StorageTek Enterprise Library Software Release Notes





StorageTek Enterprise Library Software Release Notes, Release 7.3 For MVS

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Preface

This publication provides release guidelines and requirements for StorageTek Enterprise Library Software (ELS) Release 7.3 for MVS. It also provides updates and enhancements to the original product documentation.

When applicable, use the procedures and information in this guide in place of the original documentation. Any applicable references to the original documentation are provided.

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Product Guidelines and Installation Requirements

This section provides product guidelines and installation requirements for Enterprise Library Software (ELS) release 7.3 for MVS.

- Product Highlights
- Product Documentation
- Installation Notes
- · Coexistence with Previous Releases
- Hardware and Microcode Requirements
- Migration Path

Product Highlights

This section highlights key features introduced in ELS 7.3.

Note:

- For a complete list of ELS 7.3 features, refer to the publication *Introducing ELS 7.3*.
- ELS 7.2 Software Product Enhancements (SPEs) are included as base features in ELS 7.3. For a list of these enhancements, refer to the latest version of the publication *Introducing ELS 7.2*.
- Complete instructions for installing the various ELS components is provided in the publication *Installing ELS*. Refer to the latest version of this publication.
- SMC, HSC, VTCS, and CDRT share a common load library, SEALINK.
- The ELS installation zip file includes a CHGIT REXX exec used to simplify customization of ELS installation sample members according to your requirements.
- Ensure that on completion of the apply/accept of the FMIDs that the latest HOLDDATA is received and the latest PTFs are received and applied. Follow your own internal guidelines regarding the SMP/E ACCEPT of the PTFs.
- It is strongly recommended to use GROUPEXTEND on all apply steps.



VSM 32GB VTV Support

In addition to existing 400MB, 800MB, 2GB, and 4GB VTV sizes, ELS 7.3 supports VSM 32GB VTVs.

XAPI Security

ELS network clients (SMC, VM Client) use an XML-based TCP/IP network API to communicate requests to ELS Servers (HSC/VTCS.) ELS 7.3 uses ELS client user name and password credentials to secure XAPI client/server communications.



WARNING:

ELS 7.3 XAPI security is enabled as a default in the SMC HTTP server. In order to use SMC release 7.3 as a remote HTTP server, you must perform the required setup for both SMC clients and server.

You can disable the SMC release 7.3 XAPI security feature for client-server communications at the server for all clients, or for specific clients. However, SMC TCP/IP client-server communications will not function if you simply use your prior release SMC startup parameters with release 7.3. Refer to the publication Configuring and Managing SMC for required configuration instructions for XAPI security for clientserver communication.

Product Documentation

This Release Notes publication provides supplemental updates to the original documentation for Enterprise Library Software (ELS) release 7.3 for MVS. The information in this publication supersedes the information found in the existing ELS publication set:

- Introducing ELS
- Installing ELS
- ELS Command, Control Statement, and Utility Reference
- ELS Syntax Quick Reference
- ELS Messages and Codes
- **ELS Programming Reference**
- ELS Legacy Interfaces Reference
- Configuring HSC and VTCS
- Managing HSC and VTCS
- Configuring and Managing SMC
- ELS Disaster Recovery and Offsite Data Management Guide
- XAPI Client Interface to ACSLS Server Reference

These publications are available for download via the Oracle Help Center.



Installation Notes

This section provides pre-installation considerations and installation requirements.

Pre-Installation Considerations

Before installing ELS 7.3, consider the following:

- SMC, HSC, VTCS, and CDRT share a common load library, SEALINK.
- The ELS installation zip file includes a CHGIT REXX exec used to simplify customization of ELS installation sample members according to your requirements.
- Complete instructions for installing the various ELS components are provided in the publication *Installing ELS*. Please refer to the latest version of this publication.
- Upon completion of the APPLY/ACCEPT of the FMIDs, ensure that you receive
 the latest HOLDDATA and RECEIVE and APPLY the latest PTFs. Follow your own
 internal guidelines regarding the SMP/E ACCEPT of the PTFs.
- It is strongly recommended to use GROUPEXTEND on all APPLY steps.

Installation Materials

This package includes installation media in a downloaded zip file containing the ELS 7.3 base software. The zip file contains a README.html file which provides detailed instructions on installing ELS.

As part of installation, you must obtain the latest cumulative maintenance (PTFs and HOLDDATA) for the ELS 7.3 product set and for any release of Oracle StorageTek software that will coexist with ELS 7.3. Download cumulative maintenance from the My Oracle Support (MOS) site.

Visit this site frequently for HOLDDATA and PTF updates and install cumulative maintenance updates on a regular schedule.

ELS 7.3 SMP/E FMIDs

Select the FMIDs that are required to support your configuration. The following SMP/E FMIDs are distributed with ELS 7.3:

Table 1-1 ELS 7.3 SMP/E FMIDs

FMID	Description
SSEA730	HSC, SMC, VTCS and CDRT load modules, distributed macros, and samples. This is a base FMID.
SMZ7300	SMC JES3 support load modules, distributed macros, and samples for MVS systems running JES3 Release 5.2.1, JES3 OS/390 Release 1.1 and higher, or JES3 z/OS Release 1.0 and higher. This is a dependent FMID of SSEA720.
SLM7300	LCM 7.3 load modules, distributed macros, and samples. This is a base FMID.



Table 1-1 (Cont.) ELS 7.3 SMP/E FMIDs

FMID	Description
SOC7300	LibraryStation 7.3 load modules and samples. This is a dependent FMID of SSEA730.
SCS7300	MVS/CSC 7.3 load modules, distributed macros, and samples. This is a base FMID.
SSCR70C	SAS/C 7.0 selected components required for LibraryStation and MVS/CSC. This is a base FMID.
SSCR70D	SAS/C 7.0 selected components required for LibraryStation and MVS/CSC. This is a base FMID.

Note:

- SMP/E 3.1 or higher is required.
- When installing ELS 7.3 in an SMP/E CSI containing earlier NCS/ELS versions, the SMP/E installation deletes the FMIDs of all earlier NCS/ELS versions; it is therefore recommended that you back up the ELS SMP/E CSI prior to installing the ELS 7.3 product components.

CD Installation

Refer to the publication Installing ELS 7.3 for the most current installation instructions and examples. The instructions and examples found in that publication always supersede instructions and examples packaged on the CDs.

85 megabytes of mainframe storage space in a z/OS Unix file system is required to FTP and unpack the $\tt ELS73.pax$ file.

Installation of ELS Product Suite Results in Three SMP/E CSIs Being Created

Please be aware that the SMP/E JCL samples provided create three CSIs, one for each zone. If a different CSI management strategy is required in your SMP/E environment, you must supply your own installation JCL or modify the samples provided.

Installation Step I20TST Generates Error Message

The SYSTSPRT from the NTSTEST step of the I20TST job may contain the following error message:

IKJ56228I PATH /U/USERID/.netrc NOT IN CATALOG

Ignore this message if any of the following are true:

- You intend to use RECEIVE FROMNTS.
- You supply an FTP password in data set userid.NETRC.



- You supply an FTP password in NETRC DD.
- You supply an FTP password in the SMPSRVR data set.

The SMPSRVR data set is described in the IBM publication SMP/E V3R5.0 for z/OS V1R10.0 Commands.

Techniques for supplying an FTP password are included in the IBM publication *z/OS V1R10.0 Comm Svr: IP User's Guide and Commands*.

Coexistence with Previous Releases

This section describes ELS 7.3 software coexistence and compatibility.



ELS 7.3 is not compatible with any releases prior to 7.1 with the exception of $\frac{1}{1}$ HSC/VM 6.2.

SMC 7.3 Coexistence

SMC 7.3 is compatible with the following software releases:

- HSC/VTCS 7.3 on same host
- HSC/VTCS 7.1, 7.2 and 7.3 on different host
- MVS/CSC 7.3 only

HSC/VTCS 7.3 Coexistence

HSC/VTCS 7.3 is compatible with the following software releases:

- SMC 7.3 on same host
- SMC 7.1, 7.2 and 7.3 on different host
- LibraryStation 7.3 only
- ExPR 6.1 only

Compatibility PTFs

With proper compatibility PTFs, ELS 7.3 can share a CDS with ELS 7.1 and above and with HSC/VM 6.2. ELS 7.1 and 7.2 support a VTCS CDS level of H or below. For 32GB VTV support an I level CDS is required.

Before attempting to start ELS 7.3, ensure that the following compatibility PTFs are installed on the down level releases that share the CDS:

Table 1-2 Compatibility PTFs

Product FMID	Compatibility PTF
HSC (VM) 6.2 (SMS6200)	L1H188F
ELS 7.1 (SSEA710)	L1H185B
ELS 7.2 (SSEA720)	L1H185C



Note:

- All ELS software running on the same host must be at the same release level.
- SMC 7.3 is completely compatible with HSC 7.1 or 7.2 (with compatibility PTFs listed below) running on a different host.
- SMC 7.1 and 7.2 are completely compatible with HSC 7.3 running on a different host.

In addition, it is strongly recommended that you obtain the latest service (including HOLDATA) for the down-level hosts systems.

Hardware and Microcode Requirements

Note the following requirements:

- VTSS for 32GB VTV support, all VTSSs in the VTCS configuration must be a VSM6 at level 6.2 or higher.
- RTD 9840 models A and B cannot be used for 32GB VTV migration.
- VLE ELS 7.3 requires a minimum VLE microcode level of VLE 1.4.2 patch A3 or higher. For 32GB VTV support, all VLEs in the VTCS configuration must be at level 1.5.1 or higher.
- From an HSC 7.3, issue a DISPLAY VTSS DETAIL command to determine whether a VTSS supports 32GB VTVs. If supported, the text 32GB VTVs is displayed in the Supported Features section of the output.
- From an HSC 7.3, issue a DISPLAY STORMNGR command to determine whether a VLE supports 32GB VTVs. If supported, the text 32GB VTVs is displayed in the Features section of the output.
- If there are any VTSSs or VLEs that do not have 32GB VTV support, then VTCS will not allow any 32GB VTV to be created.



Caution:

If any 32GB VTVs have been created and a non-32GB VLE (level 1.5 or below) is detected, then for each virtual RTD (vRTD) residing within the non-32GB VLE, message SLS7552W is issued and the vRTD will is forced offline.

If it becomes necessary to remove 32GB VTV support, follow the instructions provided in the ELS publication Configuring HSC and VTCS.

Migration Path

Perform the following steps to implement ELS 7.3:



- 1. Install the latest ELS service on production hosts.
- 2. Install ELS 7.3 on test host(s).
- 3. Test and verify ELS 7.3 on test host(s).
- 4. Schedule roll-out of ELS 7.3 to production hosts.
- 5. Once all hosts are running ELS 7.3, then optionally convert the CDS to an I level CDS. Refer to the *ELS Command, Control statement, and Utility Reference* for information about the CONFIG command utility.

Note:

If VOLPARM statements are being used and the CDS is converted to an I level CDS prior to PTF L1H18AT being applied, then the SET VOLPARM utility will need to be run after the conversion. The current VOLPARM or POOLPARM information can be obtained by running the LIBGEN utility.

Create MGMTCLAS with MAXVTVSZ set to 32000 plus any other site required parameters. Refer to the *ELS Command, Control Statement, and Utility Reference* for information about the MGMTCLAS control statement.

Create or update SMC TREQUEF or POLICES to use the new 32GB MGMTCLAS statements. Refer to the *ELS Command, Control Statement, and Utility Reference* for information about the SMC POLICY and TREQUEF commands and the TAPEREQ control statement.



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Documentation Updates

This section provides supplemental updates to the original documentation for Enterprise Library Software (ELS) release 7.3 for MVS. This information supersedes the information found in the existing ELS publication set.

- New or Modified SMC Messages
- HSC/VTCS DRCLEAN Command
- SMC COLlector Command
- SMC SYSZTIOT Command
- CONFIG GLOBAL Pinning

New or Modified HSC/VTCS Messages

ELS 7.3 includes the following new or modified HSC/VTCS system messages:



These updates supersede the information found in the *ELS Messages and Codes Guide*, Chapter 2, HSC, VTCS, and CDRT Messages.

SI S4214F

ELS 7.3 adds new HSC/VTCS message SLS4214E:

SLS4214E Creation of a utility data space failed - MMMMMMM-CC-RRRRRRR

Explanation: *MMMMMMMM* is the IBM macro call that failed while creating the utility data space.

- CC is the return code describing the failure.
- RRRRRRR is the reason code describing the failure.

Refer to the appropriate IBM documentation for an explanation of the return/reason code.

If the failing macro is DSPSERV with a return code of 08 and a reason code of xx0005xx, the size of the data space violates installation criteria (IEFUSI exit).

This indicates that the HSC is not running in Protect Key 1--7. Check the MVS Program Properties Table in the SCHEDXX member of SYS1.PARMLIB for proper specification of the Protect Key for HSC.

System Action: The utility process terminates.

User Response: Determine the cause of the failure, and resubmit the utility request.

New or Modified SMC Messages

ELS 7.3 includes the following new or modified SMC system messages:

- SMC0253
- SMC0274
- SMC0275
- SMC0278



These updates supersede the information found in the *ELS Messages and Codes Guide*, Chapter 3, SMC Messages.

SMC0253

ELS 7.3 adds SMC message SMC0253:

SMC0253 Shared SYSZTIOT support is CCC

Level: 0

Explanation: The shared SYSZTIOT support is CCC. CCC can be either ON or OFF.

System Action: If CCC is ON, then the SMC can accept concurrent dynamic allocations from an address space.

User Response: None.

SMC0274

ELS 7.3 adds SMC message SMC0274:

SMC0274 COLLECTOR missing data reason = RRRRRRRR

Level: 0

Explanation: For reason storage area overload starting at *yyyy.mm.dd.hh.mm.ss* the available space in the SMC SMF data space has been exhausted.

System Action: Starting at *yyyy.mm.dd.hh.mm*.ss the SMF data will not be written to the SMC SMF data space. The SMC SMF collector will not attempt to write any more SMF records to the SMC SMF data space until the number of minutes from *hh.mm.ss* specified in the COLLECTOR MSGWAIT parameter has passed. If the condition for the SMC0274 message no longer exists, then message SMC0275 will be issued.

User Response: Determine the cause of SMC0274 and if the SMC SMF data space has been exhausted then the SMC SMF data space size may need to be increased.

See the COLLECTOR DSPSIZE parameter in the ELS Command, Control Statement, and Utility Reference manual.

SMC0275

ELS 7.3 adds SMC message SMC0275:

SMC0275 COLLECTOR missing data ending at yyyy.mm.dd.hh.mm.ss

Level: 0

Explanation: The condition that caused message SMC0274 has ended.

System Action: None.
User Response: None.

SMC0278

ELS 7.3 adds SMC message SMC0278:

SMC0278 Unable to obtain the SMF dataspace lock

Level: 0

Explanation: The SMC get_stats processor failed to obtain the SMC SMF dataspace lock within 60 seconds.

System Action: The get_stats request is rejected.

User Response: Resubmit the request. If the lock is still not available then inspect the syslog for any related SMC messages. If unable to determine cause, then issue a console dump for the SMC address space and contact Oracle StorageTek software support.

HSC/VTCS DRCLEAN Command

This update applies to:

ELS 7.3 Command, Control Statement, and Utility Reference

Chapter 3, HSC Commands, Utilities, and Control Statements

Description

HSC/VTCS adds the DRCLEAN command.

The DRCLEAN utility command specifies a list of one or more VTSSs from which the DRTEST environment VTV copies will be deleted.

Interfaces:

- SLUADMIN utility only
- UUI Support: No

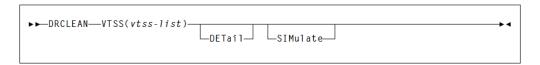
Subsystem Requirements: Active HSC/VTCS at FULL service level



Syntax

The following figure shows the DRCLEAN command syntax:

Figure 2-1 DRCLEAN Command Syntax



Parameters

The DRCLEAN command includes the following parameters:

VTSS

specifies a list of VTSSs from which the DR Test VTV copies will be deleted. Each VTSS listed is processed in parallel. Results are written to the report by VTSS in the order of completion, which may not match the order specified in the command. This is the only required parameter.

vtss-list indicates one or more VTSSs.

DETail

optionally, provides a line of output in the report for every VTV successfully deleted. Any errors encountered in processing are reported. Totals for all VTVs successfully deleted and all error situations are produced at the end of the run. The default is not to report each successful VTV deletion, but to provide the summary of results at the end of the run.

SIMulate

optionally, run the DRCLEAN utility in simulation mode. All processing continues as normal, however, the actual VTV deletion is not executed. This allows you to simulate operations, noting any coherency or query errors, without actually deleting any VTVs from the VTSS.

Additional DRCLEAN Changes

- A VTV report run against a DR Test CDS indicates this fact in its report header. For example, VTCS VTV Report (DR Test CDS).
- Display VTV command output includes DR TEST VERSION.

SMC COLlector Command

This update applies to:

ELS 7.3 Command, Control Statement, and Utility Reference

Chapter 2, SMC Commands, Utilities, and Control Statements

Interfaces:

Console, SMCCMDS data set, or SMCPARMS data set



UUI Support: No

Subsystem Requirements: Active SMC required

Description

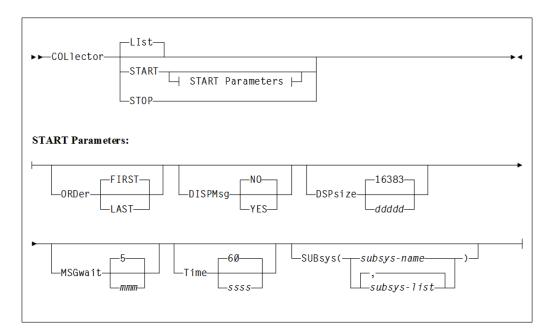
SMC adds the COLlector command.

The SMC COLlector command is used to start or stop the statistical gathering function. This function allows the Virtual Storage Manger GUI to retrieve z/OS SMF records in real time.

Syntax

The following figure shows COLlector command syntax.

Figure 2-2 COLlector Command Syntax



Parameters

The COLlector command includes the following parameters:

I Ist

optionally, displays status information for the SMC collector. This is the default if no parameters are specified. It cannot be specified with any other parameter.

START

optionally, starts the SMC collector.

STOP

optionally, stops the SMC collector.

Optional Parameters:



ORDer

optionally, specifies the order of the SMCXU83 IEFU83/IEFU84 exit. The parameter is used to order the SMCXU83 exit when other exits are present.

Specify FIRST or LAST. The default is FIRST.

DSPsize

optionally, specifies the size (number of 4K blocks) of the collector data space used to accumulate SMF records. The data space is created on the first COLlector START. DSPsize cannot be changed after the first start. The default is a data space of 64M.

ddddd indicates the number of 4K blocks.

DISPMsg

optionally, specifies whether SMC0274 and SMC0275 messages are displayed. Message SMC0274 messages indicates that the SMC collector data space is full.

Specify YES or NO. NO is the default.

MSGwait

optionally, specifies the time between SMC0274 messages. This message indicates that the SMC collector data space is full.

mmm indicates the number of minutes to wait.

Time

optionally, specifies the time to pause the data transmission to the requestor due to no data to send.

ssss indicates the number of seconds.

SUBsys

optionally, specifies one or more subsystem names if they are defined in the SMFPRMxx member. Up to 10 subsystem names can be entered.

subsys-list is a list of subsystem names.

SMC SYSZTIOT Command

This update applies to:

ELS Command, Control Statement, and Utility Reference

Chapter 2, SMC Commands, Utilities, and Control Statements

SMC adds the SYSZTIOT command.

Description

The SMC command SYSZTIOT allows SMC to process concurrent dynamic allocation from a single address space.

Interfaces:

- Console or SMCPARMS data set
- UUI Support: Yes (no XML/CSV output)

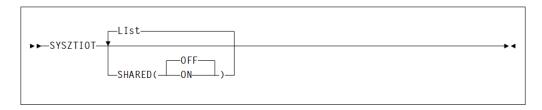


Subsystem Requirements: Active SMC required

Syntax

The following figure shows SYSZTIOT command syntax:

Figure 2-3 SYSZTIOT Command Syntax



Parameters

The SYSZTIOT command includes the following parameters:

LIST

optionally, lists the current value of SYSZTIOT. This is the default if no parameters are specified.

SHARED

optionally, enables or disables concurrent dynamic allocation support.

- Specify YES to enable the feature.
- Specify NO to disable the feature. This is the default.



This parameter can only be specified in the SMCPARMS data set.

CONFIg GLOBAL Pinning

This update applies to:

- ELS 7.3 Command, Control Statement, and Utility Reference
- ELS 7.3 Programming Reference

ELS 7.3 adds CONFIG GLOBAL statement support for the VTV pinning feature. This feature allows you to specify one or two VTV pinning locations where a resident replica of a VTV is stored in the VTSS buffer. A location can be either a *vtss-name* or *vtsslst-name*.



Note:

For pinning to function correctly, PTF L1H18UI (adds VTV pinning support) must be applied to all systems, and the MGMTclas statements with a pinning policy must be defined on all hosts. Refer to the *ELS Command, Control Statement, and Utility Reference* for more information about defining these MGMTclas pinning policies.

Description

The optional CONFIG GLOBAL PINNING parameter allows you to specify whether ELS should consider MGMTCLAS PINPOL parameter settings when influencing allocation.

Syntax

For reference, the following figure shows complete syntax for the CONFIG GLOBAL statement, including the added PINNING parameter.



The CONFIG GLOBAL statement is a required VTCS statement.



► —GLOBAL-└─MAXVTV=nnnnnn--MVCFREE=*nnnn*---SCRATCH-VTVattr= ALLmount -LOCKSTR=*structure-name*-YES--ALWAYS--REPlicat -RECALWER= -CHANGED--STANDard-YES YES -VTVPAGE= -NLIBDRNR= -NLIBMIGR -LARGE -MVCMNTTO=nn--YES--NO--NLIBRECL= -INITMVC= YES -MAXRTDS= -NO--16--NO--SYNCHREP= -32--FASTMIGR= -STREAM-YES--STACKED--OPTional-LOCKTOUT=nnn -400--LOGPOL= -MAXVTVSZ= -REQuired--800--2000--4000--32000--FASTRECL= -VTDGT256= PINNING= -ALLOC-

Figure 2-4 CONFIg GLOBAL Command Syntax

Parameters

The CONFIG GLOBAL statement includes the following optional parameters:

MAXVTV=nnn

optionally, specifies the maximum number of VTVs that can be migrated to a single MVC.

nnn indicates the number of VTVs. Valid values include:

- 4 to 32000 for a D, E or F level CDS
- 4 to 65000 for a G level CDS

The default is 32000 for a D, E, or F level CDS and 65000 for a G level CDS.



MVCFREE=nnn

optionally, specifies the minimum number of free MVCs in the MVC pool. A free MVC has 100% usable space and does not contain any migrated VTVs.

nnn indicates the minimum number of free MVCs. Valid values are 0 to 255. The default is 40. If free MVCs is equal or less than this value, VTCS issues message SLS6616I and starts an automatic space reclamation.



If you set MVCFREE=0, VTCS actually uses the default value (40).

VTVattr

optionally, specifies when VTCS assigns a Management Class to a VTV.

Assign a Management Class only when VTCS does a scratch mount of the VTV. This is the default.

ALLmount

Assign a Management Class whenever VTCS mounts the VTV.

RECALWER

optionally, specifies whether VTCS recalls VTVs with read data checks (applies to recall and drain operations).

YES

Recall VTVs with read data checks. This is the default.

NO

Do not recall VTVs with read data checks.

LOCKSTR=structure-name

optionally, specifies the Coupling Facility Structure that holds VTCS Lock Data. structure-name must be 16 characters or less and conform to IBM's standard for naming Coupling Facility Structures. Refer to Oracle's ELS publication Installing ELS for more information.



Caution:

CONFIG RESET is required to add LOCKSTR=structure-name to a CDS that did not previously use LOCKSTR=structure-name and to remove LOCKSTR=structure-name from a CDS. CONFIG RESET is not required to change lock structure names (for example, going from LOCKSTR=VTCSL1 to LOCKSTR=VTCSL2).

REPlicat

optionally, specifies when VSM replicates the VTV.



ALWAYS

The replicate request is added to the VTCS replication queue every time the VTV is dismounted, regardless of whether the VTV was changed while it was mounted. This is the default.

CHANGED

The replicate request is added to the VTCS replication queue if either of the following have occurred:

- The VTV was changed while it was mounted.
- The VTV was only read while mounted but less than the expected number of MVC copies of the VTV exist.

Once the expected number of MVC copies exist, replication does not occur. Regardless of the CONFIG GLOBAL REPlicat setting, replication also requires that:

- The VTV must be dismounted in a VTSS that supports replication and there cannot be an identical copy of the VTV in the other VTSS in the Cluster.
- In addition to the CONFIG GLOBAL REPlicat value, you must specify REPlicat (YES) on a VTV's Management Class for replication to occur.

VTVPAGE

optionally, specifies the page size used to store VTV data in the VTSS and on the MVCs. This setting only applies to 400 MB and 800 MB VTVs. If VTVPAGE is not specified on either the MGMTclas statement or the CONFIG GLOBAL statement, the default is STANDard.

STANDARD

standard page size, which is compatible with all VSM3 or VSM4 models and microcode levels.

LARGE

large page size, which can provide improved performance within the VTSS and for migrates and recalls. Large page size requires a G level CDS. For more information on CDS levels, refer to "CONFIg" in the *ELS Command, Control Statement, and Utility Reference*. For 2 GB, 4 GB, and 32 GB VTVs (MAXVtvsz 2000, 4000, or 32000), a VTVPAGE setting of LARGE is always used. VTVPAGE does not apply to VSM2s. VTVPAGE (LARGE) requires VSM4 or VSM5 microcode D02.02.00.00 or VSM3 microcode N01.00.77.00. No installed option is required.

MGMTCLAS VTVPAGE, if specified, overrides the CONFIG GLOBAL VTVPAGE value. If VTVPAGE is not specified on either the MGMTclas Statement or the CONFIG GLOBAL Statement, the default is STANDard. Consider the following:

- The page size of a VTV can only be changed by a VTV scratch mount.
 Additional restrictions may also apply for scratch VTVs that were previously resident in a VTSS.
- If you specify LARGE and the CDS level or VTSS microcode does not support LARGE, then VTCS issues warning messages and VTVPAGE defaults to STANDard.
- If you specify STANDard for 2 GB or 4 GB VTVs, then VTCS issues warning messages and defaults to LARGE.



 Creating VTVs with large pages makes these VTVs unreadable in configurations that do not support large VTV pages.

NLIBDRNR

optionally, specifies how VTCS handles non-library resident MVCs for drain or reclaim processing.

YES

VTCS requests the mount of the non-library MVC. This is the default.

NO

VTCS suppresses the mount and purges the request.

For drain, non-library resident MVCs can be selected.

For reclaim, only library resident MVCs can be selected for processing, never non-library ones. However, between the time a library resident MVC is selected and the time it is actually processed, it may have become non-resident by being ejected.

NLIBMIGR

optionally, specifies whether non-library resident MVCs will be selected for Migration processing.

YES

Allow non-library resident MVCs to be selected. This is the default.

NC

Do not allow non-library resident MVCs to be selected.

NLIBRECL

optionally, specifies whether non-library resident MVCs will be selected for Recall processing.

YES

Allow non-library resident MVCs to be selected. This is the default.

NO

Do not allow non-library resident MVCs to be selected.

MVCMNTTO=nn

optionally, specifies the value in minutes when a mount of an MVC will timeout. Valid values are 5 to 30 minutes. The default is 15.

nn indicates the number of minutes.

INITMVC

optionally, specifies whether un-initialized MVCs are to be initialized when they are first mounted.

NO

Un-initialized MVCs should not be initialized. This is the default.

YES

Un-initialized MVCs should be initialized.

SYNCHREP

optionally, specifies whether VTV synchronous replication feature is enabled.



NO

Synchronous replication is not enabled. This is the default.

YES

Synchronous replication is enabled.



SYNCHREP=YES merely enables synchronous replication. To actually implement synchronous replication, you must create a Management Class that specifies REPLicat=YES_SYNC For more information, refer to the "MGMTclas Control Statement" in the ELS Command, Control Statement, and Utility Reference.

MAXRTDS

optionally, specifies the maximum number of RTDs supported.

16

up to 16 RTDs supported.

32

up to 32 RTDs supported.

FASTMIGR

optionally, specifies whether the stacked or streamed migrates feature is enabled for all VTSSs that support this feature.

STREAM

Specifies to use the streaming method for migrations. VTCS monitors responses from the RTD and uses them to decide as to when a VTV has become migrated. Full advantage is made of the buffer within the RTD to improve the throughput when performing migration.

This option also implies the use of the STACKED feature.

STACKED

Specifies to use the stacked method for migrations. VTCS maintains a small queue of requests to the VTSS. Advantage is made of the various buffers in the VTSS and RTD to improve the throughput when performing a migration. For backward compatibility, the value YES is the equivalent of STACKED.

NO

Disable stacked migrates. This is the default.

FASTMIGR=STREAM or STACKED has the following prerequisites:

- FASTMIGR=STACKED: VSM4/VSM5 microcode D02.05.00.00 or higher. If this level of microcode is not installed on all VTSSs in the configuration, Stacked Migration will be limited to the VTSSs that have it installed.
- FASTMIGR=STREAM: VSM4/VSM5 microcode D02.15.xx.00 or higher. If this level of microcode is not installed on all VTSSs in the configuration, Streamed Migration will be limited to the VTSSs that have it installed.
- ELS 7.0 or higher with PTFs.



- CDS level G or higher.
- FICON ports for FICON RTDs and CLINKs.

For the Stacked Migration feature to be enabled, all hosts must be running the prerequisites, otherwise:

- If a host is active and does not support or tolerate stacked migrates, then the CONFIG utility returns an error.
- If a host is started and does not support or tolerate this feature, then the host shuts down.

LOGPOL

optionally, specifies whether VTCS CDS logging is optional or required.

OPTional

Logging is optional. This is the default. This mode is required for configurations that include 7.1, 7.2, 7.3 and lower level hosts.

REQuired

Logging is enabled for all events on all hosts that share the CDS. This requires all hosts to be at level 7.0 or higher. The following events are logged:

- new version of VTV
- imported VTV
- first use or re-use of an MVC
- imported MVC
- add VTV to MVC
- VTV on an imported MVC
- unlink VTV from MVC
- reclaim VTV from MVC
- reset MVC EOT backwards
- electronic export of VTV

MAXVTVSZ

optionally, specifies a default maximum compressed VTV size (MB) that may be used during the creation of VTVs. Valid values for this parameter depend on both the CDS level and the microcode levels of the applicable VTSSs.

400

400 MB. This is the default.

800

800 MB. The CDS must be at E level or above.

2000

2 GB. The CDS must be at G level or above.

4000

4 GB. The CDS must be at G level or above.

32000

32 GB. The CDS must be at I level.



Considerations:

- The size of a VTV changes only after it goes through a scratch cycle. Therefore, if you change the Management Class and DISP=MOD, then it will still retain the original size.
- If you specify a VTV size that is not supported by the configuration, VTCS issues warning messages and MAXVtvsz defaults to the largest VTV size supported by the configuration.
- MAXVtvsz does not apply to VSM2s.
- MAXVTVSZ(2000) or MAXVTVSZ(4000) requires VSM4 or VSM5 microcode
 D02.02.00.00 or VSM3 microcode N01.00.77.00. No installed option is required.
- MAXVTVSZ(32000) requires VSM6 minimum microcode level 6.2 and VLE minimum microcode level 1.5.1, if VLE is in the configuration.

The CONFIG GLOBAL and MGMTCLAS MAXVTVSZ parameters interact as follows:

- If MAXVTVSZ is specified on MGMTCLAS, this value overrides the CONFIG GLOBAL MAXVTVSZ value.
- If MAXVTVSZ is not specified on MGMTCLAS, the CONFIG GLOBAL MAXVTVSZ value, if specified, is used. Otherwise, MAXVTVSZ defaults to 400 MB.
- If MAXVTVSZ is not specified on MGMTCLAS or on CONFIG GLOBAL, MAXVTVSZ defaults to 400 MB.

LOCKTOUT=nnn

optionally, specifies the minimum number of minutes that a resource is locked before message SLS6946E is issued.

nnn indicates the number of minutes.

Valid values are 0, or any value between 5 and 240. If 0 is specified, message SLS6946E will not be issued when a required resource is locked. If this parameter is not specified, the current default of 10 minutes is retained.



LOCKTOUT is only supported at 'F' level CDS (V61ABOVE) and above.

FASTRECL

Optionally specifies whether VTCS performs Early Time to First Byte (ETTFB), also known as concurrent tape recall/mount, for all VTSSs that support the feature. This parameter applies to recalls from RTDs and recalls from VLE.

NO

Disable the ETTFB feature. This is the default.

YES

Enable the ETTFB feature. If you globally enable this feature, you can disable it for individual VTSSs through the CONFIG VTSS NOERLYMT parameter. Refer to the "CONFIG VTSS Statement" in the *ELS Command, Control Statement, and Utility Reference* for more information.



VTDGT256

Optionally, specifies whether greater than 256 VTDs are to be used.



VTDGT256=YES is only valid with VSM model 7 and above. VSM 7 VTSS supports 512 VTDs with current maintenance.

NO

Specifies that only the first 256 VTDs will be used. The first 256 VTDs are on control unit 00 - 0F of the VTSS with VDID address of x0000 - x0F0F. $_{\rm NO}$ is the default.

YES

Specifies that all configured VTDs in the VTSS can be used. This is only valid if the VTSS supports greater than 256 devices. The feature is globally enabled and applies to all VSMs that support greater than 256 devices. The feature can be disabled for an individual VTSS through the CONFIG VTSS NOGT256 parameter. Refer to the "CONFIG VTSS Statement" in the ELS Command, Control Statement, and Utility Reference for more information.

PINNING

Optionally, specifies whether ELS considers MGMTCLAS PINPOL settings when influencing allocation.

ALLOC

Use MGMTCLAS PINPOL settings to influence allocation. VTCS will attempt to allocate to the VTSSs listed in the PINPOL statement.

NO

Ignore MGMTCLAS PINPOL settings during allocation. This is the default.

Additional PINNING Updates

This update applies to:

ELS 7.3 Programming Reference

ELS XML Tags, XML Schema

XML Tag Definitions

The following data tag and definition is added:

<global_pinning>

PINNING allocation support:

- ALLOC, PINNING allocation influencing enabled.
- NO, support is disabled.

XML Schema - CONFIG

For tag <vtcs_data>, the <global_pinning> data tag is added.



XML Schema - DECOMP

For tag <vtcs_data>, the <global_pinning> data tag is added.

XML Schema - Display CONFIG

For tag <vtcs_data>, the <global_pinning> data tag is added.

VTCS Asynchronous Replication Delay

VTCS adds the ability to delay asynchronous replication for a specific period of time as defined on the MGMTclas control statement.

This enhancement includes the following updates:

- MGMTclas REPDELAY Parameter
- Display REPlicat Listvtvs DELAY Option

MGMTclas REPDELAY Parameter

This update applies to the ELS 7.3 Command, Control Statement, and Utility Reference.

The VTCS MGMTclas control statement adds the REPDELAY parameter used to specify a delay time for asynchronous replication.

Syntax

For reference, the following figure shows complete syntax for the ${\tt MGMTclas}$ control statement, including the added ${\tt REPDELAY}$ parameter.



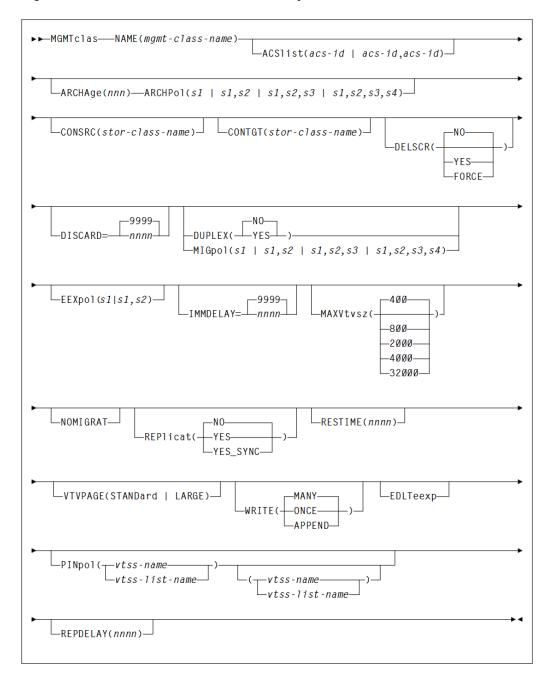


Figure 2-5 MGMTclas Control Statement Syntax

Parameters

The MGMTclas control statement adds the REPDELAY parameter. For reference, all MGMTclas parameters are described as follows:

NAME(mgmt-class-name)

specifies the name of the Management Class.

mgmt-class-name indicates the Management Class name. This name must be one to eight alphanumeric characters beginning with an alpha character and must follow SMS naming conventions.

ACSlist(acs-id or acs-id,acs-id)

optionally, specifies the ACSs from which RTDs and MVCs are selected. If not specified, the default is the ACS specified on the CONFIG DEFLTACS parameter. See DUPlex, below, for information about using the DUPlex and ACSlist parameters.

acs-id or acs-id,acs-id indicates either one or two ACS IDs. An ACSid is a two digit decimal ACS identifier from 00-99.

ARCHAge(nnn)

optionally, specifies the age (in days) of a VTV before it is archived as specified by ARCHPol. If you specify ARCHAge, you must specify ARCHPol.

This parameter is optional; there is no default value. Valid values are 1 to 999.

nnn indicates the VTV age in days.

ARCHPol(stor-class-name or stor-class-list)

optionally, specifies up to four Storage Classes that specify the ACS and media type of the archive MVCs.

- If you specify one Storage Class, VTCS archives one copy of a VTV.
- If you specify multiple Storage Classes (with different ACS values, different MEDIA values, or both), VTCS archives multiple copies of the VTV to different MVCs in different ACSs.
- If you specify multiple Storage Classes with identical ACS and MEDIA values, VTCS
 archives multiple copies of the VTV to the same ACS and media type but to
 different MVCs.



Multiple Storage Classes on ARCHPol also affects how VTV recall, MVC space reclamation, and VTV consolidation function.

This parameter is optional; there is no default value. If you specify ARCHPol, you must specify ARCHage.

stor-clas-name1...stor-clas-namen indicates the names of one or more Storage Classes that you defined on the STORclas control statement. Greater than two copies requires you to specify CDSLEVEL(V6ABOVE) or CDSLEVEL(V6ABOVE) on the CONFIG statement.

CONSRC(stor-class-name)

optionally, specifies the Storage Class that species a preference for the source MVC ACS and media for consolidation of VTVs that are migrated and copied to multiple MVC locations or media types. If the MVC in the specified Storage Class is unavailable, and the specified Storage Class is not the last (in order specified in the migration policy), VTCS uses the MVC associated with the last Storage Class. If the MVC in the specified Storage Class is unavailable and the specified Storage Class is



the last (in order specified in the MIGpol parameter), VTCS uses the MVC associated with the previous Storage Class (in order specified in the MIGpol parameter).

stor-class-name indicates the name of a Storage Class that you defined on the STORclas control statement.

CONTGT(stor-class-name)

optionally, specifies the Storage Class that determines the output MVC ACS and media for VTV consolidation (executing CONSolid, EXPORT VTV or EXPORT MGMTclas). Note that the media preferencing is in the opposite order of the list of media types specified on the Storage Class.

This parameter is optional; there is no default value. If you do not specify a value for CONTGT, VTCS selects the output MVC as follows:

- For single-ACS and dual-ACS configurations, the media selection order for VTV consolidation.
- For multiple ACS systems, VTCS selects MVCs from the default ACS specified by the CONFIG DEFLTACS parameter.

stor-class-name indicates the name of a Storage Class that you defined on the STORclas control statement.

DELSCR

optionally, specifies whether VSM deletes scratched VTVs.

NO

Do not delete scratched VTVs (the default).

If you are using the pinning feature enabled in the MGMTclas control statement, resident replica copies are deleted when the VTV is scratched. The primary copy is not deleted until migration time. Once a VTV is scratched, it is no longer pinned.

YES

Delete scratched VTVs unless this would cause a processing delay due to unavailable resources.

FORCE

Delete scratched VTVs and wait for access to any resources that are required. This may cause a processing delay.



When you scratch a VTV wit the DELSCR YES attribute, VSM erases the VTV data at scratch synchronization time, which eliminates the ability to "unscratch" a VTV to recover data!

Also note that when using HSC to perform scratch synchronization, it is possible that a volume that is scratch in the TMC at the beginning of scratch synchronization run and also scratch in the CDS from the previous scratch update run (and thus is in the list for HSC to scratch in the CDS) is accessed by a job during the scratch update run and written to and made non-scratch by the TMS in the TMC. In this case, it is still possible for HSC to scratch the volume because it was in the originally extracted list



of volumes to be scratched. Therefore, Oracle strongly recommends that you do not run any jobs that use scratches during HSC scratch synchronization.

Refer to the *LCM User's Guide* for more information about LCM scratch synchronization with the SYNCVTV function.

DISCARD(nnnn)

optionally, specifies the discard time in hours. This value represents the time after a VTV is dismounted that the VTV is kept in the buffer. After this time value expires, the VTV is preferred for deletion from the VTSS buffer if all required copies of the VTV exist on MVCs.

nnnn indicates the time in hours. Valid values are 0 to 9999. The default is 9999.

When IMMEDmig is specified, DISCARD is not used for immediate migration processing. It is only applicable for AUTO migration requests. If RESTIME is also specified for a VTV, it overrides the DISCARD value.

DUPlex

optionally, specifies whether VSM will migrate two copies of the VTV to two MVCs. DUPlex and MIGpol are mutually exclusive.

NO

Do not duplex the VTV (the default).

YES

Duplex the VTV.

The following table describes possible scenarios using the \mathtt{DUPlex} and $\mathtt{ACSlist}$ parameters:

Action
VSM migrates the VTVs to two MVCs, one in each ACS. (This scenario is the normal one for duplexing to two ACSs.)
VSM migrates the VTVs to two MVCs in the ACS specified.
VSM ignores the DUPlex policy and migrates the VTVs to two MVCs, one in each ACS.
VSM migrates the VTVs to one MVC in the ACS specified.

MIGpol(s1 or s1,s2 or s1,s2,s3 or s1,s2,s3,s4)

optionally, specifies up to four Storage Classes that specify the ACS and media type of migration MVCs. DUPlex and MIGpol are mutually exclusive.



- If you specify one Storage Class, VTCS migrates one copy of a VTV.
- If you specify multiple Storage Classes (with different ACS values, different MEDIA values, or both), VTCS makes multiple copies the VTV to different MVCs in different ACSs.
- If you specify multiple Storage Classes with identical ACS and MEDIA values, VTCS
 makes multiple copies of the VTV to the same ACS and media type but to
 different MVCs.

Note:

Multiple Storage Classes on MIGpol also affects how VTV recall, MVC space reclamation, and VTV consolidation function.

This parameter is optional; there is no default value.

s1 or s1,s2 or s1,s2,s3 or s1,s2,s3,s4 indicates the names of up to four Storage Classes you defined on the STORClas control statement. Greater than two copies requires you to specify CDSLEVEL(V61ABOVE) or greater on the CONFIG Statement.



The CONFIG GLOBAL REPLicat parameter specifies when to replicate a VTV (always, or only when changed while mounted).

EEXpol(s1 or s1,s2)

optionally, specifies the storage classes for electronic export.

s1 or s1,s2 indicates a maximum of two Storage Classes that specify the TAPEPLEX parameter. If these storage classes do not specify the TAPEPLEX parameter, an error condition results.

- If there are two TAPELEX storage classes, then they must specify different destination TapePlex names.
- A warning will be generated if the two TapePlex storage classes are specified with the SYNC=YES parameter. It is only possible to synchronously export to one other TapePlex.
- If there is a conflict, electronic export functionality takes precedence over replication with a cluster.
- If either one of the storage classes referenced contains the THISPLEX name, then the storage class is silently ignored. This enables common storage class definitions to be applied across TapePlexes.

IMMDELAY(nnnn)

optionally, specifies the immediate migration delay time; the amount of time after VTV dismount that the migration should be queued for action. This enables VTVs used in multi-step jobs to remain resident for a specified time before being processed for migration.



nnnn indicates the immediate migration delay time in minutes. Valid values are 0 to 9999 (the default).

If ${\tt IMMDELAY=9999}$ then immediate migration does not occur. Migration and deletion is handled through auto or command migration.

When this value is specified, MIGRSEL and MIGRVTV have no influence on migration control.

RESTIME and DISCARD parameter values represent buffer management priorities:

- If the IMMDELAY value is less than the RESTIME value, keep the VTD in the VTSS as a priority.
- If the IMMDELAY value is greater than the RESTIME value but less than the DISCARD value, manage the buffer according to LRU (default state).
- If the IMMDELAY value is greater than the DISCARD value, remove the VTD from the VTSS as a priority.

The IMMDELAY parameter is designed to replace the IMMEDmig parameter, described in Oracle's ELS publication *ELS Legacy Interfaces Reference*. These parameters are mutually exclusive. The following table describes equivalent values:

IMMDELAY or DISCARD Values	IMMEDmig Value	Action
IMMDELAY(1-9998)	None	Delay migration for the specified number of minutes.
IMMDELAY(9999)	IMMED(NONE)	VSM does not immediately migrate the VTV, but migrates it according to standard VSM migration criteria. MIGRSEL and MIGRVTV have no influence on migration control.
IMMDELAY(0)DISCAR D(9999)	IMMED(KEEP)	VSM immediately migrates a VTV and keeps a copy resident on the VTSS until the VTV becomes eligible for deletion.
MMDELAY(0)DISCARD(0)	IMMED(DELETE)	VSM immediately migrates the VTV and then deletes it from the VTSS.



Note:

If you specify REPlicat YES or YES_SYNC, VTCS defaults to IMMDELAY 0. If you specify REPlicat YES or YES_SYNC in combination with IMMDELAY 9999, VTCS ignores the IMMDELAY parameter without issuing a message. For example:

MGMT NAME(REPIMNO) REP(YES) IMMDELAY(9999)

causes VTCS to use IMMDELAY 0 and perform immediate migration. To suppress immediate migration, add a MIGRVTV MGMTclas(x) IMMDELAY(9999) statement for the management class.

MAXVtvsz

optionally, specifies the maximum size for VTVs in this Management Class. Valid values for this parameter depend on both the CDS level and the microcode levels of the applicable VTSSs.

400

400 MB. This is the default.

800

800 MB. The CDS must be at a E level or above.

2000

2 GB. The CDS must be at a G level or above.

4000

4 GB. The CDS must be at a G level or above.

32000

32 GB. The CDS must be at an I level or above.

Considerations:

- The size of a VTV changes only after it goes through a scratch cycle. Therefore, if you change the Management Class and DISP=MOD, then it will still retain the original size.
- If you specify a VTV size that is not supported by the configuration, VTCS issues
 warning messages and MAXVtvsz defaults to the largest VTV size supported by
 the configuration.
- MAXVtvsz does not apply to VSM2s.
- MAXVTVSZ (2000 | 4000) requires VSM4 or VSM5 microcode D02.02.00.00 or VSM3 microcode N01.00.77.00. No installed option is required.
- MAXVTVSZ (32000) requires VSM6 minimum microcode level 6.2 and VLE minimum microcode level 1.5.1, if VLE is in the configuration.

NOMIGRAT

optionally, specifies that VTVs in the Management Class are not candidates for migration, consolidation or export, but are candidates to reside on a tapeless VTSS.



VTSS selection is changed to prefer tapeless VTSSs for VTVs in Management Classes with NOMIGRAT, and to disallow VTVs without NOMIGRAT from VTSSs with no RTDs.

NOMIGRAT is mutually exclusive with ACSLIST, IMMDELAY, DUPLEX, MIGPOL, ARCHAGE, ARCHPOL, RESTIME, CONSRC and CONTGT.

REPlicat

optionally, specifies whether VSM replicates the VTV.

Synchronous replication must be enabled through the CONFIG GLOBAL SYNCHREP parameter.

If you specify REPlicat YES or YES_SYNC, VTCS defaults to IMMDELAY 0. If you specify REPlicat YES or YES_SYNC in combination with IMMDELAY 9999, VTCS ignores the IMMDELAY parameter without issuing a message. For example:

causes VTCS to use IMMDELAY 0 and perform immediate migration.

To suppress immediate migration, add a MIGRVTV MGMTclas(x) IMMDELAY(9999) statement for the management class.

NO

Do not replicate the VTV (the default).

YES

Asynchronously replicate the VTV.

YES SYNC

Synchronously replicate the VTV.

RESTIME(nnnn)

optionally, specifies how long VTCS attempts to keep a VTV as VTSS-resident before becoming a preferred automatic migration candidate.

This parameter is optional; there is no default value. Valid values are 1 to 9999. Value 9999 specifies that the VTVs in this Management Class are resident permanently unless VTSS space management requires VTCS to automigrate the VTV and then delete it from the VTSS.

nnnn indicates the residency time in hours.

RESTIME and IMMEDmig(DELETE) are mutually exclusive. RESTIME takes effect when a VTV is created, and does not apply to a recalled VTV.

VTVPAGE

optionally, specifies that the page size used to store VTV data in the VTSS and on the MVCs. This setting only applies to 400 MB and 800 MB VTVs. If VTVPAGE is not specified on either the MGMTclas statement or the CONFIG GLOBAL statement, the default is STANDard.

STANDARD

standard page size, which is compatible with all VSM3 or VSM4 models and microcode levels.



LARGE

large page size, which can provide improved performance within the VTSS and for migrates and recalls. Large page size requires a G level CDS. For 2 GB, 4 GB, or 32 GB VTVs (MAXVtvsz 2000, 4000, or 32000), a VTVPAGE setting of LARGE is always used.

Considerations:

- VTVPAGE does not apply to VSM2s. VTVPAGE(LARGE) requires VSM4 or VSM5 microcode D02.02.00.00 or VSM3 microcode N01.00.77.00. No installed option is required.
- MGMTCLAS VTVPAGE, if specified, overrides the CONFIG GLOBAL VTVPAGE value. If VTVPAGE is not specified on either the MGMTclas Statement or the CONFIG GLOBAL Statement, the default is STANDard.
- The page size of a VTV can only be changed by a VTV scratch mount. Additional restrictions may also apply for scratch VTVs that were previously resident in a VTSS.
- If you specify LARGE and the CDS level and/or VTSS microcode do not support LARGE, VTCS issues warning messages and VTVPAGE defaults to STANDard.
- If you specify STANDard for 2 GB or 4 GB VTVs VTCS issues warning messages and defaults to LARGE.
- Creating VTVs with large pages makes these VTVs unreadable in configurations that do not support large VTV pages.
- The VTVPAGE value specified for this Management Class overrides the global value specified on the CONFIQ utility.

WRITE

optionally, specifies the VTSS-resident VTV VOLSAFE policy as follows:

MANY

specifies no VOLSAFE write protection. This is the default.

ONCE

specifies partial (write once) VOLSAFE protection. After the VTV is non-scratch, it cannot be overwritten or appended.

APPEND

specifies full VOLSAFE protection. This is only supported for VSM6 systems.

- VTV data can be appended once non-scratch.
- Data cannot be overwritten.

The $\mathtt{Display}\ \mathtt{VTV}$ command and \mathtt{VTVRPT} report will indicate that the VTV is write-append protected.

VTVs with full volsafe protection can only be scratched with RACF ALTER authority. Use the following RACF commands to set RACF authority:

RDEFINE TAPEVOL volser UACC(NONE)
PERMIT volser CLASS(TAPEVOL) ID(userid) ACCESS(ALTER)



EDLTeexp

optionally, specifies whether pending Electronic Export VTVs are candidates for early deletion. The VTVs will only be deleted if all CLINKs to the remote Tapeplex are not operational. The EDLTeexp option requires that the EEXPOL and MIGPOL policies be set for the management class.

Note:

For the early delete VTVs to be electronically exported, you must run the VTCS RECONCIL utility after the remote Tapeplex CLINKs are varied ONLINE.

PINpol(vtss-name or vtss-list-name)

optionally, specifies one or two VTV pinning locations where a resident replica of a VTV is stored in the VTSS buffer. A location can be either a *vtss-name* or *vtss-lst-name*.

vtss-name indicates a VTSS name.

vtss-list-name indicates the name of a VTSS list (as specified in a MGMTDEF VTSSLST control statement). This value can be a maximum of 8 alphanumeric characters, with the first character in the range of A-Z.

If two locations are specified, there must also be a replication (REPlicat) policy defined on the MGMTCLAS statement.

Note:

Only pin VTVs that are required to stay resident. Pinning every VTV or too may VTVs can cause the VTSS to fill to capacity and become unusable. For pinning to function correctly, PTF L1H18UI (adds VTV pinning support) must be applied to all systems, and the MGMTclas statements with a pinning policy must be defined on all hosts.

REPDELAY(nnnn)

optionally, specifies the asynchronous replication and/or asynchronous electronic export delay time, the minimum amount of time after a VTV is dismounted that the asynchronous replication and/or asynchronous electronic export will be delayed.

nnnn indicates the delay time in minutes. Valid values are 0 (the default) to 9999.

- REPDELAY(nnnn) requires either REPLICAT or EEXPOL. If both REPLICAT(YES) and
 EEXPOL are specified on the same MGMTCLAS then the asynchronous replication
 and asynchronous electronic export will both be delayed by the time specified.
- REPDELAY is ignored for synchronous replication and synchronous electronic export.
- REPDELAY is honored across varying a VTSS offline or online. When the VTSS
 is varied back online and the delay time has not expired then the VTV(s) will



continue to be delayed. If the delay time has expired then the VTV(s) will be replicated once the VTSS is online.

 REPDELAY is not honored across cycling HSC. Once HSC or VTCS is fully initialized the VTV(s) will be replicated.

Display REPlicat Listvtvs DELAY Option

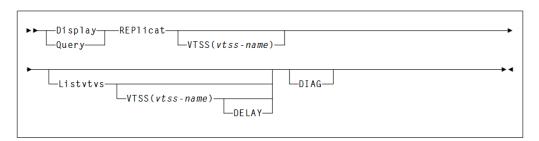
This update applies to the ELS 7.3 Command, Control Statement, and Utility Reference.

The Display REPlicat Listvtvs parameter adds the DELAY option, used to display the VTVs for the VTSS that are being delayed for both asynchronous replication and electronic export.

Syntax

For reference, the following figure shows complete syntax for the Display REPlicat command, including the added DELAY parameter:

Figure 2-6 Display REPlicat command syntax



Parameters

The Display REPlicat Listvtvs parameter adds the DELAY option:

Listvtvs

optionally, lists volsers of VTVs awaiting replication or electronic export from the specified VTSS, and indicates an age range, or number of minutes the VTVs have been queued.

VTSS(vtss-name)

optionally, lists volsers for only the specified VTSS.

vtss-name indicates the VTSS name.

DELAY

optionally, lists VTVs for the specified VTSS that are being delayed for both asynchronous replication and asynchronous electronic export. Output also indicates the minimum and maximum age of the delayed VTVs.



Output

The following example shows output produced by the Display REPlicat command issued with the LISTVTVS and DELAY parameters:

D REPL LISTVTVS VTSS(DVTSS16) DELAY

SLS6603I VTVs awaiting replication
VTVs to be replicated to TAPEPLEX SECNDARYDX0200
1 volumes with an age range of 1-1 in the queue
VTVs to be replicated within cluster BIDIRDX 0201 DX0202 DX0203
3 volumes with an age range of 1-3 in the queue



If a VTV is assigned a MGMTCLAS that has both REP(YES) and EEXPOL(EE) with REPDELAY specified, the VTV only displays in the replicated to TAPEPLEX output section. The replication within the cluster will occur once the replication to TAPEPLEX has occurred.

