that are directly related to your data change, you can more easily revert to the side where no change was made.

Note: After making table changes, the table itself will indicate what type of restart is needed to activate the change. If a patch is applied, then the patch description should indicate what type of restart is needed to activate the patch. Note the restart(s) required for each activity, as these will be performed on the inactive later.

Example: You plan to change an office parameter in table OFCENG that requires a restart warm. This restart type will be indicated after you confirm the table change. Record this for later use. If you are **also** activating a patch that requires a Cold restart, record this restart as well. It is not safe to assume that performing a Cold restart will satisfy both the patch requirements and the table requirements. Both restarts should be initiated on the inactive side as in Step 13.

Summary Step: 2 - Make Data Changes on Active Side and Stop Journal File

	Step	Action
☐	**4.**	The following will ROTATE and STOP the Journal File recording: **> QUIT ALL;MAPCI;MTC;IOD;DIRP;QUERY JF ALL** Close the JF volume that is currently active. **> CLOSE JF ACTIVE** QUERY again to verify rotation: **> QUERY JF ALL** Stop JF entries: **> JF STOP** Verify JF is stopped by re-executing the 'JF STOP' command: **> JF STOP** The switch should respond with: `JOURNAL FILE ALREADY STOPPED` ***Decision:*** If the journal file cannot be stopped, investigate and contact your next level of support for assistance. ***Decision:*** If the journal file was stopped successfully then continue. **> QUIT MAPCI**

Summary Step: 3 - Drop Sync on the CM

	Step	Action
		At the MAP
☐	**5.**	Determine if the inactive CPU is jammed. From a MAP terminal enter: **> QUIT ALL;MAPCI;MTC;CM** ***Note:*** The word 'yes' under the Jam header indicates that the CPU is jammed. The area appears blank if the CPU is not jammed. ***Decision:*** If the inactive is jammed determine why it is already jammed. Normal switch operation should not run with the inactive jammed. If it is jammed in preparation of this activity, continue with Step 7. ***Decision:*** If the inactive is not jammed, continue with step 6.
		At the CM reset terminal for the inactive CPU (RTIF)

☐	**6.**	Jam the inactive CPU by entering:
		
		\JAM
		
		RTIF response:
		`please confirm (YES/NO):`
		
		Decision: The switch would prefer to run in-sync and without the inactive side jammed. For safety reasons, the switch wants to ensure you are doing this action on the inactive RTIF. This question is posed to remind you to check that you are on the inactive RTIF. Check with the banner on the top of the RTIF. It should indicate that it is the inactive RTIF by containing the word 'Inactive' If this is truly the inactive side, confirm the command with '**YES**'.
		
		Decision: If this is not the 'Inactive' RTIF, or if you wish to stop the 'Jam' enter '**NO**'.
		
		After the 'YES' has been received, the jam will take place and the RTIF will respond with:
		`JAM DONE`

Summary Step: 3 - Drop Sync on the CM

	Step	Action
		At the MAP
☐	**7.**	**Determine if the CM is in-sync.** ***Note:*** A dot or EccOn displayed under the Sync header indicates that the CM is in-sync. The word no indicates that the CM is not in-sync. ***Decision:*** If the CM is in-sync, continue with step 8. ***Decision:*** If the CM is NOT in-sync, determine why it is in this state. Normal switch operation should not run with the switch out of sync. If it is out of sync in preparation of this activity, continue with Step 11, and wait for the inactive RTIF to flash A1. If the inactive RTIF is already flashing A1, continue with step 12 instead.

☐	**8.**	Drop synchronization from the CM MAP level by entering:
		
		> DPSYNC
		
		Decision: If the response is:
		`About to drop sync with CPU<n>`
		`active.The inactive CPU is jammed.`
		`Do you want to continue? Please`
		`confirm (“YES”, “Y”, “NO”, “N”):`
		Then respond with either ‘**Y**’ or ‘**YES**’. This is a warning message so that the user is aware that while out of sync, the system will be unable to switch activity if a critical fault occurs on the active CPU. Continue with step 9.
		
		Decision: If the response is:
		`About to drop sync with CPU <n> active.`
		`The inactive CPU is NOT jammed.`
		`Do you want to continue.`
		`Please confirm (“YES”, “Y”, “NO”, or “N”):`
		Enter ‘NO’, return to step 6 and Jam the inactive CPU.
		
		Decision: If the response is:
		`Drop synchronization failed`
		Then you must contact your next level of support to resolve this situation.
		
		Decision: If the response is:
		`Aborted. Active CPU<n> has a faulty`
		`processor clock.`
		Then you must contact your next level of support to resolve this situation.

Summary Step: 3 - Drop Sync on the CM

	Step	Action

☐	**9.**	After you issue the response '**Y**' or '**YES**', in Step 8 you may see the following message:
		
		`The Autopatch process is scheduled to run at 23:00.`
		`Do you want to continue.`
		`Please confirm ("YES", "Y", "NO", or "N"):`
		
		This is referring to the Autopatching process. If your office is not set up for Autopatching, then the DPSYNC will continue without anymore prompts. If you see this message the time shown may be different.
		
		Note: This Autopatch message is displayed in order to inform the user that Autopatching is scheduled at the given time, and that the switch wants to remain in-sync in order for Autopatch to run.
		
		Decision: Since the switch should be completely patched before starting this procedure (refer to Site Preparation chapter), answering '**Y**' or '**YES**' should pose no risk to the switch.
		
		Decision: If you feel that the Autopatching is needed, and the current time is close to the scheduled Autopatching time, you may answer '**N**' or '**NO**'. Answering '**N**' or '**NO**' will abort the **DPSYNC** command.

☐	**10.**	**Wait for the following response.**
		`Maintenance action submitted.`
		`Running in simplex mode with active CPU <n>.`
		Where <n> is the CPU number of the active CPU.

		At the CM reset terminal for the inactive CPU (RTIF)
☐	**11.**	Wait approximately five (5) minutes until A1 flashes on the reset terminal for the inactive CPU. ***Decision:*** If A1flashes, continue with step 12, in the next section. ***Decision:*** If A1 does not flash, contact the next level of support.

Summary Step: 4 - Make Data Changes on Inactive side

Step	Action
	At the MAP

☐	**12. Optional: Make/Verify changes on the inactive side.**
	If additional changes are required on the inactive side, or you wish to verify changes made in step 3, you can log into the inactive side as follows:
	
	Note: Any change that was made while the switch was in-sync remains in effect on the inactive side even after the drop sync and restart are complete. It is not necessary to log in to the mate CPU to verify these changes.
	
	Login on the mate side as follows:
	> QUIT ALL;MATELINK RTS
	> QUIT ALL;MATEIO
	> MATELOG <device>
	where <device> is the name of the terminal from which you will be making the changes.
	
	Note: **To avoid confusion, use another device that is not currently logged into the active CPU.** If <device> is also logged onto the active CPU, it will alternate between giving prompts for the active and inactive CPU after each 'Return' entered. The inactive prompt is proceeded by the word '**Mate>**'.
	
	System Response on <device>:
	`Enter username and password`
	Mate> OPERATOR OPERATOR
	or
	`Enter username`
	Mate> OPERATOR
	`Enter password`
	Mate> OPERATOR
	
	Once logged in, use table editor commands to change/verify any tuples necessary.

Summary Step: 5 - Inactive Restart to Activate Changes

Step	Action
	Note: Not all office parameters, or patch activations can be achieved with the Restart Cold the inactive encounters when dropping sync. If other restarts are needed, they must be done explicitly on the inactive CPU.
	At the CM reset terminal for the inactive CPU (RTIF)
	CAUTION Ensure that you perform the restart on the ***inactive*** CPU. The reset terminal for the inactive CPU is identified by the word 'Inactive' on the top banner of its display. If the restart is performed on the 'Active' RTIF, a loss of service will occur.
☐	**13.** Perform the required restart(s) on the inactive CPU by entering: **\RESTART** <WARM / COLD / RELOAD> *RTIF response:* `Please confirm: (YES / NO)` ***Decision:*** As a safety feature, the switch is ensuring you are entering this command on the correct RTIF. The word 'Inactive' should be in the banner at the top of the RTIF. Check and be sure it is the inactive RTIF and if it is, enter '**YES**'. ***Decision:*** If you are not on the 'Inactive' RTIF, or you wish to abort the restart command, enter '**NO**'.
☐	**14. Wait until A1 flashes on the reset terminal for the inactive CPU.** ***Decision:*** If A1 flashes, continue with step 15, in the next section. ***Decision:*** If A1 does not flash within five (5) minutes, contact the next level of support to help resolve the situation.

Summary Step: 6 - Perform the LIMITED_PRESWACT procedure

Step	Action
	At the MAP

☐	**15.** Perform the LIMITED_PRESWACT procedure by entering:
	> QUIT ALL;BCSUPDATE;LIMITED_PRESWACT
	
	MAP response:
	`Limited_Preswact should not be used for BCSUPGRADE SWACTs.`
	`Do you wish to continue?`
	`Please confirm (“YES”, “Y”, “NO”, or “N”):`
	
	Decision: The alert is provided so that users don’t use LIMITED_PRESWACT for BCS upgrades (ONPs). Since this procedure is not a BCS upgrade, the correct response is ‘**Y**’ or ‘**YES**’. After you enter ‘Y’ or ‘YES’, LIMITED_PRESWACT will start. Please refer to *“Appendix A: Command Summaries”* for details regarding the LIMITED_PRESWACT command.
	
	Note: Should a LIMITED_PRESWACT step fail, please refer to *“Appendix B: Supplementary Procedures”* for possible actions to recover from this step. To continue after correcting a failure, re-enter the command LIMITED_PRESWACT.
	
	To override a step use the command:
	> OVERRIDE <step name>
	Where <step name> is the LIMITED_PRESWACT step the user wishes to override. Check with *“Appendix B: Supplementary Procedures”* for a list of LIMITED_PRESWACT steps, and what to do if a step fails. Some steps should never be overridden. Overriding the wrong steps could pose a great risk to the office after SWACT.
	
	Note: When LIMITED_PRESWACT finishes, it displays a table of steps and their status. This is displayed for information purposes only.
	
	To ensure that LIMITED_PRESWACT has completed, the user can use the command:
	> QUIT ALL;BCSUPDATE;STATUS PRESWACT
	The output of this command should indicate that all steps are ‘Complete’ or ‘Set Complete’. If Steps are marked ‘Needed’ then LIMITED_PRESWACT has not completed and you must re-enter the command LIMITED_PRESWACT to continue.
	
	Note: Ensure LIMITED_PRESWACT has completed successfully before continuing.

Summary Step: 7- Prepare Billing devices for NORESTARTSWACT

Step	Action	
☐	**16.** **Prepare billing devices for the NORESTARTSWACT.** Perform **one** of steps **17-21**, depending on how billing is performed in the office. ***Note:*** There is a separate step for the type of billing you have in your network. Please follow the steps for your billing type only.	
	Decision: The following choice matrix can be used to determine which of the following steps are appropriate for your office. Find the type of billing you have currently running, and perform the step indicated.	
	If you use: Disk Drive Primary Billing	Go To Step 17
	If you use: Disk Drive Parallel Billing	Go To Step 18
	If you use: Tape Drive Primary Billing	Go To Step 19
	If you use: Tape Drive Parallel Billing	Go To Step 20
	If you use: DPP/BMC Primary Billing	Go To Step 21
	Note: DPP/BMC Parallel Billing is NOT valid in BCS34 and above. It will be disallowed via table control on table DIRPPOOL. i.e. DPP will not be allowed for the DEV-TYPE on a parallel volume.	
☐	**17.** **Disk drive PRIMARY billing** • From the DIRP MAP level, ROTATE any active billing subsystem (such as AMA, SMDR, OCC, CDR) • If required by Telco policy, copy unprocessed DIRP files to backup tape using the DIRPAUTO or DIRPCOPY commands. • Verify that table DIRPHOLD contains no unprocessed billing files (if DIRPAUTO was used above). • Ensure that regular disk volumes are in table DIRPPOOL on the inactive side before SWACT. LIMITED_PRESWACT step DIRPPOOL_CHECK displays the datafill for table DIRPPOOL on the inactive side.	
	Go to Step 22	

Summary Step: 7- Prepare Billing devices for NORESTARTSWACT

	Step	Action
☐	**18.**	**Disk drive Parallel billing** • Site no longer has to take down parallel billing if on disk. • Ensure that regular disk volumes are in table DIRPPOOL on the inactive side before SWACT. LIMITED_PRESWACT step DIRPPOOL_CHECK displays the datafill for table DIRPPOOL on the inactive side • DIRP will recover parallel recording to disk on the newly active side after SWACT. **CAUTION** • Recently recorded parallel data may be overwritten. • If required by Telco policy, parallel files should be copied to tape. • If a single parallel volume is in use, information on the volume will be lost over the SWACT. • If more than one parallel volume is allocated to DIRP, DIRP will begin recording after SWACT on the volume with the oldest time stamp. Hence, information on that volume will be lost over SWACT.
		Go To Step 22
☐	**19.**	**Tape drive PRIMARY billing** • From the DIRP MAP level, rotate any active billing subsystem (such as AMA, SMDR, OCC, CDR), CLOSE the standby file, and DMNT the standby volume. *Example:* **> QUIT ALL;MAPCI;MTC;IOD;DIRP** **> ROTATE AMA** **> CLOSE AMA STDBY 1** **> DMNT AMA T1 {**standby volume**}** • Remove the demounted standby tape from the tape drive, and put up a new tape to be used as the next DIRP volume. • Prepare a new standby volume as follows: **> QUIT ALL;MOUNT <x> FORMAT <volume_id>** where <x> is the standby device number and <volume_id> is the name of the standby volume. • If prompted, enter the first filename, or, if the system response is “request aborted. Tape not expired (use ERASTAPE)”,then select an unused or expired tape for formatting. **> QUIT ALL;DEMOUNT T<x>** • Leave the standby volume at load point and ONLINE. Immediately following SWACT, it will become the active volume of the appropriate subsystem.
		Go To Step 22

Summary Step: 7- Prepare Billing devices for NORESTARTSWACT

	Step	Action	
☐	**20.**	**Tape drive Parallel billing** • In table DIRPPOOL, determine which MTDs are being used for parallel DIRP recording. • For parallel volumes on tape, demount all except the current parallel volume from table DIRPPOOL by replacing the volume name in DIRPPOOL with nil volume ($). • Then physically remove the tape from the drive. • Replace these tapes with freshly formatted, empty tapes. • Prepare each new parallel volume as follows: **> QUIT ALL;MOUNT <x> FORMAT <volume_id>** where <x> is the parallel device number, and <volume_id> is the name of the parallel volume. **> QUIT ALL;DEMOUNT T<x>** • Leave the tape at load point and ONLINE so that it can be activated as the new parallel device after the SWACT.	
		Go To Step 22	
☐	**21.**	**DPP / BMC PRIMARY billing** The following four (4) substeps (labeled A to D) replace the AMA procedure as detailed in the ONP and Hybrid Software Delivery Procedures.	
☐		**Step A**. Perform the Following steps from the MAP level on the active CPU. **> QUIT ALL;MAPCI;MTC;IOD;DIRP** **> QUERY AMA**	• Write down the standby volume
☐		**> DMNT AMA T<STDBY tape drive #>** (answer ‘YES’ to the resulting question)	• **Note:** an ‘AMA MJ’ alarm will appear under the IOD level at the alarm banner. This simply indicates that the standby volume has been demounted.
☐		**> ERASTAPE <STDBY tape drive #>** (answer ‘YES’ to the resulting question)	• **Note:** the letter ‘T’ is not used here before the STDBY tape drive number.

Summary Step: 7- Prepare Billing devices for NORESTARTSWACT

Step	Action	
	(Step 21 Continued)	• **Note:** the 'AMA MJ' alarm should disappear from the alarm banner.
☐	**> MNT AMA T<STDBY tape drive #>** (answer 'YES' to the resulting question)	
☐	**> ROTATE AMA** (answer 'YES' to the resulting question)	
☐	**> QUERY AMA**	• Write down the new standby volume.
☐	**> DMNT AMA T<STDBY tape drive #>** (answer 'YES' to the resulting question)	• **Note:** an 'AMA MJ' alarm will appear under the IOD level at the alarm banner. This Simply indicates that the standby volume has been demounted.
☐	**> ERASTAPE <STDBY tape drive #>** (answer 'YES' to the resulting question)	• **Note:** the letter 'T' is not used here before the STDBY tape drive number.
☐	**> MNT AMA T<STDBY tape drive #>** (answer 'YES' to the resulting question)	• **Note:** the 'AMA MJ' alarm should disappear from the alarm bar.
☐	**Step B**: While still at the DIRP level of the MAP perform the following: **> DPP AMA** **> IDXMAINT CREATE FILE AMA** (answer 'YES' to the resulting question) **> QUIT MAPCI**	

Summary Step: 7- Prepare Billing devices for NORESTARTSWACT

Step	Action
	(Step 21 Continued)

☐	**Step C**: On the inactive side, edit the DIRP_INAC file found in SFDEV and delete the line referring to the DPP AMA subsystem.
	The following is an example of editing the file DIRP_INAC on the mate side of the switch.
	
	- Log into the inactive side as detailed in Step 11 (or refer to “Appendix B: Supplementary Procedures” for a more detailed procedure for logging into the inactive).
	
	Note: **To avoid confusion, use another device that is not currently logged into the active CPU.**
	
	- Once logged in, continue with the following steps.
	Mate> LISTSF ALL
	Mate> edit dirp_inac
	`EDIT:`
	Mate> down ‘DPP’ **%note, capital letters for DPP are required**
	`10 AMADPP REGULAR DPP $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ T10 T11`
	`EDIT:`
	Mate> delete;erasesf dirp_inac;file sfdev dirp_inac
	Mate> listsf all
	Mate> print dirp_inac **%Print the file and verify that the reference % to the AMADPP subsystem has been removed.**

Summary Step: 7- Prepare Billing devices for NORESTARTSWACT

Step	Action	
	(Step 21 Continued) **Step D**: <u>In the table DIRPPOOL on the inactive</u>, verify that the following fields have been set correctly for the 'AMADPP' tuple:	• *** **Note:** It is **<u>Critical</u>** that this step be performed correctly.
☐	1. Verify that the 'DEVTYPE' field is set to 'DPP'. If this field is set to any other value, make the correction as follows: **MATE> cha devtype dpp** ***Decision:*** The table editor wants to confirm that the change is really necessary, and will state that the journal file is inactive and if you wish to continue. Since this change should not be saved to a journal file, answer 'Y' for yes. The table editor will also state that switch is not in-sync, do you wish to continue. For this, also answer 'Y' for yes, since this change is on the inactive, and is not needed on the active.	• ***Note:** In a pool of DPP or BMC volumes, field DEVTYPE in table DIRPPOOL should be DPP (not TAPE), otherwise, if datafilled as TAPE you will have to recover the volume manually after SWACT.
☐	2. Verify that both VOLUME22 and VOLUME23 fields of this tuple are datafilled with the values found in these fields on the active side table DIRPPOOL tuples. If the values are not correct in the inactive table tuples, then change the values to match the active table tuples: **Mate> cha VOLUME22 <active side value>** (answer 'Y' to the resulting questions as the decision box above indicates) **Mate> cha VOLUME23 <active side value>** (answer 'Y' to the resulting questions as the decision box above indicates)	
	This concludes the preparation of the DPP AMA subsystems for NORESTARTSWACT. **Continue with the next step.**	
☐	**22.** Follow local policy to verify that all essential services or high profile customers (police, hospital, emergency bureaus, radio stations) are not in emergency call processing mode by contacting the appropriate customer.	
☐	**23.** Ensure no further activity is performed on the Distributed Processing Peripheral (DPP), including DPP polling or disk backup. Inform the down stream processing center.	

Summary Step: 8- Perform the NORESTARTSWACT procedure

	Step	Action
		At the CM reset terminal for the inactive CPU (RTIF)
☐	**24.**	Release the jam on the inactive CPU by entering: **\RELEASE JAM** *RTIF response:* `JAM RELEASE DONE` Confirm the Jam has been released as in step 5 or view the Inactive Reset Terminal Interface (RTIF) to confirm the word ‘ManJam’ is not present in the banner.

Summary Step: 8- Perform the NORESTARTSWACT procedure

Step	Action
	At the MAP

☐	**25.** Perform the NORESTARTSWACT by entering:
	
	> QUIT ALL;BCSUPDATE;SWACTCI;NORESTARTSWACT
	
	System response varies, but the following prompt is a typical example:
	
	`Beginning SWACT checks:`
	`ACTIVE DEFAULT SETTINGS:`
	`NOMATCH    set OFF`
	`Do you wish to continue?`
	`Please confirm (“YES”, “Y”, “NO”, or “N”):`
	
	Decision: The question is asking if you wish to continue with the NORESTARTSWACT. This is your final opportunity to abort the NORESTARTSWACT. If you wish to continue enter:
	> YES
	Otherwise respond with ‘No’.
	If you responded with ‘YES’ you will see the following system response.
	
	`All Pre-SWACT checks completed. Starting Warm SWACT now.`
	`******** The cursor will not be returned ********`
	`******** unless a critical failure occurs. ********`
	`******** Now monitoring Warm SWACT messages.********`
	
	Note: After the CPUs switch activity, you are logged off of the MAP terminal. A dollar sign ($) appears and the cursor moves one space to the right.
	
	Note: The previously active RTIF (now the inactive RTIF) will stop flashing A1 after the NORESTARTSWACT has completed. This means it is frozen. A RESTART RELOAD would have to be performed on the inactive CPU in order to communicate with it. The newly active RTIF will say Active in the top banner and will continue to flash A1 throughout the NORESTARTSWACT.

Summary Step: 9- Perform the POSTSWACT procedure

	Step	Action
		At the MAP

☐	**26.**	Login to the MAP terminal by:
		
		`> <break>`**LOGIN**
		`> <username>`
		`> <password>`

☐	**27.**	Restart the console logging. Repeat Step 1 of this MOP to start recording.
		Note: Check office status after SWACT, by entering the MAP and checking critical systems. ***Note:*** The following alarms are known and are not service impacting: • CM FLT alarm - this is because the previously active side is frozen. This will clear when the switch is put back in-sync. • Alarms under DIRP will be cleared by POSTSWACT. Use the POSTSWACT command in Step 28. • If the office is a SNSE or equipped with FLIS, there may be alarms displayed under the MS and PM levels for approximately one (1) minute. This is not a service affecting issue (i.e. there is no loss of connectivity). If the alarms do not clear within one (1) minute, take corrective action to clear the problem. If the alarm cannot be cleared, contact your next level of support to assist. After you are confident the system is running properly, continue with the POSTSWACT procedure.

Summary Step: 9- Perform the POSTSWACT procedure

	Step	Action
☐	**28.**	Perform the POSTSWACT procedure by typing: **> QUIT ALL;BCSUPDATE;POSTSWACT** ***Note:*** Note that the POSTSWACT step 'BEGIN_TESTING' will fail in order to allow critical call testing/billing verification to be performed. Simply re-enter the command "POSTSWACT' to continue. ***Note:*** Should a POSTSWACT step fail, please refer to *"Appendix B: Supplementary Procedures"* for possible actions to recover from this step. To continue after correcting a failure, re-enter the command POSTSWACT. To override a step use the command: **> OVERRIDE <step name>** Where <step name> is the POSTSWACT step the user wishes to override. Check with *"Appendix B: Supplementary Procedures"* for a list of POSTSWACT steps, and what to do if a step fails. Some steps should never be overridden. To override the wrong steps could pose a great risk to the office. ***Note:*** When POSTSWACT finishes, it displays a table of steps and their status. This is displayed for information purposes only. To ensure that POSTSWACT has completed, the user can use the command: **> QUIT ALL;BCSUPDATE;STATUS POSTSWACT** The output of this command should indicate that all steps are 'Complete' or 'Set Complete'. If Steps are marked 'Needed' then POSTSWACT has not completed and you must re-enter the command POSTSWACT to continue. ***Note:*** Ensure POSTSWACT has completed successfully before continuing.

Summary Step: 10- Sync the CM

	Step	Action
		At the MAP

☐	**29.**	Synchronize the CM by entering:
		
		> QUIT ALL;MAPCI;MTC;CM;SYNC
		
		Example of a MAP response:
		`Maintenance action submitted.`
		`Synchronization successful.`
		
		Note: The synchronization may take 5-10 minutes to complete.
		
		Decision: If the synchronization fails, contact your next level of support.
		
		Decision: If the synchronization passes, you have successfully executed a NORESTARTSWACT.
		
		Note: Refer to step 7 to confirm that the switch is In-Sync.

☐	**30.**	Start-up the Journal File **> QUIT ALL;JF START** **> QUIT ALL;MAPCI;MTC;IOD;DIRP;QUERY JF ALL** QUERY JF should respond with 'AVAIL' if a standby device is being used, both active and standby volumes should be marked 'AVAIL'. **> QUIT ALL**
☐	**31.**	Stop console logging by entering: **> QUIT ALL;RECORD STOP ONTO <device>** Where <device> is the device used in Step 1 when starting the console log. This will close the file.
		You have completed the NORESTARTSWACT procedure.

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NORESTARTSWACT MOP (XA-Core)

CAUTION: The following procedure is only to be used on an XA-Core switch. It is not intended to be used in an CM-Core environment.

CAUTION

This MOP contains commands that must be entered from within an ETAS password protected increment called TASTOOLCI (see “TASTOOLCI Summary” on page 134 for more details on TASTOOLCI). Before Starting this MOP, you MUST ensure that you have access to the TASTOOLCI increment by obtaining the ETAS TOOLSUP password. If the password is not known, contact the next level of support in order to obtain the TOOLSUP password.

Summary of the procedure

This section describes the steps necessary to perform a successful NORESTARTSWACT in an XA core office. Please refer to Table 1, “NORESTARTSWACT or MTCSWACT?,” on page 17 to determine which utility you should use depending on your activity.

The following table summarizes the steps necessary to use the NORESTARTSWACT utility, and the approximate time, in minutes, needed to do each step. The times given for specific steps are elapsed times and not actual run times. Note that the times are approximate and will vary according to different switch configurations and sizes.

Step	Description	Approximate time in minutes
1	Verify availability of the NORESTARTSWACT utility on the switch.	1 minute
2	Make necessary changes while in-sync if possible, in order to reduce the out of sync time (i.e. table changes, parameter changes, apply patch). Stop the Journal File.	(unspecified)
3	Split the switch.	3 minutes
4	For changes that must be made while split, log into the mate side and make the changes now.	(unspecified)

Step	Description	Approximate time in minutes
5	Perform restarts on the inactive.	4 minutes
6	Perform the LIMITED_PRESWACT procedure.	20 minutes
7	Prepare Billing devices for NORESTARTSWACT.	4 minutes
8	Perform the NORESTARTSWACT procedure.	0.5 minutes
9	Perform the POSTSWACT procedure.	20 minutes
10	Unsplit the switch. Start the Journal File.	4 minutes

NORESTARTSWACT Procedure

Use this procedure to perform a NORESTARTSWACT. To use the check boxes to the left of each step, photocopy the document and check off the steps as they are completed.

Summary Step: 1 - Start Console logging, Query Swact Type and access TASTOOLCI

	Step	Action
		At the MAP
☐	**1**	Start logging your console session in case the need arises to review the steps performed. **> QUIT ALL;RECORD START ONTO <device>** Where <device> is either a disk volume (SFDEV or other) or Terminal/Printer The best choice for a device is a printer. However, the user can have it record to a file on some other device as well. If you choose a disk volume, a file called RECORDFILE will be created. ***Note:*** The LIMITED_PRESWACT step 'CHECK_DISK_VOLS' may flag this open file and ask that it be closed in order to continue. Also, files stored on SFDEV are more difficult to retrieve once activity has been switched.
☐	**2.**	Verify the NORESTARTSWACT availability by entering the following command from the CI level of the MAP terminal. **> QUIT ALL;BCSUPDATE;SWACTCI;QUERYSWACT** *Example of a MAP response:* `NORESTARTSWACT is recommended for initiating a CC Warm SWACT. Further checking will be done when SWACT is invoked.` If the NORESTARTSWACT utility is not supported in the office, the MAP response will indicate that RESTARTSWACT is the recommended procedure for performing a CC warm SWACT. In this case, this procedure cannot be used, and the user will have to use a RESTART on the active CPU to activate their change.

Summary Step: 1 - Start Console logging, Query Swact Type and access TASTOOLCI

	Step	Action

☐	**3.**	Obtain access to the TASTOOLCI increment.
		
		> QUIT ALL;TOOLSUP;ACCESS ON TASTOOLCI
		
		MAP response:
		`Enter Password:`
		`################`
		
		Enter the current TOOLSUP password at this point. If the password is not known, the next level of support must be contacted in order to obtain the password.
		
		MAP response:
		`TASTOOLCI permitted`
		
		`TASTOOLCI access will expire 48 hours from now.`
		
		`** WARNING **`
		`You have permitted access to command(s) that require skilled and knowledgable users. Proper use is required to avoid possible service degradations. Please ensure that only fully trained and qualified personnel proceed.`
		
		Decision: If the response is:
		`Invalid password`
		Then the password that was entered is invalid. Re-enter the above command, ensuring that the correct password is entered. If the password is not known, the next level of support must be contacted in order to obtain the password.

Summary Step: 2 - Make Data Changes on Active Side and Stop Journal File

Step	Action
	At the MAP
☐	**4. Make changes.**

Make the necessary changes while unsplit if possible**.** Some of the changes which can be made while unsplit include office parameter changes, table changes, and applying patches which require a restart to activate them. Make note of the types of restart(s) needed to activate the changes.

Note: Any change that is made while the switch is unsplit remains in effect on the inactive side even after the split and restart are complete. It is not necessary to log in to the slave PE to verify the change.

Note: As an alternative to making changes while unsplit, is to make them on the inactive side after the switch splits. This way, if you encounter problems after the CC warm SWACT that are directly related to your data change, you can more easily revert to the side where no change was made.

Note: After making table changes, the table itself will indicate what type of restart is needed to activate the change. If a patch is applied, then the patch description should indicate what type of restart is needed to activate the patch. Note the restart(s) required for each activity, as these will be performed on the inactive later.

Example: You plan to change an office parameter in table OFCENG that requires a restart warm. This restart type will be indicated after you confirm the table change. Record this for later use. If you are **also** activating a patch that requires a Cold restart, record this restart as well. It is not safe to assume that performing a Cold restart will satisfy both the patch requirements and the table requirements. Both restarts should be initiated on the inactive side as in Step 12.

Summary Step: 2 - Make Data Changes on Active Side and Stop Journal File

	Step	Action
☐	**5.**	The following will ROTATE and STOP the Journal File recording: **> QUIT ALL;MAPCI;MTC;IOD;DIRP;QUERY JF ALL** Close the JF volume that is currently active. **> CLOSE JF ACTIVE** QUERY again to verify rotation: **> QUERY JF ALL** Stop JF entries: **> JF STOP** Verify JF is stopped by re-executing the 'JF STOP' command: **> JF STOP** The switch should respond with: `JOURNAL FILE ALREADY STOPPED` ***Decision:*** If the journal file cannot be stopped, investigate and contact your next level of support for assistance. ***Decision:*** If the journal file was stopped successfully then continue. **> QUIT MAPCI**

Summary Step: 3 - Split the System

	Step	Action
		At the MAP
☐	**6.**	**Determine if the shared memory is synced.** **> QUIT ALL;MAPCI;MTC;XAC;SM** ***Note:*** The only way to know absolutely if the shared memory is synced is to perform a TST on an active side, in service shared memory card. An 'X' underneath a SM card indicates that the SM card is on the inactive side. Therefore, the TST must be done on a SM card without an 'X' underneath it. If the TST is successfully performed, then the SM is synced. If the test is not allowed to be performed, the SM is not synced. Perform a TST on an active side SM card as follows: **> QUIT ALL;MAPCI;MTC;XAC;SM;TST <SLOT NUMBER> <SHELF>** ***Decision:*** If the SM is synced (TST passes), continue with step 7. ***Decision:*** If the SM is not synced (TST is not allowed), determine why. Normal switch operation should not run without the SM synced. If it is not synced in preparation of this activity, continue with step 7.
☐	**7.**	**Determine if the switch is unsplit.** **> QUIT ALL;MAPCI;MTC;XAC;PE** ***Note:*** An 'X' underneath a PE card at the PE level of the map indicates that the PE is the inactive PE, and also that the switch is in SPLIT mode. There should be no X under the PE cards at this point. ***Decision:*** If the switch is unsplit, continue with step 8. ***Decision:*** If the switch is split, determine why it is in this state. Normal switch operation should not run with the switch split. If is split in preparation of this activity, continue with step 10.

Summary Step: 3 - Split the System

	Step	Action

☐	**8.**	**Split the switch.**
		
		> QUIT ALL;TASTOOLCI;SPLIT_SYSTEM
		
		Decision: If the response is:
		`TASTOOLCI access is restricted`
		Then you must gain access to TASTOOLCI. See step 3 - "Obtain access to the TASTOOLCI increment." on page 52.
		
		Decision: If the response is:
		`Could not split system.`
		Then you must contact your next level of support to resolve this situation.
		
		Decision: If the response is:
		`Could not invoke the COLD restart on the inactive side`
		Then you must contact your next level of support to resolve this situation.

☐	**9.**	**Wait for the following response.**
		`Note: Splitting the switch may take a little while.`
		`Performing restart cold on the inactive side.`

Summary Step: 3 - Split the System

	Step	Action

☐	**10.**	Wait approximately five (5) minutes after your prompt is returned with no error messages displayed. The prompt is returned after the split is successful. Waiting approximately five (5) minutes allows time for the inactive side COLD RESTART to complete. At this point, attempt to mate login to the inactive side. Being able to login to the inactive side indicates that the inactive load is ready (i.e. “Flashing A1”).
		
		Login on the inactive side as follows:
		> QUIT ALL;MATELINK RTS
		> QUIT ALL;MATEIO
		> MATELOG <device>
		where <device> is the name of the terminal from which you will be logging in from.
		
		Note: **To avoid confusion, use another device that is not currently logged into the active side.** If <device> is also logged onto the active side, it will alternate between giving prompts for the active and inactive side after each ‘Return’ entered. The inactive prompt is proceeded by the word ‘**Mate>**’.
		
		System Response on <device>:
		`Enter username and password`
		Mate> OPERATOR OPERATOR
		or
		`Enter username`
		Mate> OPERATOR
		`Enter password`
		Mate> OPERATOR
		
		Once logged in, use table editor commands to change/verify any tuples necessary.
		
		Decision: If the mate login is successful, continue with step 11.
		
		Decision: If the mate login fails, contact the next level of support.

Summary Step: 4 - Make Data Changes on Inactive side

	Step	Action
		At the MAP
☐	**11.**	**Optional: Make/Verify changes on the inactive side.** If additional changes are required on the inactive side, or you wish to verify changes made in step 4, you can log into the inactive side as outlined in step 10. ***Note:*** Any change that was made while the switch was unsplit remains in effect on the inactive side even after the split and restart are complete. It is not necessary to log in to the inactive side to verify these changes. Once logged into the inactive side, use table editor commands to change/verify any tuples necessary.

Summary Step: 5 - Inactive Restart to Activate Changes

	Step	Action
		Note: Not all office parameters, or patch activations can be achieved with the Restart Cold the inactive encounters when splitting. If other restarts are needed, they must be done explicitly on the inactive side.
		At the MAP
☐	**12.**	Perform the required restart(s) on the inactive side by entering: **> QUIT ALL;TASTOOLCI;INACTIVE_RESTART <RESTART TYPE>** Where <RESTART TYPE> is either WARM, COLD, or RELOAD. ***Decision:*** If the response is: `Could not invoke the <restart_type> restart on the inactive side.` contact the next level of support to resolve this situation.
☐	**13.**	Wait approximately five (5) minutes after your prompt is returned with no error messages displayed. The prompt is returned after the split is successful. Waiting approximately five (5) minutes allows time for the inactive side COLD RESTART to complete. At this point, attempt to mate login to the inactive side. Being able to login to the inactive side indicates that the inactive load is ready (i.e. “Flashing A1”). You can log into the inactive side as outlined in step 10. Once logged into the inactive side, use table editor commands to change/verify any tuples necessary. ***Decision:*** If the matelogin is successful, continue with step 11. ***Decision:*** If the matelogin fails, contact the next level of support.

Summary Step: 6 - Perform the LIMITED_PRESWACT procedure

Step	Action
	At the MAP

☐	**14.** Perform the LIMITED_PRESWACT procedure by entering:
	> QUIT ALL;BCSUPDATE;LIMITED_PRESWACT
	
	MAP response:
	`Limited_Preswact should not be used for BCSUPGRADE SWACTs.`
	`Do you wish to continue?`
	`Please confirm (“YES”, “Y”, “NO”, or “N”):`
	
	Decision: The alert is provided so that users don’t use LIMITED_PRESWACT for BCS upgrades (ONPs). Since this procedure is not a BCS upgrade, the correct response is ‘**Y**’ or ‘**YES**’. After you enter ‘Y’ or ‘YES’, LIMITED_PRESWACT will start. Please refer to *“Appendix A: Command Summaries”* for details regarding the LIMITED_PRESWACT command.
	
	Note: Should a LIMITED_PRESWACT step fail, please refer to *“Appendix B: Supplementary Procedures”* for possible actions to recover from this step. To continue after correcting a failure, re-enter the command LIMITED_PRESWACT.
	
	To override a step use the command:
	> OVERRIDE <step name>
	Where <step name> is the LIMITED_PRESWACT step the user wishes to override. Check with *“Appendix B: Supplementary Procedures”* for a list of LIMITED_PRESWACT steps, and what to do if a step fails. Some steps should never be overridden. Overriding the wrong steps could pose a great risk to the office after SWACT.
	
	Note: When LIMITED_PRESWACT finishes, it displays a table of steps and their status. This is displayed for information purposes only.
	
	To ensure that LIMITED_PRESWACT has completed, the user can use the command:
	> QUIT ALL;BCSUPDATE;STATUS PRESWACT
	The output of this command should indicate that all steps are ‘Complete’ or ‘Set Complete’. If Steps are marked ‘Needed’ then LIMITED_PRESWACT has not completed and you must re-enter the command LIMITED_PRESWACT to continue.
	
	Note: Ensure LIMITED_PRESWACT has completed successfully before continuing.

Summary Step: 7- Prepare Billing devices for NORESTARTSWACT

Step	Action	
☐	**15.** **Prepare billing devices for the NORESTARTSWACT.** Perform **one** of steps **16-20**, depending on how billing is performed in the office. ***Note:*** There is a separate step for the type of billing you have in your network. Please follow the steps for your billing type only.	
	Decision: The following choice matrix can be used to determine which of the following steps are appropriate for your office. Find the type of billing you have currently running, and perform the step indicated.	
	If you use: Disk Drive Primary Billing	Go To Step 16
	If you use: Disk Drive Parallel Billing	Go To Step 17
	If you use: Tape Drive Primary Billing	Go To Step 18
	If you use: Tape Drive Parallel Billing	Go To Step 19
	If you use: DPP/BMC Primary Billing	Go To Step 20
	Note: DPP/BMC Parallel Billing is NOT valid in BCS34 and above. It will be disallowed via table control on table DIRPPOOL. i.e. DPP will not be allowed for the DEV-TYPE on a parallel volume.	
☐	**16.** **Disk drive PRIMARY billing** • From the DIRP MAP level, ROTATE any active billing subsystem (such as AMA, SMDR, OCC, CDR) • If required by Telco policy, copy unprocessed DIRP files to backup tape using the DIRPAUTO or DIRPCOPY commands. • Verify that table DIRPHOLD contains no unprocessed billing files (if DIRPAUTO was used above). • Ensure that regular disk volumes are in table DIRPPOOL on the inactive side before SWACT. LIMITED_PRESWACT step DIRPPOOL_CHECK displays the datafill for table DIRPPOOL on the inactive side.	
	Go to Step 21	

Summary Step: 7- Prepare Billing devices for NORESTARTSWACT

	Step	Action
☐	17.	**Disk drive Parallel billing** • Site no longer has to take down parallel billing if on disk. • Ensure that regular disk volumes are in table DIRPPOOL on the inactive side before SWACT. LIMITED_PRESWACT step DIRPPOOL_CHECK displays the datafill for table DIRPPOOL on the inactive side • DIRP will recover parallel recording to disk on the newly active side after SWACT. **CAUTION** • Recently recorded parallel data may be overwritten. • If required by Telco policy, parallel files should be copied to tape. • If a single parallel volume is in use, information on the volume will be lost over the SWACT. • If more than one parallel volume is allocated to DIRP, DIRP will begin recording after SWACT on the volume with the oldest time stamp. Hence, information on that volume will be lost over SWACT.
		Go To Step 21
☐	18.	**Tape drive PRIMARY billing** • From the DIRP MAP level, rotate any active billing subsystem (such as AMA, SMDR, OCC, CDR), CLOSE the standby file, and DMNT the standby volume. *Example:* **> QUIT ALL;MAPCI;MTC;IOD;DIRP** **> ROTATE AMA** **> CLOSE AMA STDBY 1** **> DMNT AMA T1 {**standby volume**}** • Remove the demounted standby tape from the tape drive, and put up a new tape to be used as the next DIRP volume. • Prepare a new standby volume as follows: **> QUIT ALL;MOUNT <x> FORMAT <volume_id>** where <x> is the standby device number and <volume_id> is the name of the standby volume. • If prompted, enter the first filename, or, if the system response is “request aborted. Tape not expired (use ERASTAPE)”, then select an unused or expired tape for formatting. **> QUIT ALL;DEMOUNT T<x>** • Leave the standby volume at load point and ONLINE. Immediately following SWACT, it will become the active volume of the appropriate subsystem.
		Go To Step 21

Summary Step: 7- Prepare Billing devices for NORESTARTSWACT

	Step	Action	
☐	**19.**	**Tape drive Parallel billing** • In table DIRPPOOL, determine which MTDs are being used for parallel DIRP recording. • For parallel volumes on tape, demount all except the current parallel volume from table DIRPPOOL by replacing the volume name in DIRPPOOL with nil volume ($). • Then physically remove the tape from the drive. • Replace these tapes with freshly formatted, empty tapes. • Prepare each new parallel volume as follows: **> QUIT ALL;MOUNT <x> FORMAT <volume_id>** where <x> is the parallel device number, and <volume_id> is the name of the parallel volume. **> QUIT ALL;DEMOUNT T<x>** • Leave the tape at load point and ONLINE so that it can be activated as the new parallel device after the SWACT.	
		Go To Step 21	
☐	**20.**	**DPP / BMC PRIMARY billing** The following four (4) substeps (labeled A to D) replace the AMA procedure as detailed in the ONP and Hybrid Software Delivery Procedures.	
☐		**Step A**. Perform the Following steps from the MAP level on the active CPU. **> QUIT ALL;MAPCI;MTC;IOD;DIRP** **> QUERY AMA**	• Write down the standby volume
☐		**> DMNT AMA T<STDBY tape drive #>** (answer ‘YES’ to the resulting question)	• **Note:** an ‘AMA MJ’ alarm will appear under the IOD level at the alarm banner. This simply indicates that the standby volume has been demounted. •
☐		**> ERASTAPE <STDBY tape drive #>** (answer ‘YES’ to the resulting question)	• **Note:** the letter ‘T’ is not used here before the STDBY tape drive number.

Summary Step: 7- Prepare Billing devices for NORESTARTSWACT

Step	Action	
	(Step 20 Continued) **> MNT AMA T<STDBY tape drive #>** (answer 'YES' to the resulting question)	• **Note:** the 'AMA MJ' alarm should disappear from the alarm banner.
	> ROTATE AMA (answer 'YES' to the resulting question)	
	> QUERY AMA	• Write down the new standby volume.
	> DMNT AMA T<STDBY tape drive #> (answer 'YES' to the resulting question)	• **Note:** an 'AMA MJ' alarm will appear under the IOD level at the alarm banner. This Simply indicates that the standby volume has been demounted.
	> ERASTAPE <STDBY tape drive #> (answer 'YES' to the resulting question)	• **Note:** the letter 'T' is not used here before the STDBY tape drive number.
	> MNT AMA T<STDBY tape drive #> (answer 'YES' to the resulting question)	• **Note:** the 'AMA MJ' alarm should disappear from the alarm bar.
	Step B: While still at the DIRP level of the MAP perform the following: **> DPP AMA** **> IDXMAINT CREATE FILE AMA** (answer 'YES' to the resulting question) **> QUIT MAPCI**	

Summary Step: 7- Prepare Billing devices for NORESTARTSWACT

Step	Action
	(Step 20 Continued)

☐	**Step C**: On the inactive side, edit the DIRP_INAC file found in SFDEV and delete the line referring to the DPP AMA subsystem.
	The following is an example of editing the file DIRP_INAC on the mate side of the switch.
	
	- Log into the inactive side as detailed in Step 11 (or refer to “Appendix B: Supplementary Procedures” for a more detailed procedure for logging into the inactive).
	
	Note: **To avoid confusion, use another device that is not currently logged into the active CPU.**
	
	- Once logged in, continue with the following steps.
	Mate> listsf all
	Mate> edit dirp_inac
	`EDIT:`
	Mate> down ‘DPP’ %note, capital letters for DPP are required
	`10 AMADPP REGULAR DPP $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ T10 T11`
	`EDIT:`
	Mate> delete;erasesf dirp_inac;file sfdev dirp_inac
	Mate> listsf all
	Mate> print dirp_inac **%Print the file and verify that the reference %to the AMADPP subsystem has been removed.**

Summary Step: 7- Prepare Billing devices for NORESTARTSWACT

Step	Action	
	(Step 20 Continued) **Step D**: <u>In the table DIRPPOOL on the inactive</u>, verify that the following fields have been set correctly for the 'AMADPP' tuple:	• *** **Note:** It is **<u>Critical</u>** that this step be performed correctly.
☐	1. Verify that the 'DEVTYPE' field is set to 'DPP'. If this field is set to any other value, make the correction as follows: **MATE> cha devtype dpp** ***Decision:*** The table editor wants to confirm that the change is really necessary, and will state that the journal file is inactive and if you wish to continue. Since this change should not be saved to a journal file, answer 'Y' for yes. The table editor will also state that switch is not in-sync, do you wish to continue. For this, also answer 'Y' for yes, since this change is on the inactive, and is not needed on the active.	• ***Note:** In a pool of DPP or BMC volumes, field DEVTYPE in table DIRPPOOL should be DPP (not TAPE), otherwise, if datafilled as TAPE you will have to recover the volume manually after SWACT.
☐	2. Verify that both VOLUME22 and VOLUME23 fields of this tuple are datafilled with the values found in these fields on the active side table DIRPPOOL tuples. If the values are not correct in the inactive table tuples, then change the values to match the active table tuples: **Mate> cha VOLUME22 <active side value>** (answer 'Y' to the resulting questions as the decision box above indicates) **Mate> cha VOLUME23 <active side value>** (answer 'Y' to the resulting questions as the decision box above indicates)	
	This concludes the preparation of the DPP AMA subsystems for NORESTARTSWACT. **Continue with the next step.**	
☐	**21.** Follow local policy to verify that all essential services or high profile customers (police, hospital, emergency bureaus, radio stations) are not in emergency call processing mode by contacting the appropriate customer.	
☐	**22.** Ensure no further activity is performed on the Distributed Processing Peripheral (DPP), including DPP polling or disk backup. Inform the down stream processing center.	

Summary Step: 8- Perform the NORESTARTSWACT procedure

Step	Action
	At the MAP

☐	**23.** Perform the NORESTARTSWACT by entering:
	
	> QUIT ALL;BCSUPDATE;SWACTCI;NORESTARTSWACT
	
	System response varies, but the following prompt is a typical example:
	
	`Beginning SWACT checks:`
	`ACTIVE DEFAULT SETTINGS:`
	`NOMATCH  set OFF`
	`Do you wish to continue?`
	`Please confirm (“YES”, “Y”, “NO”, or “N”):`
	
	Decision: The question is asking if you wish to continue with the NORESTARTSWACT. This is your final opportunity to abort the NORESTARTSWACT. If you wish to continue enter:
	> YES
	Otherwise respond with ‘No’.
	If you responded with ‘YES’ you will see the following system response.
	
	`All Pre-SWACT checks completed. Starting Warm SWACT now.`
	`******** The cursor will not be returned ********`
	`******** unless a critical failure occurs. ********`
	`******** Now monitoring Warm SWACT messages.********`
	
	Note: After the switch of activity, you are logged off of the MAP terminal. A dollar sign ($) appears and the cursor moves one space to the right.

Summary Step: 9- Perform the POSTSWACT procedure

	Step	Action
		At the MAP

☐	**24.**	Login to the MAP terminal by:
		
		`> <break>`**LOGIN**
		`> <username>`
		`> <password>`

☐	**25.**	Restart the console logging. Repeat Step 1 of this MOP to start recording.
		Note: Check office status after SWACT, by entering the MAP and checking critical systems. ***Note:*** The following alarms are known and are not service impacting: • There may be an “S” under the inactive PE for up to two (2) minutes after the SWACT. • Alarms under DIRP will be cleared by POSTSWACT. Use the POSTSWACT command in Step 26. • If the office is a SNSE or equipped with FLIS, there may be alarms displayed under the MS and PM levels for approximately one (1) minute. This is not a service affecting issue (i.e. there is no loss of connectivity). If the alarms do not clear within one (1) minute, take corrective action to clear the problem. If the alarm cannot be cleared, contact your next level of support to assist. After you are confident the system is running properly, continue with the POSTSWACT procedure.

Summary Step: 9- Perform the POSTSWACT procedure

	Step	Action
☐	**26.**	Perform the POSTSWACT procedure by typing: **> QUIT ALL;BCSUPDATE;POSTSWACT** ***Note:*** Note that the POSTSWACT step 'BEGIN_TESTING' will fail in order to allow critical call testing/billing verification to be performed. Simply re-enter the command "POSTSWACT' to continue. ***Note:*** Should a POSTSWACT step fail, please refer to *"Appendix B: Supplementary Procedures"* for possible actions to recover from this step. To continue after correcting a failure, re-enter the command POSTSWACT. To override a step use the command: **> OVERRIDE <step name>** Where <step name> is the POSTSWACT step the user wishes to override. Check with *"Appendix B: Supplementary Procedures"* for a list of POSTSWACT steps, and what to do if a step fails. Some steps should never be overridden. To override the wrong steps could pose a great risk to the office. ***Note:*** When POSTSWACT finishes, it displays a table of steps and their status. This is displayed for information purposes only. To ensure that POSTSWACT has completed, the user can use the command: **> QUIT ALL;BCSUPDATE;STATUS POSTSWACT** The output of this command should indicate that all steps are 'Complete' or 'Set Complete'. If Steps are marked 'Needed' then POSTSWACT has not completed and you must re-enter the command POSTSWACT to continue. ***Note:*** Ensure POSTSWACT has completed successfully before continuing.

Summary Step: 10- Unsplit the Switch

Step	Action
	At the TASTOOLCI increment

☐	**27.** Unsplit the system by entering :
	
	> QUIT ALL;TASTOOLCI;UNSPLIT_SYSTEM
	
	Example of a MAP response:
	`Note: Unsplitting the switch may take a little while.`
	
	Note: Unsplitting of the office may take up to 10 minutes to complete.
	
	Decision: If the response is:
	`TASTOOLCI access is restricted`
	Then you must gain access to TASTOOLCI. See step 3 - “Obtain access to the TASTOOLCI increment.” on page 52.
	
	Decision: If the response is:
	`Could not unsplit system.`
	Then you must contact your next level of support to resolve this situation.
	
	Decision: If the unsplitting passes, you have successfully executed a NORESTARTSWACT.
	
	Note: Refer to step 7 to confirm that the switch is unsplit.

	At the MAP
☐	**28.** Start-up the Journal File **> QUIT ALL;JF START** **> QUIT ALL;MAPCI;MTC;IOD;DIRP;QUERY JF ALL** QUERY JF should respond with ‘AVAIL’ if a standby device is being used, both active and standby volumes should be marked ‘AVAIL’. **> QUIT ALL**
☐	**29.** Stop console logging by entering: **> QUIT ALL;RECORD STOP ONTO <device>** Where <device> is the device used in Step 1 when starting the console log. This will close the file.
	You have completed the NORESTARTSWACT procedure.

MTCSWACT MOP (CM-Core)

The MTCSWACT Process

The MTCSWACT utility provides the functionality to enter a single command which (when executed while the switch is in-sync) will:

- Drop Sync and perform the user selected restart[1] on the inactive CPU
- Switch activity (using the NORESTARTSWACT utility)
- Sync the switch

The MTCSWACT process begins once the command ‘MTCSWACT’ is entered. MTCSWACT will continue through the above stages until either it requires confirmation from the user to continue, or it encounters a problem.

Since MTCSWACT is a single command that results in a CC warm SWACT, the following sections detail the behavior of MTCSWACT under different conditions.

User Confirmation

Before MTCSWACT progresses to another phase of its execution, it will prompt the user for confirmation to continue. The user may choose to let MTCSWACT continue, or stop MTCSWACT. There are three times when the MTCSWACT continuation prompts will be presented, these are:

- Before MTCSWACT drops sync.
- Before the switch of activity.
- Before MTCSWACT puts the switch back in-sync.

Should the user provide a positive response to the above confirmations, MTCSWACT will continue, otherwise it will stop and run cleanup steps to back out of the steps it had completed in preparation for the CC warm SWACT. If the switch was in-sync when MTCSWACT was aborted, the cleanup steps will finish with the switch still in-sync. If the switch was out of sync when MTCSWACT was aborted, the cleanup steps will finish with the switch out of sync. The user must then manually sync the switch.

[1]If you use the command ‘MTCSWACT WARM’, a COLD restart will be performed on the inactive side following the ‘WARM’ restart entered in the command.

MTCSWACT Messaging to the User

While MTCSWACT is progressing normally, it will output dots to the user's terminal. If MTCSWACT encounters trouble that the user should be aware of, it will either output an information message at the next MTCSWACT continuation prompt, or stop processing and output a failure message. Examples of MTCSWACT output are shown below:

MTCSWACT Dots

During normal operation, dots are displayed on the user screen during MTCSWACT processing. The dots are used to indicate that MTCSWACT is processing normally. Dots are output to the user device once every five seconds. If MTCSWACT encounters a problem, or needs confirmation from the user to continue, these messages will start on a new line. An example of the dot output is:

```
MTCSWACTCI> MTCSWACT <Restart type> [PAUSE]
. . . . . .
. . . . . .
```

MTCSWACT Information Message

If MTCSWACT encounters a situation that will not affect its successful execution, but is of importance to the user, it will output an information message at the next continuation prompt. This message is only intended to notify the user that MTCSWACT has encountered an abnormal situation and the user may need to take some action once MTCSWACT completes. All information messages begin with the word 'Note', and contain text to explain the problem encountered, and how to correct it. These messages have the form:

```
Note: Failed to resume system REX.
Please resume system REX manually using the REXTEST command.
```

If there is a user action associated with the message, the user can elect to act on it before responding to the continuation prompt, or after MTCSWACT completes.

MTCSWACT Failure Messages

Should MTCSWACT encounter a situation that will affect its successful completion, it will output a failure message. The failure message will indicate what problem MTCSWACT encountered, and how the user should correct it. When such a problem is encountered MTCSWACT will abort and run its cleanup steps to backout the steps already preformed. If the switch was out of sync before the trouble was encountered, MTCSWACT will leave the switch out of sync, and it is the responsibility of the user to manually sync the switch. MTCSWACT will not attempt to sync the switch as part of recovery from a serious problem, in case this causes further failures or trouble for the switch.

An example of a MTCSWACT problem message is:

```
Problem:  The following file(s) are open and must be closed
before invoking the MTCSWACT command.
File: ZARGON5 on DDU03
Solution: Manually close the files.
MTCSWACT command is aborted.
```

Summary of the procedure

This section describes the manual steps necessary to perform a successful MTCSWACT. Please refer to section “NORESTARTSWACT or MTCSWACT, Which to Use?” on page 17 to determine which procedure you should use depending on your activity.

The following table summarizes the steps necessary to use the MTCSWACT utility, and the approximate time, in minutes, needed to do each step. The times given for specific steps are elapsed times and not actual run times. Note that the times are approximate and will vary according to different switch configurations and sizes.

Step	Description	Approximate time in minutes
1	Start Console logging, verify that MTCSWACT is supported, and verify the switch is in-sync.	2 minutes
2	Make necessary changes while in-sync. Stop the Journal File.	(unspecified)
3	Prepare Billing devices for MTCSWACT	4 minutes
4	Starting the MTCSWACT procedure.	3 minutes
5	Completing the MTCSWACT	4 minutes

MTCSWACT Procedure

Use this procedure to perform a MTCSWACT. To use the check boxes to the left of each step, photocopy the document and check off the steps as they are completed.

Summary Step: 1 - Start Console logging, Query Swact Type and SYNC Status

	Step	Action
		At the MAP
☐	**1**	Start logging your console session in case the need arises to review the steps performed. **> QUIT ALL;RECORD START ONTO <device>** Where <device> is either an SLM device, or Terminal/Printer. The best choice for a device is a printer. However, if you choose to have the console recorded to a file, you must use an SLM device. If you store your file on SFDEV it will be lost after the CC warm SWACT. If you choose a DDU, your file will be flagged by the system as open, and cause MTCSWACT to abort. If you choose an SLM device, a file called RECORDFILE will be created.
☐	**2**	Verify the MTCSWACT availability by entering the following command from the CI level of the MAP terminal. This command checks the availability of the NORESTARTSWACT utility. MTCSWACT will not function without the NORESTARTSWACT utility, so first, ensure NORESTARTSWACT is supported in your office. **> QUIT ALL;BCSUPDATE;SWACTCI;QUERYSWACT** *Example of a MAP response:* `NORESTARTSWACT is recommended for initiating a CC Warm SWACT. Further checking will be done when SWACT is invoked.` If the NORESTARTSWCT utility is not supported in the office, the MAP response will indicate that RESTARTSWACT is the recommended procedure for performing a CC warm SWACT. In this case, this procedure cannot be used, and the user will have to use a RESTART on the active CPU to activate their change.

Summary Step: 1 - Start Console logging, Query Swact Type and SYNC Status

	Step	Action
☐	**3**	**Determine if the CM is in-sync.** **> QUIT ALL;MAPCI;MTC;CM** ***Note:*** A dot or EccOn displayed under the Sync header indicates that the CM is in-sync. The word no indicates that the CM is not in-sync. ***Decision:*** If the CM is in-sync, continue with step 4. ***Decision:*** If the CM is NOT in-sync, determine why it is in this state. Normal switch operation should not run with the switch out of sync. MTCSWACT requires the switch to be in-sync before it will start. Sync the switch before continuing with step 4.

Summary Step: 2 - Make Data Changes on Active Side and Stop Journal File

	Step	Action
		At the MAP
☐	4	**Make data changes.** Make the necessary changes while in-sync**.** Some of the changes which can be made while in-sync include office parameter changes, table changes, and applying patches which require a restart to activate them. Make note of the types of restart(s) needed to activate the changes. MTCSWACT should only be used to perform one activity at a time. If you have many activities requiring MTCSWACT it is not safe to perform these all at once, even if the restart type required for each activity is the same. If the restart activity is different for each activity, you MUST perform a separate MTCSWACT for each restart type. Performing one MTCSWACT per activity, ensures that you only need back out one change should the need arise. ***Note:*** Any change that is made while the switch is in-sync remains in effect on the inactive side even after the drop sync and the selected restart is complete. ***Note:*** After making table changes, the table itself will indicate what type of restart is needed to activate the change. If a patch is applied, then the patch description should indicate what type of restart is needed to activate the patch. Note the restart(s) required for each activity. ***Note:*** If you choose 'MTCSWACT WARM' as the command needed to activate your change, you should be aware that MTCSWACT will perform a COLD restart on the inactive CPU when the 'WARM' restart has completed. **Example**: You plan to change an office parameter in table OFCENG that requires a restart warm. This restart type will be indicated after you confirm the table change. Record this for later use. If you are **also** activating a patch that requires a Cold restart, record this restart as well. It is not safe to assume that performing a Cold restart will satisfy both the patch requirements and the table requirements, therefore the entire MTCSWACT procedure must be repeated for each restart type. If you choose to activate the OFCENG change first, then you should not apply the patch until you are ready to use the MTCSWACT procedure to activate the patch.

Summary Step: 2 - Make Data Changes on Active Side and Stop Journal File

	Step	Action
☐	**5**	The following will ROTATE and STOP the Journal File recording: **> QUIT ALL;MAPCI;MTC;IOD;DIRP;QUERY JF ALL** Close the JF volume that is currently active. **> CLOSE JF ACTIVE** QUERY again to verify rotation: **> QUERY JF ALL** Stop JF entries: **> JF STOP** Verify JF is stopped by re-executing the 'JF STOP' command: **> JF STOP** The switch should respond with: `JOURNAL FILE ALREADY STOPPED` ***Decision:*** If the journal file cannot be stopped, investigate and contact your next level of support for assistance. ***Decision:*** If the journal file was stopped successfully then continue. **> QUIT MAPCI**

Summary Step: 3- Prepare Billing devices for MTCSWACT

	Step	Action	
☐	6	**Prepare billing devices for the MTCSWACT.** Perform **one** of steps **7- 11**, depending on how billing is performed in the office. ***Note:*** There is a separate step for the type of billing you have in your network. Please follow the steps for your billing type only.	
		Decision: The following choice matrix can be used to determine which of the following steps are appropriate for your office. Find the type of billing you have currently running, and perform the step indicated.	
		If you use: Disk Drive Primary Billing	Go To Step 7.
		If you use: Disk Drive Parallel Billing	Go To Step 8.
		If you use: Tape Drive Primary Billing	Go To Step 9.
		If you use: Tape Drive Parallel Billing	Go To Step 10.
		If you use: SDM Billing	No action is required
		If you use: DPP/BMC Primary Billing	Go To Step 11..
		Note: DPP/BMC Parallel Billing has NOT been valid in since BCS34. It is disallowed via table control on table DIRPPOOL. i.e. DPP will not be allowed for the DEVTYPE on a parallel volume.	
☐	7	**Disk drive PRIMARY billing** • From the DIRP MAP level, ROTATE any active billing subsystem (such as AMA, SMDR, OCC, CDR) • If required by Telco policy, copy unprocessed DIRP files to backup tape using the DIRPAUTO or DIRPCOPY commands. • Verify that table DIRPHOLD contains no unprocessed billing files (if DIRPAUTO was used above).	
		Go to Step 12.	

Summary Step: 3- Prepare Billing devices for MTCSWACT

	Step	Action
☐	8	**Disk drive Parallel billing** • Site no longer has to take down parallel billing if on disk. • DIRP will recover parallel recording to disk on the newly active side after SWACT. **CAUTION** • Recently recorded parallel data may be overwritten. • If required by Telco policy, parallel files should be copied to tape. • If a single parallel volume is in use, information on the volume will be lost over the SWACT. • If more than one parallel volume is allocated to DIRP, DIRP will begin recording after SWACT on the volume with the oldest time stamp. Hence, information on that volume will be lost over SWACT.
		Go To Step 12.
☐	9	**Tape drive PRIMARY billing** • This billing device must be prepared while the switch is out-of-sync. The preparation of this device will occur during the MTCSWACT PAUSE phase, and is detailed in step 19 • To prepare for this procedure, obtain expired tapes for use when rotating AMA.
		Go To Step 12.
☐	10	**Tape drive Parallel billing** • In table DIRPPOOL, determine which MTDs are being used for parallel DIRP recording. • For parallel volumes on tape, demount all except the current parallel volume from table DIRPPOOL by replacing the volume name in DIRPPOOL with nil volume ($). • Then physically remove the tape from the drive. • Replace these tapes with freshly formatted, empty tapes. • Prepare each new parallel volume as follows: **> QUIT ALL;MOUNT <x> FORMAT <volume_id>** where <x> is the parallel device number, and <volume_id> is the name of the parallel volume. **> QUIT ALL;DEMOUNT T<x>** • Leave the tape at load point and ONLINE so that it can be activated as the new parallel device after the SWACT.
		Go To Step 12.

Summary Step: 3- Prepare Billing devices for MTCSWACT

	Step	Action	
☐	**11.**	**DPP BMC PRIMARY billing** The following Three (3) substeps (labeled A to C) replace the AMA procedure as detailed in the ONP and Hybrid Software Delivery Procedures.	
☐		**Sub Step A**. Perform the Following steps from the MAP level on the active CPU. **> QUIT ALL;MAPCI;MTC;IOD;DIRP** **> QUERY AMA**	• Write down the standby volume
☐		**> DMNT AMA T<STDBY tape drive #>** (answer 'YES' to the resulting question)	• **Note:** an 'AMA MJ' alarm will appear under the IOD level at the alarm banner. This simply indicates that the standby volume has been demounted. •
☐		**> ERASTAPE <STDBY tape drive #>** (answer 'YES' to the resulting question)	• **Note:** the letter 'T' is not used here before the STDBY tape drive number.
☐		**> MNT AMA T<STDBY tape drive #>** (answer 'YES' to the resulting question)	• **Note:** the 'AMA MJ' alarm should disappear from the alarm banner.
☐		**> ROTATE AMA** (answer 'YES' to the resulting question)	
☐		**> QUERY AMA**	• Write down the new standby volume.
☐		**> DMNT AMA T<STDBY tape drive #>** (answer 'YES' to the resulting question)	• **Note:** an 'AMA MJ' alarm will appear under the IOD level at the alarm banner. This Simply indicates that the standby volume has been demounted. •

Summary Step: 3- Prepare Billing devices for MTCSWACT

Step	Action	
	(Step 11 Continued)	• **Note:** the letter ‘T’ is not used here before the STDBY tape drive number.
☐	**> ERASTAPE <STDBY tape drive #>** (answer ‘YES’ to the resulting question)	
☐	**> MNT AMA T<STDBY tape drive #>** (answer ‘YES’ to the resulting question)	• **Note:** the ‘AMA MJ’ alarm should disappear from the alarm bar.
☐	**Sub Step B**: While still at the DIRP level of the MAP perform the following: **> DPP AMA** **> IDXMAINT CREATE FILE AMA** (answer ‘YES’ to the resulting question) **> QUIT MAPCI**	

Summary Step: 3- Prepare Billing devices for MTCSWACT

	Step	Action	
		(Step 11 Continued)	• *** **Note:** It is **Critical** that this step be performed correctly.
☐		**Sub Step C**: In the table DIRPPOOL on the inactive, verify that the following fields have been set correctly for the 'AMADPP' tuple: 1. Verify that the 'DEVTYPE' field is set to 'DPP'. If this field is set to any other value, make the correction as follows: **MATE> cha devtype dpp** ***Decision:*** The table editor wants to confirm that the change is really necessary, and will state that the journal file is inactive and if you wish to continue. Since this change should not be saved to a journal file, answer 'Y' for yes. The table editor will also state that switch is not in-sync, do you wish to continue. For this, also answer 'Y' for yes, since this change is on the inactive, and is not needed on the active.	• ***Note:** In a pool of DPP or BMC volumes, field DEVTYPE in table DIRPPOOL should be DPP (not TAPE), otherwise, if datafilled as TAPE you will have to recover the volume manually after SWACT.
☐		2. Verify that both VOLUME22 and VOLUME23 fields of this tuple are datafilled with the values found in these fields on the active side table DIRPPOOL tuples. If the values are not correct in the inactive table tuples, then change the values to match the active table tuples: **Mate> cha VOLUME22 <active side value>** (answer 'Y' to the resulting questions as the decision box above indicates) **Mate> cha VOLUME23 <active side value>** (answer 'Y' to the resulting questions as the decision box above indicates)	
☐	**12**	Follow local policy to verify that all essential services or high profile customers (police, hospital, emergency bureaus, radio stations) are not in emergency call processing mode by contacting the appropriate customer.	
☐	**13**	Ensure no further activity is performed on the Distributed Processing Peripheral (DPP), including DPP polling or disk backup. Inform the down stream processing center.	

Summary Step: 4 - Start the MTCSWACT Procedure

	Step	Action
		At the MAP
☐	**14**	**Start the MTCSWACT Procedure**. If you **do not** have **Tape Primary Billing** in your office, use step **14.a**, otherwise you need to prepare the AMA device while the switch is out-of-sync, and you must use step **14.b**. **14.a** MTCSWACT command if you do not have Tape Primary Billing. **> QUIT ALL;MTCSWACTCI;MTCSWACT <restart type>** **14.b** MTCSWACT command if you have **Tape Primary Billing** **> QUIT ALL;MTCSWACTCI;MTCSWACT <restart type> PAUSE** ***Note:*** Where restart type is one of WARM, COLD or RELOAD. If more than one restart type is needed, this procedure must be repeated for each restart type. ***Note:*** If you choose the 'WARM' restart type, MTCSWACT will initiate a 'COLD' restart on the inactive following the 'WARM'. ***Note:*** If you have some activity that must be performed during the out of sync window, you may use the 'PAUSE' option for MTCSWACT. Note that this will prolong your out of sync window. Please refer to the section "Using the PAUSE Option with MTCSWACT" on page 137 for details relating to this option.

☐	**15**	As MTCSWACT progresses, dots are displayed on the MAP terminal that issued the MTCSWACT command. These dots are generated by the MTCSWACT utility to notify the user that MTCSWACT is progressing normally.
		The dots will appear on the screen as:
		`. . . . . .`
		`. . . . . .`
		Note: If a step fails while MTCSWACT is processing, you will be notified by messaging to your MAP terminal. If the message is a failure message, MTCSWACT will perform cleanup steps then abort. If the message is only informational, MTCSWACT will display it at the next user confirmation prompt.Please refer to Appendix D for possible failure or informational messages, and the actions (if any) that are required to continue with MTCSWACT.
		Note: It is possible that MTCSWACT cannot generate the dots to the screen as described above. In this case, you will see the following message:
		`Note: MTCSWACT will proceed without dot output.`
		MTCSWACT will continue normally, and all other messages will be output as expected.

Summary Step: 4 - Start the MTCSWACT Procedure

	Step	Action
		At the MAP

☐	**16**	**Confirm that you wish MTCSWACT to drop sync.**
		
		Note: Before dropping sync, MTCSWACT will ask for confirmation. The MAP output will vary depending on the type of MTCSWACT being performed.
		
		The MAP output for MTCSWACT WARM will be:
		`The switch is about to drop sync.`
		`A Cold Restart will be performed after the Warm Restart on the inactive CPU.`
		`Do you wish to continue?`
		`Please confirm ("YES", "Y", "NO", "N"):`
		
		Decision: If you wish to **continue** with the MTCSWACT, enter either '**Y**' or '**YES**'. The system response will be:
		
		`Dropping sync.`
		
		Decision: If you wish to **abort** the MTCSWACT, enter either '**N**' or '**NO**'. The system response will then be:
		
		`Executing MTCSWACT abort.`
		`.............................`
		`MTCSWACT command is aborted.`
		
		If you chose to stop MTCSWACT, the process will clean up any completed steps and then stop. The dots above represent the clean up steps, and the final statement indicates the termination of the MTCSWACT process. Remember to reverse the change performed in Step 4.

Summary Step: 4 - Start the MTCSWACT Procedure

	Step	Action

☐	**17**	Immediately after MTCSWACT drops sync, it performs the requested restart on the inactive CPU. There is no automatic COLD restart associated with the switch dropping sync. The only restart performed is one that the user specified when starting MTCSWACT, unless the restart is a WARM. MTCSWACT will initiate a COLD restart following the completion of the WARM. The output to the user will be:
		
		`Performing restart <restart type> on the inactive CPU.`
		`.....`
		`Restart <restart type> on inactive CPU is completed.`
		
		Where <restart type> is the restart indicated in the MTCSWACT command issued in step 14.
		If you chose a **WARM** <restart type> in step 14, you will see the following additional messages, indicating a COLD restart is being performed on the inactive:
		
		`Performing restart COLD on the inactive CPU.`
		`.....`
		`Restart COLD on inactive CPU is completed.`

		If you used the **PAUSE** option when invoking MTCSWACT, continue with Step **18**, otherwise skip to step **21.**
☐	**18**	**MTCSWACT Enters its PAUSE state.** Before the switch of activity, MTCSWACT will enter a PAUSE state ONLY if the PAUSE option was used in step 14. This is the time where you may perform any out-of-sync activity. Presently, the only activity that must be performed while the switch is out-of-sync is the preparation of Tape Primary billing devices. The following will be seen on your terminal when MTCSWACT pauses. `Starting the out of sync pause. MTCSWACT processing is suspended. To resume MTCSWACT, type RESUME from the MTCSWACTCI directory.`

Summary Step: 4 - Start the MTCSWACT Procedure

	Step	Action
☐	19	**Prepare Tape Primary Billing device for the CC warm SWACT** • From the DIRP MAP level, rotate any active billing subsystem (such as AMA, SMDR, OCC, CDR), CLOSE the standby file, and DMNT the standby volume. *Example:* **> QUIT ALL;MAPCI;MTC;IOD;DIRP** **> ROTATE AMA** **> CLOSE AMA STDBY 1** **> DMNT AMA T1 {**standby volume**}** • Remove the demounted standby tape from the tape drive, and put up a new tape to be used as the next DIRP volume. • Prepare a new standby volume as follows: **> QUIT ALL;MOUNT <x> FORMAT <volume_id>** where <x> is the standby device number and <volume_id> is the name of the standby volume. • If prompted, enter the first filename, or, if the system response is “request aborted. Tape not expired (use ERASTAPE)”, then select an unused or expired tape for formatting. **> QUIT ALL;DEMOUNT T<x>** • Leave the standby volume at load point and ONLINE. Immediately following SWACT, it will become the active volume of the appropriate subsystem.
☐	20	**Resume MTCSWACT** After performing the out-of-sync activity, you must restart MTCSWACT processing. Use the RESUME command to accomplish this task. **> QUIT ALL;MTCSWACTCI;RESUME**

Summary Step: 4 - Start the MTCSWACT Procedure

	Step	Action
☐	**21**	**Confirm that you wish MTCSWACT to switch activity.**

Note: Before switching activity, MTCSWACT will ask for confirmation.

```
A switch of activity is about to occur.
Do you wish to continue?
Please confirm (“YES”, “Y”, “NO”, or “N”):
```

Decision: If you wish **to continue** with the switch of activity, enter ‘**Y**’ or ‘**YES**’.

Note: If you wish **to stop** the MTCSWACT process (i.e. abort the procedure), enter ‘**N**’ or ‘**NO**’. MTCSWACT will clean up, but the switch will be left out of sync. You must manually sync the switch.

Note: If the system has been out of sync for twenty (20) minutes or more the prompt will also include:

```
WARNING: The switch has been out of sync too long.
Service degradation could result if you continue with
the switch of activity. It is recommended that you quit
the MTCSWACTCI directory, resync the switch and re-
enter the MTCSWACT command again.

Total out of sync time: <hh:mm:ss.xxx>
Do you want to stop the current MTCSWACT processing?
Please confirm (“YES”, “Y”, “NO”, or “N”):
```

Decision: If you feel being out of sync for 20 minutes or more is too long for your switch, then answer ‘**Y**’ or ‘**YES**’ **to stop** the **MTCSWACT** process. If you stop the process, you must then sync the switch manually and restart the procedure if you wish to activate your change.

Decision: If being out of sync for 20 minutes or more will **NOT** impact your switch, then answer ‘**N**’ or ‘**NO**’ **to continue** with the **MTCSWACT** process and switch activity.

Summary Step: 4 - Start the MTCSWACT Procedure

Step	Action
	Please note the following behaviours of the system during and after the activity switch. ***Note:*** After the CPUs switch activity, you are logged off of the MAP terminal. A dollar sign ($) appears and the cursor moves one space to the right. The user who issued the MTCSWACT command will be logged into the switch automatically by MTCSWACT after the activity switch. All other users must login through the normal login procedure. ***Note:*** If you are NOT logged in after the MTCSWACT, and you are the user who entered the MTCSWACT command, refer to “MTCSWACT Login Recovery” on page 91 for instruction on how to proceed. ***Note:*** If you were to view the Reset Terminal Interface displays (RTIF) you will notice the previously active RTIF (now the inactive RTIF) will stop flashing A1 after the MTCSWACT has completed. This means it is frozen. A RESTART RELOAD would have to be performed on the inactive CPU in order to communicate with it. The newly active RTIF will say Active in the top banner and will continue to flash A1 throughout the CC warm SWACT. ***Note:*** If you wish to work on the newly inactive CPU following the switch of activity, you must answer ‘N’ or ‘NO’ to the sync prompt presented to you in step 24. ***Note:*** The switch of activity will stop your console log file. When MTCSWACT resumes after the switch of activity, it will NOT restart console logging. Since MTCSWACT continues automatically after the CC warm SWACT, there will be no chance to restart the console file started in step 1.

Summary Step: 5- MTCSWACT Conclusion

	Step	Action
	At the MAP	

☐	**22**	After logging in the MTCSWACT user, MTCSWACT will continue with its POST activity switch steps. Dots will be displayed while the MTCSWACT process continues.
		
		Sample output:
		`MAP1 Login on 1995/02/01 at 00:30:31`
		`<normal login banner information>`
		`MTCSWACTCI:`
		MTCSWACT will display messages at the sync prompt only if an error was encountered.
		
		Note: MTCSWACT stores a command file on the inactive SFDEV before the activity switch. If this file could not be stored, or is removed before MTCSWACT uses it, the following message will be displayed at login:
		
		`**********`
		`MTCSWACT is NOT able to automatically execute MTCPOSTSWACT`
		`Please enter the following commands:`
		`MTCSWACTCI`
		`MTCPOSTSWACT`
		`Thank You`
		`**********`
		Execute the commands as stated above, and MTCSWACT will continue normally.

☐	**23**	After the activity switch, you may wish to check the status of the office. Enter the MAP (from a terminal other than that used by MTCSWACT) and check critical systems are operational. ie; AMA, OM, JF ***Note:*** The following alarms are known and are not service impacting: • CM FLT alarm - this is because the previously active side is frozen. This will clear when the switch is put back in-sync. • Alarms under DIRP will be cleared by MTCPOSTSWACT. Any DIRP Alarms not cleared by MTCPOSTSWACT should be investigated. • If the office is a SNSE or equipped with FLIS, there may be alarms displayed under the MS and PM levels for approximately one (1) minute. This is not a service affecting issue (i.e. there is no loss of connectivity). If the alarms do not clear within one (1) minute, take corrective action to clear the problem. If the alarm cannot be cleared, contact your next level of support to assist.

Summary Step: 5- MTCSWACT Conclusion

	Step	Action

☐	**24**	Before putting the switch back in-sync, MTCSWACT will prompt you to continue. The prompt is as follows:
		`The switch is about to sync.`
		`Do you wish to continue?`
		`Please confirm (“YES”, “Y”, “NO”, or “N”):`
		
		Decision: If you wish MTCSWACT to finish and sync the switch automatically, answer ‘**Y**’ or ‘**YES**’.
		The switch response is:
		
		`Starting sync.`
		`.....................`
		`Synchronization successful.`
		`MTCSWACT completes.`
		
		Decision: If you wish to work with the switch while it is out of sync, answer ‘**N**’ or ‘**NO**’. Note that you will have to sync the switch manually later.
		The switch response is:
		
		`The switch is still out of sync.`
		`MTCSWACT completes.`

☐	**25**	Post MTCSWACT manual steps **AMA** • During the MTCSWACT, AMA was rotated to ensure AMA recording on new volumes or devices. Ensure any active and standby devices are remounted or configured properly for continued AMA processing. **Start-up the Journal File** **> QUIT ALL;JF START** **> QUIT ALL;MAPCI;MTC;IOD;DIRP;QUERY JF ALL** QUERY JF should respond with ‘AVAIL’ if a standby device is being used, both active and standby volumes should be marked ‘AVAIL’. **> QUIT ALL**
		You have successfully completed the MTCSWACT procedure.

MTCSWACT Login Recovery

	Step	Action
☐		If MTCSWACT does not login the user who entered the MTCSWACT command after the CC warm SWACT, use the following steps to continue with MTCSWACT.

☐	**26**	If your terminal received the '$' symbol, then you should be able to use the normal login sequence (<break>login). Once logged in, perform the following command:
		> QUIT ALL;MTCSWACTCI;MTCPOSTSWACT
		Note: If three (3) minutes have elapsed since the CC warm SWACT, you will see the following messages.
		`Automatic user login and/or execution of MTCPOSTSWACT failed.`
		`MTCPOSTSWACT command has been executed by MTCSWACT audit`
		`The switch needs to be SYNCed manually.`
		`SYNC the switch from the CM map level`
		The above message means that since the automatic login of your user ID failed. MTCSWACT ran the MTCPOSTSWACT by means of an internal audit. This audit ensures the MTCPOSTSWACT command is executed in a timely manner after the CC warm SWACT. Use step 29 on page 47 of the NORESTARTSWACT MOP (CM-Core) to sync the switch. After syncing the switch, go to step • to finish the MTCSWACT procedure.
		Note: If three (3) minutes have not expired, then MTCSWACT will run normally. Go to step 22 to continue.

MTCSWACT MOP (XA-Core)

The MTCSWACT Process

The MTCSWACT utility provides the functionality to enter a single command which (when executed while the switch is unsplit) will:

- Split the switch and perform the user selected restart[1] on the inactive CPU
- Switch activity (using the NORESTARTSWACT utility)
- Unsplit the switch

The MTCSWACT process begins once the command 'MTCSWACT' is entered. MTCSWACT will continue through the above stages until either it requires confirmation from the user to continue, or it encounters a problem.

Since MTCSWACT is a single command that results in a CC warm SWACT, the following sections detail the behavior of MTCSWACT under different conditions.

User Confirmation

Before MTCSWACT progresses to another phase of its execution, it will prompt the user for confirmation to continue. The user may choose to let MTCSWACT continue, or stop MTCSWACT. There are three times when the MTCSWACT continuation prompts will be presented, these are:

- Before MTCSWACT splits the switch.
- Before the switch of activity.
- Before MTCSWACT unsplits the switch.

Should the user provide a positive response to the above confirmations, MTCSWACT will continue, otherwise it will stop and run cleanup steps to back out of the steps it had completed in preparation for the CC warm SWACT. If the switch was unsplit when MTCSWACT was aborted, the cleanup steps will finish with the switch still unsplit. If the switch was split when MTCSWACT was aborted, the cleanup steps will finish with the switch

[1]If you use the command 'MTCSWACT WARM', a COLD restart will be performed on the inactive CPU-following the 'WARM' restart entered in the command.

split. The user must then manually enter the ABORTMTCSWACT command (see “Abort MTCSWACT” on page 161) to unsplit the switch.

MTCSWACT Messaging to the User

While MTCSWACT is progressing normally, it will output dots to the user’s terminal. If MTCSWACT encounters trouble that the user should be aware of, it will either output an information message at the next MTCSWACT continuation prompt, or stop processing and output a failure message. Examples of MTCSWACT output are shown below:

MTCSWACT Dots

During normal operation, dots are displayed on the user screen during MTCSWACT processing. The dots are used to indicate that MTCSWACT is processing normally. Dots are output to the user device once every five seconds. If MTCSWACT encounters a problem, or needs confirmation from the user to continue, these messages will start on a new line. An example of the dot output is:

```
MTCSWACTCI> MTCSWACT <Restart type> [PAUSE]
. . . . . .
. . . . . .
```

MTCSWACT Information Message

If MTCSWACT encounters a situation that will not affect its successful execution, but is of importance to the user, it will output an information message at the next continuation prompt. This message is only intended to notify the user that MTCSWACT has encountered an abnormal situation and the user may need to take some action once MTCSWACT completes. All information messages begin with the word ‘Note’, and contain text to explain the problem encountered, and how to correct it.These messages have the form:

```
Note: Failed to resume system REX.
Please resume system REX manually using the REXTEST command.
```

If there is a user action associated with the message, the user can elect to act on it before responding to the continuation prompt, or after MTCSWACT completes.

MTCSWACT Failure Messages

Should MTCSWACT encounter a situation that will affect its successful completion, it will output a failure message. The failure message will indicate what problem MTCSWACT encountered, and how the user should correct it. When such a problem is encountered MTCSWACT will abort and run its cleanup steps to backout the steps already performed. If the switch was unsplit before the trouble was encountered, MTCSWACT will leave the switch split, and it is the responsibility of the user to manually unsplit the

switch using the ABORTMTCSWACT command (see “Abort MTCSWACT” on page 161). MTCSWACT will not attempt to unsplit the switch as part of recovery from a serious problem, in case this causes further failures or trouble for the switch.

An example of a MTCSWACT problem message is:

```
Problem:  The following file(s) are open and must be closed
before invoking the MTCSWACT command.
File: ZARGON5 on DDU03
Solution: Manually close the files.
MTCSWACT command is aborted.
```

Summary of the procedure

This section describes the manual steps necessary to perform a successful MTCSWACT. Please refer to section “NORESTARTSWACT or MTCSWACT, Which to Use?” on page 17 to determine which procedure you should use depending on your activity.

The following table summarizes the steps necessary to use the MTCSWACT utility, and the approximate time, in minutes, needed to do each step. The times given for specific steps are elapsed times and not actual run times. Note that the times are approximate and will vary according to different switch configurations and sizes.

Step	Description	Approximate time in minutes
1	Start Console logging, verify that MTCSWACT is supported, and verify the switch is unsplit.	2 minutes
2	Make necessary changes while unsplit. Stop the Journal File.	(unspecified)
3	Prepare Billing devices for MTCSWACT	4 minutes
4	Starting the MTCSWACT procedure.	3 minutes
5	Completing the MTCSWACT	4 minutes

MTCSWACT Procedure

Use this procedure to perform a MTCSWACT. To use the check boxes to the left of each step, photocopy the document and check off the steps as they are completed.

Summary Step: 1 - Start Console logging, Query Swact Type and SPLIT Status

	Step	Action
		At the MAP
☐	**1**	Start logging your console session in case the need arises to review the steps performed. **> QUIT ALL;RECORD START ONTO <device>** Where <device> is either a disk volume (SFDEV or other) or Terminal/Printer The best choice for a device is a printer. However, the user can have it record to a file on some other device as well. If you choose a disk volume, a file called RECORDFILE will be created.
☐	**2**	Verify the MTCSWACT availability by entering the following command from the CI level of the MAP terminal. This command checks the availability of the NORESTARTSWACT utility. MTCSWACT will not function without the NORESTARTSWACT utility, so first, ensure NORESTARTSWACT is supported in your office. **> QUIT ALL;BCSUPDATE;SWACTCI;QUERYSWACT** *Example of a MAP response:* `NORESTARTSWACT is recommended for initiating a CC Warm SWACT. Further checking will be done when SWACT is invoked.` If the NORESTARTSWCT utility is not supported in the office, the MAP response will indicate that RESTARTSWACT is the recommended procedure for performing a CC warm SWACT. In this case, this procedure cannot be used, and the user will have to use a RESTART on the active side to activate their change.

Summary Step: 1 - Start Console logging, Query Swact Type and SPLIT Status

	Step	Action
☐	**3.**	**Determine if the shared memory is synced.** **> QUIT ALL;MAPCI;MTC;XAC;SM** ***Note:*** The only way to tell if the shared memory is synced is to perform a TST on an active side, in service shared memory card. An 'X' underneath a SM card indicates that the SM card is on the inactive side. Therefore, the TST must be done on a SM card without an 'X' underneath of it. If the TST is successfully performed, then the SM is synced. If the test is not allowed to be performed, the SM is not synced. Perform a TST on an active side SM card as follows: **> QUIT ALL;MAPCI;MTC;XAC;SM;TST <SLOT NUMBER> <SHELF>** ***Decision:*** If the SM is synced (TST passes), continue with step 4. ***Decision:*** If the SM is not synced (TST fails or is not allowed), determine why. Normal switch operation should not run without the SM synced.
☐	**4.**	**Determine if the switch is unsplit.** **> QUIT ALL;MAPCI;MTC;XAC;PE** ***Note:*** An 'X' underneath the a PE card at the PE level of the map indicates that the PE is the inactive PE, and also that the switch is in SPLIT mode. There should be no X under the PE cards at this point. ***Decision:*** If the switch is unsplit, continue with step 5. ***Decision:*** If the switch is SPLIT, determine why it is in this state. Normal switch operation should not run with the switch split.

Summary Step: 2 - Make Data Changes on Active Side and Stop Journal File

	Step	Action
		At the MAP
☐	**5**	**Make data changes.** Make the necessary changes while unsplit**.** Some of the changes which can be made while unsplit include office parameter changes, table changes, and applying patches which require a restart to activate them. Make note of the types of restart(s) needed to activate the changes. MTCSWACT should only be used to perform one activity at a time. If you have many activities requiring MTCSWACT it is not safe to perform these all at once, even if the restart type required for each activity is the same. If the restart activity is different for each activity, you MUST perform a separate MTCSWACT for each restart type. Performing one MTCSWACT per activity, ensures that you only need back out one change should the need arise. ***Note:*** Any change that is made while the switch is unsplit remains in effect on the inactive side even after the system splits and the selected restart is complete. ***Note:*** After making table changes, the table itself will indicate what type of restart is needed to activate the change. If a patch is applied, then the patch description should indicate what type of restart is needed to activate the patch. Note the restart(s) required for each activity. ***Note:*** If you choose 'MTCSWACT WARM' as the command needed to activate your change, you should be aware that MTCSWACT will perform a COLD restart on the inactive side when the 'WARM' restart has completed. **Example**: You plan to change an office parameter in table OFCENG that requires a restart warm. This restart type will be indicated after you confirm the table change. Record this for later use. If you are **also** activating a patch that requires a Cold restart, record this restart as well. It is not safe to assume that performing a Cold restart will satisfy both the patch requirements and the table requirements, therefore the entire MTCSWACT procedure must be repeated for each restart type. If you choose to activate the OFCENG change first, then you should not apply the patch until you are ready to use the MTCSWACT procedure to activate the patch.

Summary Step: 2 - Make Data Changes on Active Side and Stop Journal File

	Step	Action
☐	6	The following will ROTATE and STOP the Journal File recording: **> QUIT ALL;MAPCI;MTC;IOD;DIRP;QUERY JF ALL** Close the JF volume that is currently active. **> CLOSE JF ACTIVE** QUERY again to verify rotation: **> QUERY JF ALL** Stop JF entries: **> JF STOP** Verify JF is stopped by re-executing the 'JF STOP' command: **> JF STOP** The switch should respond with: `JOURNAL FILE ALREADY STOPPED` ***Decision:*** If the journal file cannot be stopped, investigate and contact your next level of support for assistance. ***Decision:*** If the journal file was stopped successfully then continue. **> QUIT MAPCI**

Summary Step: 3- Prepare Billing devices for MTCSWACT

	Step	Action	
☐	**7**	**Prepare billing devices for the MTCSWACT.** Perform **one** of steps **7- 11**, depending on how billing is performed in the office. ***Note:*** There is a separate step for the type of billing you have in your network. Please follow the steps for your billing type only.	
		Decision: The following choice matrix can be used to determine which of the following steps are appropriate for your office. Find the type of billing you have currently running, and perform the step indicated.	
		If you use: Disk Drive Primary Billing	Go To Step 8.
		If you use: Disk Drive Parallel Billing	Go To Step 9.
		If you use: Tape Drive Primary Billing	Go To Step 10.
		If you use: Tape Drive Parallel Billing	Go To Step 11.
		If you use: SDM Billing	No action is required
		If you use: DPP/BMC Primary Billing	Go To Step 12.
		Note: DPP/BMC Parallel Billing has NOT been valid in since BCS34. It is disallowed via table control on table DIRPPOOL. i.e. DPP will not be allowed for the DEVTYPE on a parallel volume.	
☐	**8**	**Disk drive PRIMARY billing** • From the DIRP MAP level, ROTATE any active billing subsystem (such as AMA, SMDR, OCC, CDR) • If required by Telco policy, copy unprocessed DIRP files to backup tape using the DIRPAUTO or DIRPCOPY commands. • Verify that table DIRPHOLD contains no unprocessed billing files (if DIRPAUTO was used above).	
		Go to Step 13.	

Summary Step: 3- Prepare Billing devices for MTCSWACT

	Step	Action
☐	9	**Disk drive Parallel billing** • Site no longer has to take down parallel billing if on disk. • DIRP will recover parallel recording to disk on the newly active side after SWACT. **CAUTION** • Recently recorded parallel data may be overwritten. • If required by Telco policy, parallel files should be copied to tape. • If a single parallel volume is in use, information on the volume will be lost over the SWACT. • If more than one parallel volume is allocated to DIRP, DIRP will begin recording after SWACT on the volume with the oldest time stamp. Hence, information on that volume will be lost over SWACT.
		Go To Step 13.
☐	10	**Tape drive PRIMARY billing** • This billing device must be prepared while the switch is out-of-sync. The preparation of this device will occur during the MTCSWACT PAUSE phase, and is detailed in step 20 • To prepare for this procedure, obtain expired tapes for use when rotating AMA.
		Go To Step 13.
☐	11	**Tape drive Parallel billing** • In table DIRPPOOL, determine which MTDs are being used for parallel DIRP recording. • For parallel volumes on tape, demount all except the current parallel volume from table DIRPPOOL by replacing the volume name in DIRPPOOL with nil volume ($). • Then physically remove the tape from the drive. • Replace these tapes with freshly formatted, empty tapes. • Prepare each new parallel volume as follows: **> QUIT ALL;MOUNT <x> FORMAT <volume_id>** where <x> is the parallel device number, and <volume_id> is the name of the parallel volume. **> QUIT ALL;DEMOUNT T<x>** • Leave the tape at load point and ONLINE so that it can be activated as the new parallel device after the SWACT.
		Go To Step 13.

Summary Step: 3- Prepare Billing devices for MTCSWACT

	Step	Action	
☐	**12.**	**DPP BMC PRIMARY billing** The following Three (3) substeps (labeled A to C) replace the AMA procedure as detailed in the ONP and Hybrid Software Delivery Procedures.	
☐		**Step A**. Perform the Following steps from the MAP level on the active CPU. **> QUIT ALL;MAPCI;MTC;IOD;DIRP** **> QUERY AMA**	• Write down the standby volume
☐		**> DMNT AMA T<STDBY tape drive #>** (answer 'YES' to the resulting question)	• **Note:** an 'AMA MJ' alarm will appear under the IOD level at the alarm banner. This simply indicates that the standby volume has been demounted. •
☐		**> ERASTAPE <STDBY tape drive #>** (answer 'YES' to the resulting question)	• **Note:** the letter 'T' is not used here before the STDBY tape drive number.
☐		**> MNT AMA T<STDBY tape drive #>** (answer 'YES' to the resulting question)	• **Note:** the 'AMA MJ' alarm should disappear from the alarm banner.
☐		**> ROTATE AMA** (answer 'YES' to the resulting question)	
☐		**> QUERY AMA**	• Write down the new standby volume.
☐		**> DMNT AMA T<STDBY tape drive #>** (answer 'YES' to the resulting question)	• **Note:** an 'AMA MJ' alarm will appear under the IOD level at the alarm banner. This Simply indicates that the standby volume has been demounted. •

Summary Step: 3- Prepare Billing devices for MTCSWACT

Step	Action	
	(Step 12 Continued)	• **Note:** the letter ‘T’ is not used here before the STDBY tape drive number.
☐	**> ERASTAPE <STDBY tape drive #>** (answer ‘YES’ to the resulting question)	
☐	**> MNT AMA T<STDBY tape drive #>** (answer ‘YES’ to the resulting question)	• **Note:** the ‘AMA MJ’ alarm should disappear from the alarm bar.
☐	**Step B**: While still at the DIRP level of the MAP perform the following: **> DPP AMA** **> IDXMAINT CREATE FILE AMA** (answer ‘YES’ to the resulting question) **> QUIT MAPCI**	

Summary Step: 3- Prepare Billing devices for MTCSWACT

	Step	Action	
		(Step 12 Continued)	• *** **Note:** It is **Critical** that this step be performed correctly.
☐		**Step C**: In the table DIRPPOOL on the inactive, verify that the following fields have been set correctly for the 'AMADPP' tuple: 1. Verify that the 'DEVTYPE' field is set to 'DPP'. If this field is set to any other value, make the correction as follows: **MATE> cha devtype dpp** ***Decision:*** The table editor wants to confirm that the change is really necessary, and will state that the journal file is inactive and if you wish to continue. Since this change should not be saved to a journal file, answer 'Y' for yes. The table editor will also state that switch is not in-sync, do you wish to continue. For this, also answer 'Y' for yes, since this change is on the inactive, and is not needed on the active.	• ***Note:** In a pool of DPP or BMC volumes, field DEVTYPE in table DIRPPOOL should be DPP (not TAPE), otherwise, if datafilled as TAPE you will have to recover the volume manually after SWACT.
☐		2. Verify that both VOLUME22 and VOLUME23 fields of this tuple are datafilled with the values found in these fields on the active side table DIRPPOOL tuples. If the values are not correct in the inactive table tuples, then change the values to match the active table tuples: **Mate> cha VOLUME22 <active side value>** (answer 'Y' to the resulting questions as the decision box above indicates) **Mate> cha VOLUME23 <active side value>** (answer 'Y' to the resulting questions as the decision box above indicates)	
☐	**13**	Follow local policy to verify that all essential services or high profile customers (police, hospital, emergency bureaus, radio stations) are not in emergency call processing mode by contacting the appropriate customer.	
☐	**14**	Ensure no further activity is performed on the Distributed Processing Peripheral (DPP), including DPP polling or disk backup. Inform the down stream processing center.	

Summary Step: 4 - Start the MTCSWACT Procedure

Step	Action
	At the MAP
☐	**15** **Start the MTCSWACT Procedure**. If you **do not** have **Tape Primary Billing** in your office, use step **15.a**, otherwise you need to prepare the AMA device while the switch is out-of-sync, and you must use step **15.b**. **15.a** MTCSWACT command if you do not have Tape Primary Billing. **> QUIT ALL;MTCSWACTCI;MTCSWACT <restart type>** **15.b** MTCSWACT command if you have **Tape Primary Billing** **> QUIT ALL;MTCSWACTCI;MTCSWACT <restart type> PAUSE** ***Note:*** Where restart type is one of WARM, COLD or RELOAD. If more than one restart type is needed, this procedure must be repeated for each restart type. ***Note:*** If you choose the 'WARM' restart type, MTCSWACT will initiate a 'COLD' restart on the inactive following the 'WARM'. ***Note:*** If you have some activity that must be performed during the out of sync window, you may use the 'PAUSE' option for MTCSWACT. Note that this will prolong your out of sync window. Please refer to the section "Using the PAUSE Option with MTCSWACT" on page 137 for details relating to this option.

☐	**16** As MTCSWACT progresses, dots are displayed on the MAP terminal that issued the MTCSWACT command. These dots are generated by the MTCSWACT utility to notify the user that MTCSWACT is progressing normally.
	The dots will appear on the screen as:
	`. . . . . .`
	`. . . . . .`
	Note: If a step fails while MTCSWACT is processing, you will be notified by messaging to your MAP terminal. If the message is a failure message, MTCSWACT will perform cleanup steps then abort. If the message is only informational, MTCSWACT will display it at the next user confirmation prompt.Please refer to Appendix D for possible failure or informational messages, and the actions (if any) that are required to continue with MTCSWACT.
	Note: It is possible that MTCSWACT cannot generate the dots to the screen as described above. In this case, you will see the following message:
	`Note: MTCSWACT will proceed without dot output.`
	MTCSWACT will continue normally, and all other messages will be output as expected.

Summary Step: 4 - Start the MTCSWACT Procedure

Step	Action
	At the MAP

☐	**17 Confirm that you wish MTCSWACT to SPLIT the switch.**
	
	Note: Before splitting, MTCSWACT will ask for confirmation. The MAP output will vary depending on the type of MTCSWACT being performed.
	
	The MAP output for MTCSWACT WARM will be:
	`The switch is about to drop sync.`
	`A Cold Restart will be performed after the Warm Restart on the inactive CPU.`
	`Do you wish to continue?`
	`Please confirm ("YES", "Y", "NO", "N"):`
	
	Decision: If you wish to **continue** with the MTCSWACT, enter either '**Y**' or '**YES**'. The system response will be:
	
	`Splitting system.`
	`.............................`
	
	Decision: If you wish to **abort** the MTCSWACT, enter either '**N**' or '**NO**'. The system response will then be:
	
	`Executing MTCSWACT abort.`
	`.............................`
	`MTCSWACT command is aborted.`
	
	If you chose to stop MTCSWACT, the process will clean up any completed steps and then stop. The dots above represent the clean up steps, and the final statement indicates the termination of the MTCSWACT process. Remember to reverse the change performed in Step 5.

Summary Step: 4 - Start the MTCSWACT Procedure

	Step	Action

☐	**18**	Immediately after MTCSWACT drops sync, it performs the requested restart on the inactive CPU. There is no automatic COLD restart associated with the switch dropping sync. The only restart performed is one the user specified when starting MTCSWACT, unless the restart is a WARM. MTCSWACT will initiate a COLD restart following the completion of the WARM. The output to the user will be:
		
		`Performing restart <restart type> on the inactive CPU.`
		`.....`
		`Restart <restart type> on inactive CPU is complete.`
		
		Where <restart type> is the restart indicated in the MTCSWACT command issued in step 15.
		If you chose a **WARM** <restart type> in step 15, you will see the following additional messages, indicating a COLD restart is being performed on the inactive:
		
		`Performing restart COLD on the inactive CPU.`
		`.....`
		`Restart COLD on inactive CPU is complete.`

		If you used the **PAUSE** option when invoking MTCSWACT, continue with Step **19**, otherwise skip to step **22.**
☐	**19**	**MTCSWACT Enters its PAUSE state.** Before the switch of activity, MTCSWACT will enter a PAUSE state ONLY if the PAUSE option was used in step 15. This is the time where you may perform any activities need while in split mode. Presently, the only activity that must be performed while the switch is split is the preparation of Tape Primary billing devices. The following will be seen on your terminal when MTCSWACT pauses. `Starting the out of sync pause. MTCSWACT processing is suspended. To resume MTCSWACT, type RESUME from the MTCSWACTCI directory.`

Summary Step: 4 - Start the MTCSWACT Procedure

	Step	Action
☐	20	**Prepare Tape Primary Billing device for the CC warm SWACT** • From the DIRP MAP level, rotate any active billing subsystem (such as AMA, SMDR, OCC, CDR), CLOSE the standby file, and DMNT the standby volume. *Example:* **> QUIT ALL;MAPCI;MTC;IOD;DIRP** **> ROTATE AMA** **> CLOSE AMA STDBY 1** **> DMNT AMA T1 {**standby volume**}** • Remove the demounted standby tape from the tape drive, and put up a new tape to be used as the next DIRP volume. • Prepare a new standby volume as follows: **> QUIT ALL;MOUNT <x> FORMAT <volume_id>** where <x> is the standby device number and <volume_id> is the name of the standby volume. • If prompted, enter the first filename, or, if the system response is “request aborted. Tape not expired (use ERASTAPE)”, then select an unused or expired tape for formatting. **> QUIT ALL;DEMOUNT T<x>** • Leave the standby volume at load point and ONLINE. Immediately following SWACT, it will become the active volume of the appropriate subsystem.
☐	21	**Resume MTCSWACT** After performing the activity while split, you must restart MTCSWACT processing. Use the RESUME command to accomplish this task. **> QUIT ALL;MTCSWACTCI;RESUME**

Summary Step: 4 - Start the MTCSWACT Procedure

	Step	Action
☐	**22**	**Confirm that you wish MTCSWACT to switch activity.**

Note: Before switching activity, MTCSWACT will ask for confirmation.

```
A switch of activity is about to occur.
Do you wish to continue?
Please confirm (“YES”, “Y”, “NO”, or “N”):
```

Decision: If you wish **to continue** with the switch of activity, enter ‘**Y**’ or ‘**YES**’.

Note: If you wish **to stop** the MTCSWACT process (i.e. abort the procedure), enter ‘**N**’ or ‘**NO**’. MTCSWACT will clean up, but the switch will be left in a split state. You must manually unsplit the switch using the ABORTMTCSWACT command (see “Abort MTCSWACT” on page 161)..

Note: If the system has been out of sync for twenty (20) minutes or more the prompt will also include:

```
WARNING: The switch has been out of sync too long.
Service degradation could result if you continue with
the switch of activity. It is recommended that you quit
the MTCSWACTCI directory, resync the switch and re-
enter the MTCSWACT command again.

Total out of sync time: <hh:mm:ss.xxx>
Do you want to stop the current MTCSWACT processing?
Please confirm (“YES”, “Y”, “NO”, or “N”):
```

Decision: If you feel being split for 20 minutes or more is too long for your switch, then answer ‘**Y**’ or ‘**YES**’ **to stop** the **MTCSWACT** process. If you stop the process, you must then abort the MTCSWACT using the ABORTMTCSWACT command (see “Abort MTCSWACT” on page 161) and restart the procedure if you wish to activate your change.

Decision: If being split for 20 minutes or more will **NOT** impact your switch, then answer ‘**N**’ or ‘**NO**’ **to continue** with the **MTCSWACT** process and switch activity.

Summary Step: 4 - Start the MTCSWACT Procedure

Step	Action
	Please note the following behaviours of the system during and after the activity switch. ***Note:*** After the switch of activity, you are logged off of the MAP terminal. A dollar sign ($) appears and the cursor moves one space to the right. The user who issued the MTCSWACT command will be logged into the switch automatically by MTCSWACT after the activity switch. All other users must login through the normal login procedure. ***Note:*** If you are NOT logged in after the MTCSWACT, and you are the user who entered the MTCSWACT command, refer to MTCSWACT Login Recovery, step 27 on page 113. ***Note:*** If you wish to work on the newly inactive side following the switch of activity, you must answer ‘N’ or ‘NO’ to the sync prompt presented to you in step 25. ***Note:*** The switch of activity will stop your console log file. When MTCSWACT resumes after the switch of activity, it will NOT restart console logging. Since MTCSWACT continues automatically after the CC warm SWACT, there will be no chance to restart the console file started in step 1.

Summary Step: 5- MTCSWACT Conclusion

	Step	Action
		At the MAP

☐	**23**	After logging in the MTCSWACT user, MTCSWACT will continue with its POST activity switch steps. Dots will be displayed while the MTCSWACT process continues.
		
		Sample output:
		`MAP1 Login on 1995/02/01 at 00:30:31`
		`<normal login banner information>`
		`MTCSWACTCI:`
		MTCSWACT will display messages at the split prompt only if an error was encountered.
		
		Note: MTCSWACT stores a command file on the inactive SFDEV before the activity switch. If this file could not be stored, or is removed before MTCSWACT uses it, the following message will be displayed at login:
		
		`**********`
		`MTCSWACT is NOT able to automatically execute MTCPOSTSWACT`
		`Please enter the following commands:`
		`MTCSWACTCI`
		`MTCPOSTSWACT`
		`Thank You`
		`**********`
		Execute the commands as stated above, and MTCSWACT will continue normally.

☐	**24**	After the activity switch, you may wish to check the status of the office. Enter the MAP (from a terminal other than that used by MTCSWACT) and check critical systems are operational. ie; AMA, OM, JF. ***Note:*** The following alarms are known and are not service impacting: • Alarms under DIRP will be cleared by MTCPOSTSWACT. Any DIRP Alarms not ceared by MTCPOSTSWACT should be investigated. • If the office is a SNSE or equipped with FLIS, there may be alarms displayed under the MS and PM levels for approximately one (1) minute. This is not a service affecting issue (i.e. there is no loss of connectivity). If the alarms do not clear within one (1) minute, take corrective action to clear the problem. If the alarm cannot be cleared, contact your next level of support to assist.

Summary Step: 5- MTCSWACT Conclusion

	Step	Action

☐	**25**	Before unsplitting the, MTCSWACT will prompt you to continue. The prompt is as follows:
		`The switch is about to sync.`
		`Do you wish to continue?`
		`Please confirm (“YES”, “Y”, “NO”, or “N”):`
		
		Decision: If you wish MTCSWACT to finish and unsplit the switch automatically, answer ‘**Y**’ or ‘**YES**’.
		The switch response is:
		
		`Unsplitting System.`
		`.....`
		`Synchronization successful.`
		`MTCSWACT completes.`
		
		Decision: If you wish to work with the switch while it is unsplit, answer ‘**N**’ or ‘**NO**’. Note that you will have to unsplit the switch manually later.
		The switch response is:
		
		`The switch is still out of sync.`
		`MTCSWACT completes.`

☐	**26**	Post MTCSWACT manual steps **AMA** • During the MTCSWACT, AMA was rotated to ensure AMA recording on new volumes or devices. Ensure any active and standby devices are remounted or configured properly for continued AMA processing. **Start-up the Journal File** **> QUIT ALL;JF START** **> QUIT ALL;MAPCI;MTC;IOD;DIRP;QUERY JF ALL** QUERY JF should respond with ‘AVAIL’ if a standby device is being used, both active and standby volumes should be marked ‘AVAIL’. **> QUIT ALL**
		You have successfully completed the MTCSWACT procedure.

f

MTCSWACT Login Recovery

	Step	Action
☐		If MTCSWACT does not login the user who entered the MTCSWACT command after the CC warm SWACT, use the following steps to continue with MTCSWACT.

☐	**27**	If your terminal received the '$' symbol, then you should be able to use the normal login sequence (<break>login). Once logged in, perform the following command:
		> QUIT ALL;MTCSWACTCI;MTCPOSTSWACT
		Note: If three (3) minutes have elapsed since the CC warm SWACT, you will see the following messages.
		`Automatic user login and/or execution of MTCPOSTSWACT failed.`
		`MTCPOSTSWACT command has been executed by MTCSWACT audit`
		`The switch needs to be SYNCed manually.`
		`SYNC the switch from the CM map level`
		The above message means that since the automatic login of your user ID failed. MTCSWACT ran the MTCPOSTSWACT by means of an internal audit. This audit ensures the MTCPOSTSWACT command is executed in a timely manner after the CC warm SWACT. Use the ABORTMTCSWACT command (see "Abort MTCSWACT" on page 161) to unsplit the switch. After unsplitting the switch, go to step 24 on page 111 to finish the MTCSWACT procedure.
		Note: If three (3) minutes have not expired, then MTCSWACT will run normally. Go to step 23 to continue.

Appendix A: Command Summaries

MTCSWACTCI Summary

The MTCSWACTCI increment enables the commands for executing a MTCSWACT. This increment contains the commands: MTCSWACT, MTCPOSTSWACT, RESUME and QUIT. They are briefly described below.

MTCSWACT

This command is used to initiate the MTCSWACT process. The MTCSWACT process is a utility used to replace active side restarts for such activities as office parameter changes, table changes or patch activations that require a restart activation. The command must be entered while the switch is in-sync/unsplit. The syntax of the command is:

```
MTCSWACTCI:

> MTCSWACT <restart type> [PAUSE]
```

The first parameter is the required restart type. This parameter is mandatory and must be one of WARM, COLD or RELOAD.

The second parameter is optional. It will pause the MTCSWACT process just before activity is to be switched, in order for the user to perform activities before the CC warm SWACT (e.g. perform AMA workaround). Note that if you use the pause option, you will be suspending MTCSWACT activity while the switch is out of sync. MTCSWACT will remain suspended until you execute the RESUME command.

MTCPOSTSWACT

After the CC warm SWACT, the MTCSWACT user (i.e. the user who entered the MTCSWACT command) will be automatically logged in, and MTCSWACT will resume processing. When MTCSWACT resumes processing, it will automatically run the MTCPOSTSWACT command. It does this by reading a command file MTCSWACT left on SFDEV before the CC warm SWACT.

If the file on SFDEV could not be located by MTCSWACT (i.e. the file was deleted, or SFDEV was too full to store the file before the CC warm

SWACT), the following messages will be displayed during the automatic login:

```
*********************************************************
MTCSWACT is NOT able to automatically execute MTCPOSTSWACT
Please enter the following commands:
      MTCSWACTCI
      MTCPOSTSWACT
Thank You
*********************************************************
```

Follow the above instructions to run MTCPOSTSWACT.

If the MTCSWACT user is not automatically logged in after the CC warm SWACT, an internal audit will run MTCPOSTSWACT. This audit runs three (3) minutes after the CC warm SWACT. This ensures that MTCPOSTSWACT will always be run following a CC warm SWACT initiated by MTCSWACT. If the user wishes to start MTCPOSTSWACT before the audit, they may enter this command at the MTCSWACTCI prompt.

The command syntax is:

```
MTCSWACTCI:

> MTCPOSTSWACT
```

There are no parameters or options associated with this command.

ABORTMTCSWACT

The ABORTMTCSWACT command is used to unsplit a switch that has been previously split by the MTCSWACT command. The purpose of this command is to allow the a user to manually unsplit a switch without having to access the UNSPLIT_SYSTEM command, which exists in the password protected TASTOOLCI increment. This command is only allowed to complete successfully one time after a MTCSWACT command has been entered. The format for the command is:

```
MTCSWACTCI:

> ABORTMTCSWACT
```

There are no parameters or options associated with this command.

If there is a MTCSWACT currently in progress, the switch response to the ABORTMTCSWACT is:

```
WARNING:  A MTCSWACT is currently in progress. Using this command
          will abort the current MTCSWACT process.
```

```
          Do you wish to continue?
```

To abort the MTCSWACT, the user must enter ‘Y’ or ‘YES’.

If the switch is currently out of sync/split, the switch response will then be:

```
WARNING:  The switch is about to sync.
          Do you wish to continue?
```

To sync/unsplit the switch at this point, the user must enter ‘Y’ or ‘YES’.

RESUME

The resume command can only be used if MTCSWACT is currently suspended. MTCSWACT can only be suspended if the PAUSE option was used when the MTCSWACT command was entered. The format for the command is:

```
MTCSWACTCI:

> RESUME
```

There are no parameters or options associated with this command. The switch response to the RESUME command is:

```
MTCSWACT processing has been resumed.
```

If the system has been out-of-sync/split for twenty (20) minutes or more, the prompt will also include:

```
WARNING: The switch has been out of sync too long.
Service degradation could result if you continue with
the switch of activity. It is recommended that you quit
the MTCSWACTCI directory, resync the switch and re-enter
the MTCSWACT command again.

Total out of sync time: <hh:mm:ss.xxx>
Do you want to stop the current MTCSWACT processing?
Please confirm (“YES”, “Y”, “NO”, or “N”):
```

To abort MTCSWACT and restart the procedure, the user must enter ‘Y’ or ‘YES’. To continue with MTCSWACT the user must enter ‘N’ or ‘NO’.

QUIT

The QUIT command causes the user to exit the MTCSWACTCI increment. The format of the command is:

```
MTCSWACTCI:

> QUIT
```

There are no parameters or options with this command. There is no switch response except the ‘CI’ prompt will change to that of the increment before the MTCSWACTCI command was entered.

BCSUPDATE Summary

The BCSUPDATE increment enables the commands for a software application. In the case of a NORESTARTSWACT, there are some commands in this directory which must be performed prior to a NORESTARTSWACT. Note that MTCSWACT can not be run from the BCSUPDATE increment.

BCSUPDATE Increments

The primary increments of BCSUPDATE that assist in switching activity for a NORESTARTSWACT (when not used in an ONP situation), and in recovering from the activity switch are:

- LIMITED_PRESWACT
- SWACTCI
- POSTSWACT

The PRESWACT interrupt/abort process is described in this section. This is followed by descriptions of LIMITED_PRESWACT steps, and POSTSWACT steps (SWACT commands are described in the section, “CC warm SWACT Commands” on page 130).

ABORT_PRESWACT

The ABORT_PRESWACT command will back out any limited_preswact steps that have already been run. The command will also reset the status of each limited_preswact step from ‘completed’ to ‘needed’. This command should be used when aborting a maintenance procedure after a LIMITED_PRESWACT has been started, but before a SWACT has taken place.

The format of the command is:

```
BCSUPDATE:

> ABORT_PRESWACT
```

There are no parameters or options associated with this command. The switch response to the ABORT_PRESWACT command is:

```
Your actions are being recorded. Do you wish to continue?
Please confirm (“YES”, “Y”, “NO”, or “N”):
```

To continue with the ABORT_PRESWACT procedure, the user must enter ‘Y’ or ‘YES’. To stop the ABORT_PRESWACT procedure, the user must enter ‘N’ or ‘NO’.

LIMITED_PRESWACT Steps

The following steps are executed in sequence to setup the environment for the switch of activity (SWACT). This is a complete list of steps run by LIMITED_PRESWACT. The steps may be different depending on the software present in the office.

If any steps fail, consult Appendix B: Supplementary Procedures, for a list of steps and how to proceed from a failure. After correcting a step failure, you must re-enter the command LIMITED_PRESWACT for the tool to continue.

Step Name	Purpose
TRANSFER_CM_DATA	Transfer the carry forward set data and day of week. Routine Exercise (REX) set data from the active to the inactive side and update the inactive to reflect the active sets.
CMIC_LINKHITS_CHECK	On the active side: Verify that neither of the MC links have experienced more than 3 link hits in the last 24 hours.
DISABLE_AUTOIMAGE	On the active side: This procedure is used to disable the auto image dump process. It disables any scheduled image dumps.
SAVE_DSLIMIT	On the active side: This procedure saves the current dsmax value in table dslimit to ‘STOREFS’ file on sfdev. This file is sent to the mate side and this value will be restored during POSTSWACT by step ‘CLEAN_UP_SFDEV’.
VERIFY_ACTIVE_DSLIMIT	On the active side: Check to see that there is at least 100K of available SFDEV. If not, it will add 100K to the STOREFS tuple in DSLIMIT.

LIMITED_PRESWACT Steps

Step Name	Purpose
VERIFY_DSLIMIT	On the inactive side: Same as above except on inactive side.
TRACE_ON	On the active side: Turn TRACECI ON for upcoming transfer of dynamic tables.
DISABLE_PATCH_AUDIT_ACT	On the active side: Disable the patch audit during the NORESTARTSWACT.
DISABLE_PRSM_AUDIT_ACT	On the active side: This procedure attempts to STOP and DELAY all PRSM processes which are bound into the PRSM scheduler. Performs the equivalent of the CI commands in the PRSM level: AUTOPROC ALL STOP and AUTOPROC ALL DELAY.
HALT_ACTIVE_ALT	On the active side: This procedure attempts to halt ALT (Automatic Line Test).
HALT_ACTIVE_ATT	On the active side: This procedure attempts to halt ATT (Automatic Trunk Test). It will be restarted by step RESUME_ATT.
HALT_ATT	On the inactive side: This procedure attempts to halt ATT (Automatic Trunk Test). It will be restarted by step RESUME_ATT.
SET_OFFICE_TUPLES	On the active side: Set the parm values of NODEREXCONTROL and LCDREX_CONTROL so that REX tests are effectively turned off during LIMITED_PRESWACT. Store the old values in REX$FILE and send to inactive side. Original values restored in POSTSWACT step RESET_OFFICE_TUPLES.
SET_CPU_SHARE	On the active side: Set the GUARANTEED_TERMINAL_CPU_SHARE to 16 for duration of LIMITED_PRESWACT.
SET_MATE_TUPLES	On the inactive side: Check that the REX$FILE arrived (see SET_OFFICE_TUPLES above). Store the original values in protected store, and turn off the REX parms. Set GUARANTEED_-TERMINAL_CPU_SHARE to 16 for LIMITED_-PRESWACT. Original values restored in POSTSWACT step RESET_OFFICE_tuples.
LIMITED_PRESWACT Steps	

Step Name	Purpose
DTDETECT_TRANSFER	On the active side: Check if the digitone detection feature is active and send the result over to the inactive side so that the boolean can be stored. This will be used in POSTSWACT to return the boolean DTDETECT_IN_USE to its original value.
SWACT_MODULE_CHECK	On the active and inactive sides: Check for the existence of specific SWACT modules.
FRAME_RELAY_BILLING_GENERATION	On the active side: Stop collection of billing data from the FRIUs and send collected billing data to AMA.
DISABLE_PATCH_AUDIT_INACT	On the inactive side: Disable the patch audit during the procedure. Enabled during POSTSWACT.
STATUSUPDATE	On the active side: Checks all nodes in office to ensure that none are SYSB, MANB or CBSY. Tell the inactive which are in an OK state and have them set to MANB or OK on the inactive side.
FOCUSED_MAINT_XFER	On the active side: Transfers line and trunk trouble information to the inactive side so that focused maintenance information is not lost during SWACT.
DUMP_TOPSMP_STATES	On the active side: Dump the appropriate TOPS position states into files TOPSMP$INB and TOPSMP$MB. Positions in a training state are not allowed, and the step will fail with warnings to this affect. Send files to the inactive.
RESTORE_INB_TOPSMP	On the inactive: RTS's all positions, puts all positions that appear in both files in the previous step into the INB state. The MB positions will be restored during POSTSWACT.
CORRECT_DRWR_STATES	On the active side: Transfer the line drawer states to the inactive and match the inactive drawer states to the active.
TRANSFER_STABLE_PRI_DCHS	On the active side: Transfer the PRI DCH states to the inactive.
TRANSFER_TRUNK_STATES	On the active side: Create files for trunk states (INB, MB and RES), and send them to the inactive. RESTORE_INB is done next, but the others will wait for POSTSWACT.
LIMITED_PRESWACT Steps	

Step Name	Purpose
RESTORE_INB	On the inactive side: MANB all trunks, then use INB$TRKS file to set the INB trunks back to INB. The trunks in files MB$TRKand RES$TRKS will be used to make these trunks INB. The POSTSWACT step TRUNK_RESTORE will set them back to MB and RES. The MATE_RESTART RELOAD (coming up) will set all MB trunks to CBSY.
TRANSFER_PDTC_HG	On the active side: Put the states of all handler groups for each PDTC into file PDTC$HGSTATE.
RESTORE_PDTC_HG	On the inactive side: Restore from file created in last step.
DUMP_LINE_STATES	On the active side: Go over every line in the office and put those in states INB, MB, CUT or HAZ into files. Send these files to the inactive side.
RESTORE_LINE_STATES	On the inactive side: Restore line states captured in the previous step. MB lines are made INB so they can't go CPB after SWACT. POSTSWACT sets INB lines that should be MB into the proper state.
ATTCONS_MATCH	On the inactive side: Set the state field in table ATTCONS for every attendant console to match the active side's state.
OVERLAP_CHECK	On the inactive side: Make sure the OVERLAP OUTPULSING is turned off in the new Equal Access Offices as it is incompatible with the Equal Access overlap outpulsing.
RESTORE_STABLE_PRI_DCHS	On the inactive side: Restore the PRI DCHS as stored in the above step.
SET_SWCT_AMA	On the active side: Set the SWCT_AMA_PREBILLING boolean to true so that the SWACT prebilling feature gets run after SWACT. This allows for partial billing of active calls during SWACT.
MATE_RESTART_RELOAD	On the inactive side: Send a message to the inactive side to perform a Restart Reload. Wait up to 10 minutes for the inactive to return flashing A1.
LIMITED_PRESWACT Steps	

Step Name	Purpose
STATUSCHECK	On the active side: Send messages to the inactive side, getting the status for all nodes in the office. Ensure that the states match the active side and that all states are OK, OFFLINE or Unequipped.
VERIFY_STORE	On the inactive side: Verify that the available data store is at least 5% of the total data store.
PRELOAD_EXECS	On the active side: Load the XPMs with the new exec lineups. The pointers to the exec lineups will be switched from old to new during the WARM-SWACT process.
UNMASK_CUSTFLDS	On the active side: Add tuples to table CUST-FLDS that will allow hidden fields for the dynamic tables to be transferred.
MATE_UNMASK_CUSTFLDS	On the inactive side: Add tuples to table CUST-FLDS that will allow hidden fields for the dynamic tables to be transferred.
TRANSFER_CFW	See Below.
TRANSFER_CFX	See Below.
TRANSFER_CFXCMD	See Below.
TRANSFER_SCALLTAB	See Below.
TRANSFER_IBNSC	See Below.
TRANSFER_ACSCALL	See Below.
TRANSFER_RCFCLI	See Below.
TRANSFER_ATTCONS	See Below.
TRANSFER_SLELIST	See Below.
TRANSFER_KSETQCK	See Below.
TRANSFER_TRIGASGN	Move the data for dynamic tables as close to SWACT as possible. There may have been a long delay between the DPSYNC/SPLIT_SYSTEM and now. Done in the above order.
MASK_CUSTFLDS	On the active side: Delete the previously added CUSTFLDS tuples.
MATE_MASK_CUSTFLDS	On the inactive side: Delete the previously added CUSTFLDS tuples.
LIMITED_PRESWACT Steps	

Step Name	Purpose
TRACE_OFF	On the active side: Halt TRACECI output that was needed for transferring dynamic table data.
MATE_TRACE_OFF	On the active side: Halt TRACECI output that was needed for transferring dynamic table data.
PM_EXEC_DELTA	On inactive side: Builds a table of (Series I) PM node numbers and their exec lineups, send it to the active where a comparison is made between it and a similar table built on the active side.
CHECK_DISK_VOLS	On the active side: Scan the volumes on all ONLINE disk drives and check that any open files are critical files. List all non-critical files that are open and tell the user to close them.
DUMP_DIRPPOOL	On the active side: Procedure to dump table DIRP-POOL into file DIRP_INAC. The file is sent to the inactive side's SFDEV for use by subsequent DIRP steps.
CHECK_DIRPPOOL	On the active side: 1. Display active side datafill. Advise the user to close regular TAPEX and parallel/regular TAPES. 2. Display inactive side datafill. Advise the craftsperson to mount any TAPE volumes (paral-lel/regular) that they want recovered after the SWACT. Advise also to adjust datafill for DISK or DPP volumes if desired.
CHECK_DIRPSSYS	On the inactive side: Check that all resident DIRP subsystems have associated entries in table DIRPSSYS. If not, check table DIRPPOOL to see that both a REGULAR and PARALLEL pool for the subsystem exist. If not, add them. Then add the DIRPSSYS entry for the subsystem.
SNIX_HSDF_TRANSFER	On the active side: transfer critical SNIXVOLS tuples to the inactive.
FBS_PRESWACT	On the active side: This procedure transfers FBS data, if any exists, when a valid software load is applied to the inactive side. FBS_PRESWACT ensures that FBS supports the software load being applied to the inactive side, and if there is FBS data to transfer, it invokes the PRESWACT data transfer utility to transfer the data.
LIMITED_PRESWACT Steps	

Step Name	Purpose
DCR_PRESWACT	Transfer of DCR_PRESWACT_TRANSFER_STRUCT from the active side to the inactive side. Currently the DCR_PRESWACT_TRANSFER_STRUCT holds SLER (Second Leg Exception Routing) information.
SRDB_INFO_TRANSFER	On the active side: Transfer the E911 Selective Routing Database to the inactive side.
OCNC_INFO_TRANSFER	On the active side: Transfer Night Closedown information to the inactive so that operator calls are routed properly after SWACT.
REMOVE_DTA_CON	On the active side: Remove connections to DTA monitors.
AUTOLD_TRANSFER	On the active side: Transfer the AUTOLD ROUTE information to the inactive side. This determines what device the side will reboot from if the system requires a reboot to recover the switch.
MS_CHECK	On the active side: Verify that the MSs are INSV and loaded with a compatible load. Both MS loads will be displayed to the terminal.
BUILD_SIS_ROUTING_DATA	On the active side: Step turns off registration and builds a table for the Structured Interaction Service (SIS) database. This is done to improve the performance in sending the SIS data to the inactive side.
LIMITED_PRESWACT Steps	

POSTSWACT Steps

The following steps are executed in sequence to clean up the environment after the SWACT. This is a complete list of steps run by POSTSWACT. The steps may be different depending on the software present in the office.

Step Name	Purpose
REACTIVATE_TRIGASGN	This step will reactivate the Data Call Tester (DCT) tool. The DCT tools was deactivated by step DISABLE_DCT earlier in the PRESWACT process.
DIRP_RECOVERY	Read DIRP_INAC file to recover AMA.
ENABLE_PES_AUDIT	Responsible for assigning Battery Rotation boolean to TRUE in order to enable audit. Audit was disabled by PRESWACT step 'DISABLE_PES_AUDIT'.
DIRP_AUDIT	Audit all DIRP subsystems to clear alarms.
HARDWARE_CHECK	Scan all hardware that is addressed by STATUSUPDATE/STATUSCHECK to ensure no hardware is MANB, SYSB or CBSY.
SNIX_HSDF_STARTUP	Use the Supernode UNIX (SNIX) Hosted SNIX Distributed File (HSDF) information transferred as part of the PRESWACT step SNIX_HSDF_TRANSFER. Since this step is not part of LIMITED_PRESWACT, this step will do nothing.
PROCESS_ONP_TIME	Process the file ONP_TIMES which holds times taken at various stages of the ONP (e.g. Start and end of PRESWACT, start of CC warm SWACT, etc.). The file is erased after it has been processed. The ONP times can be displayed with the ONPSTATS command.
CLEAR_INVALID_REGS	Perform the equivalent of a CLRINVREG of the REGISTER level.
SLU_INSTALL	Perform the equivalent of a SLUINSTALL on these tables: TRA250I1, TRA25I1, TRA125I2, and ENG640I1.
RESTORE_DTDETECT	Restart DTDETECT as if it were started in the old load.
TRUNK_RESTORE	Set trunks which were MB or RES back to their original state.
RESTORE_MB_LINES	Use MB$LNS to set lines which were MB before the SWACT back to MB.
RTS_INI_TRUNKS	RTS all trunks which are INI after the SWACT.
RESTORE_MB_TOPSMP	Set the TOPSMP which were MB before the SWACT back to MB.
POSTSWACT Steps	

Step Name	Purpose
SET_SMDR	Set the office parameter SMDR_LOG_RPT to ‘ALL 32767’ on the inactive side. This will ensure that all SMDR records will be printed as well as recorded to tape.
SET_AMA_RPT	Set the office parameter SPECIAL_AMA_REPORT to ‘Y BOTH 32767’. This ensures that the Automatic Accounting (AMA) billing records are printed as well as recorded to tape.
SET_AMAB	Set the tuple LOGAMA in table AMAOPTS to ON. Tuple LOGAMA controls the generation of AMAB117 log reports. When set ON, AMAB117 log reports are generated for each record that is put on the AMA tape.
DEVICE_SCAN	Scan all DDUs to make sure they are up and lists all DDU volumes and SFDEV to find all patches.
SLM_DISK_SCAN	Same as above, but for SLM devices.
MATCH_ALL_UPD	Perform the equivalent of a MATCHALL UPDATE from the PATCHER level.
BEGIN_TESTING	When this step stops POSTSWACT, this indicates that manual testing (if any) should begin. Enter the command POSTSWACT to continue and complete the remaining POSTSWACT steps.
ENABLE_PATCH_AUDIT_POSTSWACT	Enable the patch audit process that was previously disabled in the PRESWACT step DISABLE_PATCH_AUDIT_INACT.
POST_MS_CHECK	Ensure the CM and MS are the same software release.
UPDATE_MATCHALL	Match and update all host and peripheral patches and update the ‘units’ and ‘eligible units’ field in the MODULES column of the inform list. This step is the equivalent of the MATCHALL command from the patcher level.
PATCH_MS	Apply the Intelligent Services Node (ISN) patches for the active side found on all devices listed in table PADNDEV. A summary of the patch is displayed as it is applied to the ISNs.
RESET_OFFICE_TUPLES	Reset the following office parameters to their original values: NODEREXCONTROL, GUARANTEED_TERMINAL_CPU_SHARE.
POSTSWACT Steps	

Step Name	Purpose
RESET_SMDR	Reset office parameters SMDR_LOG_RPT to original value. This wasn't done in LIMITED_PRESWACT, so this step will do nothing.
RESET_AMA_RPT	Reset office parameter SPECIAL_AMA_REPORT to original value. This wasn't done in LIMITED_PRESWACT, so this step will do nothing.
RESET_AMAB	Reset tuple LOGAMA of table AMAOPTS to original value. This wasn't done in LIMITED_PRESWACT, so this step will do nothing.
ENABLE_AUTOIMAGE	Re-enable Auto Image feature. If it was disabled in LIMITED_PRESWACT.
ENABLE_AUTOTABAUDIT	Enables AUTOTABAUDIT after ONP. This step is only responsible for sending a start message to TABAUDIT's scheduler and waiting for the scheduler's reply. If there is no reply within 30 seconds or an invalid message is received, this step will stop and let the next POSTSWACT step continue.
RESUME_ATT	Resume scheduled ATT testing.
APPLY_LOG_SETTINGS	Applies temporary log control information (class, suppression, and threshold values) from the old load into the new load. These values are in hidden table LOGINFO.
CLEANUP_SFDEV_FILES	Erase the files used by the LIMITED_PRESWACT process and also erase patches from SFDEV.
RESET_TABXFR_TARGET	Resets TABXFR target back to STANDARD platform. STANDARD indicates datamove is being performed on a standard configuration.
DISPLAY_SWACT_TIME	Display the total CC warm SWACT time in minutes and seconds.
CLEANUP_LTC_ADNUM	This procedure will check for zero in the ADNUM field of table LTCINV tuples. If it finds a zero, it will allocate a valid ADNUM number and datafill it in the ADNUM field. (Zero is an invalid ADNUM number.)
CLEANUP_VR_MATE_DATA	Remove the mate version data associated with the Version Registry platform. Version Registry's mate version data needs to be removed after an upgrade since it may no longer be reliable if the switch should ever "drop-sync".
POSTSWACT Steps	

Step Name	Purpose
UPDATE_SMA_LAPD_PARMS	This procedure updates LAPD static data, specifically the N201 TMC LAPD parameter, in the SMA/ESMA for all Integrated Digital Terminals (IDTs) that are Generic TMC (GENTMC) IDTs. This is being done so that call processing can support Meridian Business Set (MBS) lines on TR303 Remote Digital Terminals (RDTs).
RESET_SFDEV_LIMIT	Set the DSMAX field of the STOREFS tuple in table DSLIMIT to its correct limit at the end on the POSTSWACT. This value may have been modified by the PRESWACT step VERIFY_DSLIMIT.
RESTORE_PASSWORDS	Verify that the ADMIN and OPERATOR user passwords retain their pre-swact values after an ONP. These passwords are saved when TABXFR runs. If TABXFR was not run, then the passwords are left at their pre-swact values.
POSTSWACT Steps	

CC warm SWACT Summary

SWitch of ACTivity (SWACT) is a generic DMS term referring to a process by which activity is switched between two sides. CC warm SWACT is a SWACT in the core of the switch (e.g. CM in Supernode), where special software is executed to ensure the degradation in service provided by a switch is minimized.

CC warm SWACT Steps

CC warm SWACT is traditionally used as a way of efficiently activating a new software load in a DMS switch. With recent enhancements, the NORESTARTSWACT utility has come into place where the system outage resulting from a software upgrade is reduced from several minutes to under thirty (30) seconds. This reduction in outage time achieved with NORESTARTSWACT makes it a viable tool to be used for minimizing all system degradation time due to restarts, not only those relating to a software upgrade.

The following sections relate directly to the NORESTARTSWACT utility and its use in minimizing system degradation during restarts. To better understand the software delivery aspects of NORESTARTSWACT, please see the “Software Delivery One Night Process Software Delivery Procedures” NTP (297-8991-303).

The following steps are executed to achieve a successful NORESTARTSWACT:

- Precheck to ensure the environment is right for the procedure (such as the DMS switch is not in-sync/unsplit.
- Establish communication between the two sides.
- Obtain required semi-dynamic data from the active side and transfer it to the inactive side.
- Setup and allocate required resources to transfer dynamic data (e.g. such as originating and terminating party of calls being supported).
- Stop call processing. Freeze the switch so nothing can change while activity is being switched.
- Obtain and transfer all dynamic data.
- SWitch ACTivity from the active side to the inactive side.
- Perform additional checking to ensure sanity of new side and initiate recovery.
- Insert the dynamic data that was transferred before SWACT.
- Resume call processing.
- Cleanup and de-allocate and resources used to execute the CC warm SWACT.

CC warm SWACT Commands

The following are the commands which are relevant to this MOP. To learn more about all SWACT commands, please refer to the ONP document (NTP 297-8991-303).

SWACTCI

SYNOPSIS

Command to enter the SWACT (SWitch of ACTivity) increment. Provides access to all CC warm SWACT commands. You must be in the BCSUPDATE directory to have access to this command.

QUIT

SYNOPSIS

Gracefully exits the SWACTCI increment.

DISPLAY

SYNOPSIS

Displays information resulting from the activity switch.

PARAMETERS

- BADNODES - Displays all hardware devices whose status is NOT OK or OFFLINE on the active side of the switch.
- MISMATCH - Displays mismatches found from comparing device status on the inactive and active. Use this option when the CC warm SWACT fails due to a status mismatch.
- SWACTTIME - Displays all times collected for CC warm SWACT (SWCT101 log information, EXECTIME, RECVTIME).

QUERYSWACT

SYNOPSIS

This command checks the office configuration to determine which CC warm SWACT command (NORESTARTSWACT or RESTARTSWACT) is recommended.

NORESTARTSWACT

SYNOPSIS

This command executes the CC warm SWACT process and performs all of the necessary prechecks to activate the CC warm SWACT. LIMITED_PRESWACT steps of BCSUPDATE must all be executed successfully before a NORESTARTSWACT will be allowed. This command is valid in BCS36 and greater.

OPTIONAL PARAMETER

- NOMATCH will disable the matching of device statuses between the active and inactive sides of the switch. WARNING: Do not use this option unless there is no alternative. Device statuses after the CC warm SWACT are not guaranteed with this option, hence devices may be out of service after the CC warm SWACT.

SYSTEM RESPONSE

The steps being executed as part of the CC warm SWACT will be displayed to the terminal and logs will be generated (SWCT102 logs). SWACT will occur. If a NORESTARTSWACT cannot be executed in this office the following message will be displayed:

```
"RESTARTSWACT should be used instead of NORESTARTSWACT.
NORESTARTSWACT command aborted."
```

STATUSCHECK

SYNOPSIS

This matches statuses for devices between the active and inactive side of the switch. It verifies that the STATUSUPDATE step executed in LIMITED_PRESWACT was successful.

SYSTEM RESPONSE

A SWCT109 log is generated for each type of device that has passed the STATUSCHECK process. A SWCT110 log is generated for each type of device that has failed the STATUSCHECK process. Each device of the failed type that mismatches is displayed to the terminal.

RESTOREXECS

SYNOPSIS

Use this command to load execs to any or all PM types.

CAUTION
For Emergency Use ONLY!

NON OPTIONAL PARAMETER

- <PM_TYPE> {TM, LM, DCM, RLM, XPM, SPM, ALL}

SYSTEM RESPONSE

PM type(s) chosen will have execs loaded. This will cause them to stop any call processing for the duration of the exec loading, thus an outage will occur. There is no response to the terminal.

CC warm SWACT Logs

Logs related to CC warm SWACT are of type SWCT.

SWCT logs are generated by the CC warm SWACT subsystem. SWCT102 and SWCT103 logs indicate the status (PASS, FAIL) of CC warm SWACT steps. Many times this log requires no action by site personnel, since they are mostly information logs. However, the logs may prompt the user for action, as explained below.

SWCT101 - Information log only. This log does not indicate a service affecting problem. Displays the WARM SWACT time.

SWCT102 - Information log only. This log does not indicate a service affecting problem. Indicates which CC warm SWACT step successfully completed.

SWCT103 - Trouble log. This log indicates a service affecting problem and must be investigated in order for CC warm SWACT to complete successfully. Indicates which CC warm SWACT step failed.

SWCT104 - Information log only. This log does not indicate a service affecting problem. Indicates a condition or state of the CC warm SWACT process.

SWCT105 - Trouble log. This log indicates a service affecting problem and must be investigated in order for CC warm SWACT to complete successfully. Indicates why a CC warm SWACT step failed.

SWCT106 - Trouble log. This log indicates a service affecting problem and must be investigated in order for CC warm SWACT to complete successfully. Indicates the underlying problem of why a CC warm SWACT step failed.

SWCT109 - Information log only. This log does not indicate a service affecting problem. Indicates that a STATUSCHECK application passed.

SWCT110 - Trouble log. This log indicates a service affecting problem and must be investigated in order for CC warm SWACT to complete successfully. Indicates that a STATUSCHECK application failed.

SWCT111 - Information log only. This log does not indicate a service affecting problem. Indicates that the PREOAD_EXECS step of LIMITED_PRESWACT completed successfully.

SWCT112 - Trouble log. This log indicates a service affecting problem and must be investigated and corrected in order for CC warm SWACT to complete successfully. Indicates that PRELOAD_EXECS failed for an XPM, one log will be reported for every XPM that failed.

SWCT113 - Information logs only. This log does not indicate a service affecting problem. Indicates that the MODCHECK command passed successfully.

SWCT114 - Trouble log. This log indicates a service affecting problem and must be investigated in order for CC warm SWACT to complete successfully. Indicates that the MODCHECK command failed.

SWCT115 - Trouble log. This log indicates a service affecting problem and must be successfully dealt with in order for CC warm SWACT to complete successfully. This log Indicates which modules are missing on the inactive side according to the MODCHECK command. One log will be reported for every missing module.

SWCT116 - Information log only. This log does not indicate a service affecting problem. Indicates that a module has been OVERRIDDEN/RESET for checking by the MODCHECK command.

SWCT117 - Information log only. This log does not indicate a service affecting problem. Displays information about the CC warm SWACT process.

TASTOOLCI Summary

TASTOOLCI is a command increment that contains tools that are only to be used during special maintenance activities, such as an ONP. This increment is only found on XACore switches, and not CM switches.

In the field the TASTOOLCI tool is password protected. If this tool is to be used in a field load, you must enter the Tool Supervisor (TOOLSUP) and enter the password. If the password is not known, contact the next level of support in order to obtain the TOOLSUP password.

TASTOOLCI COMMANDS

The commands that are available for the TASTOOLCI utility are as follows:

TASTOOLCI

Synopsis

This command switches the user into the directory where some commands for the XA-Core ETAS Tool set can be found.

System Response

Prompt changes to `TASTOOLCI:'.

HELP

Synopsis

This command provides a brief list of the commands available in the TASTOOLCI directory.

System Response

A list of the commands available in the TASTOOLCI directory is displayed to the user. For a more detailed list of the commands type: H TASTOOLCI and for more help on a specific command type: H <command>.

QUIT

Synopsis

This command gracefully exits the TASTOOLCI Command Interpreter increment.

System Response

Prompt returns to previous state.

AUTO_UNSPLIT_OFF

Synopsis

This command disables the automatic unsplitting of a switch in split mode if an active side restart occurs.

System Response

If successful, the following message is displayed:

```
Automatic unsplitting on active side
restarts has been disabled.
```

AUTO_UNSPLIT_ON

Synopsis

This command enables the automatic unsplitting of a switch in split mode if an active side restart occurs.

System Response

If successful, the following message is displayed:

```
Automatic unsplitting on active side
restarts has been enabled.
```

AUTO_UNSPLIT_STATUS

Synopsis

This command displays the current status of AUTO_UNSPLIT.

System Response

If the office will unsplit on an active side restart, the following message is displayed:

```
Automatic unsplitting on active side
restarts is enabled.
```

If the office is not set to split on an active side restart, the following message is displayed.

```
Automatic unsplitting on active side
restarts is disabled.
```

SPLIT_SYSTEM

Synopsis

This is the command to split a switch. This will create a copy of the image on the inactive side.

Parameters

- WARM will cause a warm restart to be done on the inactive side when the system split is complete.
- COLD will cause a cold restart to be done on the inactive side when the system split is complete. This is also the default setting if no parameter is entered.
- RELOAD will cause a reload restart to be done on the inactive side when the system split is complete.
- NO PARAMETER entered will cause a COLD restart to be done on the inactive side when the system split is complete.

Example

> QUIT ALL;TASTOOLCI;SPLIT_SYSTEM <RESTART_TYPE>

Where <RESTART_TYPE> is either WARM, COLD, or RELOAD.

System Response

The switch will be put into a split state, and perform the specified restart on the inactive side.

UNSPLIT_SYSTEM

Synopsis

This is the command to unsplit a switch. The active side load will be copied into the inactive side, and then the two sides will be redundant. Whatever load was in the inactive side prior to the execution of this command will be lost.

System Response

The switch will be put into an UNSPLIT state.

INACTIVE_RESTART

Synopsis

This is the command to invoke an inactive side restart from the active side.

Parameters

- WARM will cause a warm restart to be done on the inactive.
- COLD will cause a cold restart to be done on the inactive side.
- RELOAD will cause a reload restart to be done on the inactive side. Note that a reload restart on the inactive side will clear all logutil buffers

Example

> QUIT ALL;TASTOOLCI;INACTIVE_RESTART <RESTART_TYPE>

Where <RESTART_TYPE> is either WARM, COLD, or RELOAD.

System Response

The system will perform the specified restart on the inactive side.

Appendix B: Supplementary Procedures

Recovering from a MTCSWACT Step Failure

Should MTCSWACT encounter an error during processing that causes it to abort its processing, the user will be notified by a message to their MAP terminal. In addition to the failure message, MTCSWACT will execute a number of cleanup steps to back out of the steps it had completed in preparation for the CC warm SWACT. If the switch was in an out of sync or split state prior to the failure, the cleanup steps will NOT sync/unsplit the switch. This must be done manually be the user. Refer to step 29 on page 47 of the NORESTARTSWACT MOP (CM-Core) for the command to sync the switch (CM Core) or refer to step 27 on page 113 of the MTCSWACT MOP (XA-Core) for the command to abort the MTCSWACT on an XACore switch.

Should you require assistance in recovering from a MTCSWACT failure, please contact your next level of support. “Appendix D: MTCSWACT Messages” contains a list of possible MTCSWACT error messages. This section will help you understand the MTCSWACT error messages and how to continue with MTCSWACT.

Using the PAUSE Option with MTCSWACT

If you must perform some activity on the switch while it is out of sync or split, you should use the ‘PAUSE’ option when issuing the MTCSWACT command. The syntax is:

```
> QUIT ALL;MTCSWACTCI;MTCSWACT <restart type> PAUSE
```

Where <restart type> is one of WARM, COLD, or RELOAD. The following warning will be displayed after you enter the MTCSWACT command with the ‘PAUSE’ option.

```
WARNING: MTCSWACT runs with the switch out of sync.
         The PAUSE option will prolong this state.
```

In order to reduce the impact on the system, MTCSWACT keeps track of how long the switch has been out of sync, and informs the user before the CC warm SWACT if the switch has been out of sync or split for more than 20 minutes.

After this warning message, MTCSWACT will continue to perform as documented in the MTCSWACT MOP (CM-Core) (see step 14 page 83) or the MTCSWACT MOP (XA-Core) (see step 15 page 105). Before the switch of activity prompt, MTCSWACT will enter its 'paused' state to allow you to perform your work. The following message will be displayed when MTCSWACT pauses:

```
Starting the out of sync pause. MTCSWACT processing is
suspended. To resume MTCSWACT, type RESUME from the
MTCSWACTCI directory.
```

When you are ready for MTCSWACT to resume processing, use the 'RESUME' command as follows:

```
> QUIT ALL:MTCSWACTCI;RESUME
```

MTCSWACT will resume processing as documented in the MTCSWACT MOP (CM-Core) (see step 20 page 86) or the MTCSWACT MOP (XA-Core) (see step 21 on page 108).

Logging into the Inactive Side

Why Log into the Inactive Side?

Many recovery procedures from failed LIMITED_PRESWACT steps require the user to log into the mate (or inactive) side of the switch to either change tables, change hardware states, or check hardware statuses.

What is the Mate or Inactive Side?

The DMS-100-Family of switches is designed to have processor redundancy for each critical hardware area. This redundancy works such that at least one processor is active and working on the active side. The inactive side is in standby mode should the currently active processor(s) fail in some way. The result of switching from one side to the another is called Switch of ACTivity (SWACT).

In relation to the CM configuration of a switch, there are two central processors, and only one is active at any one time. If the CM is "in-sync", then both processors are executing the same instructions, in case the active unit fails and the inactive has to take over operation. This way there is no interruption in call processing, and the subscribers notice no service outage.

If the CM is not "in-sync" then each processor is acting independent of the other. The inactive processor may even have a different software load (in the case of a software upgrade). This state puts the switch at risk should the active processor fail in some way.

In relation to the XACore configuration of a switch, redundancy is accomplished by having one PE dedicated to the inactive (slave) side at any

given time. The other processor(s) are dedicated to the active side. If the XACore is “unsplit”, then all processors are executing instructions in the same load, in case a PE fails and the extra PE has to take over operation. This way there is no interruption in call processing, and the subscribers notice no service outage.

How to Log into the INACTive Side

There exists a communication link between the active and inactive processors. This link in a supernode is called the ‘MATELINK’. Its purpose is to provide access from the active side to the inactive side. Once this link is established, the user can start a MAP session on the inactive side, and affect the switch in the same way they could on the active. The following commands will establish the link and log into the inactive side. Note that the switch must be out of sync or split for these commands to work. If the switch is in-sync or unsplit, the commands will fail.

> MATELINK RTS
%% The switch will respond with
```
Request submitted.
MATELINK RTS successful.
```
> MATEIO
%% This enters the MATEIO level of the map. From here you can establish the MAP session
%% The switch will respond with
```
MATEIO setup successful.
```
> MATELOG <device>
%% The device name is that of your current device, or another device you wish to use to login with. An example could be ‘MAP3’ indicating the terminal name MAP3 as datafilled in table TERMDEV.

Once the ‘MATELOG’ command has completed, you will see the login prompt for the mate side. It may look like:

Mate> Enter Username and Password

It is important to note that all terminal responses from the mate, and all commands to the mate must have the cursor preceded by the string ‘Mate>’. This is NOT a user defined string, the switch generates this string so the user may know which processor they are talking to. If you are logged into both processors on the same MAP terminal, you will need to hit <RETURN> once or twice to get the correct prompt for the processor you wish to talk with.

Once logged into the mate, you may view tables, change tables, change hardware states, etc. It is important to note that the PMs may not appear to be good states (i.e. SYSB, or CBSY), since this side of the switch has no physical contact with the peripheral hardware. The peripheral hardware is under the control of the active processor.

CAUTION: Logging into the inactive side on a device that is already logged into the active side is very dangerous as confusion may result in commands

being entered on the active side that were meant for the inactive side. Always try and log in a separate device to the inactive side that is not currently logged into the switch. As well make sure that you are entering commands at the desired prompt before hitting the carriage return i.e. commands to the inactive side at the 'Mate>' prompt.

Note: For an X.25 port (CMAP) the MATEIO behaviour is not consistent with dial up (async, VT100) ports in that the prompt does not change to the inactive prompt (Mate>) when you are on the inactive side.

SPLITTING And UNSPLITTING an XA-Core Switch

Splitting or Unsplitting an XA-Core switch is analogous to "dropping SYNC" and "SYNCING" of a regular CM-Core switch.

When an XA-Core switch is split, it goes from having one slave PE running the same load as the PE(s) on the active side to running its own load on the inactive side. This is analogous to "dropping sync" in a CM-Core switch. At this point, the switch is in an E2 condition. This simply means that if there is a critical fault on the active side, the inactive side is not prepared to take over processing from the active.

When an XA-Core switch is unsplit, it goes from having one slave PE running its' own load on the inactive side to running the same load as the active side. This is referred to as being in redundant mode, and is analogous to a CM-Core switch running "in sync". The commands to split and unsplit an XA-Core switch are located in the TASTOOLCI increment - see "TASTOOLCI Summary" on page 134 for more information on TASTOOLCI.

The syntax of the SPLIT_SYSTEM command is as follows:

>QUIT ALL;TASTOOLCI
%% This enters the TASTOOLCI level of the map.
%% The switch will respond with
`TASTOOLCI:`
>SPLIT_SYSTEM
%% This will start the process of splitting the switch. The whole process takes a few minutes. The process is complete when the inactive side completes its' restart. The only way to tell for sure that the inactive side restart is complete is to matelog into the inactive side. See "Logging into the Inactive Side" on page 138 for more information.
%% The system will respond with
```
Note: Splitting the switch may take a little while.
Performing restart COLD on the inactive side.
```

The syntax of the UNSPLIT_SYSTEM command is as follows:

> QUIT ALL;TASTOOLCI
%% This enters the TASTOOLCI level of the map.
%% The switch will respond with
`TASTOOLCI:`
> UNSPLIT_SYSTEM
%% This will start the process of unsplitting the switch. The whole process takes a few minutes.
%% The system will respond with
`Note: Unsplitting the switch may take a little while.`

Correcting LIMITED_PRESWACT Failures

LIMITED_PRESWACT is a command run in preparation of a NORESTARTSWACT. The details can be found in Appendix A: Command Summaries in the section “LIMITED_PRESWACT Steps” on page 119.

The following is a table of possible LIMITED_PRESWACT steps. This is not a complete list of processes run by LIMITED_PRESWACT, some steps may be different depending on the software present in the office.

You must reenter the command LIMITED_PRESWACT after you have corrected a failed step to continue with LIMITED_PRESWACT.

To override a step that fails, use the following command:

> QUIT ALL;BCSUPDATE;OVERRIDE <step name>
Example of <step name> could be TRACE_ON.

Note that the column named ‘How to Recover’ in the following table will indicate which steps can be safely overridden.

Step Name	How to Recover
TRANSFER_CM_DATA	This step cannot be done manually. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
CMIC_LINKHITS_CHECKVERIFY_ACTIVE_DSLIMIT	This step cannot be done manually. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.

Correcting LIMITED_PRESWACT Steps.

Step Name	How to Recover
VERIFY_ACTIVE_DSLIMIT	The user can manually change the value of DSMAX in table DSLIMIT on the active side and add 100K of store. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
DISABLE_AUTOIMAGE	The user can use the command AUTODUMP OFF command to disable the autodump.
SAVE_DSLIMIT	If this step fails, check to see that there is enough store left on SFDEV. If not, clean up SFDEV to make more store available. If enough store exists, then the step can be done manually by recording the value of DSMAX in table DSLIMIT for the tuple STOREFS. This value can be restored manually in POSTSWACT after the CLEAN_UP_SFDEV step has run.
VERIFY_DSLIMIT	The user can manually change the value of DSMAX in table DSLIMIT on the inactive side and add 100K of store. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
TRACE_ON	There is no manual work-around for this step. Investigate failure, but this step can be overridden and the process continued. Note that if this step is overridden, the LIMITED_PRESWACT step TRACE_OFF will fail.
DISABLE_PATCH_AUDIT_ACT	There is no manual work-around for this step. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
DISABLE_PRSM_AUDIT_ACT	The user can manually stop all currently running audits by typing the following command in the PRSM level: > AUTOPROC ALL STOP The user can manually prevent the audits from running during the next scheduling cycle by issuing the following command in the PRSM level: > AUTOPROC ALL DELAY
HALT_ACTIVE_ALT	The line tests can be manually stopped in the MAPCI;MTC;LNS;ALT increment.
HALT_ACTIVE_ATT	The user can manually halt the ATT tests by going to the MAPCI;MTC;TRKS;ATT level and entering the HALTATT command on the active side.
Correcting LIMITED_PRESWACT Steps.	

Step Name	How to Recover
HALT_ATT	The user can manually halt the ATT tests by going to the MAPCI;MTC;TRKS;ATT level and entering the HALTATT command on the inactive side.
SET_OFFICE_TUPLES	This step can be done manually on the active side by changing tuples: NODEREXCONTROL to N 9 30 9 31 LCDREX_CONTROL to N 1 0 3 0 2 Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
SET_CPU_SHARE	This step can be done manually by changing tuple GUARANTEED_TERMINAL_CPU_SHARE to 16 This step can be overridden and the process continued.
SET_MATE_TUPLES	This step can be done manually by logging into the inactive and changing the same tuples as step SET_OFFICE_TUPLES, but on the inactive side. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
DTDETECT_TRANSFER	This step cannot be done manually.This step can be overridden and the process continued. However, this could cause the POSTSWACT step RESTORE_DTDETECT to fail if this is overridden
SWACT_MODULE_CHECK	Since this use of LIMITED_PRESWACT is for the same software load, this step should not fail. If it does, contact your next level of support. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
FRAME_RELAY_BILLING_GENERATION	This step cannot be done manually. Contact your next level of support for assistance. Without this step, billing info may be lost. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
DISABLE_PATCH_AUDIT_INACT	This step should be investigated and corrected. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
Correcting LIMITED_PRESWACT Steps.	

Step Name	How to Recover
STATUSUPDATE	This step should be investigated and corrected. The status of nodes between the active and inactive can be resolved by logging into the inactive side and matching the states on both sides. If all matching has been done and the step still fails, contact your next level of support. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
FOCUSED_MAINT_XFER	The line and trunk status will reappear on the map after SWACT after the proper audits have run. This step can be overridden and the process continued.
DUMP_TOPSMP_STATES	Ensure no TOPS positions are in training position. Files TOPSMP$MB and TOPSMP$INB will be created on SFDEV. These files cannot be created manually. Investigate, but this step can be overridden and the process continued. If this is overridden, expect the next step to fail. You will have to override the next step to continue.
RESTORE_INB_TOPSMP	If the files created in step DUMP_TOPSMP_STATES are on SFDEV, the user can transfer them to the inactive side and run the files to set the TOPS positions to the proper state(s). This step can also be overridden and the process continued. This step will fail if the previous step was overridden. If the previous step was overridden, then this step must also be overridden.
CORRECT_DRWR_STATES	A list of DRWRs that will be OFFL after SWACT will be displayed. Investigate if these DRWRs should be INSV after SWACT, but otherwise, this step can be overridden and the process continued.
TRANSFER_STABLE_PRI_DCHS	This step should be investigated and corrected. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
TRANSFER_TRUNK_STATES	This step creates files - INB$TRKS, MB$TRKS, and RES$TRKS. If step fails, check on SFDEV to see which files have been created. Transfer the created files to the inactive for the next step to run. For files that were not created, record trunk CLLIs in these states and restore the trunks manually after SWACT. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
Correcting LIMITED_PRESWACT Steps.	

Step Name	How to Recover
RESTORE_INB	Manually change trunks in file INB$TRKS to INB on the inactive side. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
TRANSFER_PDTC_HG	Check to see if file PDTC$HGSTATE has been created on the inactive. Transfer this file to inactive if it is created. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
RESTORE_PDTC_HG	Restore states manually using the file PDTC$HGSTATE as a guide. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
DUMP_LINE_STATES	This step creates files - INBLNS, CUTLNS and MB$LNS. Check to see which files have been created. Transfer those that are created to the inactive side. Make note of lines in states for which no file was created. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
RESTORE_LINE_STATES	Manually restore line states in from files INB$LNS and CUT$LNS. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
ATTCONS_MATCH	This step cannot be done manually. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
OVERLAP_CHECK	This step is not critical. It can be overridden and the process continued.
RESTORE_STABLE_PRI_DCHS	This step should be investigated and corrected. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
SET_SWCT_AMA	Manually set tuple SWCT_AMA_PREBILLING to TRUE. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
Correcting LIMITED_PRESWACT Steps.	

Step Name	How to Recover
MATE_RESTART_RELOAD	This step can be done from the inactive RTIF. However, the failure of the RESTART RELOAD may indicate some other problem in the office, and perhaps should warrant an abort of the NORESTARTSWACT procedure. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
STATUSCHECK	This step should be investigated and corrected. The status of nodes between the active and inactive can be resolved by logging into the mate and correcting the states on both sides. If all matching has been done and the step still fails, contact your next level of support. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
VERIFY_STORE	Check that Data Store on the inactive is <= 96%. If it is higher, contact your next level of support. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
PRELOAD_EXECS	This step cannot be done manually. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
UNMASK_CUSTFLDS	This step cannot be done manually. However, it can be overridden and the process continued. Note that if overridden, the subsequent transfer steps will fail.
MATE_UNMASK_CUSTFLDS	This step cannot be done manually. However, it can be overridden and the process continued. Note that if overridden, the subsequent transfer steps will fail.
TRANSFER_CFW	This step cannot be done manually. This step can be overridden and the process continued. Could fail because of previous override of UNMASK_CUSTFLDS and/or MATE_UNMASK_CUSTFLDS.
TRANSFER_CFX	This step cannot be done manually. This step can be overridden and the process continued. Could fail because of previous override of UNMASK_CUSTFLDS and/or MATE_UNMASK_CUSTFLDS.
TRANSFER_CFXCMD	This step cannot be done manually. This step can be overridden and the process continued. Could fail because of previous override of UNMASK_CUSTFLDS and/or MATE_UNMASK_CUSTFLDS.
Correcting LIMITED_PRESWACT Steps.	

Step Name	How to Recover
TRANSFER_SCALLTAB	This step cannot be done manually. This step can be overridden and the process continued. Could fail because of previous override of UNMASK_CUSTFLDS and/or MATE_UNMASK_CUSTFLDS.
TRANSFER_IBNSC	This step cannot be done manually. This step can be overridden and the process continued. Could fail because of previous override of UNMASK_CUSTFLDS and/or MATE_UNMASK_CUSTFLDS.
TRANSFER_ACSCALL	This step cannot be done manually. This step can be overridden and the process continued. Could fail because of previous override of UNMASK_CUSTFLDS and/or MATE_UNMASK_CUSTFLDS.
TRANSFER_RCFCLI	This step cannot be done manually. This step can be overridden and the process continued. Could fail because of previous override of UNMASK_CUSTFLDS and/or MATE_UNMASK_CUSTFLDS.
TRANSFER_ATTCONS	This step cannot be done manually. This step can be overridden and the process continued. Could fail because of previous override of UNMASK_CUSTFLDS and/or MATE_UNMASK_CUSTFLDS.
TRANSFER_SLELIST	This step cannot be done manually. This step can be overridden and the process continued. Could fail because of previous override of UNMASK_CUSTFLDS and/or MATE_UNMASK_CUSTFLDS.
TRANSFER_KSETQCK	This step cannot be done manually. This step can be overridden and the process continued. Could fail because of previous override of UNMASK_CUSTFLDS and/or MATE_UNMASK_CUSTFLDS.
MASK_CUSTFLDS	This step cannot be done manually. This step can be overridden and the process continued. Could fail because of previous override of UNMASK_CUSTFLDS and/or MATE_UNMASK_CUSTFLDS.
MATE_MASK_CUSTFLDS	This step cannot be done manually. This step can be overridden and the process continued. Could fail because of previous override of UNMASK_CUSTFLDS and/or MATE_UNMASK_CUSTFLDS.
TRACE_OFF	This step cannot be done manually. This step can be overridden and the process continued. Could fail if step TRACE_ON was overridden.
Correcting LIMITED_PRESWACT Steps.	

Step Name	How to Recover
MATE_TRACE_OFF	This step cannot be done manually. This step can be overridden and the process continued. Could fail if step TRACE_ON was overridden.
PM_EXEC_DELTA	This step cannot be done manually. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
CHECK_DISK_VOLS	This step fails most often. There are usually files open in the CM (i.e. logs routed to disk), but there can also be remote logs running to a file from ENET and LIMs. Investigate all possible files and close them. Then resume. If there are absolutely no files open and the step still fails, contact your next level of support. The NORESTARTSWACT procedure may have to be aborted.
DUMP_DIRPPOOL	This step cannot be done manually. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
CHECK_DIRPPOOL	Match datafill as outlined by the output. If the datafill is the same or the data cannot be matched and the step still fails, contact your next level of support. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
CHECK_DIRPSSYS	This step cannot be done manually. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure
SNIX_HSDF_TRANSFER	This step cannot be done manually. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure
FBS_PRESWACT	A manual workaround for this step is not known. Contact your next level of support if necessary.
DCR_PRESWACT	In case of failure, this step can be overridden and the process continued. The SLER value can be set manually from DCRUTIL utility SLER (ON,OFF,QUERY).
SRDB_INFO_TRANSFER	This step cannot be done manually. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure
OCNC_INFO_TRANSFER	This step cannot be done manually. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure
Correcting LIMITED_PRESWACT Steps.	

Step Name	How to Recover
REMOVE_DTA_CON	This step cannot be done manually. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure
AUTOLD_TRANSFER	This step cannot be done manually. Contact your next level of support if necessary. If the problem cannot be corrected, abort the NORESTARTSWACT procedure
MS_CHECK	Since this use of LIMITED_PRESWACT is for the same software load, this step should not fail. If it does, contact your next level of support. If the problem cannot be corrected, abort the NORESTARTSWACT procedure.
BUILD_SIS_ROUTING_DATA	If the step fails there are no manual actions which can be taken to continue, and since the data is essential to the proper functioning of SIS, the SWACT should not be allowed to continue.

Correcting LIMITED_PRESWACT Steps.

Correcting POSTSWACT Failures

POSTSWACT is a command run after a NORESTARTSWACT. The details can be found in Appendix A: Command Summaries in the section “POSTSWACT Steps” on page 125.

The following is a table of possible POSTSWACT steps. This is not a complete list of steps run by POSTSWACT, the steps will be different depending on the software level, and on certain features being present in the office.

You must reenter the command POSTSWACT after you have corrected a failed step, to continue with POSTSWACT.

Step Name	How to Recover
REACTIVATE_TRIGASGN	This step cannot be done manually. This step can be overridden, and the process continued.
DIRP_RECOVERY	This step cannot be done manually. This step should be investigated and corrected. Contact your next level of support if necessary.
ENABLE_PES_AUDIT	Investigate failure, but this step can be overridden and the process continued.

Correcting POSTSWACT Steps

Step Name	How to Recover
DIRP_AUDIT	This step cannot be done manually. This step should be investigated and corrected. Contact your next level of support if necessary.
HARDWARE_CHECK	Investigate bad hardware that is displayed. This step can be overridden and the process continued.
SNIX_HSDF_STARTUP	Investigate. May fail if LIMITED_PRESWACT step SNIX_HSDF_TRANSFER which created the files failed or was overridden.
PROCESS_ONP_TIME	Investigate. May fail if LIMITED_PRESWACT steps which created the file failed. User can also display this information with the ONPSTATS command.
CLEAR_INVALID_REGS	Investigate, but this step can be overridden and the process continued. User can also use the CI command CLRINVREG to accomplish the same task.
SLU_INSTALL	Investigate, but this step can be overridden and the process continued.
RESTORE_DTDETECT	Investigate, but this step can be overridden and the process continued. If LIMITED_PRESWACT step DTDETECT_TRANSFER failed or was overridden, this step will fail also.
TRUNK_RESTORE	Investigate. May fail if preswact step which created the files failed or was overridden. Can restore manually from files MB$TRKS and RES$TRKS that were created during LIMITED_PRESWACT.
RESTORE_MB_LINES	Investigate, may fail if preswact step which created the files failed or was overridden. Can restore manually from file MB$LNS that was created during LIMITED_PRESWACT.
RTS_INI_TRUNKS	Can restore manually all INI trunks that need to be returned to service. Contact your next level of support if necessary.
RESTORE_MB_TOPSMP	Investigate, may fail if preswact step which created the files failed or was overridden. Can restore from file TOPSMP$MB created during LIMITED_PRESWACT.
SET_SMDR	This step can be done manually. The user can set the tuple SMDR_LOG_RPT to ‘ALL 32767’. Investigate, but this step can be overridden and the process continued.
Correcting POSTSWACT Steps	

Step Name	How to Recover
SET_AMA_RPT	This step can be done manually. The user can set the tuple SPECIAL_AMA_REPORT to 'Y BOTH 32767'. Investigate, but this step can be overridden and the process continued.
SET_AMAB	This step can be done manually. The user can set the tuple LOGAMA to 'ON'. Investigate, but this step can be overridden and the process continued.
DEVICE_SCAN	Investigate, but this step can be overridden and the process continued.
SLM_DISK_SCAN	Investigate, but this step can be overridden and the process continued.
MATCH_ALL_UPD	Investigate, but this step can be overridden and the process continued. The user can use the patcher command to update this information. This should not pose any risk since the office was fully patched before the procedure was started.
BEGIN_TESTING	POSTSWACT will always stop at this point. If you have call testing to perform now is the time. After the testing continue by typing POSTSWACT.
ENABLE_PATCH_AUDIT_POSTSWACT	This will enable the process that was disabled in LIMITED_PRESWACT step DISABLE_PATCH_AUDIT_ACT. Investigate, but this step can be overridden and the process continued.
POST_MS_CHECK	This will fail if LIMITED_PRESWACT step MS_CHECK failed. This step should not fail since the NORESTARTSWACT procedure was for the same software release. Investigate, but this step can be overridden and the process continued.
UPDATE_MATCHALL	Investigate, but this step can be overridden and the process continued.
PATCH_MS	There should be no patches to apply since the office was patched before the process began. Investigate, but this step can be overridden and the process continued.
RESET_OFFICE_TUPLES	User can manually restore the values of NODREXCONTROL, LCDREX_CONTROL and GUARANTEED_TERMINAL_CPU_SHARE. Contact your next level of support if necessary.
Correcting POSTSWACT Steps	

Step Name	How to Recover
RESET_SMDR	User can manually reset the value of SMDR_LOG_RPT to 'NONE 0'. Contact your next level of support if necessary.
RESET_AMA_RPT	User can manually reset the value of SPECIAL_AMA_REPORT to 'N BOTH 0'.Investigate, may fail if LIMITED_PRESWACT step SET_AMA_RPT failed or was overridden.
RESET_AMAB	User can manually reset the value of LOGAMA to OFF. Investigate, may fail if LIMITED_PRESWACT step SET_AMAB failed or was overridden.
ENABLE_AUTOIMAGE	There is no LIMITED_PRESWACT step to disable the autoimage. This step should not fail. Investigate if it fails, but this step can be overridden and the process continued.
ENABLE_AUTOTABAUDIT	The AUTOTABAUDIT can be enabled by entering the following command from the TABAUDIT;AUTO level: > EXECUTE.
RESUME_ATT	This is not turned off in LIMITED_PRESWACT. This step should not fail. Investigate if it does, but this step can be overridden and the process continued.
APPLY_LOG_SETTINGS	A manual workaround for this step is not known. Contact your next level of support if necessary.
CLEANUP_SFDEV_FILES	Files created by LIMITED_PRESWACT will be erased from SFDEV. The system will prompt the user before it erases patch files from SFDEV. Investigate, but this step can be overridden and the process continued. User can manually erase files from SFDEV. LIMITED_PRESWACT could create any of the following files. Erase those that appear in your SFDEV. INB$TRKS, INB$TRKS2, INBLNS, INBLNS2, MB$TRKS, MB$TRKS2, MB$LNS, MB$LNS2, RES$TRKS, RES$TRKS2, HAZLNS, HAZLNS2, CUTLNS, CUTLNS2, TOPSMP$MB, TOPSMP$INB, PDTC$HGSTATE, DIRP_INAC, INB$DCH, MB$DCH, and DIRP_REC.
DISPLAY_SWACT_TIME	This step can be done from the SWACTCI command - DISPLAY SWACTTIME. If this step fails, you can override and continue.
Correcting POSTSWACT Steps	

Step Name	How to Recover
CLEANUP_LTC_ADNUM	This step can be done manually by obtaining the last adnum (administration number) used in table LTCINV. Add one to this number, and then change all adnum numbers in table LTCINV that have a value of zero to the new adnum number found above. Contact the next level of support if not comfortable in performing this operation.
CLEANUP_VR_MATE_DATA	Unable to delete mate data; the only impact to the failure of removing mate data would occur if the switch dropped sync and then a query for mate data was executed. The mate data may no longer be valid if someone has booted a different load on the inactive side. The probability of this occurring is very minimal. The impact of this step failing is minimal. This step will not stop POSTSWACT should an error occur in our cleanup utility.
UPDATE_SMA_LAPD_PARMS	If the step fails, it can be run again. If it still fails, find out what SMA it is failing on, and then do a PMRESET on that SMA.
RESET_SFDEV_LIMIT	User can manually reset the DSMAX to its previous level. Investigate, but this step can be overridden and the process continued.
RESTORE_PASSWORDS	This step will not report a failure, however, if it fails to restore the ADMIN and OPERATOR passwords, then the user must set them.

Correcting POSTSWACT Steps

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Appendix C: Aborting the CC Warm SWACT

Aborting the NORESTARTSWACT Procedure

When to use this Procedure

This procedure is only valid when the NORESTARTSWACT MOP (CM-Core) or NORESTARTSWACT MOP (XA-Core) is being executed. If you are performing a MTCSWACT procedure and wish to abort that procedure, please see the section entitled “Aborting the MTCSWACT Procedure” on page 160 to help you.

Should you find yourself in a situation where LIMITED_PRESWACT steps are failing, or you have run out of time in the allotted maintenance window, you may wish to stop the procedure and return to a state before the NORESTARTSWACT MOP (CM-Core) or NORESTARTSWACT MOP (XA-Core) was started. This Appendix will guide you out of the NORESTARTSWACT procedure.

Note: Once you have executed the NORESTARTSWACT command, there is no backout procedure. However, should the switch be in a state where there are serious concerns about its operation, there are two methods that can be used to revert back to the previously active side. The two methods are the command ABORTSWACT (valid for CM and XA Cores) and the activity of jamming activity back to the previously active side from the RTIF (CM Core only). To use either of these methods, contact your next level of support for assistance.

Summary of Procedure

The following table summarizes the main steps required in reverting back to the original state. The steps start at the LIMITED_PRESWACT when it is still possible to revert back, then progress until the switch is back in-sync or unsplit and running as before.

Step	Description	Approximate time in minutes
1	Abort the LIMITED_PRESWACT. This marks all LIMITED_PRESWACT steps as needed, and restores all tables that have been altered by LIMITED_PRESWACT.	1 minute

Step	Description	Approximate time in minutes
2	Sync or unsplit the switch.	10 minutes
3	Change tables back to original value. Start Journal Files.	(unspecified)

Procedure

Use this procedure to stop the NORESTARTSWACT procedure and return to a state prior to executing the MOP. To use the check boxes to the left side of each step, photocopy the document and check off the steps as they are completed.

.

Summary Step: 1 - Start Console logging and Run Abort Preswact

	Step Action	
	At the MAP	
☐	**1.**	Start logging your console session in case the need arises to review the steps performed (if not already done). **> QUIT ALL;RECORD START ONTO <device>** Where <device> is either a disk volume (SFDEV or other) or Terminal/Printer The best choice for a device is a printer. However, the user can have it record to a file on some other device as well. If you chose a disk volume, a file called RECORDFILE will be created.
☐	**2.**	Once LIMITED_PRESWACT has stopped (either because a step failed, or it has completed), you may abort the LIMITED_PRESWACT steps with the following command. **NOTE**: when running LIMITED_PRESWACT, a number of steps have been executed and marked as complete. This command marks the previously completed steps as 'NEEDED' so the switch doesn't think that LIMITED_PRESWACT has run at all, and also recovers some of the tasks accomplished by the LIMITED_PRESWACT steps (e.g. it will turn CM REX tests back on). **> QUIT ALL;BCSUPDATE;ABORT_PRESWACT** This command will undo all that was done in LIMITED_PRESWACT no matter what the last step in LIMITED_PRESWACT was.
☐	**3.**	If working in an XACore environment, go to step 7:

Summary Step: 2 - Sync/Unsplit the switch

	Step Action	
	At the CM reset terminal for the inactive CPU (RTIF)	
☐	**4.**	Release the jam on the inactive CPU by entering: **\RELEASE JAM** *RTIF response:* `JAM RELEASE DONE`
	At the MAP	
☐	**5.**	Some LIMITED_PRESWACT steps establish a communication link between the two CMs. This link must be released prior to syncing or unsplitting the switch. Use the following command to release this communication link. **> QUIT ALL;MATELINK BSY**

☐	**6.**	Synchronize the CM by entering:
		
		> QUIT ALL;MAPCI;MTC;CM;SYNC
		
		Example of a MAP response:
		`Maintenance action submitted.`
		`Synchronization successful.`
		
		Note: The synchronization may take 5-10 minutes to complete.
		
		Decision: If the synchronization fails, contact your next level of support.
		
		Decision: If the synchronization passes, continue with the next step.

	Go to Step 9	
☐	**7.**	Some LIMITED_PRESWACT steps establish a communication link between the two sides. This link must be released prior to unsplitting the switch. Use the following command to release this communication link. **> QUIT ALL;MATELINK BSY**

Summary Step: 2 - Sync/Unsplit the switch

	Step	Action
☐	**8.**	Unsplit the switch by entering: **> QUIT ALL;TASTOOLCI;UNSPLIT_SYSTEM** *Example of a MAP response:* `Note: Unsplitting the switch may take a little while.` ***Note:*** The unsplit may take several minutes to complete. ***Decision:*** If the unsplit fails, contact your next level of support. ***Decision:*** If the synchronization passes, continue with the next step.

Summary Step: 3- Make Data Changes

	Step Action	
	At the MAP	
☐	**9.**	Undo the changes made in Step 4 of the NORESTARTSWACT procedure. If it was a table change, you may be warned that a restart is needed to activate the change. This message can be ignored, since the data is being changed back to its original value (i.e. original change was not activated because you did not perform the restart required). If your change was a patch, remove the patch. ***Note:*** Any change made while the switch is in-sync or unsplit affects both side of the switch.
☐	**10.**	Start-up the Journal File **> QUIT ALL;JF START** **> QUIT ALL;MAPCI;MTC;IOD;DIRP;QUERY JF ALL** QUERY JF should respond with 'AVAIL' if a standby device is being used, both active and standby volumes should be marked 'AVAIL'. **> QUIT ALL**
		You have completed this backout procedure, and your switch is now back to the state before you started the NORESTARTSWACT procedure.

Aborting the MTCSWACT Procedure

The MTCSWACT utility is designed to ‘cleanup’ after itself should it encounter an error from which it cannot recover. Depending on whether the switch is in-sync/unsplit or not when MTCSWACT aborts, will dictate what the user must do to recover the switch.

If MTCSWACT aborts and leaves the switch out of sync or split, the user must sync/unsplit the switch. This can be done by using the ‘sync’ command to sync the switch (CM-Core only) or by using the ABORTMTCSWACT command (CM or XA-Core switches). If there has been a data change for which MTCSWACT was invoked, and the CC warm SWACT did not take place, you must either undo the data change, or retry the MTCSWACT procedure once the switch is in-sync or unsplit.

If MTCSWACT aborts while the switch is in-sync or unsplit, the only activity left for the user is to either undo the data change or retry MTCSWACT.

Note: Once MTCSWACT has completed the CC warm SWACT, there is no backout procedure. However, should the switch be in a state where there are serious concerns about its operation, there are two methods that can be used to revert back to the previously active side. The two methods are the command ABORTSWACT (Valid for CM and XA-Core) and the activity of jamming activity back to the previously active side from the RTIF (CM Core only). To use either of these methods, contact your next level of support for assistance. Also note that if the ABORTSWACT procedure is used, there are no PRESWACT steps to be backed out once the switch is back on the old side (i.e. normally the BCSUPDATE command POSTSWACT is run after an ABORTSWACT). MTCSWACT will execute its own version of POSTSWACT on any ABORTSWACT from which MTCSWACT was used previously.

Procedure

USING ABORMTCSWACT

Step	Action
	If the user wishes to ABORT the MTCSWACT command, or unsplit the switch following a MTCSWACT (i.e. if the user answers 'no' to the prompt that asks if the switch should be synced, MTCPOSTSWACT was completed by audit or MTCSWACT fails, leaving the switch split) use the following step to abort MTCSWACT.

☐ 1.	**Abort MTCSWACT**
	
	If you wish to abort the MTCSWACT command, execute the following command.
	
	> QUIT ALL;MTCSWACTCI;ABORTMTCSWACT
	
	Note: If the response is:
	`The ABORTMTCSWACT command has successfully completed.`
	Then the switch is unsplit, and the ABORTMTCSWACT was successful
	
	Note: If the response is:
	`This command is valid only during a MTCSWACT or after a failed or aborted MTCSWACT leaves the switch out of sync. The ABORTMTCSWACT has completed.`
	Then you have entered the command after the previous MTCSWACT was successful or the switch was placed INSYNC (or unsplit) by a successful ABORTMTCSWACT. The ABORTMTCSWACT cannot be used at this time.
	
	Note: If the response is:
	`This command is invalid while MTCSWACT is dropping sync. The ABORTMTCSWACT has completed.`
	Then you have entered the command while the switch was in the process of splitting. The ABORTMTCSWACT cannot be used at this time.
	
	Note: If the response is:
	`This command is invalid while an ABORTMTCSWACT is syncing The ABORTMTCSWACT has completed.`
	Then you have entered the command while the switch was in the process of unsplitting. The ABORTMTCSWACT cannot be used at this time.
	
	Decision: If the response is:
	`Problem: ABORTMTCSWACT is in an invalid state.`
	Then you must contact your next level of support to resolve this situation.

USING ABORMTCSWACT

	Step	Action

☐	**2**	If the switch is unsplit, ABORTMTCSWACT will prompt you to continue before unsplitting. The prompt is as follows:
		`The switch is about to sync.`
		`Do you wish to continue?`
		`Please confirm (“YES”, “Y”, “NO”, or “N”):`
		
		Decision: If you wish ABORTMTCSWACT to finish and unsplit the switch automatically, answer ‘**Y**’ or ‘**YES**’.
		The switch response is:
		
		`The ABORTMTCSWACT command has successfully completed`
		
		Decision: If you wish to work with the switch while it is split, answer ‘**N**’ or ‘**NO**’. Note that you will have to unsplit the switch manually later.
		The switch response is:
		
		`The switch is still out of sync.`
		`The ABORTMTCSWACT command has completed.`

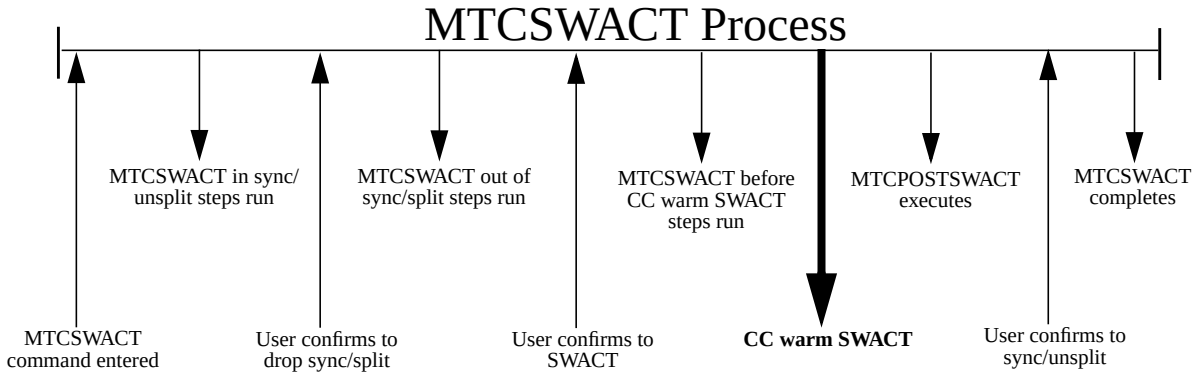
Appendix D: MTCSWACT Messages

MTCSWACT Execution

MTCSWACT has been designed to execute its steps in a number of stages. These stages are named:

- MTCSWACT in sync/unsplit steps - MTCSWACT command entered, but the switch is still in sync/unsplit.
- MTCSWACT out of sync/split steps - After the switch drops sync/splits, and before the user is asked to confirm the activity switch.
- MTCSWACT before CC warm SWACT Steps - After the user confirms for MTCSWACT to initiate a CC warm SWACT.
- MTCPOSTSWACT Steps - Automatically run by MTCSWACT after the CC warm SWACT.

Before dropping sync/splitting, switching activity or re-syncing/unsplitting the switch, a confirmation prompt is presented to the user before MTCSWACT proceeds. The diagram below details the interaction between MTCSWACT and the user.



The following sections will detail possible messages MTCSWACT could output during execution of any of the above phases. Since MTCSWACT only outputs dots to the user terminal during normal execution, the messages are

presented here so that the user can better understand them should an error occur.

To find a MTCSWACT message in this appendix, use the previous diagram to help you locate when in the MTCSWACT process the message occurred. Then turn to that section in the tables below, and find the message you encountered. In the column beside each message, there is text to help explain the message, and how to continue with MTCSWACT.

There are two types of MTCSWACT messages. Those that start with the word 'Problem' indicate an unrecoverable MTCSWACT error. The usual solution is to restart the MTCSWACT procedure. Messages that start with the word 'Note' are informational messages. MTCSWACT will continue without user intervention, but the user may need to take action later to resolve the issue reported. MTCSWACT displays any messages just before it displays the next continuation prompt.

Possible MTCSWACT IN SYNC/UNSPLIT Messages:

While in sync, MTCSWACT performs a number of steps to reduce the amount of time the switch is out of sync. The following section contains two tables. One that details errors and one the details informational messages. These tables are ordered in the same order that the MTCSWACT steps are performed.

The following table will detail possible error messages and what the user should do to continue with the MTCSWACT procedure.

Error Message	User Action
Problem: The switch must be in sync before entering this command. Solution: Please sync the switch and re-enter the MTCSWACT command. MTCSWACT command is aborted.	MTCSWACT must start while the switch is in sync. The user must sync the switch before MTCSWACT can continue.
Problem: The inactive side is jammed. Solution: Please release the jam before re-entering the MTCSWACT command. MTCSWACT command is aborted.	MTCSWACT cannot execute if the inactive RTIF is jammed. Release the jam and re-enter the MTCSWACT command
Problem: Failed to stop the following REX tests): <Node name> . . Solution: Wait for the test(s) to complete before reinvoking the command. MTCSWACT command is aborted.	MTCSWACT cannot execute if REX is running on one or more system nodes. You must wait until it completes before retrying MTCSWACT.

MTCSWACT In Sync/Unsplit Error Messages

Error Message	User Action
Problem: Unable to allocate resources. Solution: Please use other means to activate the maintenance. MTCSWACT command is aborted.	If there is a failure checking to see if NORESTARTSWACT is supported, this message will appear. MTCSWACT needs the NORESTARTSWACT utility to facilitate the CC warm SWACT. Verify that NORESTARTSWACT is supported (by using the QUERYSWACT command as shown in the MOP) and retry MTCSWACT. If NORESTARTSWACT is not supported, you must use another method to activate your change.
Problem: The following software does not support the MTCSWACT command. OFFICETYPE - <Office type> Solution: Please use other means to activate the maintenance. MTCSWACT command is aborted.	If NORESTARTSWACT is not supported in this office then MTCSWACT is not supported. This message will be displayed if the office does not support NORESTARTSWACT. You must use another method to activate your change.
Problem: Failed to stop the AUTODUMP currently occurring. Solution: Stop the AUTODUMP manually or wait for it to finish before invoking the MTCSWACT command. MTCSWACT command is aborted.	MTCSWACT cannot proceed if an image dump is in progress. Either stop the dump and retry the MTCSWACT procedure, or wait until the dump has completed before trying a MTCSWACT.
Problem: Failed to stop the AUTODUMP currently being done on the <Node> node. Solution: Stop the AUTODUMP manually or wait for it to finish before invoking the MTCSWACT command. MTCSWACT command is aborted.	MTCSWACT cannot proceed if an image dump is in progress. Either stop the dump and retry the MTCSWACT procedure, or wait until the dump has completed before trying a MTCSWACT. In this message the node could be a CM node, XA node or MS node.
Problem: Failed to determine DUMP controller. Solution: Stop the AUTODUMP manually or wait for it to finish before invoking the MTCSWACT command. MTCSWACT command is aborted.	MTCSWACT cannot proceed if an image dump is in progress. Either stop the dump and retry the MTCSWACT procedure, or wait until the dump has completed before trying a MTCSWACT.

MTCSWACT In Sync/Unsplit Error Messages

Error Message	User Action
Problem: Failed to suspend the following REX test(s): <Node name> <Number> REX Test Solution: Wait for the test(s) to complete before invoking the MTCSWACT command. MTCSWACT command is aborted.	The REX tests could not be stopped on the nodes identified. Wait until REX has complete before restarting MTCSWACT.
Problem: Failed to suspend the following REX test(s): Undetermined REX test Solution: Wait for the test(s) to complete before invoking the MTCSWACT command. MTCSWACT command is aborted.	The REX tests could not be stopped and the nodes undergoing REX could not be identified. Wait until REX has complete before restarting MTCSWACT.
Problem: The following file(s) are open and must be closed before invoking the MTCSWACT command. File: <filename> on <device> Solution: Manually close the files. MTCSWACT command is aborted.	All files on DDUs (except DLOG) must be closed before MTCSWACT can proceed. Close files indicated in the list and reenter the MTCSWACT command.
Problem: The following file(s) are open and must be closed before invoking the MTCSWACT command. File: Unknown on <device> Solution: Manually close the files. MTCSWACT command is aborted.	All files on DDUs (except DLOG) must be closed before MTCSWACT can proceed. In this case, the name(s) of the file(s) could not be determined. Investigate the devices listed, close all files that are open, and reenter the MTCSWACT command.
Problem: System image dump in progress. Solution: Stop current image dump and re-enter MTCSWACT command. MTCSWACT command is aborted.	MTCSWACT cannot proceed if an image dump is in progress. Either stop the dump and retry the MTCSWACT procedure, or wait until the dump has completed before trying a MTCSWACT.
Problem: Critical MTCSWACT failure. Check SWERs. Solution: Re-enter MTCSWACT command. MTCSWACT command is aborted.	MTCSWACT has encountered an error from which it cannot continue. There may be SWERs indicating why the step failed. Report these to your next level of support. This error only affects MTCSWACT processing. You may attempt MTCSWACT again if you desire.
MTCSWACT In Sync/Unsplit Error Messages	

The following table will detail possible informational messages and what the user should do to continue with the MTCSWACT procedure.

Information Message	User Action
Note: The following device(s) are in a bad state.Correct the status to ISTB, OFFL or INSV. Node Device ---- ------ 18 LGC 1 20 DTC 0 24 LTC 1 25 DCM 0 29 LCM HOST 01 0 33 TM8 0 40 MTM 0 50 OAU 0 51 T8A 0 53 MTD 1 (IOC 1 CARD 0 PORT 0)	All nodes must be in an OK state in order for MTCSWACT to recover their states properly after the activity switch. This message comes out now to alert the user of bad nodes, but the user must wait until MTCSWACT pauses. MTCSWACT will pause before dropping sync/splitting. This is not a critical MTCSWACT failure, and MTCSWACT can continue without this being corrected. However, if not corrected, devices listed in this message are not guaranteed to recover properly after the CC warm SWACT.
Note: Automatic Line Testing (ALT) could not be halted.	MTCSWACT failed to halt ALT testing. This will not affect the success of MTCSWACT so MTCSWACT continues. If you wish to investigate, do so when MTCSWACT pauses before dropping sync/splitting.

MTCSWACT in sync Informational Messages

Possible MTCSWACT Out of Sync Before CC warm SWACT Errors:

While out of sync, and before activity is switched, MTCSWACT performs more checks to ensure the activity switch will succeed. Possible error messages are detailed below. If any of these messages are displayed, MTCSWACT has aborted. In order to continue with MTCSWACT, you must first sync the switch and then re-enter the MTCSWACT command.

Failure Message	User Action
Problem: There is not enough free DS on the inactive side for MTCSWACT to proceed. Currently <number>% of accessible DS is used. Solution: Check the STOREFS setting in table DSLIMIT on the inactive. MTCSWACT command is aborted.	MTCSWACT needs Data Store (DS) on both the active and inactive sides to succeed. This message indicates that there is not enough free DS on the inactive side for MTCSWACT to proceed. Check the value in table DSLIMIT and raise it if possible, otherwise contact your next level of support.
Problem: System image dump in progress. Solution: Stop current image dump. Sync the switch and re-enter MTCSWACT command. MTCSWACT command is aborted.	MTCSWACT cannot proceed if an image dump is in progress. Either stop the dump and retry the MTCSWACT procedure, or wait until the dump has completed before trying a MTCSWACT.
Problem: MTCSWACT process timed out. Solution: Sync the switch and re-enter MTCSWACT command. MTCSWACT command is aborted.	MTCSWACT waits for up to ten (10) minutes for Frame Relay Billing data to aggregate. If the billing aggregation has not complete within 10 minutes, MTCSWACT will abort. If MTCSWACT was to wait any longer, it would compromise the 20 minute out of sync/split window MTCSWACT must maintain.

MTCSWACT Out of Sync Errors

Possible MTCSWACT Before SWACT Errors:

Before activity is switched, and after the user has confirmed that MTCSWACT should continue with the CC warm SWACT, MTCSWACT performs more checks to ensure the activity switch will succeed. Possible error messages are detailed below. If any of these error messages are generated MTCSWACT has aborted. To continue with MTCSWACT you must sync the switch and re-enter the MTCSWACT command.

Failure Message	User Action
Problem: The switch is in sync. Solution: Please re-enter the MTCSWACT command to start from the beginning. MTCSWACT command is aborted. or MTCSWACT detected incorrect switch SYNC state (IN SYNC). MTCSWACT aborted. Cleanup has been performed.	It is possible for another user to sync the switch while MTCSWACT is running. If MTCSWACT finds the switch in sync prior to the activity switch it will abort and output one of these messages. For this error, you need not sync the switch, since it is already in sync. Simply retype the MTCSWACT command to continue.
Problem: Command is not valid on the inactive side. Solution: Please enter the MTCSWACT command on the active side. MTCSWACT command is aborted.	The MTCSWACT command was entered on the inactive side. MTCSWACT can only run on the active side. Sync/unsplit the switch and run the command on the active CPU.
Problem: The inactive side is jammed. Solution: Please release the jam before invoking the MTCSWACT command. MTCSWACT command is aborted.	MTCSWACT cannot execute if the inactive RTIF is jammed. Release the jam, sync the switch and reenter the MTCSWACT command.
Problem: Unable to establish communication with the inactive CPU. Solution: Sync the switch and re-enter the MTCSWACT command. MTCSWACT command is aborted.	The system cannot establish communication with the mate side.
Problem: Failed to determine software versions. Solution: Sync the switch and re-enter the MTCSWACT command. MTCSWACT command is aborted.	The software on both sides must be of the same version. If this check fails, sync/unsplit the switch and reenter the MTCSWACT command. It is not possible to use MTCSWACT for a software upgrade.
Problem: Failed to convert software version to MS condensed loadnames. Solution: Contact the next level of support. MTCSWACT command is aborted.	There was a failure communicating to with the inactive MS. You should contact your next level of support.

MTCSWACT Before SWACT Errors

Failure Message	User Action
Problem: Failed to obtain MS node protected data Solution: Contact the next level of support. MTCSWACT command is aborted.	A critical failure occurred preparing the MSes for the SWACT. MTCSWACT aborts and you should contact your next level of support for assistance.
Problem: The load in MS <num>, <release>, is incompatible with the mate CM load, <load>. Solution: Load the MS with a compatible load before re-entering the MTCSWACT command. MTCSWACT command is aborted.	The MS loads are not the same in both MSes. They must be the same and compatible with the CM load to support MTCSWACT. If not MTCSWACT aborts and you should correct your MS loads before retrying MTCSWACT
Problem: MS <number> is not in service. Solution: Bring the MS into service (RTS MS <number>) before proceeding. MTCSWACT command is aborted.	Both MSes must be inservice for MTCSWACT to succeed. Bring into service the MS indicated in the message and retry the MTCSWACT procedure.
Problem: System recovery is not finished on the inactive side. Solution: Wait for 2 minutes and re-enter the MTCSWACT command again. MTCSWACT command is aborted.	MTCSWACT detected System Recovery Controller (SRC) activity on the inactive CPU. MTCSWACT cannot switch activity while the SRC is running on the inactive CPU. Sync the switch and re-try MTCSWACT.
Problem: MTCSWACT release on both sides do not match. Solution: Ensure that the software load on both sides match. MTCSWACT command is aborted.	MTCSWACT versions must match on both sides. Syncing/unsplitting the switch and retrying MTCSWACT will ensure both sides are running the same software loads.

MTCSWACT Before SWACT Errors

Possible MTCSWACT After CC warm SWACT Messages:

After the CC warm SWACT, MTCPOSTSWACT starts and executes many steps to return the switch to its pre-swact state. Possible error messages are detailed below.

Information Message	User Action
`Note: Failed to resume system REX.` `Please resume system REX manually using the REXTEST command.`	REX was suspended before SWACT. This information message is indicating that it failed to be resumed. The user will have to resume it manually with the REXTEST command, or wait 24 hours for it to resume itself.
`Note: The OMMASTER command is currently in use.` `The OM process will have to be started manually.`	MTCSWACT cannot execute the OMMASTER command because another user is using it. The OM process will have to be restarted manually.
`Note: cannot activate Automatic Trunk Testing (ATT).` `Please activate ATT manually in MAP under TRKS.`	ATT could not be resumed automatically. It must be restarted manually.

`The resources to sync the switch are not available.`
`Mate communication flag on <CMn> will be released in <x> minutes.cannot sync.`
`Please manually sync the switch.`
	After the CC warm SWACT, the newly active side transfers FOOTPRT data and performs other tests on the newly inactive side. MTCSWACT may try and sync/unsplit the switch while this activity is in progress. Wait the specified time in the message, and sync/unsplit the switch manually.

MTCSWACT After SWACT Messages

Miscellaneous MTCSWACT Messages:

The following error messages can be created by MTCSWACT when the user enters the MTCSWACTCI command or as MTCSWACT is executing. They are usually the result of some manual switch maintenance that is being executed by another user. Such actions include active side restarts, or syncing/unsplitting the switch while MTCSWACT is running.

Failure Message	User Action
`The previous MTCSWACT was aborted by an Active side RESTART.` `Cleanup has been performed.`	If MTCSWACT had previously been running when a user initiated an active side restart, this message would appear once the user entered the MTCSWACTCI level and the switch was still in sync/unsplit. This message is meant to convey to the user that an active side restart had been initiated while MTCSWACT was processing.

`The previous MTCSWACT was aborted by an Active side RESTART.`
`Cleanup has been performed.`
`The switch needs to be SYNCed manually.`
`SYNC the switch from the CM map level.`
	Same as above, except the MTCSWACTCI command was entered and the switch was out of sync/split.

`MTCSWACT detected incorrect switch SYNC state (OUT OF SYNC).`
`MTCSWACT aborted.`
`Cleanup has been performed.`
`The switch needs to be SYNCed manually.`
`SYNC the switch from the CM map level.`
	MTCSWACT processing was interrupted because the switch dropped sync/split while MTCSWACT was executing in sync steps. Sync/unsplit the switch and re-enter the MTCSWACT command.

`MTCSWACT detected incorrect switch SYNC state (IN-SYNC).`
`MTCSWACT aborted.`
`Cleanup has been performed.`
	MTCSWACT processing was interrupted because the switch was put in sync/unsplit while MTCSWACT was executing out of sync/split steps. Re-enter the MTCSWACT command.

Miscellaneous MTCSWACT Errors

Failure Message	User Action

`Automatic user login and execution of the MTCPOSTSWACT failed.`
`MTCPOSTSWACT command has been executed by MTCSWACT audit.`
`The switch needs to be SYNCed manually.`
`SYNC the switch from the CM map level.`
	After the CC warm SWACT, the MTCSWACT user was not automatically logged in. A MTCSWACT audit will automatically run the MTCPOSTSWACT steps should this situation occur. However, the audit will not sync/unsplit the switch. The user must do this manually. This message is meant to inform the user that the audit has run and completed MTCSWACT, and the user must now sync/unsplit the switch.

Miscellaneous MTCSWACT Errors	

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DMS-100 Family

NORESTARTSWACT / MTCSWACT User's Guide

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Publication Number: NTP 297-1001-546
Release: 04.03 (Base11.4)
Status: Standard
Date: March 2000
Printed in Canada