

# Using BigMemory with webMethods Products

Version 10.5

October 2019

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This document applies to webMethods Product Suite Version 10.5 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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## About this Guide

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This guide explains how webMethods products use 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

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Convention	Description
<b>Bold</b>	Identifies elements on a screen.
Narrowfont	Identifies service names and locations in the format <i>folder.subfolder.service</i> , APIs, Java classes, methods, properties.
<i>Italic</i>	Identifies: Variables for which you must supply values specific to your own situation or environment. New terms the first time they occur in the text. References to other documentation sources.
Monospace font	Identifies: Text you must type in. Messages displayed by the system. Program code.
{ }	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 (...).

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## Online Information and Support

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### Software AG Documentation Website

You can find documentation on the Software AG Documentation website at "<http://documentation.softwareag.com>". The site requires credentials for Software AG's Product Support site Empower. If you do not have Empower credentials, you must use the TECHcommunity website.

### Software AG Empower Product Support Website

If you do not yet have an account for Empower, send an email to "[empower@softwareag.com](mailto:empower@softwareag.com)" with your name, company, and company email address and request an account.

Once you have an account, you can open Support Incidents online via the eService section of Empower at "<https://empower.softwareag.com/>".

You can find product information on the Software AG Empower Product Support website at "<https://empower.softwareag.com/>".

To submit feature/enhancement requests, get information about product availability, and download products, go to "[Products](#)".

To get information about fixes and to read early warnings, technical papers, and knowledge base articles, go to the "[Knowledge Center](#)".

If you have any questions, you can find a local or toll-free number for your country in our Global Support Contact Directory at "[https://empower.softwareag.com/public\\_directory.asp](https://empower.softwareag.com/public_directory.asp)" and give us a call.

### Software AG TECHcommunity

You can find documentation and other technical information on the Software AG TECHcommunity website at "<http://techcommunity.softwareag.com>". You can:

- Access product documentation, if you have TECHcommunity credentials. If you do not, you will need to register and specify "Documentation" as an area of interest.
- Access articles, code samples, demos, and tutorials.
- Use the online discussion forums, moderated by Software AG professionals, to ask questions, discuss best practices, and learn how other customers are using Software AG technology.
- Link to external websites that discuss open standards and web technology.

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## Data Protection

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Software AG products provide functionality with respect to processing of personal data according to the EU General Data Protection Regulation (GDPR). Where applicable, appropriate steps are documented in the respective administration documentation.



# 1 webMethods Products and Terracotta

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## Overview

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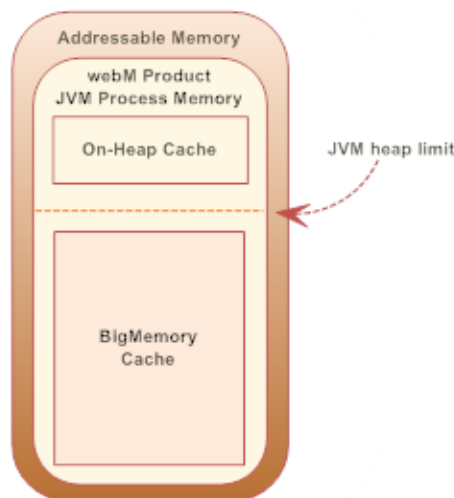
Ehcache is an open-source, standards-based caching API that enables applications to fetch frequently used data from memory (or another nearby resource) rather than having to retrieve it from a database or other back-end system. Terracotta extends the Ehcache API so applications can create very large in-memory caches and share cached data with other applications on the network.

This chapter provides a general overview of how webMethods products use Ehcache and, more specifically, how they use the extensions enabled by Terracotta. For more detailed information for a particular product, see the product documentation.

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

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BigMemory is an extension to Ehcache that enables you to create caches that reside outside the Java heap. Using BigMemory, you can create much larger caches than with local on-heap memory alone. You can use terabytes 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.

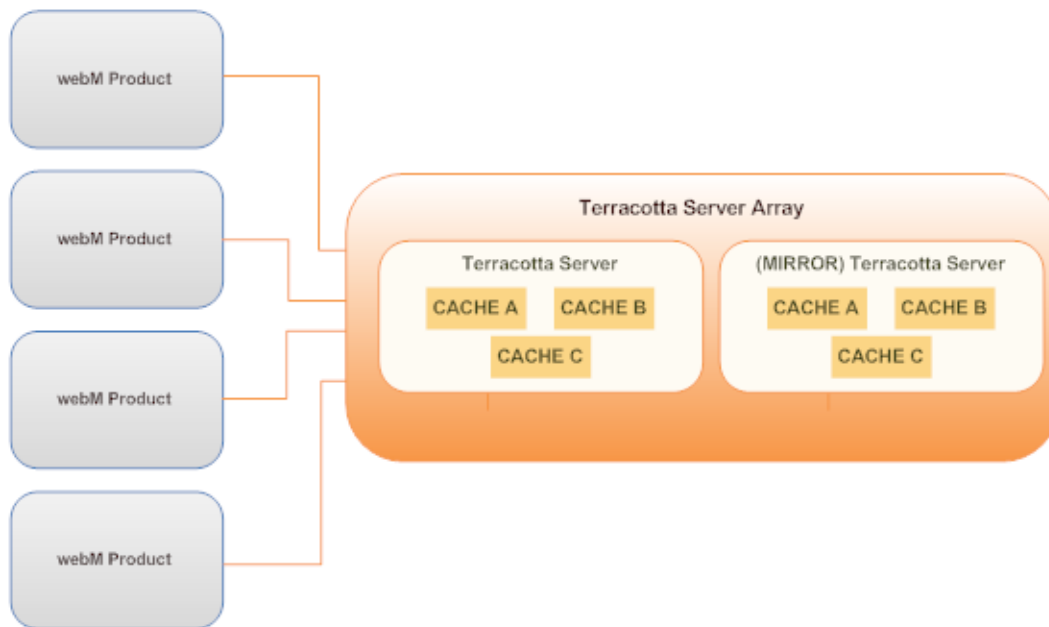


webMethods products that support Ehcache for caching also support BigMemory. You must install a Terracotta license on the webMethods product to enable the BigMemory feature.

For additional information about the BigMemory extension to Ehcache, see the sections on BigMemory in the Ehcache 2.8 documentation available at "<http://ehcache.org/>".

## Using a Terracotta Server Array to Share Cached Data Among Applications

Terracotta Server Array is a feature of BigMemory that enables distributed caching; with Terracotta Server Array, you can use a shared cache for multiple applications. As shown in the figure below, a Terracotta Server Array generally consists of an active Terracotta Server and a mirror Terracotta Server for high availability. If you require additional storage, you can obtain licensing to add Terracotta Servers and their mirrors to the array.



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 BigMemory Max product documentation for 4.1 at ["http://www.terracotta.org/documentation/4.1/bigmemorymax/overview"](http://www.terracotta.org/documentation/4.1/bigmemorymax/overview).

**Important:** webMethods 9.7 products require release 4.1.4 of the Terracotta Server Array. When newer releases of the Terracotta Server Array become available, Software AG may add support for those releases. To check which releases of Terracotta are supported by a webMethods product, see the *Terracotta Compatibility with other Software AG Products* matrix on the Software AG Documentation website at ["http://documentation.softwareag.com"](http://documentation.softwareag.com).

## System Caches Used by webMethods Products

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Many webMethods products cache data for their own internal processes. These internal caches are called *system caches* and are listed in [“System Caches Used by the webMethods Product Suite” on page 33](#). You can use this information as input for sizing efforts related to BigMemory or the Terracotta Server Array.

## How webMethods Products Use Terracotta

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### Business Process Management

Business Process Management uses Terracotta to create a system cache in which to temporarily store process audit data that cannot be inserted into the process audit database. For more information, see [“System Caches Used by the webMethods Product Suite” on page 33](#).

### Software AG Common Platform

The Software AG Common Platform uses Terracotta to store information related to security. For more information, see [“System Caches Used by the webMethods Product Suite” on page 33](#).

### CentraSite

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 CentraSite system caches, see [“System Caches Used by the webMethods Product Suite” on page 33](#).

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

### webMethods CloudStreams

CloudStreams uses Terracotta to cache the virtual services 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 CloudStreams on a cluster of Integration Servers, CloudStreams maintains these caches on the Terracotta Server Array.

For more information about CloudStreams system caches, see [“System Caches Used by the webMethods Product Suite” on page 33](#).

**Note:** CloudStreams does not support sharing of Connector Virtual Services, Virtual Services and policies across nodes in a clustered scenario. You must deploy such artifacts to a clustered node on an as-needed basis.

## Software AG Command Central

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.

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

For more information about Command Central system caches, see [“System Caches Used by the webMethods Product Suite” on page 33](#).

## webMethods Event Routing

webMethods Event Routing uses Terracotta for guaranteed delivery of events.

1. A product such as webMethods Optimize or webMethods BPM emits an event.
2. webMethods NERV stores the event in a persistent cache, delivers the event to the destination endpoints, and then removes the event from the cache.

**Note:** 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 webMethods Event Routing system caches, see [“System Caches Used by the webMethods Product Suite” on page 33](#).

## webMethods eStandards Modules

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 Module for AS4
- webMethods Chem eStandards Module
- webMethods ebXML Module
- webMethods FIX Module
- webMethods Module for HIPAA
- 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 eStandards modules system caches, see [“System Caches Used by the webMethods Product Suite ” on page 33.](#)

## webMethods Integration Server

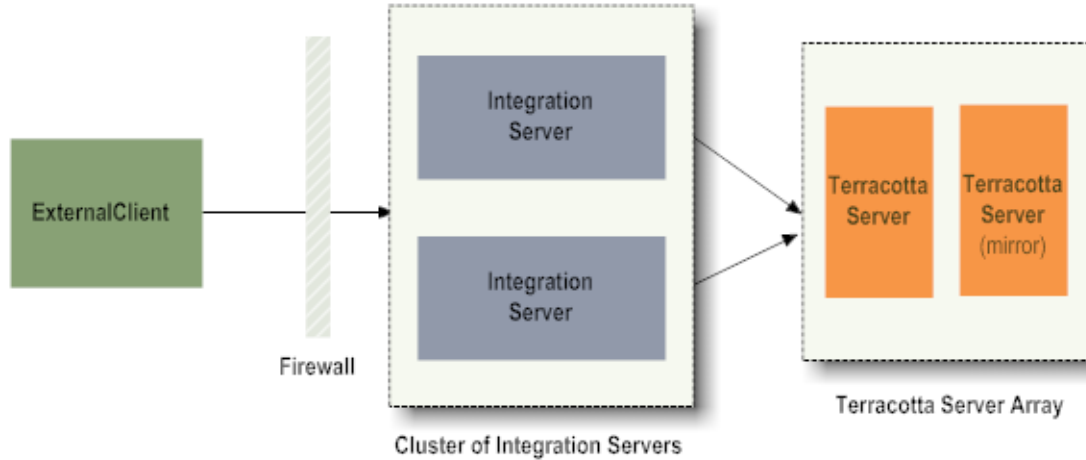
Integration Server uses Terracotta for these purposes:

- **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:** By default, service results are local to an Integration Server. You can configure service results to use a distributed cache. For more information see "Using a Public Cache for Service Results Caching" in *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 33.

- **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 webMethods Products](#)" 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*.

**Note:** How Integration Server uses Terracotta will affect what licenses you will need. For more information about Terracotta licenses and Integration Server, see [“License Requirements for Integration Server” on page 24](#).

For more information about the system caches that Integration Server uses, see [“System Caches Used by the webMethods Product Suite” on page 33](#).

## webMethods Mediator

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 Mediator system caches, see [“System Caches Used by the webMethods Product Suite” on page 33](#).

## webMethods Mobile Support

Mobile Support uses the locking and unlocking functionality of Ehcache to achieve synchronization. In a clustered environment, Mobile Support maintains its system cache on the Terracotta Server Array.

For more information about Mobile Support system caches, see [“System Caches Used by the webMethods Product Suite” on page 33](#).

## webMethods OneData

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 OneData system caches, see [“System Caches Used by the webMethods Product Suite” on page 33](#)

## webMethods Optimize

For maximum performance, 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 33](#).

## webMethods Trading Networks

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 Trading Networks system caches, see [“System Caches Used by the webMethods Product Suite ” on page 33](#).



## 2 Licensing Requirements

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## Installing the Terracotta License

If your webMethods product is licensed to use BigMemory Max, you received a Terracotta license file called terracotta-license.key from Software AG. You must install this file to enable BigMemory Max features in your webMethods product.

When you installed Terracotta, the license was stored in the *Software AG\_directory \Terracotta* directory. Copy the license to the *Software AG\_directory \common\conf* directory on the machine that hosts the webMethods product.

If the webMethods product is already running, restart it to put the license into effect.

**Important:** Do not change the name of the license file.

## License Requirements for Integration Server

The Terracotta license you need for Integration Server depends on how Integration Server will use Terracotta.

Integration Server	Client License	Terracotta Server Array License
Stand-alone, with system caches or local caches	No license needed	Not applicable
Stand-alone, with system caches or local caches and off-heap storage	Upgraded BigMemory license	Not applicable
Clustered, with Terracotta Server Array for distributed caching	BigMemory Max license (provided with Integration Server bundle)	BigMemory Max license (provided with Integration Server bundle)
Clustered, with Terracotta Server Array and off-heap storage	Upgraded BigMemory license	Upgraded BigMemory license
Distributed custom caches on the Terracotta Server Array	Upgraded BigMemory license and Integration Server distributed cache license	Upgraded BigMemory license



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

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## Installing the Terracotta Server Array

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Install the Terracotta program files and license key on each machine in your array as described in *Installing Software AG Products*. 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 *Terracotta Compatibility with other Software AG Products*. For a list of the platforms supported by Terracotta, see the “Server Information” section in the 4.1 Platform Support document.

## Configuring the Terracotta Server Array for Use with webMethods Product

---

The Terracotta license provided with your webMethods product requires the use of BigMemory Hybrid. You must configure your Terracotta Server Array to use the Hybrid extension. The Terracotta Server Array can contain a single stripe with two servers (an active server and a mirror server) to provide high availability. The configuration and behavior of the Terracotta Server Array is specified by parameters in a configuration file called tc-config. This file identifies the servers that make up the array and specifies whether the servers are mirrored. This file also contains parameters that relate to the capacity of the server, parameters that control certain behaviors of the clients that connect to the array, and a healthchecker (a process that monitors the connections between the Terracotta Server Array and its clients).

For BigMemory Hybrid, you set the total data capacity of the server. You can find the total allowable data capacity in your terracotta-license.key under the terracotta.serverArray.maxDataStorage setting. The BigMemory Hybrid server also requires the usage of off-heap storage. The server will utilize the off-heap storage to store the keys associated with all of the cache entries. By default, off-heap storage is configured to use 512MB. For more information, see “<http://www.terracotta.org/documentation/4.1/terracotta-server-array/hybrid>”.

**Note:** The off-heap memory required by the Hybrid server is in addition to the heap memory required by the server. If you are upgrading from version 3.7, you will need at least 512MB of additional off-heap memory.

You can set failover behavior to consistency instead of availability (the default). For information, see the section on failover tuning for guaranteed consistency in *BigMemory Max Administrator Guide*.

## Creating the tc-config File

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.

By default, a Terracotta server expects to find the tc-config file in the *Software AG\_directory/terracotta/server/bin* directory. If you maintain the tc-config file in the default location, you must place an identical copy of the tc-config file in the *Software AG\_directory/terracotta/server/bin* directory 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 tcconfig file when you invoke the start-up script on each server.

Below 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 `<servers>` section in this sample defines an array consisting of two mirrored Terracotta servers. Revise this section as needed to define the configuration of your particular server array. For more information about defining the configuration of the Terracotta Server Array, see BigMemory Max product documentation for 4.1 at "<http://terracotta.org/documentation/4.1/bigmemorymax/overview>".

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.

```
<tc:tc-config xmlns:tc="http://www.terracotta.org/config">
  <!-- Replace the host and name values for your server -->
  <server host="host" name="name">
    <data>server-data</data> ]
    <logs>server-logs</logs>
    <!-- Adjust the data storage size for the total amount of data -->
    <!-- being stored by the server array up to the maximum allowed -->
    <!-- by your Terracotta license.-->
    <dataStorage size="20g">
      <!-- hybrid mode is required by the Terracotta license provided -->
      <!-- with webMethods products. -->
      <!-- Terracotta server off heap is required to hold the keys -->
      <!-- used for all caches. -->
      <offheap size="2g"/>
      <hybrid/>
    </dataStorage>
  </server>
  <server host="host" name="name">
    <data>server-data</data>
    <logs>server-logs</logs>
    <!-- The data storage settings must be identical for each server -->
    <!-- in the mirror group. -->
    <dataStorage size="20g">
      <offheap size="2g"/>
      <hybrid/>
    </dataStorage>
  </server>
  <!-- This replaces the permanent-store attribute -->
```

```
<!-- from the 3.7.X version. This is not required to be enabled. -->
<!-- The setting applies to all servers in the mirror group. -->
<restartable enabled="true"/>
</servers>
<clients>
  <logs>% (com.softwareag.tc.client.logs.directory)</logs>
</clients>
</tc:tc-config>
```

The minimum off-heap memory required for webMethods clustering in hybrid mode is 2GB. For details about the off-heap memory configuration required for non-hybrid deployments, distributed caching and other applications, see the Terracotta product documentation.

# 4 Using Command Central to Manage Terracotta

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## Command Central Commands that Terracotta Supports

Terracotta supports the Command Central commands `sagcc get configuration data`, `sagcc get configuration instances`, `sagcc list configuration instances`, `sagcc get configuration types`, `sagcc list configuration types`, `sagcc get diagnostic logs`, `sagcc get monitoring`, `sagcc get inventory components`, `sagcc list inventory components`, and `sagcc exec lifecycle`.

For general information about the commands, see *Software AG Command Central Help*. For Terracotta-specific information about the `sagcc get configuration data` command, see [“Configuration Types that Terracotta Supports” on page 30](#). For Terracotta-specific information about the `sagcc exec lifecycle` command, see [“Lifecycle Actions for Terracotta” on page 30](#).

## Configuration Types that Terracotta Supports

The Terracotta run-time component supports creating instances of the configuration types listed in the table below.

Configuration Type	Use to
COMMON-CLUSTER	View the configuration for a cluster.
COMMON-MEMORY	Configure the JVM memory settings.
COMMON-PORTS	View the custom port configuration for a Terracotta Server Array instance.
TC-CONFIG	Configure the <code>tc-config.xml</code> file.
TC-SERVER-SERVER	Assign a server name to a Terracotta Server Array instance that matches the server name in the <code>tc-config.xml</code> file.

## Lifecycle Actions for Terracotta

The table below lists the actions that Terracotta supports with the `sagcc exec lifecycle` command and the operation taken against Terracotta when an action is executed.

Action	Description
Start	Start a server instance that has stopped.
Stop	Stop a running server instance.
Restart	Restart a running server instance.

**Important:** You must execute all lifecycle operations in the correct order to ensure safe startup, shutdown, and restart for Terracotta Server Array cluster instances. For more information about the correct order of lifecycle operations, see BigMemory Max product documentation for release 4.2.

## Run-time Monitoring Statuses for Terracotta

The table below lists the run-time statuses that the Terracotta run-time component can return in response to the `sagcc get monitoring runtimestatus` and `sagcc get monitoring state` commands, along with the meaning of each run-time status.

Run-time Status	Meaning
STOPPED	The server is not running.
ONLINE_MASTER	The server is running and is the master in its stripe.
ONLINE_SLAVE	The server is running and is a slave (mirror) in its stripe.
FAILED	The server was running, but crashed. A possible reason for this failure is that the server did not find the correct license.
UNRESPONSIVE	The server is running, but is not responding on the specified ports. A possible reason for this failure is that the server did not find the correct license.

## Run-time Monitoring Statuses for Terracotta

In response to the `sagcc get monitoring runtimestate` and `sagcc get monitoring state` commands, the Terracotta run-time component provides information about the key performance indicators (KPIs) listed in the table below:

KPI	Description
Live Object Count	The number of live objects in the cache.
Offheap	The off-heap storage capacity for the cache.
Write Operations Rate	The rate of write operations for the cache.

---

The KPIs apply to the entire Terracotta Server Array cluster.



# A System Caches Used by the webMethods Product Suite

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## Overview

Many webMethods products cache data for their own internal processes. The caches that they use internally are called *system caches*.

**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.

## Business Process Management

### SoftwareAG.IS.PE.FailedProcessAudit

Contains process audit records that failed to be inserted into the process audit database. The records are automatically inserted into the process audit database when it becomes available and are removed from the cache.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
0 during normal operation	Varies	Exists in cache until element can be inserted into process audit database.	Local	No

## Software AG Common Platform

### SSOAssertionsCacheManager.SSOAssertionsCache

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
10000 (default)	4 to 10 KB	Controlled by the <code>timeToIdleSeconds</code> (120, by default) and <code>timeToLiveSeconds</code>	Local	No

Elements	Element Size	Element Lifetime	Cache Type	Searchable
size of cache)		(120, by default) settings for the cache		

## CentraSite

### SoftwareAG.CentraSite.model.ObjectCache\_*machine\_name\_port*

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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
10,000 (default cache size)	1 KB or less	Controlled by garbage collection	Local	No

### SoftwareAG.CentraSite.model.TypeCache\_*machine\_name\_port*

Contains types defined in CentraSite stored as simple Java objects.

CentraSite shares the elements among all connections within a JVM.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
100	1 KB or less	Lifetime of the cache	Local	No

## webMethods CloudStreams

### SoftwareAg.IS.CloudStreams.ClusterStatusCache

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
5 to 10	Less than 100 bytes	As long as CloudStreams is active	Distributed	No

### SoftwareAg.IS.CloudStreams.CollectionKeysCache

Contains CollectionKeys objects for deployed outbound virtual services.

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed virtual service	Less than 1 KB	As long as the virtual service is deployed	Local	No

### SoftwareAg.IS.CloudStreams.ConsumerApplicationsCache

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per consumer application deployed to the cluster	1 to 2 KB	As long as the consumer is deployed	Distributed	No

## SoftwareAg.IS.CloudStreams.IntervalNotificationCache

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
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	Distributed	No

## 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. CloudStreams generates this data from deployed virtual service descriptions.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed virtual service	1 to 2 KB per deployed virtual service	As long as the virtual service is deployed	Distributed	No

## SoftwareAg.IS.CloudStreams.RegisteredConsumerNamesCache

This cache is not currently used by CloudStreams.

## SoftwareAg.IS.CloudStreams.RuntimePolicyCache

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed virtual service	1 KB per deployed virtual service	As long as the virtual service is deployed	Local	No

## SoftwareAg.IS.CloudStreams.VirtualServicesCache

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
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	Local	No

## Software AG Command Central

The size of most Command Central cache elements can be measured in tens of bytes. The size of most caches depends on these 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.

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

## com.softwareag.plm.cce.cache.attributes

Contains information about Command Central attributes for run-time components, nodes, and environments.

The cache is a system of record. The information that the cache contains is not persisted anywhere else.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per attribute name/value; number of attributes could be tens per run-time component, node, or environment	Measured in bytes to kilobytes	As long as Command Central is active; must remain active during a restart of Ehcache and the Terracotta Server Array	Local	Yes

## com.softwareag.plm.cce.cache.basicmonitoringstatecached

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per run-time state, including	Measured in bytes	As long as Command	Local	Yes

Elements	Element Size	Element Lifetime	Cache Type	Searchable
3 KPI metrics for each run-time component in the landscape		Central is active		

### **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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per configuration instance; number is the same as for the configurationInstanceInfo cache	Measured in bytes to kilobytes	As long as Command Central is active	Local	Yes

### **com.softwareag.plm.cce.cache.configurationInstanceInfo**

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

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

### **com.softwareag.plm.cce.cache.configurationTypeInfo**

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



Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 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	Local	Yes

### **com.softwareag.plm.cce.cache.environment**

Contains the environments data for Command Central.

The cache is a system of record. The information that the cache contains is not persisted anywhere else.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per environment; expected to be less than 100	Measured in bytes	As long as Command Central is active; must remain active during a restart of Ehcache and the Terracotta Server Array	Local	Yes

### **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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per fix; expected to be less than 100 per node	Measured in bytes	As long as Command Central is active	Local	Yes

### **com.softwareag.plm.cce.cache.licenseKeyContainer**

Contains the contents of a Software AG license key.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per license key	Between 1KB and 5KB	As long as Command Central is active	Local	No

### **com.softwareag.plm.cce.cache.licenseMeteringReport**

Contains the contents of a Command Central license report by license manifest.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per report; expected to be less than 100 reports	Depends on number of installation nodes and number of products installed on each node; typically between 10KB and 500KB	As long as Command Central is active	Local	No

### **com.softwareag.plm.cce.cache.licenseMeteringAggregateReport**

Contains the contents of a Command Central aggregated license report by license manifest.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per report, 1 report per month; expected to be less than 24 reports	Depends on number of installation nodes and number of products installed on each node; typically between 10MB and 15MB	As long as Command Central is active	Local	No

### **com.softwareag.plm.cce.cache.licenseMeteringConfigurationAggregationStatus**

Contains information on whether customer has manually turned on license aggregation.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1	Measured in bytes	As long as Command Central is active	Local	No

### **com.softwareag.plm.cce.cache.licenseMeteringRequiredStatus**

Contains information on whether one of the active license manifests requires license aggregation.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1	Measured in bytes	As long as Command Central is active	Local	No

### **com.softwareag.plm.cce.cache.manifest**

Contains the contents of a Software AG license manifest.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per license manifest	Depends on number of product licenses; about 1KB per product	As long as Command Central is active	Local	No

### **com.softwareag.plm.cce.cache.node**

Contains the installation node data for Command Central.

The cache is a system of record. The information that the cache contains is not persisted anywhere else.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per node; expected to be less than 10,000 and	Measured in bytes	As long as Command Central is active; must remain active during a restart of Ehcache and	Local	Yes

Elements	Element Size	Element Lifetime	Cache Type	Searchable
typically less than 100		the Terracotta Server Array		

### **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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per platform instance; equals the number of nodes	Measured in bytes	As long as Command Central is active	Local	Yes

### **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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per product; number of products per node is less than 300	Measured in bytes	As long as Command Central is active	Local	Yes

### **com.softwareag.plm.cce.cache.repositories**

Contains the repositories data for Command Central.

The cache is a system of record. The information that the cache contains is not persisted anywhere else.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per repository; number of repositories is typically 10 to 30	Measured in bytes	As long as Command Central is active; must remain active during a restart of Ehcache and the Terracotta Server Array	Local	Yes

### **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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per run-time component; number is the same as for the runtimeMetadata cache	Measured in bytes	As long as Command Central is active	Local	Yes

### **com.softwareag.plm.cce.cache.runtimeMetadata**

Contains the run-time components metadata for Command Central.

The cache is a system of record. The information that the cache contains is not persisted anywhere else.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per component; number of components per node is approximately 1 to 5 for each supported managed	Measured in bytes	As long as Command Central is active; must remain active during a restart of Ehcache and the Terracotta Server Array	Local	Yes

Elements	Element Size	Element Lifetime	Cache Type	Searchable
product on the node				

## webMethods Enterprise Gateway

### SoftwareAG.IS.Core.NonceCache

Contains the nonces generated during authentication of a new user.

- The cache is used only if authentication is enabled at the Enterprise Gateway side and the authentication type is digest authentication.
- The information held in the cache is temporary. The cache is not persisted.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
One per authenticated user	Less than 1 KB	From the time a user logs in until the user logs out, or the interval specified in the <code>watt.server.clientTimeout</code> parameter, whichever is shorter	Local	No

## webMethods eStandards Modules

### webMethods Module for AS4

#### SoftwareAG.IS.AS4. Duplicate\_Detection

Contains data required to identify duplicate transactions (that is, business document IDs).

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per transaction	Less than 1KB	Controlled by the <code>checkWindow</code>	Distributed	No

**SoftwareAG.IS.AS4. MPC\_pmode\_map**

Contains data required to map the MPC and PMode of the business transaction.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per transaction	Less than 1KB	As long as the module is active	Distributed	No

**SoftwareAG.IS.AS4. Default\_Cache**

Contains TPA data for improved performance.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
Unlimited	Less than 1KB	As long as the module is active	Distributed	No

**webMethods Chem eStandards Module****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).

Elements	Element Size	Element Lifetime	Cache Type	Searchable
5 to 10	5 KB or less	Controlled by the Time to Live and Time to Idle cache settings	Distributed	No

**webMethods ebXML Module****SoftwareAG.IS.ebXML.EBXML**

Contains TN partner and agreement, profile, and inbound and outbound message data. Each type of data uses a separate java.util.Hashtable in the cache.

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
5 to 10	5 KB	As long as the ebXML Module is active	Distributed	No

## webMethods FIX Module

### SoftwareAG.IS.FIX.FIXCache

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per configured session	Less than 100 bytes	As long as the FIX Module is active	Distributed	No

## webMethods Module for HIPAA

### SoftwareAG.IS.HIPAA.CodeSourceCache

Contains all code source used in HIPAA messages for validation.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
50000	1KB	As long as the HIPAA application is active	Distributed	No

### SoftwareAG.IS.HIPAA.DefaultCache

Contains cached code source and transaction information relating to retry functionality for HIPAA core transactions, such as business document ID.



Elements	Element Size	Element Lifetime	Cache Type	Searchable
50000	1 bytes	As long as the HIPAA application is active	Distributed	No

## webMethods RosettaNet Module

### 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).

Elements	Element Size	Element Lifetime	Cache Type	Searchable
5 to 10	5 KB or less	Controlled by Time to Live and Time to Idle settings	Distributed	No

## webMethods Event Routing

### *eventTypeQName*

Contains 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`).

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
Up to 1,000 (configurable) and varies depending on	Varies from 1 KB to several megabytes	Events are removed when	Local	No

Elements	Element Size	Element Lifetime	Cache Type	Searchable
the speed of the event bus	depending on use case	they are sent successfully		

## webMethods Integration Server

### SoftwareAG.IS.Core.ActiveOpenIDRequests

Contains the URI and name of the OpenID provider for requests that are in the process of being authenticated.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per active OpenID request	Typically less than 1 KB (32-character UUID + 1 character delimiter + OpenID Provider name)	Maximum of 60 seconds. If the end-user is authenticated by the OpenID provider in less than 60 seconds, the element will be removed sooner.	Distributed	No

### SoftwareAG.IS.Core.ClusterMembers

Contains the list of cluster nodes.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per node	4 KB	As long as the node is part of the cluster	Distributed	No

### SoftwareAG.IS.Core.IteratorHandles

The cache contains an element comprising the collection of handles that reference each of the iterator service result cache entries for a given request.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per iterator	Element size is determined by	All elements for a given iterator	Distributed	No

Elements	Element Size	Element Lifetime	Cache Type	Searchable
service call	the number of elements in the IteratorResults cache for a given request.	service request will be removed from the cache upon delivery of the last result batch, an error, or expiration of the time to live for elements in the cache.		

## SoftwareAG.IS.Core.IteratorResults

Contains the batched results that the iterator service returns to the caller.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
n per iterator service call; depends on the size of the IData[] result set and the batch size	Element size is determined by the batchSize parameter as input to the iterator service.	All elements for a given iterator service request will be removed from the cache upon delivery of the last result batch, an error, or expiration of the time to live for elements in the cache.	Distributed	No

## 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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per 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>	Distributed	No

Elements	Element Size	Element Lifetime	Cache Type	Searchable
		parameter, whichever is shorter		

## 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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per active OAuth access token	Less than 1 KB	Varies by client application; controlled by the expiration interval specified on the <b>OAuth Client Registration</b> screen. An element will also be removed from this cache if an access token is manually deleted.	Distributed when clustering enabled	No

## 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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per 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>	Distributed	No

Elements	Element Size	Element Lifetime	Cache Type	Searchable
		parameter, whichever is shorter		

## 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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per 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	Distributed when clustering enabled	No

## 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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per active refresh token	Less than 1 KB	Varies by client application; controlled by the refresh count specified on the <b>OAuth Client Registration</b> screen. An element will also be removed from this cache if a refresh token is manually deleted.	Distributed when clustering enabled	No

## 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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 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	Distributed when clustering enabled	No

## 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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per active access token and refresh token	Less than 1 KB	Varies by client application; controlled by the expiration interval and refresh count on the <b>OAuth Client Registration</b> screen. An element will also be removed from this cache if an access token or refresh token is manually deleted.	Distributed when clustering enabled	No

## SoftwareAG.IS.Core.SessionStore

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per active session in the cluster	Less than 1 KB plus any additional state saved by the client application	Controlled by the Time To Idle element level setting, which is taken from the Session Timeout clustering setting	Distributed	No

## 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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 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.	Exists until parsed XML document is no longer referenced by a running service	Local	No

## 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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
<p>1 per set of input data for a service. Will vary according to:</p> <ul style="list-style-type: none"> <li>■ Number of services configured to cache results</li> <li>■ Input passed to execute the service</li> </ul>	Varies according to the services whose results you cache	Controlled by the Cache expire property in Software AG Designer and the watt.server.cache.flushMins and watt.server.cache.gcMins configuration parameters	Local	No

## webMethods Mediator

### 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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per API-based consumer deployed to the cluster	1 to 2 KB	As long as the consumer is deployed.	Distributed	No

### SoftwareAG.IS.Mediator.APIPortalCommunicationCache

Contains information to connect Mediator with API Portal. This data is persisted in a properties file of each Mediator cluster node.



Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per API Portal	Less than 5 KB; varies by number of API Portal destinations added	As long as Mediator is active	Distributed	No

### SoftwareAG.IS.Mediator.ClusterStatusCache

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
5 to 10	Less than 100 bytes	As long as Mediator is active	Distributed	No

### 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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per consumer application deployed to the cluster	1 to 2 KB	As long as the consumer is deployed	Distributed	No

### SoftwareAG.IS.Mediator.ESCommunicationCache

Contains information to connect Mediator with Elasticsearch destination. This data is persisted in a properties file of each Mediator cluster node.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per Mediator	Less than 5 KB	As long as Mediator is active	Distributed	No

## 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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
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	Distributed	No

## 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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed virtual service	1 to 2 KB per deployed virtual service	As long as the virtual service is deployed	Distributed	No

## 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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per OAuth2 consumer deployed to the cluster	1 to 2 KB	As long as the consumer is deployed	Distributed	No

## 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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
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	Distributed	No

## SoftwareAG.IS.Mediator.RuntimeAliasesCache

Contains runtime aliases in the form of an XML string. This data is persisted on the file system of each Mediator cluster node.

**Note:** Not all virtual services have runtime aliases.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed runtime alias	2 KB and up; varies by number of runtime aliases deployed	As long as the runtime alias is deployed	Distributed	No

## SoftwareAG.IS.Mediator.RuntimeAliasesServicesAssociationCache

Contains association details between runtime aliases and virtual services that are deployed in the form of an XML string. This data is persisted on the file system of each Mediator cluster node.

**Note:** Not all virtual services have runtime aliases.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed virtual service and runtime alias	2 KB and up; varies by number of runtime aliases deployed	As long as the virtual service and runtime alias are deployed	Distributed	No

## 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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed virtual service	1 KB per deployed virtual service	As long as the virtual service is deployed	Distributed	No

## SoftwareAG.IS.Mediator.VirtualServicesCache

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed virtual service	5 to 10 KB per deployed virtual service; varies by service WSDL, number, and complexity of virtual service's policies, and whether virtual service references external XML schema files	As long as the virtual service is deployed	Distributed	No

## webMethods Mobile Support

### SoftwareAG.IS.MobileSupport.RecordLocker

Facilitates locking and unlocking of records for mobile data synchronization across Integration Servers in a cluster. No data is stored in this cache.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
0	Not applicable	100 seconds	Distributed	No

## webMethods OneData

### 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.*

This cache always resides on a Terracotta Server Array.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
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	Distributed	Yes

## webMethods Optimize

### 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**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed dimension definition	1 KB and up; varies according to the number of defined attributes	Exists until deleted by application	Distributed	Yes

#### **sag.opt.clusterable.caches.deployed/dimensiondef-BASE\_TYPE**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed dimension definition	Less than 1 KB	Exists until deleted by application	Distributed	Yes

#### **sag.opt.clusterable.caches.deployed/dimensiondef-DISPLAY\_NAME**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed dimension definition	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed dimension definition	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed dimension definition	Less than 1 KB	Exists until deleted by application	Distributed	Yes

### **sag.opt.clusterable.caches.deployed/dimensionfilter**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed dimension filter	1 KB and up; varies according to the number of instance IDs in the filter	Exists until deleted by application	Distributed	Yes

**sag.opt.clusterable.caches.deployed/dimensionjoin**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed dimension join	1 KB	Exists until deleted by application	Distributed	Yes

**sag.opt.clusterable.caches.deployed/dimensionjoin-DISPLAY\_NAME**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed dimension join.	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed dimension join	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed dimension join	Less than 1 KB	Exists until deleted by application	Distributed	Yes



**sag.opt.clusterable.caches.deployed/dimensionsubscriber**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed dimension subscriber.	1 KB and up; varies according to the number of instance IDs associated with the subscriber	Exists until deleted by application	Distributed	Yes

**sag.opt.clusterable.caches.deployed/eventmap**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed event map	2 KB and up; varies according to the number of defined attributes in the event map	Exists until deleted by application	Distributed	Yes

**sag.opt.clusterable.caches.deployed/eventmap-BASE\_TYPE**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed event map	Less than 1 KB	Exists until deleted by application	Distributed	Yes

**sag.opt.clusterable.caches.deployed/eventmap-DISPLAY\_NAME**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed event map	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed event map	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed event map	Less than 1 KB	Exists until deleted by application	Distributed	Yes

### **sag.opt.clusterable.caches.deployed/hierarchydef**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed dimension hierarchy	1 KB and up; varies according to the number of levels defined in the hierarchy	Exists until deleted by application	Distributed	Yes

**sag.opt.clusterable.caches.deployed/hierarchydef-DISPLAY\_NAME**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed dimension hierarchy.	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed dimension hierarchy	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed dimension hierarchy	Less than 1 KB	Exists until deleted by application	Distributed	Yes

**sag.opt.clusterable.caches.deployed/ilink**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed Intelligent Link	.5 KB and up; varies according to number of user-defined parameters	Exists until deleted by application	Distributed	Yes

### **sag.opt.clusterable.caches.deployed/kpidef**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed KPI definition	1.3 KB	Exists until deleted by application	Distributed	Yes

### **sag.opt.clusterable.caches.deployed/kpidef-DISPLAY\_NAME**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed KPI definition	Less than 1 KB	Exists until deleted by application	Distributed	Yes

### **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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined event map associated with one or more KPIs	6 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed KPI definition	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed KPI definition	Less than 1 KB	Exists until deleted by application	Distributed	Yes

**sag.opt.clusterable.caches.deployed/rule**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed rule definition	1 KB and up; varies according to the complexity of the rule expression	Exists until deleted by application	Distributed	Yes

**sag.opt.clusterable.caches.deployed/rule-DISPLAY\_NAME**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed rule definition	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed rule definition	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed rule definition	Less than 1 KB	Exists until deleted by application	Distributed	Yes

### **sag.opt.clusterable.caches.latest/dimensiondef**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined dimension definition	1 KB and up; varies according to the number of user-defined attributes	Exists until deleted by application	Distributed	Yes

### **sag.opt.clusterable.caches.latest/dimensiondef-BASE\_TYPE**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined dimension definition	Less than 1 KB	Exists until deleted by application	Distributed	Yes

### **sag.opt.clusterable.caches.latest/dimensiondef-DISPLAY\_NAME**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined dimension definition	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined dimension definition	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined dimension definition	Less than 1 KB	Exists until deleted by application	Distributed	Yes

**sag.opt.clusterable.caches.latest/dimensionfilter**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined dimension filter	1 KB and up; varies according to the number of instance ids in the filter defined by the user	Exists until deleted by application	Distributed	Yes

**sag.opt.clusterable.caches.latest/dimensionjoin**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined dimension join	1 KB	Exists until deleted by application	Distributed	Yes

**sag.opt.clusterable.caches.latest/dimensionjoin-DISPLAY\_NAME**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined dimension join	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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



Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined dimension join	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined dimension join	Less than 1 KB	Exists until deleted by application	Distributed	Yes

### **sag.opt.clusterable.caches.latest/dimensionsubscriber**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined dimension subscriber	1 KB and up; varies according to the number of instance IDs associated with the subscriber	Exists until deleted by application	Distributed	Yes

### **sag.opt.clusterable.caches.latest/eventmap**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined event map	2 KB and up; varies according to the number of attributes defined by the user	Exists until deleted by application	Distributed	Yes

**sag.opt.clusterable.caches.latest/eventmap-BASE\_TYPE**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined event map	Less than 1 KB	Exists until deleted by application	Distributed	Yes

**sag.opt.clusterable.caches.latest/eventmap-DISPLAY\_NAME**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined event map	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined event map	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined event map	Less than 1 KB	Exists until deleted by application	Distributed	Yes

**sag.opt.clusterable.caches.latest/hierarchydef**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined dimension hierarchy	1 KB and up; varies according to the number of levels defined in the hierarchy	Exists until deleted by application	Distributed	Yes

**sag.opt.clusterable.caches.latest/hierarchydef-DISPLAY\_NAME**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined dimension hierarchy	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined dimension hierarchy	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined dimension hierarchy	Less than 1 KB	Exists until deleted by application	Distributed	Yes

### **sag.opt.clusterable.caches.latest/ilinkdef**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined Intelligent Link	.5 KB and up; varies according to the number of parameters the user defined for the Intelligent Link	Exists until deleted by application	Distributed	Yes

### **sag.opt.clusterable.caches.latest/kpidef**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined KPI definition	1.3 KB	Exists until deleted by application	Distributed	Yes

### **sag.opt.clusterable.caches.latest/kpidef-DISPLAY\_NAME**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined KPI definition	Less than 1 KB	Exists until deleted by application	Distributed	Yes

**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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined event map associated with one or more KPIs	6 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined KPI definition	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined KPI definition	Less than 1 KB	Exists until deleted by application	Distributed	Yes

**sag.opt.clusterable.caches.latest/rule**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined	1 KB and up; varies according to the	Exists until deleted by application	Distributed	Yes

Elements	Element Size	Element Lifetime	Cache Type	Searchable
rule definition	complexity of the rule expression			

### **sag.opt.clusterable.caches.latest/rule-DISPLAY\_NAME**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined rule definition	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined rule definition	Less than 1 KB	Exists until deleted by application	Distributed	Yes

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

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per defined rule definition	Less than 1 KB	Exists until deleted by application	Distributed	Yes

## **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**

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

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

**sag.opt.clusterable.caches.deleteAllKPIsCache**

Contains all identified KPI instance IDs to be deleted.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
Depends on number of KPI instances user specifies for deletion	Less than 1 KB	Until removed by application (typically within a day)	Distributed	No

**sag.opt.clusterable.caches.kpiComplnstStateCache**

Contains readings awaiting aggregation into composite KPI readings.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per composite KPI instance	1 KB	Exists until deleted by application	Distributed	Yes

**sag.opt.clusterable.caches.kpilnstStateCache**

Contains data awaiting aggregation into KPI readings.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per element in monitorCache	1 KB and up; varies according to number of events received in aggregation interval for each KPI instance	Exists until deleted by application	Distributed	Yes

### **sag.opt.clusterable.caches.KPIISID2ID\_IndexCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per element in monitorCache	Less than 1 KB	Exists until deleted by application	Distributed	No

### **sag.opt.clusterable.caches.kpiLastProcTimeCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1	Less than 1 KB	Exists until deleted by application	Distributed	No

### **sag.opt.clusterable.caches.kpiLockCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
0; lock is made on key value while no element is in cache	Less than 1 KB	Exists until deleted by application	Distributed	No



**sag.opt.clusterable.caches.KPIN2IIDS\_IndexCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed KPI definition	1 KB and up; varies according to the number of monitors per KPI definition	Exists until deleted by application	Distributed	No

**sag.opt.clusterable.caches.KPIN2MIDS\_IndexCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed KPI definition	1 KB and up; varies according to number of monitors per KPI definition	Exists until deleted by application	Distributed	No

**sag.opt.clusterable.caches.LIID2CIID\_IndexCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per KPI instance that participates in a composite KPI	Less than 1 KB	Exists until deleted by application	Distributed	No

**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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
0; lock is made on key value while no element is in cache	Less than 1 KB	Exists until deleted by application	Distributed	No

### **sag.opt.clusterable.caches.metadataDefinitionLoadLockCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
0; lock is made on key value while no element is in cache	Less than 1 KB	Exists until deleted by application	Distributed	No

### **sag.opt.clusterable.caches.metadataOpsLockCache**

Contains information used to facilitate definition changes.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
0; lock is made on key value while no element is in cache	Less than 1 KB	Exists until deleted by application	Distributed	No

### **sag.opt.clusterable.caches.monitorCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
100 plus number of licensed KPIs	1.2 KB	Exists until deleted by application	Distributed	Yes

**sag.opt.clusterable.caches.monitorChangeInFlightCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
100,000	Less than 1 KB	Controlled by the TimeToLiveSeconds setting; initially set to 300 seconds	Distributed	No

**sag.opt.clusterable.caches.monitorLastReadingTimeCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per element in monitorCache	Less than 1 KB	Exists until deleted by application	Distributed	No

**sag.opt.clusterable.caches.OptAECClusterMemberCache**

Contains information for coordinating changes in cluster membership.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
Up to 20	Less than 1 KB	125 seconds unless renewed	Distributed	No

**sag.opt.clusterable.caches.optimizeAlgorithmStateCache**

Contains data that Optimize uses to track trending information.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
8 per element in monitorCache	1 KB	Exists until deleted by application	Distributed	No

**sag.opt.clusterable.caches.optimizeDiagnosesCache**

Contains the current collection of diagnoses for individual monitors.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
8 per element in monitorCache	Less than 1 KB	Exists until deleted by application	Distributed	No

**sag.opt.clusterable.caches.optimizeDimensionEnabledStateCache**

Contains one Boolean enabled flag for all known dimension instances.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per element in optimizeDiMensionOpsCache	Less than 1 KB	Exists until deleted by application	Distributed	No

**sag.opt.clusterable.caches.optimizeDimensionIndexByStringIdCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per element in optimizeDimensionOpsCache	1 KB	Exists until deleted by application	Distributed	No

**sag.opt.clusterable.caches.optimizeDimensionOpsCache**

Contains all known dimension instances (as Dimension objects.)

Elements	Element Size	Element Lifetime	Cache Type	Searchable
Sum of number of dimension instances for	1 to 2 KB; varies according to number of attributes defined	Exists until deleted	Distributed	No

Elements	Element Size	Element Lifetime	Cache Type	Searchable
each dimension definition	in each dimension definition and on average size of value for each attribute	by application		

### **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.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per element in optimizeDimensionOpsCache	1 KB	Exists until deleted by application	Distributed	No

### **sag.opt.clusterable.caches.optimizeDimensionOpsIndexByDimNameCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed dimension definition	2 KB; size varies according to the number of instances for each dimension definition	Exists until deleted by application	Distributed	No

### **sag.opt.clusterable.caches.optimizeDimensionOpsIndexByIdentityCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
At least 1 per element in optimizeDimensionOpsCache	1 KB	Exists until deleted by application	Distributed	No

**sag.opt.clusterable.caches.optimizeROStatsOpsCache**

Contains completed statistics.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
Number of elements in monitorCache * 33 * 7	1 KB	Exists until deleted by application	Distributed	No

**sag.opt.clusterable.caches.optimizeStatsAccumulationOpsCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per element in monitorCache	1 KB	Exists until deleted by application	Distributed	No

**sag.opt.clusterable.caches.OreEvaluatorCache**

Contains Rule evaluator objects.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per element in OreStubCache	4 KB	Exists until deleted by application	Distributed	Yes

**sag.opt.clusterable.caches.OreEvaluatorIndex\_EMID2RIIDS**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per element in monitorCache	Less than 1 KB	Exists until deleted by application	Distributed	No

**sag.opt.clusterable.caches.OreEvaluatorIndex\_ET2RIIDS**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed event map	Less than 1 KB	Exists until deleted by application	Distributed	No

**sag.opt.clusterable.caches.OreEvaluatorIndex\_KMID2RIIDS**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per element in monitorCache	Less than 1 KB	Exists until deleted by application	Distributed	No

**sag.opt.clusterable.caches.OreStubCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
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	Exists until deleted by application	Distributed	Yes

**sag.opt.clusterable.caches.OreStubCache\_RDID2RIID**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per deployed rule definition	Less than 1 KB	Exists until deleted by application	Distributed	No

### **sag.opt.clusterable.caches.OreStubCache\_RISID2RIID**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per element in OreStubCache	Less than 1 KB	Exists until deleted by application	Distributed	No

### **sag.opt.clusterable.caches.OreStubIndex\_EMID2RIIDS**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per element in monitorCache	Less than 1 KB	Exists until deleted by application	Distributed	No

### **sag.opt.clusterable.caches.OreStubIndex\_KMID2RIIDS**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1 per element in monitorCache	Less than 1 KB	Exists until deleted by application	Distributed	No



**sag.opt.clusterable.caches.pt\_cluster\_member\_cache**

Contains information about the cluster member heartbeats.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
500	Less than 1 KB	Exists until deleted by application	Distributed	No

**sag.opt.clusterable.caches.pt\_partitionTableCache**

Contains information about the assignment of data partitions to the Analytic Engine cluster members.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
1	Less than 1 KB	Exists until deleted by application	Distributed	No

**sag.opt.clusterable.caches.ScheduledKPIInstanceDeletionJobs**

Contains information for coordinating the deletion of KPI instances.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
Up to 100	Less than 1 KB	Exists until deleted by application	Distributed	No

**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**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
500,000	1 KB and up	Exists until deleted by application	Local	No

### **sag.opt.eventhandling.caches.PendingEventLists**

Contains data to guarantee handling of received events.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
25,000	100 KB and up	Exists until deleted by application	Local	No

### **sag.opt.eventhandling.caches.TaskObserver\_MessagesCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
500,000	Less than 1 KB	Exists until deleted by application	Local	No

### **sag.opt.eventhandling.caches.TaskObserver\_TasksCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
500,000	Less than 1 KB	Exists until deleted by application	Local	No

### **sag.opt.eventhandling.caches.TempEventsForStorage**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
500,000	1 KB and up	Exists until deleted by application	Local	No

### **sag.opt.jmscommunication.caches.JMSCommunicationResendCache**

Contains messages waiting to be published to JMS.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
100,000	1 KB and up	Exists until deleted by application	Local	No

### **sag.opt.notifications.caches.dimensionDefNotificationsCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
10,000	1 KB and up	Exists until deleted by application	Local	No

### **sag.opt.notifications.caches.dimSubscriberNotificationsCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
10,000	1 KB and up	Exists until deleted by application	Local	No

### **sag.opt.notifications.caches.eventMapNotificationsCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
10,000	1 KB and up	Exists until deleted by application	Local	No

### **sag.opt.notifications.caches.kpiDefNotificationsCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
10,000	1 KB and up	Exists until deleted by application	Local	No

### **sag.opt.notifications.caches.monitorChangeNotificationsCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
10,000	1 KB and up	Exists until deleted by application	Local	No

### **sag.opt.notifications.caches.ptRoutingTableNotificationsCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
10,000	1 KB and up	Exists until deleted by application	Local	No

### **sag.opt.notifications.caches.ruleDefNotificationsCache**

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
10,000	1 KB and up	Exists until deleted by application	Local	No

## webMethods Trading Networks

### SoftwareAG.IS.TN.TNDocAttribute

Contains elements for all document attributes required to process documents.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
0 (unlimited)	1KB to 10KB	Element exists in cache until deleted by the application.	Local	Yes

### SoftwareAG.IS.TN.TNDocType

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
0 (unlimited)	1KB to 10KB	Element exists in cache until deleted by the application.	Local	Yes

### SoftwareAG.IS.TN.TNProfile

Contains elements for profiles of all corporations who are trading partners in your network. By default, this cache does not contain all partner profiles. Instead, it uses the lazy loading approach.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
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.	Local	No

## SoftwareAG.IS.TN.TNProfileId

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
0 (unlimited)	1KB to 10KB	Element exists in cache until deleted by the application.	Local	No

## SoftwareAG.IS.TN.TNProfileSummary

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
0 (unlimited)	1KB to 10KB	Element exists in cache until deleted by the application.	Local	Yes

## SoftwareAG.IS.TN.TNProfileSummaryByDispName

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
0 (unlimited)	1KB to 10KB	Element exists in cache until deleted by the application.	Local	No

## 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.

- The cache is impacted by the query frequency and the size of the query results.
- The cache is local, even when Trading Networks is running in a cluster.

Elements	Element Size	Element Lifetime	Cache Type	Searchable
5000	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	Local	No

## SoftwareAG.IS.TN.TNTPA

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
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.	Local	No

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## SoftwareAG.IS.TN.TNTPAId

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

Elements	Element Size	Element Lifetime	Cache Type	Searchable
0 (unlimited)	1KB	Element exists in cache until deleted by the application.	Local	No

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