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CentraStar and SDK Release and Interoperability Matrix

Abstract

This White Paper lists features introduced by Centera CentraStar and SDK releases from 1.0 through 3.1 and discusses Centera compatibility, End of Life and platform support policies.

Updated August, 2007

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Introduction

EMC personnel both inside and outside of the Centera organization frequently ask about the relationship of specific Centera features to corresponding Centera SDK features. Such questions are often related to the support for some application by a certain version of CentraStar, or to the verification of specific Centera features.

This document is designed to make the answers to those questions available in a straightforward format. This format lists released CentraStar and SDK versions and includes:

1. CentraStar and Centera SDK versions
2. Dates of introduction
3. New and Discontinued features, functions and options
4. Dependencies for features between CentraStar and Centera SDK versions where appropriate

Not all minor versions and service packs for CentraStar or the Centera SDK are reported here since they do not affect feature interoperability between the two.

As this document is designed as a summary of CentraStar and Centera SDK features, it is not intended to be exhaustive. Not every feature is listed. Please refer to Centera documentation, located on EMC Powerlink for additional Centera documentation for each CentraStar or Centera SDK version.

CentraStar and SDK 1.0 versions

CentraStar Version	1.0
Introduced	April, 2002
Compatible with	Centera SDK 1.0
New Features	None
Discontinued Features	None

CentraStar Version	1.0 SP2
Introduced	June, 2002
Compatible with	Centera SDK 1.0
New Features	▪ Expansion to 2 racks (64 nodes) supported ▪ Small file performance improvement by factor of 3 – 5 ▪ Miscellaneous code fixes
Discontinued Features	None

Centera SDK Version	1.0
Introduced	April, 2002
Supported Platforms	▪ Windows NT ▪ Windows 2000 ▪ SUN SOLARIS 2.6 ▪ SUN SOLARIS 2.8
New Features	None
Discontinued Features	None

Centera SDK Version	1.0 SP2
Introduced	June, 2002
Supported Platforms	▪ Windows NT ▪ Windows 2000 ▪ SUN SOLARIS 2.6 ▪ SUN SOLARIS 2.8 ▪ Linux Red Hat 7.2

New Features	▪ All SDK platforms have same the same code revision
	
	▪ Automatic retries for error codes:
	  o -10013 (FP_ACK_NOT_RCV_ERR),
	  o -10014 (FP_FILE_NOT_STORED_ERR),
	  o -10021 (FP_CLIP_NOT_FOUND_ERR),
	  o -10040 (FP_BLOBBUSY_ERR),
	  o -10041 (FP_SERVER_NOTREADY_ERR)

Discontinued Features	None

CentraStar and SDK 1.1 versions

CentraStar Version	1.1
Introduced	August, 2002
Compatible with	Centera SDK 1.1 and earlier

New Features	▪ Query Support
	
	▪ Replication Support
	
	▪ Expansion to 4 racks (128 nodes) supported
	
	▪ Enhanced CLI Security
	  o All management passwords may be changed by customer
	  o CLI is a standalone application
	  o customer may disable all external management access
	
	▪ Email Alerts and 4 hour response in addition to 6 month grooming visits
	
	▪ Centera Verify replaces FPVerify Tool

Discontinued Features	None

Centera SDK Version	1.1 (1.1.94)
Introduced	August, 2002
Supported Platforms	▪ Windows NT ▪ Windows 2000 ▪ SUN SOLARIS 2.8 ▪ HP-UX 11.0 ▪ HP-UX 11i ▪ Linux Red Hat 7.2

New Features	▪ Generic Streams
	
	▪ Connection Pooling
	
	▪ Query (functions to be deprecated in SDK 2.3 and replaced by newer Query functions)
	  o Requires CentraStar 1.1 or later
	
	▪ Transfer of metadata as well as blobs to another Centera cluster (FPClip_RawOpen, FPClip_RawRead)
	
	▪ Failover support
	  o Requires CentraStar 1.1 or later
	
	▪ Duplicate MD5 Detection (through re-writing of content by application)
	  o Client side MD5 calculation required using Option CLIENT_CALCID (FPTag_BlobWrite)
	  o the option FP_OPTION_ENABLE_DUPLICATE_DETECTION (FPTag_BlobWrite) is also required (to be deprecated in SDK 2.1)
	  o Application is required to rewrite content in modified form if

	CentraStar responds with an error, signaling that there is duplicate content on the Centera cluster. ▪ Unicode Support (in addition to ASCII) ▪ Wide Character Support and end to size limit on tag values (previously limited to 128KB)

Discontinued Features	▪ Deprecated Functions
	   o FPStream_CreateWithBuffer
	   o FPStream_CreateWithFile
	   o FPStream_Read
	   o FPStream_Write
	   o FPStream_SetMarker
	   o FPStream_GetMarker

CentraStar and SDK 1.2 versions

CentraStar Version	1.2 (1.1.0.98-409); 1.2 SP1 (1.2.1.114-620)
Introduced	October, 2002; December, 2002
Compatible with	Centera SDK 1.2 and earlier

New Features	▪ Compliance Edition
	   o Capability to delete content governed by retention periods
	
	▪ Capabilities
	   o Allows or restricts SDK commands such as Query and Delete
	   o Older SDK versions will receive a -10005 error code (FP_SERVER_ERR) if attempting a function that is disabled
	
	▪ Gen2 Centera Hardware and 250GB disks supported
	
	▪ Small file performance improvement by factor of 3

Discontinued Features	None

Centera SDK Version	1.2 (1.2.123)
Introduced	October, 2002
Supported Platforms	▪ Windows NT ▪ Windows 2000 ▪ SUN SOLARIS 2.6 ▪ SUN SOLARIS 2.8 ▪ HP-UX 11.0 ▪ HP-UX 11i ▪ Linux Red Hat 7.2 ▪ AIX 4.3.3 ▪ AIX 5.1

New Features	▪ Ability to retrieve capabilities from Centera cluster for Query, Delete and Failover
	   o FPPool_GetCapability
	
	▪ Ability to retrieve API Library Version
	   o FPPool_GetComponentVersion
	
	▪ Ability to get a reference to a Pool from a Clip, Query or Tag
	   o FPClip_GetPoolRef
	   o FPTag_GetPoolRef
	   o FPQuery_GetPoolRef
	
	▪ Ability to get a reference to a Clip from a Tag
	   o FPTag_GetClipRef
	
	▪ Ability to copy tags with their attributes, associated blob data, and their children to the same or another C-Clip
	   o FPTag_Copy
	
	▪ Multi-threading of tag data

	o only one thread per Clip supported until SDK version 2.0
	
	▪ Changed Generic Stream Operation – Support for "Stackable Streams"
	  o Foreign Pointer Mode
	  o Stream Buffer Mode
	
	▪ Support for Retention periods per Clip
	  o FPClip_SetRetentionPeriod
	  o FPClip_GetRetentionPeriod
	
	▪ New Functions:
	  o FPPool_GetComponentVersion
	  o FPPool_GetClusterTime
	  o FPPool_GetCapability
	  o FPPool_GetGlobalOption
	  o FPPool_GetIntOption
	  o FPClip_GetPoolRef
	  o FPClip_GetNumTags
	  o FPClip_SetRetentionPeriod
	  o FPClip_GetRetentionPeriod
	  o FPTag_Copy
	  o FPTag_GetPoolRef
	  o FPTag_GetClipRef
	  o FPQuery_GetPoolRef
	  o FPStream_PrepareBuffer
	  o FPStream_Complete
	  o FPStream_SetMark
	  o FPStream_ResetMark

Discontinued Features	None

CentraStar and SDK 2.0 versions

CentraStar Version	2.0 (2.0.0.114-736)
Introduced	April, 2003
Compatible with	Centera SDK 2.0 and earlier

New Features	▪ Application Authentication (will change to Access Profiles in CentraStar 3.0)
	  o Pool Access Information (PAI)
	
	▪ Content Protection Parity (CPP)
	  o Requires Gen2 Centera Hardware and minimum 16 node cluster
	
	▪ Garbage Collection
	
	▪ Data Deletion Enhancement, or "Shredding"
	  o Compliance Edition license required
	
	▪ Centera Viewer
	
	▪ SNMP Support (not available for Compliance Edition Plus)
	
	▪ Content Address Collision Avoidance (incompatible with Single Instancing)
	
	▪ Improved Replication Management (pause/resume)

Discontinued Features	▪ Purge operations (due to introduction of Garbage Collection)

CentraStar Version	2.0 SP1 (2.0.1.166-1014)
Introduced	August, 2003
Compatible with	Centera SDK 2.0 and earlier
New Features	▪ Improved Replication Performance ▪ Improved Capacity Reporting ▪ Gen3 Centera Hardware
Discontinued Features	None

Centera SDK Version	2.0 (2.0.161)
Introduced	April, 2003
Supported Platforms	- Windows NT - Windows 2000 - SUN SOLARIS 2.6 - SUN SOLARIS 2.8 - SUN SOLARIS 2.9 - HP-UX 11.0 - HP-UX 11i - Linux Red Hat 7.2 - AIX 4.3.3 - AIX 5.1 - IRIX 6.5.1.7
New Features	- Application Profiles (Renamed Access Profiles in CentraStar 3.0) - Uses PAI module - Custom Metadata assigned through Environment Variables - Content Address Collision Avoidance - New option: FP_OPTION_ENABLE_COLLISION_AVOIDANCE (FPTag_BlobWrite) - New option: FP_OPTION_DEFAULT_COLLISION_AVOIDANCE (FPPool_SetIntOption) - MD5-GUID (MG) naming scheme, requires CentraStar version 2.0 or later. - Changes to error handling - Close functions reset exception data when no error occurs - New function: FPPool_GetErrorInfo - Thread safety per single Clip - several threads can export different blobs within a Clip simultaneously - Recognition of Content Address strings greater than 27 bytes - Necessary to support longer Content Addresses required for Collision Avoidance - New Functions: - FPPool_GetErrorInfo
Discontinued Features	- The following errors are obsolete: - FP_CONTROLFIELD_ERR - FP_SEGDATA_ERR - FP_OFFSET_FIELD_ERR - FP_NUMLOC_FIELD_ERR - FP_SECTION_NOT_FOUND_ERR - FP_BLOBIDFIELD_ERR - FP_PROBEPACKET_ERR - Behavior of the FPClip_Purge function made identical to FPClip_Delete

Centera SDK Version	2.0 SP1 (2.0.233)
Introduced	August, 2003
Supported Platforms	- Windows NT - Windows 2000 - SUN SOLARIS 2.6 - SUN SOLARIS 2.8 - SUN SOLARIS 2.9 - HP-UX 11.0 - HP-UX 11i - Linux Red Hat 7.2 - AIX 4.3.3 - AIX 5.1 - IRIX 6.5.1.7
New Features	- Connection keep alive - Allows applications to keep generic stream write transactions open longer than the predefined TCP/IP timeout of 2 minutes - Improved behaviors of buffers for generic streams - Allows applications to supply more data to a generic stream buffer than the SDK has requested - Improved load balancing for multithreaded applications
Discontinued Features	None

CentraStar and SDK 2.1 versions

CentraStar Version	2.1
Introduced	Not Released
Compatible with	Not Applicable
New Features	None
Discontinued Features	None

Centera SDK Version	2.1 (2.1.267), 2.1 SP1 (2.1.281)
Introduced	November, 2003; February, 2004
Supported Platforms	- Windows NT - Windows 2000 - Windows 2003 Server - Windows XP - SUN SOLARIS 2.6 - SUN SOLARIS 2.8 - SUN SOLARIS 2.9 - HP-UX 11.0 - HP-UX 11i - Linux Red Hat 7.2 - AIX 4.3.3 - AIX 5.1 - AIX 5.2 - IRIX 6.5.1.7
New Features	- Monitoring API (MoPI) - Storage Strategy Support (Fast Blob Naming) - No SDK control over the Storage Strategy settings, enabled through CentraStar Management Interface - Naming scheme MD5-GUID (MG) used - MG naming scheme uses 53-byte Content Addresses, support built-in from SDK version 2.0 and later - Clip Attribute Functions - Added functions that set, get, count and remove attributes from a Clip. These attributes govern the entire Clip and are different from the attributes that govern individual tags and their associated blobs (if they exist). - New Functions: - FPClip_SetDescriptionAttribute - FPClip_GetDescriptionAttribute - FPClip_RemoveDescriptionAttribute - FPClip_GetNumDescriptionAttributes - FPClip_GetDescriptionAttributeIndex - FPClip_SetName - FPTag_GetPrevSibling

	o FPTag_BlobExists o FPMonitor_Open o FPMonitor_Close o FPMonitor_GetDiscovery o FPMonitor_GetDiscoveryStream o FPMonitor_GetAllStatistics o FPMonitor_GetAllStatisticsStream o FPEventCallback_RegisterForAllEvents o FPEventCallback_Close o FP_OPTION_CLUSTER_NON_AVAIL_TIME (FPPool_SetGlobalOption) o FP_OPTION_PREFETCH_SIZE (FPPool_SetIntOption)

Discontinued Features	▪ Deprecated Options:
	o FP_OPTION_CALCID_NOCHECK (FPTag_BlobWrite)
	  ▪ SDK does not calculate the Content Address, only CentraStar does. No comparison of Content Address between the SDK and CentraStar. This option increases SDK performance, but runs the risk of data corruption. Starting in SDK version 2.1, this option has no effect, and blobs are checked both by the SDK and CentraStar.
	
	o FP_OPTION_SERVER_CALCID_STREAMING (FPTag_BlobWrite)
	  ▪ Starting in SDK version 2.1, this option has no effect, and blobs are checked both by the SDK and CentraStar.
	
	o FP_OPTION_ENABLE_DUPLICATE_DETECTION (FPTag_BlobWrite)
	  ▪ Duplicate Detection is always enabled so this option is unnecessary

CentraStar and SDK 2.2 versions

CentraStar Version	2.2 (2.2.0.318-2204)
Introduced	January, 2004
Compatible with	Centera SDK 2.1 and earlier

New Features	▪ Compliance Edition Model Split
	   ○ Compliance Edition
	   ○ Compliance Edition Plus
	
	▪ Storage Strategy Content Address naming options (Fast Blob Naming)
	   ○ Storage Strategy Capacity
	   ○ Storage Strategy Performance Partial
	   ○ Storage Strategy Performance Full
	      ▪ Compatible with SDK 2.0 or later
	
	▪ MD5-GUID (MG) Naming Scheme disabled for new writes
	   ○ MG continues to be supported for data already written to Centera

Discontinued Features	None

Centera SDK Version	2.2
Introduced	Not Released
Supported Platforms	Not Applicable
New Features	None
Discontinued Features	None

CentraStar and SDK 2.3 versions

CentraStar Version	**2.3 (2.3.0.129-364-4652)**
Introduced	July, 2004
Compatible with	Centera SDK 2.3 and earlier

New Features	▪ Reflections
	   o Support Delete Logging and solve issues with unintended regeneration of content due to offline nodes
	
	▪ Privileged Delete (via SDK Audited Delete function)
	   o Available for Compliance Edition, not for Compliance Edition Plus
	
	▪ Retention Classes
	
	▪ Heuristic Reliability Groups (HRG)
	   o Establishes Cube-level reliability groups governing blob management and regeneration
	
	▪ Regeneration and System Buffers
	   o Prevents accidental over-filling of Centera Cluster
	   o Alerts account for buffer capacity as well as storage capacity
	
	▪ Application Profiles for Replication
	
	▪ Replication performance and management enhancements
	
	▪ Replicated Deletes option
	
	▪ Sensors
	
	▪ Email Home redesigned and renamed to ConnectEMC
	
	▪ Multiple Access Nodes reported for Replica clusters
	
	▪ Application Profiles added to CDF metadata
	   o Bootstraps Virtual Pool functionality in CentraStar 3.0 by adding the Application Profile name into the CDF

Discontinued Features	None

CentraStar Version	2.3 SP2 (2.3.2-215-395-5792)
Introduced	September, 2004
Compatible with	Centera SDK 2.3 and earlier
New Features	▪ Additional Sensors ▪ Changes to incremental Garbage Collection ▪ Changes to the Centera Health Report, including support for EMC Enterprise Control Center (ECC) 5.2.
Discontinued Features	None

CentraStar Version	2.3 SP3 (2.3.3-312-429-6618)
Introduced	December, 2004

New Features	▪ New naming scheme: M++
	   o Not compatible with Centera SDK versions older than 2.0
	   o impacts performance for large blobs and CPP protection scheme
	   o Not compatible with CLIENT_CALCID option in FPTag_BlobWrite SDK function
	   o impacts capacity management when applications store many duplicate small objects
	   o CDF Content Addresses do not use M++, only blobs do
	
	▪ GUID MD5 (GM) becomes default naming scheme for objects ≤ 250KB (1.5MB in CPP mode)
	
	▪ M++ becomes default naming scheme for objects > 250KB (1.5MB in CPP mode)

Discontinued Features	None

Centera SDK Version	2.3 Release 1 (2.3.0.290)
Introduced	March, 2004
Supported Platforms	▪ Windows NT ▪ Windows 2000 ▪ Windows 2003 Server ▪ Windows XP ▪ SUN SOLARIS 2.6 ▪ SUN SOLARIS 2.8 ▪ SUN SOLARIS 2.9 ▪ HP-UX 11.0 ▪ HP-UX 11i ▪ Linux Red Hat 7.2 ▪ AIX 4.3.3 ▪ AIX 5.1 ▪ AIX 5.2 ▪ IRIX 6.5.1.7
New Features	▪ Proprietary Centera XML Parser replaced by the Apache Xerces XML Parser ▪ More than 64 attributes per tag and/or 64 levels of nested tags in a CDF supported
Discontinued Features	None

Centera SDK Version	2.3 Release 2 (2.3.0.301)
Introduced	July, 2004
Supported Platforms	▪ Windows NT ▪ Windows 2000 ▪ Windows 2003 Server ▪ Windows XP ▪ SUN SOLARIS 2.6 ▪ SUN SOLARIS 2.8 ▪ SUN SOLARIS 2.9 ▪ HP-UX 11.0 ▪ HP-UX 11i ▪ Linux Red Hat 7.2 ▪ Red Hat AS 3.0 ▪ AIX 4.3.3 ▪ AIX 5.1 ▪ AIX 5.2 ▪ IRIX 6.5.1.7 ▪ IBM z/OS V1R3 ▪ IBM z/OS V1R4 ▪ IBM z/OS V1R5 ▪ IBM z/OS V1R6
New Features	▪ Application Profile added to CDF, enabling Virtual Pools support ▪ Retention Classes ▪ Expanded Query Functions 　o Used for CDF metadata queries 　o Replace older Query functions, which are deprecated with this

	release
	▪ Reflection Query ▪ Audited Delete Functions o Includes Privileged Delete option FP_OPTION_DELETE_PRIVILEGED, which allows deletion of a Clip on a Compliance Edition cluster before the retention period has expired for the Clip. This option is not enabled for Compliance Edition Plus clusters. ▪ Support for Embedded Blobs ▪ Enhanced control for SDK Failover o Augments default failover settings in CentraStar o Allows applications to define Secondary Centera Clusters ▪ Configurable FPPool_Open o Introduces "Lazy Pool Open" ▪ Library Symbol Scope changes o Code cleanup of library symbols. No effect on SDK functions ▪ New Functions: o FPClip_SetRetentionClass o FPClip_RemoveRetentionClass o FPClip_GetRetentionClassName o FPClip_ValidateRetentionClass o FPPool_GetRetentionClassContext o FPRetentionClassContext_Close o FPRetentionClassContext_GetNumClasses o FPRetentionClassContext_GetFirstClass o FPRetentionClassContext_GetLastClass o FPRetentionClassContext_GetNextClass o FPRetentionClassContext_GetPreviousClass o FPRetentionClassContext_GetNamedClass o FPRetentionClass_GetName o FPRetentionClass_GetPeriod o FPRetentionClass_Close o FPRetentionClassContext_GetNumClasses o FPRetentionClassContext_GetPreviousClass o FPClip_AuditedDelete o FPPoolQuery_Open o FPPoolQuery_Close o FPPoolQuery_GetPoolRef o FPPoolQuery_FetchResult o FPQueryResult_Close o FPQueryResult_GetClipID o FPQueryResult_GetTimestamp o FPQueryResult_GetField o FPQueryResult_GetResultCode o FPQueryResult_GetType o FPQueryExpression_Create o FPQueryExpression_Close o FPQueryExpression_SetStartTime o FPQueryExpression_SetEndTime o FPQueryExpression_SetType o FPQueryExpression_GetStartTime o FPQueryExpression_GetEndTime

	o FPQueryExpression_GetType o FPQueryExpression_SelectField o FPQueryExpression_DeselectField o FPQueryExpression_IsFieldSelected ▪ New Options o FP_OPTION_OPENSTRATEGY (FPPool_SetGlobalOption) o FP_OPTION_EMBEDDED_DATA_THRESHOLD (FPPool_SetGlobalOption) o FP_OPTION_EMBED_DATA (FPTag_BlobWrite) o FP_OPTION_LINK_DATA (FPTag_BlobWrite)
Discontinued Features	▪ Static SDK Libraries no longer supported ▪ Centera ToolBox API libraries no longer supported ▪ Deprecated Functions: o FPQuery_Open o FPQuery_GetPoolRef o FPQuery_FetchResult o FPQuery_Close o FPClip_Purge o FPTag_BlobPurge

Centera SDK Version	**2.3 SP1 (2.3.315)**
Introduced	September, 2004
Supported Platforms	▪ Windows NT ▪ Windows 2000 ▪ Windows 2003 Server ▪ Windows XP ▪ SUN SOLARIS 2.6 ▪ SUN SOLARIS 2.8 ▪ SUN SOLARIS 2.9 ▪ HP-UX 11.0 ▪ HP-UX 11i ▪ Linux Red Hat 7.2 ▪ Red Hat AS 3.0 ▪ AIX 4.3.3 ▪ AIX 5.1 ▪ AIX 5.2 ▪ IRIX 6.5.1.7 ▪ IBM z/OS V1R3 ▪ IBM z/OS V1R4 ▪ IBM z/OS V1R5 ▪ IBM z/OS V1R6
New Features	▪ Profile Clips o Requires CentraStar 2.3 SP2 or later ▪ New Functions: o FPPool_SetClipID o FPPool_GetClipID
Discontinued Features	None

Centera SDK Version	2.3 SP2 (2.3.327)
Introduced	November, 2004
Supported Platforms	▪ Windows NT ▪ Windows 2000 ▪ Windows 2003 Server ▪ Windows XP ▪ SUN SOLARIS 2.6 ▪ SUN SOLARIS 2.8 ▪ SUN SOLARIS 2.9 ▪ HP-UX 11.0 ▪ HP-UX 11i ▪ Linux Red Hat 7.2 ▪ Red Hat AS 3.0 ▪ AIX 4.3.3 ▪ AIX 5.1 ▪ AIX 5.2 ▪ IRIX 6.5.1.7 ▪ IBM z/OS V1R3 ▪ IBM z/OS V1R4 ▪ IBM z/OS V1R5 ▪ IBM z/OS V1R6
New Features	▪ Addition of MS Visual C++ libraries for Windows SDK ▪ Miscellaneous code fixes
Discontinued Features	None

CentraStar and SDK 2.4 versions

CentraStar Version	2.4 (2.4.0-417-483-7516)
Introduced	February, 2005
Compatible with	Centera SDK 2.4 and earlier
New Features	▪ Storage on Access Node 　○ supported on Gen3 and later hardware 　○ additional license required for existing clusters ▪ New Port number for Centera Viewer and CLI 　○ Port 3682 dedicated to Manageability API (MAPI) 　○ Access API continues to use port 3218 ▪ Patch Visibility ▪ ConnectEMC Support ▪ Enhanced Disk Management (EDM)
Discontinued Features	None
Tech Flash	http://centera.corp.emc.com/?ca=8c7cec071c953d334b8eb37c95ecfe79

CentraStar Version	2.4 SP1 p1 (2.4.1-834-592-11742)
Introduced	December, 2005
Compatible with	Centera SDK 2.4 and earlier
New Features	Miscellaneous code fixes
Discontinued Features	None
Tech Flash	http://centera.corp.emc.com/?ca=29394fddd9d2d933e488c33a001c3265

CentraStar Version	2.4 SP2 (2.4.2-1178-679-13052)
Introduced	June, 2006
Compatible with	Centera SDK 2.4 and earlier
New Features	Miscellaneous code fixes
Discontinued Features	None
Tech Flash	http://centera.corp.emc.com/?ca=038f562c2340c15d3834a943d2cd0876

CentraStar Version	2.4 SP3 (2.4.3-1499-783-14545)
Introduced	December, 2006
Compatible with	Centera SDK 2.4 and earlier
New Features	Miscellaneous code fixes
Discontinued Features	None
Tech Flash	http://centera.corp.emc.com/?ca=c02cd367e34db2203b8ca7e88d29beaa

Centera SDK Version	2.4 (2.4.348), 2.4 patch 1 (2.4.361)
Introduced	March, 2004;
Supported Platforms	- Windows NT - Windows 2000 - Windows 2003 Server - Windows XP - SUN SOLARIS 2.6 - SUN SOLARIS 2.8 - SUN SOLARIS 2.9 - HP-UX 11.0 - HP-UX 11i - Linux Red Hat 7.2 - Red Hat AS 3.0 - AIX 4.3.3 - AIX 5.1 - AIX 5.2 - IRIX 6.5.1.7 - IBM z/OS V1R3 - IBM z/OS V1R4 - IBM z/OS V1R5 - IBM z/OS V1R6
New Features	Miscellaneous code fixes
Discontinued Features	None

CentraStar and SDK 3.0 versions

CentraStar Version	3.0 (3.0.0-542-557-8615)
Introduced	May, 2005
Compatible with	Centera SDK 3.0 and earlier

New Features	▪ Gen4 Centera Hardware
	
	▪ Unbundled Centera Hardware
	  o Centera hardware may be installed in approved 3rd party racks
	  o Non-Centera hardware may be installed in Centera racks
	
	▪ Virtual Pools
	  o Requires SDK version 2.3.301 or later
	
	▪ Chain Replication topology
	
	▪ Star Replication topology
	
	▪ SymmIP Support
	
	▪ Application Profiles are renamed to Access Profiles
	  o No corresponding changes in functionality

Discontinued Features	None
Tech Flash	http://centera.corp.emc.com/?ca=9785be10999b3a94d93fbc3a4bfe2a7d

CentraStar Version	3.0 SP1 (3.0.1-827-626-11704)
Introduced	December, 2005
Compatible with	Centera SDK 3.0 and earlier
New Features	Miscellaneous code fixes
Discontinued Features	None
Tech Flash	http://centera.corp.emc.com/?ca=9c368a99d303599fefc801e9175caf27

CentraStar Version	3.0 SP2 (3.0.2-1204-702-13053)
Introduced	June, 2006
Compatible with	Centera SDK 3.0 and earlier
New Features	Miscellaneous code fixes
Discontinued Features	None
Tech Flash	http://centera.corp.emc.com/?ca=ec34bed9839f2ce29fc5de7a2fd83c9f

CentraStar Version	3.0 SP3 (3.0.3-1525-787-14621)
Introduced	December, 2006
Compatible with	Centera SDK 3.0 and earlier
New Features	Miscellaneous code fixes
Discontinued Features	None
Tech Flash	http://centera.corp.emc.com/?ca=44a46e91b570163643aad985f0b12d0b

Centera SDK Version	3.0 (3.0.377)
Introduced	May, 2005
Supported Platforms	- Windows NT - Windows 2000 - Windows 2003 Server - Windows XP - SUN SOLARIS 2.6 - SUN SOLARIS 2.8 - SUN SOLARIS 2.9 - HP-UX 11.0 - HP-UX 11i - Linux Red Hat 7.2 - Red Hat AS 3.0 - SuSE Linux ES 9 - AIX 4.3.3 - AIX 5.1 - AIX 5.2 - IRIX 6.5.1.7 - IBM z/OS V1R4 - IBM z/OS V1R5 - IBM z/OS V1R6
New Features	- Blob Slicing - FPTag_BlobWritePartial - Multiple Access Profiles per application - Allows an application to use more than one Virtual Pool on a

	Centera cluster
	- Time format conversion functions - FPTime_LongToString - FPTime_StringToLong - Options set by environment variables - For options governed by FPPool_SetGlobalOption - Options set by the application override those set in environment variables - Compliance Mode Determination - Uses FPPool_GetCapability - Profile Driven Metadata - New Functions: - FPClipID_GetCanonicalFormat - FPClipID_GetStringFormat - FPTag_BlobWritePartial - FPTime_LongToString - FPTime_StringToLong - PAI_GetProfileClusters - PAI_FreeProfileClusterStrings
Discontinued Features	MD5-GUID (MG). When the option *Collision Avoidance* is selected in the SDK, GUID-MD5 (GM) is used for all clips and blobs, regardless of Storage Strategy setting. Old blobs in the MD5-GUID scheme can still be read and replicated.

CentraStar and SDK 3.1 versions

CentraStar Version	3.1 (3.1.0-920-650-12057)
Introduced	January, 2006
Compatible with	Centera SDK 3.1 and earlier

New Features	▪ Advanced Compliance Features
	   o Event Based Retention
	   o Litigation Hold
	   o Retention minimum/maximum settings enforced per pool
	   o Requires Advanced Retention Management license
	   o Event Based Retention and Litigation Hold features are managed through SDK 3.1 or later.
	
	▪ Application Registration

Discontinued Features	Anonymous Profile Disabled by default for new installations
Tech Flash	http://centera.corp.emc.com/?ca=b7af103e56b9cafff119c73982962c17
Release Notes	http://centera.corp.emc.com/?ca=c9b8263ccd1cbe8a8d10a065bfdd94f0

CentraStar Version	3.1 SP1 (3.1.1-1207-703-13222)
Introduced	June, 2006
Compatible with	Centera SDK 3.1 and earlier
New Features	Miscellaneous code fixes
Discontinued Features	None
Tech Flash	http://centera.corp.emc.com/?ca=edbbe228c569654a501d1d13cfa5f348
Release Notes	http://centera.corp.emc.com/?ca=de7cf51b6b63eac9ac553c67f67776f6

CentraStar Version	3.1 SP2 (3.1.2-1641-810-14823)
Introduced	February, 2007
Compatible with	Centera SDK 3.1 SP1 and earlier

New Features	▪ Improvements to the Centera Restore Capability
	   o Existence check
	   o Restore verification
	   o Restore reporting
	   o Restore alerts
	▪ Replication lag adjusted from 10 minutes to 2 minutes
	▪ Query performance enhancements

Discontinued Features	None
Tech Flash	http://centera.corp.emc.com/?ca=eb8c52b086ad7cd5227bd2355a9b8a20
Release Notes	http://centera.corp.emc.com/?ca=2a680ea7924f009ba5bbae62003d3e8b

CentraStar Version	3.1 SP3 (3.1.3-1865-851-20274)
Introduced	July, 2007
Compatible with	Centera SDK 3.1 SP1 and earlier
New Features	- Gen4 LP Support - Updated platform - DB per disk migration (Service user) - Secured management connection - Password persistency scheme - IP Access Control List - Power alerting enhancement - Capacity alerting enhancement - Profile-driven metadata integration to CLI - GCii tool (Service User) - Enhanced Disk Management (EDM) enhancements (Service user) - ESRS support (Service user) - CLI changes - Centera Viewer changes (Service user) - Changes to alerts
Discontinued Features	None
Tech Flash	http://centera.corp.emc.com/?ca=a8f70ceb6f6c8974aae35888d02e20ba
Release Notes	http://centera.corp.emc.com/?ca=e56728ca08743457e44cc4807816ad21

Centera SDK Version	3.1 (3.1.473)
Introduced	January, 2006
Supported Platforms	- Windows NT - Windows 2000 - Windows 2003 Server - Windows XP - SUN SOLARIS 2.6 - SUN SOLARIS 2.8 - SUN SOLARIS 2.9 - HP-UX 11.0 - HP-UX 11i - Linux Red Hat 7.2 - Red Hat AS 3.0 - SuSE Linux ES 9 - AIX 4.3.3 - AIX 5.1 - AIX 5.2 - AIX 5.3

	▪ IRIX 6.5.1.7 ▪ IBM z/OS V1R4 ▪ IBM z/OS V1R5 ▪ IBM z/OS V1R6

New Features	▪ Pluggable MD5 Module & MD5 Library API
	
	▪ SDK Logging Support
	
	▪ Option FP_OPTION_SERVER_CALCID_STREAMING enabled for FPTag_BlobWrite()
	
	▪ Additions to FPPool_GetCapability based on Advanced Retention Management (EBR) features:
	   o FP_EVENT_BASED_RETENTION
	   o FP_RETENTION_HOLD
	   o FP_RETENTION_MIN_MAX
	   o FP_FIXED_RETENTION_MIN
	   o FP_FIXED_RETENTION_MAX
	   o FP_VARIABLE_RETENTION_MIN
	   o FP_VARIABLE_RETENTION_MAX
	
	▪ New Functions:
	   o FPClip_EnableEBRWithClass()
	   o FPClip_EnableEBRWithPeriod()
	   o FPClip_TriggerEBREvent()
	   o FPClip_TriggerEBREventWithClass()
	   o FPClip_TriggerEBREventWithPeriod()
	   o FPClip_IsEBREnabled()
	   o FPClip_GetEBREventTime()
	   o FPClip_GetEBRClassName()
	   o FPClip_GetEBRPeriod()
	   o FPClip_SetRetentionHold()
	   o FPClip_GetRetentionHold()
	   o FPTime_MillisecondsToString()
	   o FPTime_SecondsToString()
	   o FPTime_StringToMilliseconds()
	   o FPTime_StringToSeconds()
	   o FPPool_RegisterApplication()
	   o FP_OPTION_SERVER_CALCID_STREAMING (FPTag_BlobWrite)

Discontinued Features	▪ Deprecated Functions:
	   o FPTime_LongToString()
	   o FPTime_StringToLong()

Centera SDK Version	**3.1 SP1 (3.1.544)**
Introduced	November, 2006
Supported Platforms	▪ Windows 2000 (32-bit) ▪ Windows 2003 Server (32-bit) ▪ Windows XP (32-bit) ▪ SUN SOLARIS 2.8 (32 & 64-bit) ▪ SUN SOLARIS 2.9 (32 & 64-bit) ▪ SUN SOLARIS 10 (32 & 64-bit) ▪ HP-UX 11.0 (32 & 64-bit) ▪ HP-UX 11i (32 & 64-bit) ▪ HP-UX 11i V2 (Itanium) (32 & 64-bit) ▪ Red Hat Fedora Core 5

	▪ Red Hat AS 3.0 (32-bit) ▪ SuSE Linux ES 9 (32-bit) ▪ AIX 5.1 (32-bit) ▪ AIX 5.2 (32-bit) ▪ AIX 5.3 (32 & 64-bit) ▪ IRIX 6.5.1.7 (32 & 64-bit) ▪ IBM z/OS V1R4 ▪ IBM z/OS V1R5 ▪ IBM z/OS V1R6
New Features	Miscellaneous code fixes
Discontinued Features	None

Notes

Centera SDK and CentraStar Compatibility

Centera partners and customers frequently ask whether a specific version of the Centera SDK is compatible with a specific version of CentraStar. This is most important when a customer wants to deploy or upgrade a Centera with a current version and the integrated application is using a legacy SDK version. For example, a customer may wish to deploy CentraStar 3.0 with an integrated application that uses Centera SDK 1.0.

The answer to this question is that current versions of CentraStar are compatible with all versions of the Centera SDK, back to 1.0. This means that an integrated application using SDK 1.0 can store content to and retrieve content from a Centera using CentraStar 3.0. However, the Centera must be configured to be compatible with the environment that the Centera 1.0 SDK supports.

For example, Centera SDK versions older than version 2.0 can use only the Anonymous Access Profile, so this profile must be enabled on the Centera and the application will not be able to use a dedicated Virtual Pool. Centera SDK versions older than version 2.0 may not use Content Addresses larger than 27 bytes. This means that the Centera may not be configured to use *Storage Strategy Performance* or M++. In short, any feature listed in the Matrix that is introduced in a Centera SDK newer than 1.0 would not be supported on the Centera, including failover, Query, Metadata and Retention settings.

Fortunately, all of the major commercially available Centera integrated applications use a Centera SDK version 2.0 or later and can support nearly all of Centera's current features.

Note that compatibility does not equal support by EMC. Even though a Centera partner may sell an integrated solution using a compatible SDK, that SDK version may no longer be supported by EMC.

Centera End of Life (EOL) Policies

Specific Centera SDK versions are distributed by EMC for a limited time and are supported for a limited time. When a new major SDK is made generally available (GA), the prior major release reaches End of Life (EOL) status. End of Life means that the SDK is no longer distributed, and partners and customers are advised to take the current SDK.

During EOL status an SDK version is supported by EMC. This means that EMC may resolve issues in that SDK version. However, issues in an EOL SDK are normally resolved in a later release. Patches or "hot fixes" may be made to an EOL SDK version on occasion.

When an SDK version reaches End of Service Life (EOSL) status, EMC will no longer support that version. No bugs will be fixed, though it is likely that bugs found in an SDK at End of Service Life have been addressed in a newer SDK version. An SDK reaches EOSL status at 18 months after its General Availability (GA) date.

Centera SDK Platform Support

Once Centera releases an SDK for any OS version, that SDK platform is supported for as long as EMC e-Lab supports that platform. If e-Lab ends support for an OS, it generally means that the OS vendor no longer supports it. In this case Centera will not release a new SDK version for that platform, but will support the existing SDK version for that platform for 36 months after the GA of that SDK version. This 36

month support commitment is distinct from the 18 month support commitment in place when a new SDK version is available.