

Getting Started with the webMethods Product Suite and Terracotta

Version 9.6

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This document applies to webMethods Product Suite Version 9.6 and to all subsequent releases.

Specifications contained herein are subject to change and these changes will be reported in subsequent release notes or new editions.

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Table of Contents

About this Guide	9
Document Conventions	9
Documentation Installation	9
Online Information	10
1. webMethods Products that Use Terracotta	13
The webMethods Product Suite and Terracotta	14
Using Terracotta to Create Very Large In-Memory Caches with BigMemory	14
Using a Terracotta Server Array to Share Cached Data Among Applications	15
System Caches Used by the webMethods Product Suite	16
How Software AG Common Platform Components Use Terracotta	16
How CentraSite Uses Terracotta	16
How webMethods CloudStreams Uses Terracotta	17
How webMethods Command Central Uses Terracotta	17
How Software AG Event-Driven Architecture Uses Terracotta	17
How webMethods eStandards Modules Use Terracotta	18
How webMethods Integration Server Uses Terracotta	18
How webMethods Mediator Uses Terracotta	20
How webMethods OneData Uses Terracotta	20
How webMethods Optimize Uses Terracotta	20
How webMethods Trading Networks Uses Terracotta	21
2. Licensing Requirements	23
An Overview of Licensing When Using Terracotta with webMethods	24
Installing the Terracotta License File on a webMethods Product	24
What to do if a Terracotta License Key Already Resides in the <sag>common\conf Folder	24
3. Installing and Configuring the Terracotta Server Array for Use with webMethods Products 27	
Introduction	28
Installing and Configuring the Terracotta Server Array	28
Configuring the Terracotta Server Array for your webMethods Product	28
The Location of the tc-config File	29
Sample tc-config File	29
A. System Caches Used by the webMethods Product Suite	31
Overview	32
Software AG Common Platform Caches	32
SSOAssertionsCacheManager.SSOAssertionsCache	32
CentraSite Caches	32
SoftwareAG.Centrasite.JAXR.database.Object.ObjectCache	32
SoftwareAG.Centrasite.JAXR.database.Object.TypeCache	33

webMethods Chem eStandards Module Caches	33
SoftwareAG.IS.Chem.CHEMModelSessionCache	33
webMethods CloudStreams Caches	34
SoftwareAg.IS.CloudStreams.ClusterStatusCache	34
SoftwareAg.IS.CloudStreams.CollectionKeysCache	34
SoftwareAg.IS.CloudStreams.ConsumerApplicationsCache	35
SoftwareAg.IS.CloudStreams.IntervalNotificationCache	35
SoftwareAg.IS.CloudStreams.MetricAccumulatorCache	35
SoftwareAg.IS.CloudStreams.RegisteredConsumerNamesCache	36
SoftwareAg.IS.CloudStreams.RuntimePolicyCache	36
SoftwareAg.IS.CloudStreams.VirtualServicesCache	36
webMethods Command Central Caches	37
com.softwareag.plm.cce.cache.alert	37
com.softwareag.plm.cce.cache.basicmonitoringstatecached	38
com.softwareag.plm.cce.cache.configurationDataInfo	38
com.softwareag.plm.cce.cache.configurationInstanceInfo	39
com.softwareag.plm.cce.cache.configurationTypeInfo	39
com.softwareag.plm.cce.cache.environment	39
com.softwareag.plm.cce.cache.fixInfo	40
com.softwareag.plm.cce.cache.node	40
com.softwareag.plm.cce.cache.platformInfo	40
com.softwareag.plm.cce.cache.productInfo	41
com.softwareag.plm.cce.cache.repositories	41
com.softwareag.plm.cce.cache.runtimeComponentInfo	41
com.softwareag.plm.cce.cache.runtimeMetadata	42
webMethods ebXML Module Caches	42
SoftwareAG.IS.ebXML.EBXML	42
Software AG Event-Driven Architecture Caches	42
<i>eventTypeQName</i>	42
webMethods FIX Module Caches	43
SoftwareAG.IS.FIX.FIXCache	43
webMethods Integration Server Caches	43
SoftwareAG.IS.Core.ClusterMembers	44
SoftwareAG.IS.Core.NonceCache	44
SoftwareAG.IS.Core.OAuthAccessTokens	44
SoftwareAG.IS.Core.OAuthAuthCodes	45
SoftwareAG.IS.Core.OAuthClients	45
SoftwareAG.IS.Core.OAuthRefreshTokens	46
SoftwareAG.IS.Core.OAuthScope	46
SoftwareAG.IS.Core.OAuthTokens	47
SoftwareAG.IS.Core.SessionStore	47
SoftwareAG.IS.Core.XMLParser.Partitions	48
SoftwareAG.IS.Services.ServiceResults	48
webMethods Mediator Caches	49
SoftwareAg.IS.Mediator.APIKeysCache	49

SoftwareAG.IS.Mediator.ClusterStatusCache	49
SoftwareAG.IS.Mediator.ConsumerApplicationsCache	50
SoftwareAG.IS.Mediator.IntervalNotificationCache	50
SoftwareAG.IS.Mediator.MetricAccumulatorCache	51
SoftwareAG.IS.Mediator.OAuth2TokensCache	51
SoftwareAG.IS.Mediator.RegisteredConsumerNamesCache	51
SoftwareAG.IS.Mediator.RuntimePolicyCache	52
SoftwareAG.IS.Mediator.VirtualServicesCache	52
webMethods OneData Caches	53
SoftwareAG.OneData.core.cacheName	53
webMethods Optimize Caches	53
Metadata Caches	54
sag.opt.clusterable.caches.deployed/dimensiondef	56
sag.opt.clusterable.caches.deployed/dimensiondef-BASE_TYPE	56
sag.opt.clusterable.caches.deployed/dimensiondef-DISPLAY_NAME	56
sag.opt.clusterable.caches.deployed/dimensiondef-ID	57
sag.opt.clusterable.caches.deployed/dimensiondef-NAME	57
sag.opt.clusterable.caches.deployed/dimensionfilter	57
sag.opt.clusterable.caches.deployed/dimensionjoin	57
sag.opt.clusterable.caches.deployed/dimensionjoin-DISPLAY_NAME	58
sag.opt.clusterable.caches.deployed/dimensionjoin-ID	58
sag.opt.clusterable.caches.deployed/dimensionjoin-NAME	58
sag.opt.clusterable.caches.deployed/dimensionsubscriber	59
sag.opt.clusterable.caches.deployed/eventmap	59
sag.opt.clusterable.caches.deployed/eventmap-BASE_TYPE	59
sag.opt.clusterable.caches.deployed/eventmap-DISPLAY_NAME	60
sag.opt.clusterable.caches.deployed/eventmap-ID	60
sag.opt.clusterable.caches.deployed/eventmap-NAME	60
sag.opt.clusterable.caches.deployed/hierarchydef	60
sag.opt.clusterable.caches.deployed/hierarchydef-DISPLAY_NAME	61
sag.opt.clusterable.caches.deployed/hierarchydef-ID	61
sag.opt.clusterable.caches.deployed/hierarchydef-NAME	61
sag.opt.clusterable.caches.deployed/ilink	62
sag.opt.clusterable.caches.deployed/kpidef	62
sag.opt.clusterable.caches.deployed/kpidef-DISPLAY_NAME	62
sag.opt.clusterable.caches.deployed/kpidef-EVENT_MAP_NAME	63
sag.opt.clusterable.caches.deployed/kpidef-ID	63
sag.opt.clusterable.caches.deployed/kpidef-NAME	63
sag.opt.clusterable.caches.deployed/rule	63
sag.opt.clusterable.caches.deployed/rule-DISPLAY_NAME	64
sag.opt.clusterable.caches.deployed/rule-ID	64
sag.opt.clusterable.caches.deployed/rule-NAME	64
sag.opt.clusterable.caches.latest/dimensiondef	65
sag.opt.clusterable.caches.latest/dimensiondef-BASE_TYPE	65
sag.opt.clusterable.caches.latest/dimensiondef-DISPLAY_NAME	65

sag.opt.clusterable.caches.latest/dimensiondef-ID	66
sag.opt.clusterable.caches.latest/dimensiondef-NAME	66
sag.opt.clusterable.caches.latest/dimensionfilter	66
sag.opt.clusterable.caches.latest/dimensionjoin	66
sag.opt.clusterable.caches.latest/dimensionjoin-DISPLAY_NAME	67
sag.opt.clusterable.caches.latest/dimensionjoin-ID	67
sag.opt.clusterable.caches.latest/dimensionjoin-NAME	67
sag.opt.clusterable.caches.latest/dimensionssubscriber	68
sag.opt.clusterable.caches.latest/eventmap	68
sag.opt.clusterable.caches.latest/eventmap-BASE_TYPE	68
sag.opt.clusterable.caches.latest/eventmap-DISPLAY_NAME	69
sag.opt.clusterable.caches.latest/eventmap-ID	69
sag.opt.clusterable.caches.latest/eventmap-NAME	69
sag.opt.clusterable.caches.latest/hierarchydef	69
sag.opt.clusterable.caches.latest/hierarchydef-DISPLAY_NAME	70
sag.opt.clusterable.caches.latest/hierarchydef-ID	70
sag.opt.clusterable.caches.latest/hierarchydef-NAME	70
sag.opt.clusterable.caches.latest/ilinkdef	71
sag.opt.clusterable.caches.latest/kpidef	71
sag.opt.clusterable.caches.latest/kpidef-DISPLAY_NAME	71
sag.opt.clusterable.caches.latest/kpidef-EVENT_MAP_NAME	72
sag.opt.clusterable.caches.latest/kpidef-ID	72
sag.opt.clusterable.caches.latest/kpidef-NAME	72
sag.opt.clusterable.caches.latest/rule	72
sag.opt.clusterable.caches.latest/rule-DISPLAY_NAME	73
sag.opt.clusterable.caches.latest/rule-ID	73
sag.opt.clusterable.caches.latest/rule-NAME	73
Operational Caches	74
sag.opt.clusterable.caches.AcceptedJMSMessageIdsCache	75
sag.opt.clusterable.caches.kpiCompInstStateCache	75
sag.opt.clusterable.caches.kpiInstStateCache	75
sag.opt.clusterable.caches.KPIISID2ID_IndexCache	76
sag.opt.clusterable.caches.kpiLastProcTimeCache	76
sag.opt.clusterable.caches.kpiLockCache	76
sag.opt.clusterable.caches.KPIN2IIDS_IndexCache	77
sag.opt.clusterable.caches.KPIN2MIDS_IndexCache	77
sag.opt.clusterable.caches.LIID2CIID_IndexCache	77
sag.opt.clusterable.caches.lockCache	78
sag.opt.clusterable.caches.metadataDefinitionLoadLockCache	78
sag.opt.clusterable.caches.metadataOpsLockCache	78
sag.opt.clusterable.caches.monitorCache	79
sag.opt.clusterable.caches.monitorChangeInFlightCache	79
sag.opt.clusterable.caches.monitorLastReadingTimeCache	79
sag.opt.clusterable.caches.OptAECClusterMemberCache	80
sag.opt.clusterable.caches.optimizeAlgorithmStateCache	80

sag.opt.clusterable.caches.optimizeDiagnosesCache	80
sag.opt.clusterable.caches.optimizeDimensionIndexByStringIdCache	80
sag.opt.clusterable.caches.optimizeDimensionOpsCache	81
sag.opt.clusterable.caches.optimizeDimensionOpsIndexByDimKeyCache	81
sag.opt.clusterable.caches.optimizeDimensionOpsIndexByDimNameCache	81
sag.opt.clusterable.caches.optimizeDimensionOpsIndexByIdentityCache	82
sag.opt.clusterable.caches.optimizeROStatsOpsCache	82
sag.opt.clusterable.caches.optimizeStatsAccumulationOpsCache	82
sag.opt.clusterable.caches.OreEvaluatorCache	83
sag.opt.clusterable.caches.OreEvaluatorIndex_EMID2RIIDS	83
sag.opt.clusterable.caches.OreEvaluatorIndex_ET2RIIDS	83
sag.opt.clusterable.caches.OreEvaluatorIndex_KMID2RIIDS	83
sag.opt.clusterable.caches.OreStubCache	84
sag.opt.clusterable.caches.OreStubCache_RDID2RIID	84
sag.opt.clusterable.caches.OreStubCache_RISID2RIID	84
sag.opt.clusterable.caches.OreStubIndex_EMID2RIIDS	85
sag.opt.clusterable.caches.OreStubIndex_KMID2RIIDS	85
sag.opt.clusterable.caches.ScheduledKPIInstanceDeletionJobs	85
Locally Persistent Operational Caches	86
sag.opt.eventhandling.caches.EventsForStorage	86
sag.opt.eventhandling.caches.PendingEventLists	86
sag.opt.eventhandling.caches.TaskObserver_MessagesCache	87
sag.opt.eventhandling.caches.TaskObserver_TasksCache	87
sag.opt.eventhandling.caches.TempEventsForStorage	87
sag.opt.jmscommunication.caches.JMSCommunicationResendCache	88
sag.opt.notifications.caches.dimensionDefNotificationsCache	88
sag.opt.notifications.caches.dimSubscriberNotificationsCache	88
sag.opt.notifications.caches.eventMapNotificationsCache	88
sag.opt.notifications.caches.kpiDefNotificationsCache	89
sag.opt.notifications.caches.monitorChangeNotificationsCache	89
sag.opt.notifications.caches.ptRoutingTableNotificationsCache	89
sag.opt.notifications.caches.ruleDefNotificationsCache	90
webMethods RosettaNet Module Caches	90
SoftwareAG.IS.RosettaNet.RNModelSessionCache	90
webMethods Trading Networks Caches	90
SoftwareAG.IS.TN.TNDocAttribute	91
SoftwareAG.IS.TN.TNDocType	91
SoftwareAG.IS.TN.TNProfile	91
SoftwareAG.IS.TN.TNProfileId	92
SoftwareAG.IS.TN.TNProfileSummary	92
SoftwareAG.IS.TN.TNQueryResults	93
SoftwareAG.IS.TN.TNTPA	93
SoftwareAG.IS.TN.TNTPAId	93

About this Guide

This guide provides an introduction to the ways in which the webMethods product suite uses Ehcache, BigMemory, and the Terracotta Server Array. The guide also describes client-side licensing requirements and provides general instructions for configuring the Terracotta Server Array.

Document Conventions

Convention	Description
Bold	Identifies elements on a screen.
Narrowfont	Identifies storage locations for services on webMethods Integration Server, using the convention <i>folder.subfolder:service</i> .
UPPERCASE	Identifies keyboard keys. Keys you must press simultaneously are joined with a plus sign (+).
<i>Italic</i>	Identifies variables for which you must supply values specific to your own situation or environment. Identifies new terms the first time they occur in the text.
Monospace font	Identifies text you must type or messages displayed by the system.
{ }	Indicates a set of choices from which you must choose one. Type only the information inside the curly braces. Do not type the { } symbols.
	Separates two mutually exclusive choices in a syntax line. Type one of these choices. Do not type the symbol.
[]	Indicates one or more options. Type only the information inside the square brackets. Do not type the [] symbols.
...	Indicates that you can type multiple options of the same type. Type only the information. Do not type the ellipsis (...).

Documentation Installation

You can download the product documentation using the Software AG Installer. The documentation is downloaded to a central directory named `_documentation` in the main installation directory (SoftwareAG by default).

Online Information

You can find additional information about Software AG products at the locations listed below.

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1 webMethods Products that Use Terracotta

■ The webMethods Product Suite and Terracotta	14
■ How Software AG Common Platform Components Use Terracotta	16
■ How CentraSite Uses Terracotta	16
■ How webMethods CloudStreams Uses Terracotta	17
■ How webMethods Command Central Uses Terracotta	17
■ How Software AG Event-Driven Architecture Uses Terracotta	17
■ How webMethods eStandards Modules Use Terracotta	18
■ How webMethods Integration Server Uses Terracotta	18
■ How webMethods Mediator Uses Terracotta	20
■ How webMethods OneData Uses Terracotta	20
■ How webMethods Optimize Uses Terracotta	20
■ How webMethods Trading Networks Uses Terracotta	21

The webMethods Product Suite and Terracotta

Ehcache is a standards-based caching API that enables applications to fetch frequently used data from memory (or other nearby resource) rather than having to retrieve it from a database or other back-end system. Terracotta extends the Ehcache API to enable applications to:

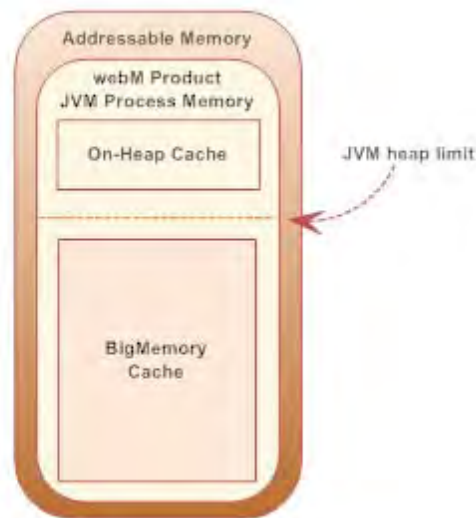
- Create very large in-memory caches.
- Share cached data with other applications on the network.

This chapter provides a general overview of how components of the webMethods product suite use Ehcache and, more specifically, how they use the extensions enabled by Terracotta. The content of this chapter is designed to introduce you to Terracotta usage by various webMethods products. For detailed information, it refers you to the appropriate webMethods product guide.

Using Terracotta to Create Very Large In-Memory Caches with BigMemory

BigMemory is an extension from Terracotta that enables you to create caches that reside outside of the Java heap. Using BigMemory, you can create much larger caches than with local on-heap memory alone. You can use up to a terabyte for caching, depending on the platform you use. Caches that you create using BigMemory also perform more predictably and consistently than on-heap caches, because they are not subject to the JVM garbage-collection process.

BigMemory cache resides outside of the Java heap space



webMethods products that support Ehcache for caching also support BigMemory; however, you must install a Terracotta license on the webMethods product to enable the BigMemory feature.

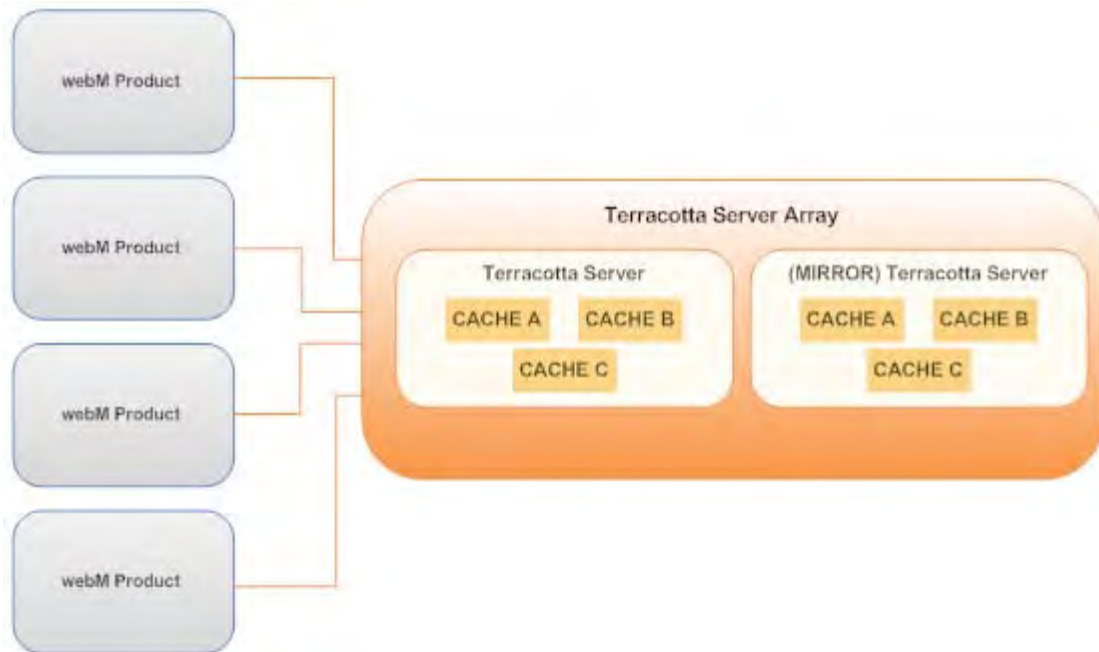
For additional information about the BigMemory extension to Ehcache, see the sections on BigMemory in the *Ehcache User Guide* at <http://ehcache.org/documentation>.

Using a Terracotta Server Array to Share Cached Data Among Applications

The Terracotta Server Array is an extension to Ehcache that enables you to share a cache with other applications. With this extension, cache is maintained centrally on a Terracotta Server Array and clients access the cache via the network.

As shown in the following figure, a Terracotta Server Array generally consists of a primary Terracotta Server and a mirror for high availability. You can add Terracotta Servers and their mirrors to the array if you require additional storage, but such configurations require additional licensing.

A Terracotta Server Array enables applications to share cached data



Most webMethods products that use Ehcache also support the use of a Terracotta Server Array. To use these products with a Terracotta Server Array, you must install a Terracotta license on the webMethods product.

For additional information about the Terracotta Server Array, see the *Ehcache Distributed Cache User Guide* at <http://ehcache.org/documentation> and the Terracotta product documentation at <http://terracotta.org/documentation/3.7>.

Important! The products in version 9.6 of the webMethods Product Suite require version 3.7.6 of the Terracotta Server Array. When newer versions of the Terracotta Server Array become available, the webMethods Product Suite may add support for those versions. To check whether a webMethods product supports a given version of Terracotta, see the *webMethods and Terracotta Compatibility Matrix* on the “webMethods System Requirements, Installation, and Upgrade” page of the Software AG Documentation website at <http://documentation.softwareag.com>.

System Caches Used by the webMethods Product Suite

Many webMethods products cache data for their own internal processes. The caches that they use internally are called *system caches*. For a list of the system caches that webMethods products use, see “[System Caches Used by the webMethods Product Suite](#)” on page 31. You can use this information as input for sizing efforts related to BigMemory or the Terracotta Server Array.

How Software AG Common Platform Components Use Terracotta

The Software AG Common Platform components use Terracotta to store information related to security.

For more information about the system caches that the Software AG Common Platform components use, see “[System Caches Used by the webMethods Product Suite](#)” on page 31.

How CentraSite Uses Terracotta

For performance purposes, CentraSite caches the registry objects that are returned by search and get operations. Doing this enables CentraSite to quickly retrieve these objects from memory when they are requested again.

If your CentraSite server is equipped with the proper license, you can configure the server to cache registry objects in BigMemory.

Note: CentraSite does not support caching on the Terracotta Server Array.

For more information about the system caches that CentraSite uses, see “[System Caches Used by the webMethods Product Suite](#)” on page 31.

For more information about using Terracotta with CentraSite, see the caching topics in the CentraSite user documentation.

How webMethods CloudStreams Uses Terracotta

webMethods CloudStreams uses Terracotta to cache the virtual services that you deploy to a CloudStreams server. It also uses Terracotta to cache many of the artifacts associated with the virtual services (for example, performance metrics, policies, and consumer applications). When you install webMethods CloudStreams on a cluster of Integration Servers, CloudStreams maintains these caches on the Terracotta Server Array.

For more information about the system caches that CloudStreams uses, see [“System Caches Used by the webMethods Product Suite” on page 31](#).

How webMethods Command Central Uses Terracotta

webMethods Command Central uses Terracotta to cache data objects returned by get operations from Platform Manager. Caching enables Command Central to quickly retrieve data objects from memory on subsequent requests, even when the Platform Manager on the remote installation is not accessible. The caches are also used in different search operations and to improve performance.

If a Command Central Server is equipped with the proper Terracotta licenses, you can configure Command Central to cache registry objects in BigMemory.

Command Central does not support caching on the Terracotta Server Array.

For more information about the system caches that Command Central uses, see [“System Caches Used by the webMethods Product Suite” on page 31](#).

How Software AG Event-Driven Architecture Uses Terracotta

Software AG Event-Driven Architecture uses Terracotta for guaranteed delivery of EDA events.

The general flow of emitted events is as follows:

- 1 The emitting product, such as webMethods Optimize or webMethods BPM, issues an emit call.
- 2 webMethods NERV stores the event in a persistent cache.
- 3 Event routing and variation takes place, and the event is delivered to the destination endpoint(s).
- 4 NERV removes the event from the cache.

If the hosting JVM stops before the event is successfully delivered to all destination endpoints, the event is not removed from the cache. Instead, NERV sends the event after the JVM is restarted.

Caches are persistent and are used primarily for write operations. Read operations are performed only upon JVM restart.

For more information about the system caches that Software AG Event-Driven Architecture uses, see [“System Caches Used by the webMethods Product Suite” on page 31](#).

How webMethods eStandards Modules Use Terracotta

The following webMethods eStandards modules create system caches in which they store transaction-related data and/or configuration information related to the use of the module in a cluster:

- webMethods Chem eStandards Module
- webMethods FIX Module
- webMethods ebXML Module
- webMethods RosettaNet Module

When you use these modules in a clustered environment, they maintain their system caches on the Terracotta Server Array.

For more information about the system caches that these adapters use, see [“System Caches Used by the webMethods Product Suite” on page 31](#).

How webMethods Integration Server Uses Terracotta

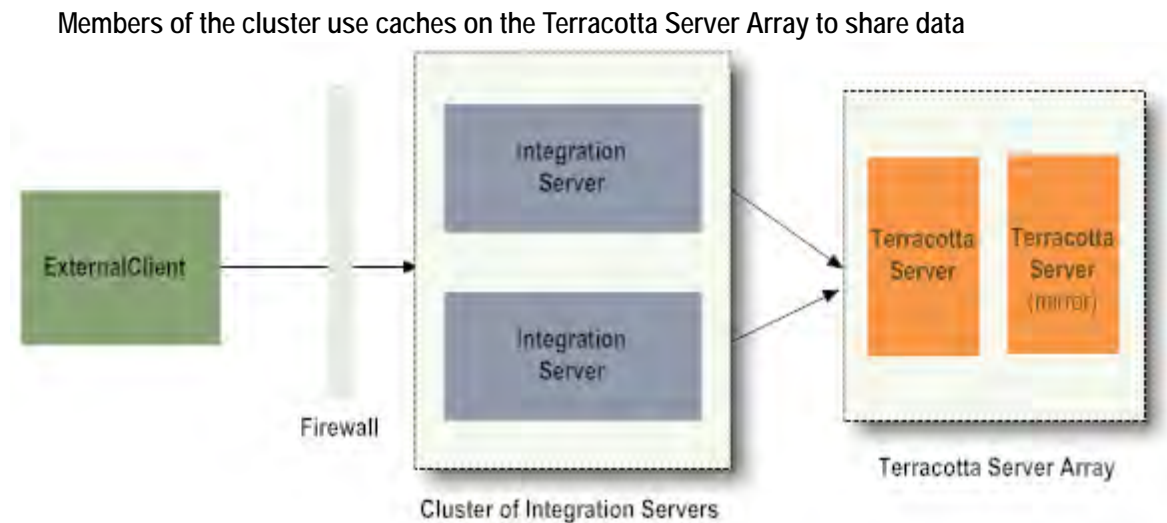
webMethods Integration Server uses Terracotta for the following purposes:

- **For creating public caches.** Public caches are user-defined caches that integration solutions running your Integration Server can use. Integration Server provides built-in services that you use to build integration solutions that use caching.

If an Integration Server is equipped with the proper Terracotta licenses, you can create public caches that reside in BigMemory or on the Terracotta Server Array.

For more information about how Integration Server uses Terracotta with public caches, see the chapter on Ehcache in *webMethods Integration Server Administrator's Guide*. For more information about the services you use to add caching to an integration solution, see the pub.cache services in *webMethods Integration Server Built-In Services Reference*.

- **For clustering.** When you cluster Integration Servers using Terracotta, the members of the cluster share data using caches on the Terracotta Server Array. Each Integration Server in the cluster connects to the Terracotta Server Array to store and retrieve items from the shared caches.



For more information about how Integration Server uses Terracotta for clustering, see *webMethods Integration Server Clustering Guide*.

- For caching service results. When you enable a service to cache results, Integration Server saves the service invocation results in the cache for a specified period of time. While the results are in the cache, rather than re-invoking the service, Integration Server can quickly retrieve the service results for subsequent client requests for the service.

Note: Service results are local to an Integration Server and are not distributed.

For more information about caching service results, see *webMethods Integration Server Administrator's Guide*.

- For caching data related to the OAuth Authorization Framework (OAuth). When acting as an OAuth authorization server, Integration Server maintains registered clients, scope definitions, access tokens, and refresh tokens in cache. When running in a clustered environment, Integration Server maintains these caches on the Terracotta Server Array.

For more information about OAuth, see *webMethods Integration Server Administrator's Guide*. For more information about the caches Integration Server uses for OAuth, see ["System Caches Used by the webMethods Product Suite" on page 31](#).

- For caching data related to digest authentication. When you configure HTTP/HTTPS ports on Integration Server to support digest authentication, Integration Server maintains the generated nonces in cache. When running in a clustered environment, Integration Server maintains these caches on the Terracotta Server Array.

For more information about digest authentication, see *webMethods Integration Server Administrator's Guide*. For more information about the caches Integration Server uses for digest authentication, see ["System Caches Used by the webMethods Product Suite" on page 16](#).

- **For Enhanced XML Parsing operations.** If the caching option is enabled for the Enhanced XML Parser, Integration Server uses a cache to manage memory during parsing operations. If your Integration Server is licensed to use BigMemory, you can configure the Enhanced XML Parser to extend the cache to BigMemory. For more information about how the Enhanced XML Parser uses cache, see the *webMethods Integration Server Administrator's Guide*.

For more information about the system caches that Integration Server uses, see [“System Caches Used by the webMethods Product Suite” on page 31](#).

How webMethods Mediator Uses Terracotta

webMethods Mediator uses Terracotta to cache the virtual services that you deploy to it. It also uses Terracotta to cache many of the artifacts associated with the virtual services (for example, performance metrics, policies, consumer applications, and registered consumers). When you install Mediator on a cluster of Integration Servers, Mediator maintains these caches on the Terracotta Server Array.

For more information about the system caches that Mediator uses, see [“System Caches Used by the webMethods Product Suite” on page 31](#).

How webMethods OneData Uses Terracotta

webMethods OneData uses Terracotta to maintain *in-memory databases*. An in-memory database is a cached version of a given data object. When you enable caching for a data object, OneData stores the records associated with the object in cache as well as in the release area. Caching improves the performance of REST services that use the data object, because the services interact with the cache instead of the database.

Note: Creating in-memory databases using OneData requires the use of a Terracotta Server Array.

For information about enabling caching for a data object, see the section on in-memory databases in *Developing for webMethods OneData*. For information about configuring OneData to use a Terracotta Server Array, see *Administering webMethods OneData*. For more information about the system caches that OneData uses, see [“System Caches Used by the webMethods Product Suite” on page 31](#)

How webMethods Optimize Uses Terracotta

For maximum performance, webMethods Optimize uses Terracotta to cache much of the data it uses in support of business activity monitoring. Data that it caches includes:

- Metadata such as dimension definitions, rule definitions, and KPI definitions
- Raw data that is provided by data collectors for analysis

- Readings, statistics, and other results produced during monitoring
- Messages and notifications related to the handling of events

Optimize also uses Terracotta for Analytic Engine clustering. Analytic Engine clustering distributes the Optimize information processing load across multiple Analytic Engines, either to facilitate system high availability or to maximize Analytic Engine data throughput. When you cluster Analytic Engines, the members of the cluster share data using caches on the Terracotta Server Array. Each Analytic Engine in the cluster connects to the Terracotta Server Array to store and retrieve items from the shared caches.

For more information about how Optimize uses Terracotta for clustering, see the clustering section in *Configuring BAM*. For more information about the caches that Optimize uses during business activity monitoring, see [“System Caches Used by the webMethods Product Suite” on page 31](#).

How webMethods Trading Networks Uses Terracotta

Trading Networks uses Terracotta to create a system cache in which it stores session-based query results and assets.

Note: Trading Networks maintains this cache locally, even when running in a clustered environment.

For more information about the system caches that Trading Networks uses, see [“System Caches Used by the webMethods Product Suite” on page 31](#).

2 Licensing Requirements

- An Overview of Licensing When Using Terracotta with webMethods 24
- Installing the Terracotta License File on a webMethods Product 24
- What to do if a Terracotta License Key Already Resides in the <sag>\common\conf Folder 24

An Overview of Licensing When Using Terracotta with webMethods

If your webMethods product is licensed to use BigMemory or the Terracotta Server Array, you will receive a Terracotta client-side license key from Software AG. You must install this key to enable these features in your webMethods product.

Installing the Terracotta License File on a webMethods Product

The Terracotta license resides in a file called `terracotta-license.key`. Use the following procedure to install this file with your webMethods product.

To install the Terracotta license key on a webMethods product

- 1 On the machine where you have installed the webMethods product, navigate to the following folder and check for the presence of a `terracotta-license.key` file.

Software AG_directory\common\conf

If this folder already contains a `terracotta-license.key` file, review the information in [“What to do if a Terracotta License Key Already Resides in the <sag>\common\conf Folder” on page 24](#). Do not proceed to the next step unless you have determined whether you should replace the license key that already exists in this folder.

- 2 Copy the `terracotta-license.key` file to the *Software AG_directory*\common\conf folder.

Important! Do not change the name of the license file.

- 3 If the webMethods product that requires the Terracotta license is already running, restart it to put the license key into effect.

What to do if a Terracotta License Key Already Resides in the <sag>\common\conf Folder

If you install multiple webMethods products in the same *Software AG_directory*, it is possible that two or more products will each have their own Terracotta license keys. In this case, you might discover that the *Software AG_directory*\common\conf folder already contains a key for one of the installed products.

Under these circumstances, you are permitted to select one license key for the Terracotta-licensed products in the *Software AG_directory* to use.

Note: You are only permitted to use a Terracotta license file with a webMethods product for which you have purchased a Terracotta license. Using the license with an unlicensed product is prohibited.

To determine which license key to use, examine each key file with a text editor. The file will describe the capabilities that the key enables. Install the key file that satisfies the needs of the webMethods product with the most demanding licensing requirements.

3 Installing and Configuring the Terracotta Server Array for Use with webMethods Products

- Introduction 28
- Installing and Configuring the Terracotta Server Array 28
- Configuring the Terracotta Server Array for your webMethods Product 28

Introduction

This chapter outlines the steps for installing and configuring a Terracotta Server Array for use with webMethods products.

Note: The version of Terracotta software that you install on the Terracotta Server Array must be compatible with the version of the Terracotta client libraries that your webMethods product uses. For compatibility information, see the *webMethods and Terracotta Compatibility Matrix* on the “webMethods System Requirements, Installation, and Upgrade” page of the Software AG Documentation website at <http://documentation.softwareag.com>.

Installing and Configuring the Terracotta Server Array

Note: For a list of the platforms supported by Terracotta server, see the “Server Information” section in the Terracotta [3.7 Platform Support](#) document.

- 1 Install the Terracotta program files and license key on each machine in your array as described in *Installing webMethods and Intelligent Business Operations Products*.
- 2 Configure the Terracotta Server Array as described in “[Configuring the Terracotta Server Array for your webMethods Product](#)” on page 28.

Configuring the Terracotta Server Array for your webMethods Product

The configuration and behavior of the Terracotta Server Array is specified by parameters in a configuration file called the *tc-config file*. This file identifies the servers that make up the array and specifies whether the servers are mirrored. This file also contains parameters relating to the healthchecker (a process that monitors the connections between the Terracotta Server Array and its clients) and specifies certain behaviors of the clients that connect to the array.

The *tc-config* file is not installed with the Terracotta program files. You must create this file and configure it for your particular server array. To aid you in creating this file, you can refer to the sample file shown in “[Configuring the Terracotta Server Array for your webMethods Product](#)” on page 28. This sample includes basic settings that are required by webMethods products. You can use it as a starting point for defining the configuration and behavior of your particular Terracotta Server Array.

For complete information about creating and configuring the *tc-config* file, see the section on configuring the Terracotta Server Array in the Terracotta product documentation.

The Location of the tc-config File

By default, a Terracotta server expects to find the tc-config file in the *TerracottaHome/bin* folder (the same folder as the startup script). If you maintain the tc-config file in the default location, you must place an identical copy of the tc-config file in the *TerracottaHome/bin* folder of every server in the array. (Typically, you create the tc-config file on one server and then copy it to the other servers in the array.)

Alternatively, you can place the tc-config file in a central location where all servers in the array can access it. If you use this approach, you must specify the location of the tc-config file when you invoke the start-up script on each server. For information about specifying the location of the tc-config file, see the section on configuring the Terracotta Server Array in the Terracotta product documentation.

Sample tc-config File

The following is a sample file you can use as a template to create the tc-config file for your Terracotta Server Array. This sample includes settings in the <tc-properties> and <clients> sections that are required by webMethods products.

The <server> section in this sample defines an array consisting of one mirrored Terracotta server. Revise this section as needed to define the configuration of your particular server array.

Important! Check the product documentation for the webMethods products with which you intend to use the Terracotta Server Array. Some webMethods products require tc-config settings in addition to the ones shown in the following sample file.

```
<?xml version="1.0" encoding="UTF-8" ?>
<!--
  This is a sample Terracotta tc-config.xml configuration file.

  The settings in the <tc-properties> and <clients> sections are
  required by webMethods products. In addition it shows a single
  mirror group setup containing 2 servers.
-->

<tc:tc-config xmlns:tc="http://www.terracotta.org/config"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.terracotta.org/schema/terracotta-6.xsd">

  <tc-properties>
  <property name="ehcache.storageStrategy.dcv2.perElementTTITTL.enabled"
    value="true" />
  </tc-properties>

  <!--
  Note by default both servers will form a single mirror group.
  -->
  <servers>
  <server host="ADD-YOUR-HOST-NAME-1" name="Server1">
  <data>server-data</data>
```

```
<logs>server-logs</logs>
<statistics>server-statistics</statistics>
<dso>
  <persistence>
    <mode>permanent-store</mode>
  </persistence>
</dso>
</server>

<server host="ADD-YOUR-HOST-NAME-2" name="Server2">
  <data>server-data</data>
  <logs>server-logs</logs>
  <statistics>server-statistics</statistics>
  <dso>
    <persistence>
      <mode>permanent-store</mode>
    </persistence>
  </dso>
</server>
</servers>

<clients>
  <logs>%(com.softwareag.tc.client.logs.directory)</logs>
</clients>
</tc:tc-config>
```

A System Caches Used by the webMethods Product Suite

■ Overview	32
■ Software AG Common Platform Caches	32
■ CentraSite Caches	32
■ webMethods Chem eStandards Module Caches	33
■ webMethods CloudStreams Caches	34
■ webMethods Command Central Caches	37
■ webMethods ebXML Module Caches	42
■ Software AG Event-Driven Architecture Caches	42
■ webMethods FIX Module Caches	43
■ webMethods Integration Server Caches	43
■ webMethods Mediator Caches	49
■ webMethods OneData Caches	53
■ webMethods Optimize Caches	53
■ webMethods RosettaNet Module Caches	90
■ webMethods Trading Networks Caches	90

Overview

Many webMethods products cache data for their own internal processes. The caches that they use internally are called *system caches*. This appendix identifies the system caches that the webMethods product suite uses.

Note: System caches are not meant to be accessed by user applications.

The information in this appendix is intended to be used for sizing efforts related to BigMemory or the Terracotta Server Array. It is provided as a starting point. You will need to test to see how these caches actually behave under typical workloads in your environment and make adjustments as necessary.

Software AG Common Platform Caches

SSOAssertionsCacheManager.SSOAssertionsCache

Contains SAML assertions. Used to verify if SSO Assertion has already been used.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
10000 (default size of cache)	4 to 10 KB	Controlled by the <code>timeToldleSeconds</code> (120 seconds, by default) and <code>timeToLiveSeconds</code> (120 seconds, by default) settings for the cache
Searchable?	Local / Distributed	
No	Always local	

CentraSite Caches

The following system caches belong to CentraSite:

- [SoftwareAG.Centrasite.JAXR.database.Object.ObjectCache](#)
- [SoftwareAG.Centrasite.JAXR.database.Object.TypeCache](#)

SoftwareAG.Centrasite.JAXR.database.Object.ObjectCache

Contains CentraSite Registry objects stored as simple Java objects.

The first time CentraSite reads an object, CentraSite places the object into the cache, where it stays until it is removed implicitly or explicitly. If an object is out-of-date, it will be reloaded implicitly by a search.

Note: CentraSite uses the transactional cache functionality of Terracotta to add multiple objects to the cache concurrently.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
10,000 (default size of cache)	1 KB or less	Controlled by garbage collection
Searchable?	Local / Distributed	
No	Always local	

SoftwareAG.Centrasite.JAXR.database.Object.TypeCache

Contains types defined in CentraSite stored as simple Java objects.

CentraSite shares the elements among all connections within a JVM.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
100	1 KB or less	Lifetime of the cache
Searchable?	Local / Distributed	
No	Always local	

webMethods Chem eStandards Module Caches

SoftwareAG.IS.Chem.CHEMModelSessionCache

Contains data required to complete business transactions (that is, original business document data for response transactions, including TPA data and data related to instances and failure scenarios).

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
5 to 10	5 KB or less	Controlled by the Time to Live and Time to Idle cache settings

Searchable?	Local / Distributed
No	Distributed

webMethods CloudStreams Caches

The following system caches belong to webMethods CloudStreams:

- [SoftwareAg.IS.CloudStreams.ClusterStatusCache](#)
- [SoftwareAg.IS.CloudStreams.CollectionKeysCache](#)
- [SoftwareAg.IS.CloudStreams.ConsumerApplicationsCache](#)
- [SoftwareAg.IS.CloudStreams.IntervalNotificationCache](#)
- [SoftwareAg.IS.CloudStreams.MetricAccumulatorCache](#)
- [SoftwareAg.IS.CloudStreams.RegisteredConsumerNamesCache](#)
- [SoftwareAg.IS.CloudStreams.RuntimePolicyCache](#)
- [SoftwareAg.IS.CloudStreams.VirtualServicesCache](#)

SoftwareAg.IS.CloudStreams.ClusterStatusCache

Contains String, Date, and enum objects that indicate webMethods CloudStreams clustering status.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
5 to 10	Less than 100 bytes	As long as webMethods CloudStreams is active

Searchable?	Local / Distributed
No	Distributed

SoftwareAg.IS.CloudStreams.CollectionKeysCache

Contains CollectionKeys objects for deployed outbound virtual services.

webMethods CloudStreams generates this information using input from the Software AG Designer plug-in.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One per deployed virtual service	Less than 1 KB	As long as the virtual service is deployed

Searchable?	Local / Distributed
No	Distributed

SoftwareAg.IS.CloudStreams.ConsumerApplicationsCache

Contains consumer application descriptions in the form of an XML string for each deployed consumer application.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 per consumer application deployed to the cluster	1 to 2 KB	As long as the consumer is deployed

Searchable?	Local / Distributed
No	Distributed

SoftwareAg.IS.CloudStreams.IntervalNotificationCache

Contains policy evaluation interval settings as stored in PolicyActionKey and PolicyAction objects. webMethods CloudStreams generates this data from deployed virtual service descriptions.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 per policy action configured for a virtual service, plus 1 per virtual service if performance metrics are enabled	1 KB per deployed virtual service	As long as the virtual service is deployed

Searchable?	Local / Distributed
No	Distributed

SoftwareAg.IS.CloudStreams.MetricAccumulatorCache

Contains accumulated service request data for policy evaluation and performance metrics as stored in accumulator objects for each policy action key. webMethods CloudStreams generates this data from deployed virtual service descriptions.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 per deployed virtual service	1 to 2 KB per deployed virtual service	As long as the virtual service is deployed

Searchable?	Local / Distributed
No	Distributed

SoftwareAg.IS.CloudStreams.RegisteredConsumerNamesCache

This cache is not currently used by webMethods CloudStreams.

SoftwareAg.IS.CloudStreams.RuntimePolicyCache

Contains policy details for deployed virtual services as stored in PolicyInfo objects. webMethods CloudStreams generates this data from deployed virtual service descriptions.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 per deployed virtual service	1 KB per deployed virtual service	As long as the virtual service is deployed

Searchable?	Local / Distributed
No	Distributed

SoftwareAg.IS.CloudStreams.VirtualServicesCache

Contains virtual service descriptions. This data is persisted on the file system of each webMethods CloudStreams cluster node.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 per deployed virtual service	5 to 10 KB per deployed virtual service; varies by service WSDL, number and complexity of the virtual service's policies, and whether the virtual service references external XML schema files	As long as the virtual service is deployed

Searchable?	Local / Distributed
No	Distributed

webMethods Command Central Caches

The following system caches belong to webMethods Command Central:

- `com.softwareag.plm.cce.cache.alert`
- `com.softwareag.plm.cce.cache.basicmonitoringstatecached`
- `com.softwareag.plm.cce.cache.configurationDataInfo`
- `com.softwareag.plm.cce.cache.configurationInstanceInfo`
- `com.softwareag.plm.cce.cache.configurationTypeInfo`
- `com.softwareag.plm.cce.cache.environment`
- `com.softwareag.plm.cce.cache.fixInfo`
- `com.softwareag.plm.cce.cache.node`
- `com.softwareag.plm.cce.cache.platformInfo`
- `com.softwareag.plm.cce.cache.productInfo`
- `com.softwareag.plm.cce.cache.repositories`
- `com.softwareag.plm.cce.cache.runtimeComponentInfo`
- `com.softwareag.plm.cce.cache.runtimeMetadata`

The size of most cache elements can be measured in tens of bytes. The size of most caches depends on the following factors:

- **Number of managed nodes in the landscape.** This number can vary from a few nodes to up to hundreds or even thousands for very large installations.
- **Number of managed components on each node.** This number typically varies from a few managed components to tens of managed components.
- **Number of configuration instances for each component and node.** Although there are typically only tens of configuration instances for each node, there can be hundreds of configuration instances for larger installations.

It is expected that all data resides in memory. If the caches are not large enough, severe performance degradation can occur.

`com.softwareag.plm.cce.cache.alert`

Contains information about monitoring alerts for Command Central.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element per alert; can have several alerts per run-time component in the landscape	Measured in bytes	As long as Command Central is active
Searchable?	Local / Distributed	
Yes	Local	

com.softwareag.plm.cce.cache.basicmonitoringstatecached

Contains basic Command Central monitoring data for run-time status and state.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element per run-time state, including 3 KPI metrics for each run-time component in the landscape	Measured in bytes	As long as Command Central is active
Searchable?	Local / Distributed	
Yes	Local	

com.softwareag.plm.cce.cache.configurationDataInfo

Contains the data stored for each configuration instance and the node alias of each configuration instance for Command Central.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element per configuration instance; number is the same as for the configurationInstanceInfo cache	Measured in bytes to kilobytes	As long as Command Central is active
Searchable?	Local / Distributed	
Yes	Local	

com.softwareag.plm.cce.cache.configurationInstanceInfo

Contains information about the configuration instances and the node alias of each configuration instance for Command Central.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element per configuration instance; up to hundreds for each run-time component	Measured in bytes	As long as Command Central is active
Searchable?	Local / Distributed	
Yes	Local	

com.softwareag.plm.cce.cache.configurationTypeInfo

Contains information about the configuration types and the node alias of each configuration type for Command Central.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element per configuration type; expected to be less than 20 per run-time component, but could be up to 100	Measured in bytes	As long as Command Central is active
Searchable?	Local / Distributed	
Yes	Local	

com.softwareag.plm.cce.cache.environment

Contains the environments data for Command Central.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element per environment; expected to be less than 100	Measured in bytes	As long as Command Central is active
Searchable?	Local / Distributed	
Yes	Local	

com.softwareag.plm.cce.cache.fixInfo

Contains information about the fixes that have been applied along with the node alias for nodes where fixes have been applied for Command Central.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element per fix; expected to be less than 100 per node	Measured in bytes	As long as Command Central is active

Searchable?	Local / Distributed
Yes	Local

com.softwareag.plm.cce.cache.node

Contains the installation node data for Command Central.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element per node; expected to be less than 10,000 and typically less than 100	Measured in bytes	As long as Command Central is active

Searchable?	Local / Distributed
Yes	Local

com.softwareag.plm.cce.cache.platformInfo

Contains information about the Platform Manager instances installed for the manageable products, along with the node alias they belong to for Command Central.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element per platform instance; equals the number of nodes	Measured in bytes	As long as Command Central is active

Searchable?	Local / Distributed
Yes	Local

com.softwareag.plm.cce.cache.productInfo

Contains information about the products installed in the landscape and the node alias of each product for Command Central.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element per product; number of products per node is less than 300	Measured in bytes	As long as Command Central is active

Searchable?	Local / Distributed
Yes	Local

com.softwareag.plm.cce.cache.repositories

Contains the repositories data for Command Central.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element per repository; number of repositories is typically 10 to 30	Measured in bytes	As long as Command Central is active

Searchable?	Local / Distributed
Yes	Local

com.softwareag.plm.cce.cache.runtimeComponentInfo

Contains information about the run-time components installed in the landscape and the node alias of each run-time component for Command Central.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element per run-time component; number is the same as for the runtimeMetadata cache	Measured in bytes	As long as Command Central is active

Searchable?	Local / Distributed
Yes	Local

com.softwareag.plm.cce.cache.runtimeMetadata

Contains the Runtime components metadata for Command Central.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element per component; number of components per node is approximately 1 to 5 for each supported managed product on the node	Measured in bytes	As long as Command Central is active
Searchable?	Local / Distributed	
Yes	Local	

webMethods ebXML Module Caches

SoftwareAG.IS.ebXML.EBXML

Contains TN partner and agreement, profile, and inbound and outbound message data. Each type of data has its own java.util.Hashtable in the cache.

Note: Caching is optional for the ebXML Module but is recommended for optimization.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
5 to 10	5 KB	As long as the ebXML Module is active
Searchable?	Local / Distributed	
No	Distributed	

Software AG Event-Driven Architecture Caches

eventTypeQName

Contains EDA events that have not yet been sent. Used to ensure guaranteed delivery of those events.

Each event type has a corresponding cache. The name of the cache matches the event type's unique identifier, in the format `{namespace}localName` (for example, `{http://namespaces.softwareag.com/EDA/WebM/Sample/CableboxMonitoring}CableboxHealth`).

Whenever the hosting JVM is restarted, NERV sends any events that were not removed from the cache before the JVM was stopped.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
Up to 1,000 (configurable) and varies depending on the speed of the event bus	Varies from 1 KB to several megabytes depending on use case	Events are removed when they are sent successfully

Searchable?	Local / Distributed
No	Always local

webMethods FIX Module Caches

SoftwareAG.IS.FIX.FIXCache

Contains the ID of the Integration Server cluster node that is connected to the Appia engine.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 per configured session	Less than 100 bytes	As long as the FIX Module is active

Searchable?	Local / Distributed
No	Distributed

webMethods Integration Server Caches

The following system caches belong to Integration Server:

- [SoftwareAG.IS.Core.ClusterMembers](#)
- [SoftwareAG.IS.Core.NonceCache](#)
- [SoftwareAG.IS.Core.OAuthAccessTokens](#)
- [SoftwareAG.IS.Core.OAuthAuthCodes](#)
- [SoftwareAG.IS.Core.OAuthClients](#)

- [SoftwareAG.IS.Core.OAuthRefreshTokens](#)
- [SoftwareAG.IS.Core.OAuthScope](#)
- [SoftwareAG.IS.Core.OAuthTokens](#)
- [SoftwareAG.IS.Core.SessionStore](#)
- [SoftwareAG.IS.Core.XMLParser.Partitions](#)
- [SoftwareAG.IS.Services.ServiceResults](#)

SoftwareAG.IS.Core.ClusterMembers

Contains the list of cluster nodes.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 per node	4 KB	As long as the node is part of the cluster

Searchable?	Local / Distributed
No	Distributed

SoftwareAG.IS.Core.NonceCache

Contains the nonces generated during authentication of a new user.

The information held in this cache is temporary. This cache is not persisted.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 per each authenticated user	Less than 1 KB	From the time a user logs in until the user logs out, or the interval specified by the <code>watt.server.clientTimeout</code> parameter, whichever is shorter

Searchable?	Local / Distributed
No	Distributed

SoftwareAG.IS.Core.OAuthAccessTokens

Contains OAuth access tokens generated by the OAuth authorization server.

The information held in this cache is persisted to the ISInternal database. When clustering is enabled, this cache is distributed to provide consistent data access on all cluster nodes.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element for each active OAuth access token	Less than 1 KB	Varies by client application; controlled by the expiration interval specified on the OAuth Client Registration screen. An element will also be removed from this cache if an access token is manually deleted.

Searchable?	Local / Distributed
No	Distributed

SoftwareAG.IS.Core.OAuthAuthCodes

Contains OAuth authorization codes that are issued for the OAuth authorization code grant flows.

The information held in this cache is temporary. This cache is not persisted.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element for each authorization code grant in progress	Less than 1 KB	From the time an access request is approved by the resource owner until the time an access token is issued, or the interval specified by the <code>watt.server.oauth.authCode.expirySeconds</code> parameter, whichever is shorter

Searchable?	Local / Distributed
No	Distributed

SoftwareAG.IS.Core.OAuthClients

Contains information about each registered OAuth client application.

The information held in this cache is persisted to the ISInternal database. When clustering is enabled, this cache is distributed to provide consistent data access on all cluster nodes.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element for each registered client application	2 KB, up to 9 KB if custom Approval Page parameters are defined for a client	As long as a client application remains registered with the OAuth application server
Searchable?	Local / Distributed	
No	Distributed	

SoftwareAG.IS.Core.OAuthRefreshTokens

Contains OAuth refresh tokens generated by the OAuth authorization server.

The information held in this cache is persisted to the ISInternal database. When clustering is enabled, this cache is distributed to provide consistent data access on all cluster nodes.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element for each active refresh token	Less than 1 KB	Varies by client application; controlled by the refresh count specified on the OAuth Client Registration screen. An element will also be removed from this cache if a refresh token is manually deleted.
Searchable?	Local / Distributed	
No	Distributed	

SoftwareAG.IS.Core.OAuthScope

Maps scope names to folders and services in the Integration Server namespace.

The information held in this cache is persisted to the ISInternal database. When clustering is enabled, this cache is distributed to provide consistent data access on all cluster nodes.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element for every defined scope	Less than 1 KB, or larger if there is a list of folders and services	As long as the scope defined on the application server

Searchable?	Local / Distributed
No	Distributed

SoftwareAG.IS.Core.OAuthTokens

Contains information common to both OAuth access tokens and refresh tokens.

The information held in this cache is persisted to the ISInternal database. When clustering is enabled, this cache is distributed to provide consistent data access on all cluster nodes.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element for each active access token and refresh token	Less than 1 KB	Varies by client application; controlled by the expiration interval and refresh count on the OAuth Client Registration screen. An element will also be removed from this cache if an access token or refresh token is manually deleted.

Searchable?	Local / Distributed
No	Distributed

SoftwareAG.IS.Core.SessionStore

Contains session objects that provide data about active sessions on cluster nodes.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element per active session in the cluster	1 KB plus session pipeline contents	Controlled by the Time To Idle element level setting, which is taken from the Session Timeout clustering setting

Searchable?	Local / Distributed
No	Distributed

SoftwareAG.IS.Core.XMLParser.Partitions

Provides off-heap storage for XML documents processed by the Enhanced XML Parser. The cache contains one or more document-encoded partitions for each document the Enhanced XML Parser processes. The cache is managed by the Enhanced XML Parser and is not visible to other webMethods components.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per off-heap document partition	Varies according to the size of the XML document being parsed and the current memory demands of the system. As a rule of thumb, the combined size of all partitions for a given document will be approximately three times the size of the raw XML document itself.	Element exists until the parsed XML document is no longer referenced by a running service

Searchable?	Local / Distributed
No	Always local

SoftwareAG.IS.Services.ServiceResults

Holds the contents of the pipeline that result from the execution of a service.

Important! Do not make this cache a distributed cache. Doing so will cause Integration Server to fail during startup. Set the Eternal parameter setting to true and do not specify Time To Live (TTL) and Time To Idle (TTI) parameter settings for the cache.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element for each set of input data for a service. Will vary according to: <ul style="list-style-type: none"> ■ The number of services that are configured to cache results ■ The input that is passed to execute the service 	Varies according to the services whose results you cache	Controlled by the Cache expire property in Software AG Designer and the <code>watt.server.cache.flushMins</code> and <code>watt.server.cache.gcMins</code> configuration parameters

Searchable?	Local / Distributed
No	Always local

webMethods Mediator Caches

The following system caches belong to Mediator:

- [SoftwareAg.IS.Mediator.APIKeysCache](#)
- [SoftwareAG.IS.Mediator.ClusterStatusCache](#)
- [SoftwareAG.IS.Mediator.ConsumerApplicationsCache](#)
- [SoftwareAG.IS.Mediator.IntervalNotificationCache](#)
- [SoftwareAG.IS.Mediator.MetricAccumulatorCache](#)
- [SoftwareAG.IS.Mediator.OAuth2TokensCache](#)
- [SoftwareAG.IS.Mediator.RegisteredConsumerNamesCache](#)
- [SoftwareAG.IS.Mediator.RuntimePolicyCache](#)
- [SoftwareAG.IS.Mediator.VirtualServicesCache](#)

SoftwareAg.IS.Mediator.APIKeysCache

Contains descriptions for deployed API-based consumers. Each description includes the API key for a given consumer along with other consumer details. This data is persisted on the file system of each Mediator cluster node.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 element for each API-based consumer deployed to the cluster	1 to 2 KB	As long as the consumer is deployed.

Searchable?	Local / Distributed
No	Distributed

SoftwareAG.IS.Mediator.ClusterStatusCache

Contains String, Date, and enum objects that indicate Mediator clustering status.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
5 to 10	Less than 100 bytes	As long as Mediator is active

Searchable?	Local / Distributed
No	Distributed

SoftwareAG.IS.Mediator.ConsumerApplicationsCache

Contains consumer application descriptions in the form of an XML string for each deployed consumer application. This data is persisted on the file system of each Mediator cluster node.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 per consumer application deployed to the cluster	1 to 2 KB	As long as the consumer is deployed

Searchable?	Local / Distributed
No	Distributed

SoftwareAG.IS.Mediator.IntervalNotificationCache

Contains policy evaluation interval settings as stored in PolicyActionKey and PolicyAction objects. Mediator generates this data from deployed virtual service descriptions.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 per policy action configured for a virtual service, plus 1 per virtual service if performance metrics are enabled	1 KB per deployed virtual service	As long as the virtual service is deployed

Searchable?	Local / Distributed
No	Distributed

SoftwareAG.IS.Mediator.MetricAccumulatorCache

Contains accumulated service request data for policy evaluation and performance metrics as stored in accumulator objects for each policy action key. Mediator generates this data from deployed virtual service descriptions.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 per deployed virtual service	1 to 2 KB per deployed virtual service	As long as the virtual service is deployed

Searchable?	Local / Distributed
No	Distributed

SoftwareAG.IS.Mediator.OAuth2TokensCache

Contains an extension of consumer application descriptions in the form of an XML string for each deployed OAuth2 consumer application. The extension consists of an additional OAuth2 client ID of the consumer. This data is persisted on the file system of each Mediator cluster node.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 per OAuth2 consumer deployed to the cluster	1 to 2 KB	As long as the consumer is deployed

Searchable?	Local / Distributed
No	Distributed

SoftwareAG.IS.Mediator.RegisteredConsumerNamesCache

Contains registered consumer names in the form of an XML string for each deployed virtual service that has registered consumers. This data is persisted on the file system of each Mediator cluster node.

Note: Consumer names are registered to support SLA policies. Not all services have registered consumer names.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 per deployed virtual service with at least one registered consumer	1 to 2 KB per deployed virtual service	As long as the virtual service is deployed

Searchable?	Local / Distributed
No	Distributed

SoftwareAG.IS.Mediator.RuntimePolicyCache

Contains policy details for deployed virtual services as stored in PolicyInfo objects. Mediator generates this data from deployed virtual service descriptions.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 per deployed virtual service	1 KB per deployed virtual service	As long as the virtual service is deployed

Searchable?	Local / Distributed
No	Distributed

SoftwareAG.IS.Mediator.VirtualServicesCache

Contains virtual service descriptions. This data is persisted on the file system of each Mediator cluster node.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 per deployed virtual service	5 to 10 KB per deployed virtual service; varies by service WSDL, number and complexity of the virtual service's policies, and whether the virtual service references external XML schema files	As long as the virtual service is deployed

Searchable?	Local / Distributed
No	Distributed

webMethods OneData Caches

SoftwareAG.OneData.core.cacheName

Contains the data associated with a data object in the OneData release area. The data in the cache includes master/reference data from the tables associated with the data object. The cache also contains configuration metadata, which occupies a minimal amount of space in the cache.

The name of the cache is constructed dynamically as follows:

DO#objectid#repositoryid#projectid#clientid#schemaid.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1 per record in the release area for associated data object	Varies because caches are dynamically generated based on the number of data objects (tables) that need to be cached. (Elements in a cache containing records for a sample customer master data object, for example, are approximately 2,550 bytes each. A million records of customer master data may occupy 2 GB of space in the cache.)	As long as the OneData application is active
Searchable?	Local / Distributed	
Yes	Distributed; this cache always resides on a Terracotta Server Array	

webMethods Optimize Caches

webMethods Optimize has the following types of caches:

- [Metadata Caches](#)
- [Operational Caches](#)
- [Locally Persistent Operational Caches](#)

Metadata Caches

webMethods Optimize maintains metadata in the following caches. When Optimize runs in clustered mode, these caches reside on the Terracotta Server Array.

All metadata caches are created programmatically based on the “defaultCache” settings in the `sag.opt.clusterable.caches.xml` file.

- `sag.opt.clusterable.caches.deployed/dimensiondef`
- `sag.opt.clusterable.caches.deployed/dimensiondef-BASE_TYPE`
- `sag.opt.clusterable.caches.deployed/dimensiondef-DISPLAY_NAME`
- `sag.opt.clusterable.caches.deployed/dimensiondef-ID`
- `sag.opt.clusterable.caches.deployed/dimensiondef-NAME`
- `sag.opt.clusterable.caches.deployed/dimensionfilter`
- `sag.opt.clusterable.caches.deployed/dimensionjoin`
- `sag.opt.clusterable.caches.deployed/dimensionjoin-DISPLAY_NAME`
- `sag.opt.clusterable.caches.deployed/dimensionjoin-ID`
- `sag.opt.clusterable.caches.deployed/dimensionjoin-NAME`
- `sag.opt.clusterable.caches.deployed/dimensionsubscriber`
- `sag.opt.clusterable.caches.deployed/eventmap`
- `sag.opt.clusterable.caches.deployed/eventmap-BASE_TYPE`
- `sag.opt.clusterable.caches.deployed/eventmap-DISPLAY_NAME`
- `sag.opt.clusterable.caches.deployed/eventmap-ID`
- `sag.opt.clusterable.caches.deployed/eventmap-NAME`
- `sag.opt.clusterable.caches.deployed/hierarchydef`
- `sag.opt.clusterable.caches.deployed/hierarchydef-DISPLAY_NAME`
- `sag.opt.clusterable.caches.deployed/hierarchydef-ID`
- `sag.opt.clusterable.caches.deployed/hierarchydef-NAME`
- `sag.opt.clusterable.caches.deployed/ilink`
- `sag.opt.clusterable.caches.deployed/kpidef`
- `sag.opt.clusterable.caches.deployed/kpidef-DISPLAY_NAME`
- `sag.opt.clusterable.caches.deployed/kpidef-EVENT_MAP_NAME`
- `sag.opt.clusterable.caches.deployed/kpidef-ID`
- `sag.opt.clusterable.caches.deployed/kpidef-NAME`
- `sag.opt.clusterable.caches.deployed/rule`

- sag.opt.clusterable.caches.deployed/rule-DISPLAY_NAME
- sag.opt.clusterable.caches.deployed/rule-ID
- sag.opt.clusterable.caches.deployed/rule-NAME
- sag.opt.clusterable.caches.latest/dimensiondef
- sag.opt.clusterable.caches.latest/dimensiondef-BASE_TYPE
- sag.opt.clusterable.caches.latest/dimensiondef-DISPLAY_NAME
- sag.opt.clusterable.caches.latest/dimensiondef-ID
- sag.opt.clusterable.caches.latest/dimensiondef-NAME
- sag.opt.clusterable.caches.latest/dimensionfilter
- sag.opt.clusterable.caches.latest/dimensionjoin
- sag.opt.clusterable.caches.latest/dimensionjoin-DISPLAY_NAME
- sag.opt.clusterable.caches.latest/dimensionjoin-ID
- sag.opt.clusterable.caches.latest/dimensionjoin-NAME
- sag.opt.clusterable.caches.latest/dimensionsubscriber
- sag.opt.clusterable.caches.latest/eventmap
- sag.opt.clusterable.caches.latest/eventmap-BASE_TYPE
- sag.opt.clusterable.caches.latest/eventmap-DISPLAY_NAME
- sag.opt.clusterable.caches.latest/eventmap-ID
- sag.opt.clusterable.caches.latest/eventmap-NAME
- sag.opt.clusterable.caches.latest/hierarchydef
- sag.opt.clusterable.caches.latest/hierarchydef-DISPLAY_NAME
- sag.opt.clusterable.caches.latest/hierarchydef-ID
- sag.opt.clusterable.caches.latest/hierarchydef-NAME
- sag.opt.clusterable.caches.latest/ilinkdef
- sag.opt.clusterable.caches.latest/kpidef
- sag.opt.clusterable.caches.latest/kpidef-DISPLAY_NAME
- sag.opt.clusterable.caches.latest/kpidef-EVENT_MAP_NAME
- sag.opt.clusterable.caches.latest/kpidef-ID
- sag.opt.clusterable.caches.latest/kpidef-NAME
- sag.opt.clusterable.caches.latest/rule
- sag.opt.clusterable.caches.latest/rule-DISPLAY_NAME

- [sag.opt.clusterable.caches.latest/rule-ID](#)
- [sag.opt.clusterable.caches.latest/rule-NAME](#)

sag.opt.clusterable.caches.deployed/dimensiondef

Contains all the deployed Dimension definitions that the engine uses during operations.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed dimension definition	1 KB and up; varies according to the number of defined attributes	Element exists until deleted by the application
Searchable?	Local / Distributed	
Yes	Distributed	

sag.opt.clusterable.caches.deployed/dimensiondef-BASE_TYPE

Contains index mappings between a Dimension definition base type and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed dimension definition	Less than 1 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
Yes	Distributed	

sag.opt.clusterable.caches.deployed/dimensiondef-DISPLAY_NAME

Contains index mappings between a Dimension definition display name and its definition name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed dimension definition	Less than 1 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
Yes	Distributed	

sag.opt.clusterable.caches.deployed/dimensiondef-ID

Contains index mappings between a Dimension definition ID and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed dimension definition	Less than 1 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
Yes	Distributed	

sag.opt.clusterable.caches.deployed/dimensiondef-NAME

Contains index mappings between a Dimension definition name and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed dimension definition	Less than 1 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
Yes	Distributed	

sag.opt.clusterable.caches.deployed/dimensionfilter

Contains all the deployed Dimension Filter definitions that the engine uses during operations.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed dimension filter.	1 KB and up; varies according to the number of instance IDs in the filter	Element exists until deleted by the application
Searchable?	Local / Distributed	
Yes	Distributed	

sag.opt.clusterable.caches.deployed/dimensionjoin

Contains all the deployed Dimension Join definitions that the engine uses during operations.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed dimension join	1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.deployed/dimensionjoin-DISPLAY_NAME

Contains index mappings between a Dimension Join definition display name and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed dimension join.	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.deployed/dimensionjoin-ID

Contains index mappings between a Dimension Join definition ID and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed dimension join	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.deployed/dimensionjoin-NAME

Contains index mappings between a Dimension Join definition name and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed dimension join	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.deployed/dimensionssubscriber

Contains all the deployed Dimension Subscriber definitions that the engine uses during operations.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed dimension subscriber.	1 KB and up; varies according to the number of instance IDs associated with the subscriber	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.deployed/eventmap

Contains all the deployed Event Map definitions that the engine uses during operations.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed event map	2 KB and up; varies according to the number of defined attributes in the event map	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.deployed/eventmap-BASE_TYPE

Contains index mappings between an Event Map definition base type and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed event map	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.deployed/eventmap-DISPLAY_NAME

Contains index mappings between an Event Map definition display name and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed event map	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.deployed/eventmap-ID

Contains index mappings between an Event Map definition ID and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed event map	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.deployed/eventmap-NAME

Contains index mappings between an Event Map definition name and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed event map	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.deployed/hierarchydef

Contains all the deployed Dimension Hierarchy definitions that the engine uses during operations.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed dimension hierarchy	1 KB and up; varies according to the number of levels defined in the hierarchy	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.deployed/hierarchydef-DISPLAY_NAME

Contains index mappings between a Dimension Hierarchy definition display name and name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed dimension hierarchy.	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.deployed/hierarchydef-ID

Contains index mappings between a Dimension Hierarchy definition ID and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed dimension hierarchy	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.deployed/hierarchydef-NAME

Contains index mappings between a Dimension Hierarchy definition name and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed dimension hierarchy	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.deployed/ilink

Contains all the deployed Intelligent Link definitions that the engine uses during operations.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed Intelligent Link	.5 KB and up; varies according to number of user-defined parameters	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.deployed/kpidef

Contains all the deployed KPI definitions that the engine uses during operations.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed KPI definition	1.3 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.deployed/kpidef-DISPLAY_NAME

Contains index mappings between a KPI definition display name and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed KPI definition	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.deployed/kpidef-EVENT_MAP_NAME

Contains index mappings between an event map name and a list of KPI names and versions.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined event map associated with one or more KPIs	6 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
Yes	Distributed	

sag.opt.clusterable.caches.deployed/kpidef-ID

Contains index mappings between a KPI definition ID and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed KPI definition	Less than 1 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
Yes	Distributed	

sag.opt.clusterable.caches.deployed/kpidef-NAME

Contains index mappings between a KPI definition name and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed KPI definition	Less than 1 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
Yes	Distributed	

sag.opt.clusterable.caches.deployed/rule

Contains all the deployed Rule definitions that the engine uses during operations.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed rule definition	1 KB and up; varies according to the complexity of the rule expression	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.deployed/rule-DISPLAY_NAME

Contains index mappings between a Rule definition display name and name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed rule definition	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.deployed/rule-ID

Contains index mappings between a Rule definition ID and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed rule definition	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.deployed/rule-NAME

Contains index mappings between a Rule definition name and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per deployed rule definition	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/dimensiondef

Contains all the latest Dimension definitions for display in the customer user interface.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined dimension definition	1 KB and up; varies according to the number of user-defined attributes	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/dimensiondef-BASE_TYPE

Contains index mappings between a Dimension definition base type and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined dimension definition	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/dimensiondef-DISPLAY_NAME

Contains index mappings between a Dimension definition display name and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined dimension definition	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/dimensiondef-ID

Contains index mappings between a Dimension definition ID and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined dimension definition	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/dimensiondef-NAME

Contains index mappings between a Dimension definition name and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined dimension definition	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/dimensionfilter

Contains all the latest Dimension Filter definitions for display in the customer user interface.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined dimension filter	1 KB and up; varies according to the number of instance ids in the filter defined by the user	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/dimensionjoin

Contains all the latest Dimension Join definitions for display in the customer user interface.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined dimension join	1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/dimensionjoin-DISPLAY_NAME

Contains index mappings between a Dimension Join definition display name and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined dimension join	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/dimensionjoin-ID

Contains index mappings between a Dimension Join definition ID and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined dimension join	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/dimensionjoin-NAME

Contains index mappings between a Dimension Join definition name and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined dimension join	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/dimensionsubscriber

Contains all the latest Dimension Subscriber definitions for the user interface.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined dimension subscriber	1 KB and up; varies according to the number of instance IDs associated with the subscriber	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/eventmap

Contains all the latest Event Map definitions for the user interface.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined event map	2 KB and up; varies according to the number of attributes defined by the user	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/eventmap-BASE_TYPE

Contains index mappings between an Event Map definition base type and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined event map	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/eventmap-DISPLAY_NAME

Contains index mappings between an Event Map definition display name and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined event map	Less than 1 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
Yes	Distributed	

sag.opt.clusterable.caches.latest/eventmap-ID

Contains index mappings between an Event Map definition ID and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined event map	Less than 1 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
Yes	Distributed	

sag.opt.clusterable.caches.latest/eventmap-NAME

Contains index mappings between an Event Map definition name and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined event map	Less than 1 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
Yes	Distributed	

sag.opt.clusterable.caches.latest/hierarchydef

Contains all the latest Dimension Hierarchy definitions for the customer's user interface.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined dimension hierarchy	1 KB and up; varies according to the number of levels defined in the hierarchy	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/hierarchydef-DISPLAY_NAME

Contains index mappings between a Dimension Hierarchy definition display name and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined dimension hierarchy	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/hierarchydef-ID

Contains index mappings between a Dimension Hierarchy definition ID and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined dimension hierarchy	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/hierarchydef-NAME

Contains index mappings between a Dimension Hierarchy definition name and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined dimension hierarchy	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/ilinkdef

Contains all the latest Intelligent Link definitions for display in the user interface.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined Intelligent Link	.5 KB and up; varies according to the number of parameters the user defined for the Intelligent Link	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/kpidef

Contains all the latest KPI definitions for display in the customer's user interface.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined KPI definition	1.3 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/kpidef-DISPLAY_NAME

Contains index mappings between a KPI definition display name and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined KPI definition	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/kpidef-EVENT_MAP_NAME

Contains index mappings between an event map name and a list of KPI names and versions.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined event map associated with one or more KPIs	6 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
Yes	Distributed	

sag.opt.clusterable.caches.latest/kpidef-ID

Contains index mappings between a KPI definition ID and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined KPI definition	Less than 1 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
Yes	Distributed	

sag.opt.clusterable.caches.latest/kpidef-NAME

Contains index mappings between a KPI definition name and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined KPI definition	Less than 1 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
Yes	Distributed	

sag.opt.clusterable.caches.latest/rule

Contains all the latest Rule definitions for display in the customer's user interface.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined rule definition	1 KB and up; varies according to the complexity of the rule expression	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/rule-DISPLAY_NAME

Contains index mappings between a Rule definition display name and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined rule definition	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/rule-ID

Contains index mappings between a Rule definition ID and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined rule definition	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.latest/rule-NAME

Contains index mappings between a Rule definition name and a name and version number.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element per defined rule definition	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

Operational Caches

webMethods Optimize maintains the following caches for operational data. When Optimize runs in clustered mode, these caches reside on the Terracotta Server Array.

- `sag.opt.clusterable.caches.AcceptedJMSMessageIdsCache`
- `sag.opt.clusterable.caches.kpiCompInstStateCache`
- `sag.opt.clusterable.caches.kpiInstStateCache`
- `sag.opt.clusterable.caches.KPIISID2ID_IndexCache`
- `sag.opt.clusterable.caches.kpiLastProcTimeCache`
- `sag.opt.clusterable.caches.kpiLockCache`
- `sag.opt.clusterable.caches.KPIN2IIDS_IndexCache`
- `sag.opt.clusterable.caches.KPIN2MIDS_IndexCache`
- `sag.opt.clusterable.caches.LIID2CIID_IndexCache`
- `sag.opt.clusterable.caches.lockCache`
- `sag.opt.clusterable.caches.metadataDefinitionLoadLockCache`
- `sag.opt.clusterable.caches.metadataOpsLockCache`
- `sag.opt.clusterable.caches.monitorCache`
- `sag.opt.clusterable.caches.monitorChangeInFlightCache`
- `sag.opt.clusterable.caches.monitorLastReadingTimeCache`
- `sag.opt.clusterable.caches.OptAEClusterMemberCache`
- `sag.opt.clusterable.caches.optimizeAlgorithmStateCache`
- `sag.opt.clusterable.caches.optimizeDiagnosesCache`
- `sag.opt.clusterable.caches.optimizeDimensionIndexByStringIdCache`
- `sag.opt.clusterable.caches.optimizeDimensionOpsCache`
- `sag.opt.clusterable.caches.optimizeDimensionOpsIndexByDimKeyCache`
- `sag.opt.clusterable.caches.optimizeDimensionOpsIndexByDimNameCache`
- `sag.opt.clusterable.caches.optimizeDimensionOpsIndexByIdentityCache`
- `sag.opt.clusterable.caches.optimizeROStatsOpsCache`
- `sag.opt.clusterable.caches.optimizeStatsAccumulationOpsCache`

- [sag.opt.clusterable.caches.OreEvaluatorCache](#)
- [sag.opt.clusterable.caches.OreEvaluatorIndex_EMID2RIIDS](#)
- [sag.opt.clusterable.caches.OreEvaluatorIndex_ET2RIIDS](#)
- [sag.opt.clusterable.caches.OreEvaluatorIndex_KMID2RIIDS](#)
- [sag.opt.clusterable.caches.OreStubCache](#)
- [sag.opt.clusterable.caches.OreStubCache_RDID2RIID](#)
- [sag.opt.clusterable.caches.OreStubCache_RISID2RIID](#)
- [sag.opt.clusterable.caches.OreStubIndex_EMID2RIIDS](#)
- [sag.opt.clusterable.caches.OreStubIndex_KMID2RIIDS](#)
- [sag.opt.clusterable.caches.ScheduledKPIInstanceDeletionJobs](#)

sag.opt.clusterable.caches.AcceptedJMSMessageIdsCache

Contains the String identifiers for the lists of events the Analytic Engine has consumed.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
100,000	Less than 1 KB; varies according to number of messages received in the dca_event JMS queue per minute	Controlled by the TimeToLiveSeconds setting; initially set to 60 seconds
Searchable?	Local / Distributed	
No	Distributed	

sag.opt.clusterable.caches.kpiComplnstStateCache

Contains readings awaiting aggregation into composite KPI readings.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element for each composite KPI instance	1 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
Yes	Distributed	

sag.opt.clusterable.caches.kpiInstStateCache

Contains data awaiting aggregation into KPI readings.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element for each element in monitorCache	1 KB and up; varies according to number of events received in the aggregation interval for each KPI instance	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.KPIISID2ID_IndexCache

Contains index mappings between a String ID and a monitor instance ID.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element for each element in monitorCache	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Distributed

sag.opt.clusterable.caches.kpiLastProcTimeCache

Contains data that Optimize uses to coordinate the generation of readings among the members of a cluster.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Distributed

sag.opt.clusterable.caches.kpiLockCache

Contains information that Optimize uses to manage the creation and loading of KPI instances.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
0; lock is made on key value while no element is in cache.	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Distributed

sag.opt.clusterable.caches.KPIN2IIDS_IndexCache

Contains index mappings between a KPI name and a collection of KPI instance state object IDs.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element for each deployed KPI definition	1 KB and up; varies according to the number of monitors per KPI definition	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Distributed

sag.opt.clusterable.caches.KPIN2MIDS_IndexCache

Contains index mappings between a KPI name and a collection of Monitor object IDs.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element for each deployed KPI definition	1 KB and up; varies according to number of monitors per KPI definition	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Distributed

sag.opt.clusterable.caches.LIID2CIID_IndexCache

Contains index mappings between a leaf KPI instance ID and a collection of composite KPI instance IDs.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element for each KPI instance that participates in a composite KPI	Less than 1 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
No	Distributed	

sag.opt.clusterable.caches.lockCache

Contains information used to provide a distributed locking mechanism that is used during internal operations of the Analytic Engine. No data is stored in the cache.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
0; lock is made on key value while no element is in cache	Less than 1 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
No	Distributed	

sag.opt.clusterable.caches.metadataDefinitionLoadLockCache

Contains information used to provide a distributed locking mechanism during metadata loading.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
0; lock is made on key value while no element is in cache	Less than 1 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
No	Distributed	

sag.opt.clusterable.caches.metadataOpsLockCache

Contains information used to facilitate definition changes.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
0; lock is made on key value while no element is in cache	Less than 1 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
No	Distributed	

sag.opt.clusterable.caches.monitorCache

Contains the KPI state information that Optimize displays in the user interface.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
100 plus number of licensed KPIs	1.2 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
Yes	Distributed	

sag.opt.clusterable.caches.monitorChangeInFlightCache

Contains the processing-complete count for a newly changed monitor.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
100,000	Less than 1 KB	Controlled by the TimeToLiveSeconds setting; initially set to 300 seconds
Searchable?	Local / Distributed	
No	Distributed	

sag.opt.clusterable.caches.monitorLastReadingTimeCache

Contains information that Optimize uses to distribute readings among threads and cluster members.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element for each element in monitorCache.	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Distributed

sag.opt.clusterable.caches.OptAECacheMemberCache

Contains information for coordinating changes in cluster membership.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
Up to 20	Less than 1 KB	125 seconds unless renewed

Searchable?	Local / Distributed
No	Distributed

sag.opt.clusterable.caches.optimizeAlgorithmStateCache

Contains data that Optimize uses to track trending information.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
Eight elements for each element in monitorCache	1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Distributed

sag.opt.clusterable.caches.optimizeDiagnosesCache

Contains the current collection of diagnoses for individual monitors.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
Eight elements for each element in monitorCache	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Distributed

sag.opt.clusterable.caches.optimizeDimensionIndexByStringIdCache

Contains index mappings from a unique string ID to an object holding a dimension name and instance ID.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element for each element in optimizeDimensionOpsCache	1 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
No	Distributed	

sag.opt.clusterable.caches.optimizeDimensionOpsCache

Contains all known dimension instances (as Dimension objects.)

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
Sum of the number of dimension instances for each dimension definition	1 to 2 KB; varies according to number of attributes defined in each dimension definition and on the average size of the value for each attribute	Element exists until deleted by the application
Searchable?	Local / Distributed	
No	Distributed	

sag.opt.clusterable.caches.optimizeDimensionOpsIndexByDimKeyCache

Contains index mappings from a Dimension name and instance ID to a collection of objects holding a Dimension name, attribute name and attribute value.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element for each element in optimizeDimensionOpsCache	1 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
No	Distributed	

sag.opt.clusterable.caches.optimizeDimensionOpsIndexByDimNameCache

Contains index mappings from a Dimension name to a collection of objects holding a Dimension name and instance IDs.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element for each deployed dimension definition	2 KB; size varies according to the number of instances for each dimension definition	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Distributed

sag.opt.clusterable.caches.optimizeDimensionOpsIndexByIdentityCache

Contains index mappings from a Dimension name, Attribute name and Attribute value to a Dimension name and instance ID.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
At least one element for each element in optimizeDimensionOpsCache	1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Distributed

sag.opt.clusterable.caches.optimizeROStatsOpsCache

Contains completed statistics.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
Number of elements in monitorCache * 33 * 7	1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Distributed

sag.opt.clusterable.caches.optimizeStatsAccumulationOpsCache

Contains the data that Optimize uses to calculate values for a statistical bucket.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element for each element in monitorCache	1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Distributed

sag.opt.clusterable.caches.OreEvaluatorCache

Contains Rule evaluator objects.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element for each element in OreStubCache	4 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
Yes	Distributed

sag.opt.clusterable.caches.OreEvaluatorIndex_EMID2RIIDS

Contains index mappings between a monitor ID and a collection of Event Rule instance IDs.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element for each element in monitorCache	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Distributed

sag.opt.clusterable.caches.OreEvaluatorIndex_ET2RIIDS

Contains index mappings between an Event Type and a collection of Rule instance IDs.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element for each deployed event map	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Distributed

sag.opt.clusterable.caches.OreEvaluatorIndex_KMID2RIIDS

Contains index mappings between a monitor ID and a collection of KPI Rule instance IDs.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element for each element in monitorCache	Less than 1 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
No	Distributed	

sag.opt.clusterable.caches.OreStubCache

Contains the Rule instance state information that Optimize displays in the user interface.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
2 times the number of elements in monitorCache (allows for each KPI definition to be referenced in the rule expression in two deployed rules definitions)	2 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
Yes	Distributed	

sag.opt.clusterable.caches.OreStubCache_RDID2RIID

Contains index mappings between a Rule definition name and a collection of Rule instance IDs.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element for each deployed rule definition	Less than 1 KB	Element exists until deleted by the application
Searchable?	Local / Distributed	
No	Distributed	

sag.opt.clusterable.caches.OreStubCache_RISID2RIID

Contains index mappings between a unique String ID and a Rule instance ID.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element for each element in OreStubCache	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Distributed

sag.opt.clusterable.caches.OreStubIndex_EMID2RIIDS

Contains index mappings between a monitor ID and a collection of event rule instance IDs.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element for each element in monitorCache	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Distributed

sag.opt.clusterable.caches.OreStubIndex_KMID2RIIDS

Contains index mappings between a monitor ID and a collection of KPI rule instance IDs.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
One element for each element in monitorCache	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Distributed

sag.opt.clusterable.caches.ScheduledKPIInstanceDeletionJobs

Contains information for coordinating the deletion of KPI instances.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
Up to 100	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Distributed

Locally Persistent Operational Caches

webMethods Optimize maintains certain kinds of operational data in persistent caches. These caches are maintained locally, even when Optimize runs in a clustered configuration.

- `sag.opt.eventhandling.caches.EventsForStorage`
- `sag.opt.eventhandling.caches.PendingEventLists`
- `sag.opt.eventhandling.caches.TaskObserver_MessagesCache`
- `sag.opt.eventhandling.caches.TaskObserver_TasksCache`
- `sag.opt.eventhandling.caches.TempEventsForStorage`
- `sag.opt.jmscommunication.caches.JMSCommunicationResendCache`
- `sag.opt.notifications.caches.dimensionDefNotificationsCache`
- `sag.opt.notifications.caches.dimSubscriberNotificationsCache`
- `sag.opt.notifications.caches.eventMapNotificationsCache`
- `sag.opt.notifications.caches.kpiDefNotificationsCache`
- `sag.opt.notifications.caches.monitorChangeNotificationsCache`
- `sag.opt.notifications.caches.ptRoutingTableNotificationsCache`
- `sag.opt.notifications.caches.ruleDefNotificationsCache`

`sag.opt.eventhandling.caches.EventsForStorage`

Contains data used to guarantee the storage of received events to the fact table.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
500,000	1 KB and up	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Always local

`sag.opt.eventhandling.caches.PendingEventLists`

Contains data to guarantee handling of received events.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
25,000	100 KB and up	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Always local

sag.opt.eventhandling.caches.TaskObserver_MessagesCache

Contains data used to guarantee publication of process notifications for received events.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
500,000	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Always local

sag.opt.eventhandling.caches.TaskObserver_TasksCache

Contains data used to guarantee the publication of process notifications for received events.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
500,000	Less than 1 KB	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Always local

sag.opt.eventhandling.caches.TempEventsForStorage

Contains data used to guarantee the storage of received events to the event temp table.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
500,000	1 KB and up	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Always local

sag.opt.jmscommunication.caches.JMSCommunicationResendCache

Contains messages waiting to be published to JMS.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
100,000	1 KB and up	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Always local

sag.opt.notifications.caches.dimensionDefNotificationsCache

Contains notification objects for delivery to subscribers of Dimension definition changes.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
10,000	1 KB and up	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Always local

sag.opt.notifications.caches.dimSubscriberNotificationsCache

Contains notification objects for delivery to subscribers of Dimension instance subscription changes.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
10,000	1 KB and up	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Always local

sag.opt.notifications.caches.eventMapNotificationsCache

Contains notification objects for delivery to subscribers of Event Map definition changes.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
10,000	1 KB and up	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Always local

sag.opt.notifications.caches.kpiDefNotificationsCache

Contains notification objects for delivery to subscribers of KPI definition changes.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
10,000	1 KB and up	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Always local

sag.opt.notifications.caches.monitorChangeNotificationsCache

Contains notification objects for delivery to subscribers of Monitor instance state changes.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
10,000	1 KB and up	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Always local

sag.opt.notifications.caches.ptRoutingTableNotificationsCache

Contains notification objects for delivery to subscribers of Process Tracking responsibility changes.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
10,000	1 KB and up	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Always local

sag.opt.notifications.caches.ruleDefNotificationsCache

Contains notification objects for delivery to subscribers of Rule definition changes.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
10,000	1 KB and up	Element exists until deleted by the application

Searchable?	Local / Distributed
No	Always local

webMethods RosettaNet Module Caches

SoftwareAG.IS.RosettaNet.RNModelSessionCache

Contains data required to complete business transactions (that is, original business document data required in response transactions, including TPA data and data related to instances and failure scenarios).

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
5 to 10	5 KB or less	Controlled by Time to Live and Time to Idle cache settings

Searchable?	Local / Distributed
No	Distributed

webMethods Trading Networks Caches

The following system caches belong to webMethods Trading Networks:

- [SoftwareAG.IS.TN.TNDocAttribute](#)
- [SoftwareAG.IS.TN.TNDocType](#)
- [SoftwareAG.IS.TN.TNProfile](#)
- [SoftwareAG.IS.TN.TNProfileId](#)

- [SoftwareAG.IS.TN.TNProfileSummary](#)
- [SoftwareAG.IS.TN.TNQueryResults](#)
- [SoftwareAG.IS.TN.TNTPA](#)
- [SoftwareAG.IS.TN.TNTPAId](#)

SoftwareAG.IS.TN.TNDocAttribute

Contains elements for all document attributes required to process documents.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
0 (unlimited)	1KB to 10KB	Element exists in cache until deleted by the application.
Searchable?	Local / Distributed	
Yes	Always local	

SoftwareAG.IS.TN.TNDocType

Contains elements for all document types required for XML and flat files.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
0 (unlimited)	1KB to 10KB	Element exists in cache until deleted by the application.
Searchable?	Local / Distributed	
Yes	Always local	

SoftwareAG.IS.TN.TNProfile

Contains elements for profiles of all corporations who are trading partners in your network.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
50	Up to 1MB	Element exists in cache until deleted by the application. However, if the cache is full, element is evicted if using LRU (Least Recently Used) eviction policy.

Searchable?	Local / Distributed
No	Always local

SoftwareAG.IS.TN.TNProfileId

Contains elements for the profile IDs of all profiles present in your network.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
0 (unlimited)	1KB to 10KB	Element exists in cache until deleted by the application.

Searchable?	Local / Distributed
No	Always local

SoftwareAG.IS.TN.TNProfileSummary

Contains elements for all profile summaries. A profile summary is a subset of profiles.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
0 (unlimited)	1KB to 10KB	Element exists in cache until deleted by the application.

Searchable?	Local / Distributed
Yes	Always local

SoftwareAG.IS.TN.TNQueryResults

Contains session-based query results (in a page-wise manner). Factors that affect this cache include query frequency and query result size.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
500	1 to 10 KB; varies by data type and configured page size (20 rows by default)	Controlled by Time to Live and Time to Idle cache settings

Searchable?	Local / Distributed
No	Always local

SoftwareAG.IS.TN.TNTPA

Contains elements for trading partner agreements between various partners in your network.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
1000	3KB	Element exists in cache until deleted by the application. However, if the cache is full, element is evicted if using FIFO (First In First Out) eviction policy.

Searchable?	Local / Distributed
No	Always local

SoftwareAG.IS.TN.TNTPAId

Contains elements for the TPA IDs of all the trading partner agreements between various partners in your network.

Number of Elements in Cache	Approximate Size of Element	Lifetime of Element
0 (unlimited)	1KB	Element exists in cache until deleted by the application.

Searchable?	Local / Distributed
No	Always local
