IBM Enterprise Content Management System Monitor
Version 5.1

CALA Guide FileNet Content Services

SC19-3894-00

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Note

Before using this information and the product it supports, read the information in "Notices"at the end of this document.

This edition applies to version 5, release 1, modification 0 of IBM Enterprise Content Management System Monitor (product number 5724R91) and to all subsequent releases and modifications until otherwise indicated in new editions.

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Preface

About this document

Who should read this guide?

The target audience for this guide are those who install or maintain ECM SM environments.

Every effort has been made to provide you with complete installation instructions. If information becomes available after the creation of the installation media from which you accessed this guide, we will provide an updated version of the guide on the IBM/FileNet Customer Service and Support web site (http://www.ibm.com/support). As a general rule, you should refer to the IBM web site to obtain the current version of this guide.

This guide provides instructions for installing and/or upgrading IBM Enterprise Content Management System Monitor, and identifies the IBM/FileNet and 3rd Party products that are certified for the current release. Be aware that each release of IBM Enterprise Content Management System Monitor may have multiple Interims Fixes, or Fix Packs available for installation, each with potentially different dependencies and installation requirements. Therefore, before you attempt to install or upgrade IBM Enterprise Content Management System Monitor, review the list of releases and their associated dependencies on the IBM Support web site (http://www.ibm.com/support).

Before you start

Users of the guide should have knowledge about Unix and/or Microsoft Windows® operating system, web servers, database systems and middleware platforms. The configuration of managed systems (clients) requires advanced knowledge of all IBM ECM systems that should be monitored.

If you lack the requisite skill sets it is strongly recommended to have IBM Lab Services or a certified ValueNet Partner install this product.

Where you find this guide

You can find this documentation on the ECM SM installation media in the following folder:

UNIX: `<Mount point>/INSTALL/docs`

Windows: `<Drive letter>:\INSTALL\docs`

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Feedback on documentation

Send your comments by e-mail to comments@us.ibm.com. Be sure to include the name of the product, the version number of the product, and the name and part number of the book (if applicable). If you are commenting on specific text, include the location of the text (for example, a chapter and section title, a table number, a page number, or a help topic title).

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ECM SM CALA

This chapter provides detailed installation information about the ECM SM CALA.

Who should read this chapter?

We recommend this chapter for all who are interested in adapter details or in tuning the adapter.

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CALA installation

Post Distribution: CALA Installation

This chapter contains a detailed description of the installation script **calainst.sh**. This script is used by installation via the CALA installer used for ECM SM clients and servers..

The settings for the final installation directory CALA_DIR and the CALA cache directory CALA_CACHE_DIR can be specified in the installer GUI.

The table shows the default values:

Installation context	Settings

UNIX-based ECM SM client or server	`CALA_DIR = /opt/IBM/ECMSM/cala`
	
	`CALA_CACHE_DIR = /opt/IBM/ECMSM/cala /.calacache`

Windows-based ECM SM client or server	`CALA_DIR = C:\Program Files\IBM\ECMSM\cala`
	
	`CALA_CACHE_DIR = C:\Program Files\IBM\ECMSM\cala \.calacache`

These directories are created if they do not exist yet. If you have already distributed CALA (via the ECM SM installer), the installations share the same directories. In this case, you always have only one instance of CALA, the configuration entries are merged into one configuration file.

The script checks if there is sufficient disk space in the filesystem where the CALA is to be installed.

The next step is to stop the adapter if it is already installed. The script calls the scripts and binaries installed by the standard installation to stop CALA. If CALA was installed manually using different script names it must be stopped manually before trying to distribute again.

The standard calls for stopping the CALA are as follows:

interpreter type	CALAstop command
aix4-r1	execute `$CALA_DIR`**/cala.sh** with parameter `shutdown`
hpux10	execute `$CALA_DIR`**/cala.sh** with parameter `shutdown`
solaris2	execute `$CALA_DIR`**/cala.sh** with parameter `shutdown`
w32-ix86	execute `$CALA_DIR`**/logctlcmd.exe** with parameter `shutdown` or if CALA is running as service execute **net stop cala_srv**

The CALA configuration file is now generated from the .cala input files found in the repos subdirectory of the CALA installation directory. For a detailed description of the merging process see the *Technical details of CALA configuration*.

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Installation of binaries

The binaries have already been transferred to the client in a previous step.

There are two types of installation, Client or Server, that differ in the binaries that are activated:

Client installation:

- ascfileread
- tecfmtfilt
- v2fmtfilt
- oracleread
- ntevtlogread (Windows only)
- mssqlread (Windows only)
- calamon

Server installation

- snmpread
- msgclsfsrv
- tecfmtemit
- tecifcsrv
- snmpemit
- smtpemit
- cmdemit
- reportemit
- mysqlemit

The Server installation contains all client components as well.

Installed binaries

The following table contains a list of binaries that can be found in the CALA installation directory after a CALA configuration has been installed.

Name	Platform	Function
ascfileread[.exe]		reader for ASCII logfiles
cala_srv.exe	w32-ix86	ECM SM CALA service binary
calamon[.exe]		monitoring engine

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Name	Platform	Function
calaproxy[.exe]		proxy for communication over firewall
cmdemit[.exe]		command emitter
libcala.dll	w32-ix86	library for common CALA functions
libcala.sl	hpux10	library for common CALA functions
libcala.so	aix4-r1, solaris2	library for common CALA functions
logctlcmd[.exe]		cli interface
logctlsrv[.exe]		main CALA control process
msgclsfsrv[.exe]		message classification server component
mssqlread[.exe]	w32-ix86	reader for MSSQL databases
mysqlemit[.exe]		writer for MySQL databases
oracleread[.exe]		reader for Oracle databases
reportemit[.exe]		report emitter
smtpemit		smtp emitter
snmpemit		snmp emitter
snmpread		snmp reader
tecfmtemit[.exe]		emitter for TEC formatted events
tecfmtfilt[.exe]		filter for TEC format
tecifcsrvend[.exe]		Endpoint TEC interface server (Tivoli based communication)
tecifcsrvsec[.exe]		secure TEC interface server (Tivoli based communication)
tecifcsrvuns[.exe]		unsecure TEC interface server (TCP/IP based communication)
v2fmtfilt[.exe]		filter for V2S format
*msg.dll	w32-ix86	additional DLLs for logging

Configuration of autostart

After successful installation of the binaries, the CALA is configured for autostart. This depends on the target system.

interpreter type	autostart configuration
aix4-r1	• generate start script /etc/rc.cala • appended the following entry to **`/etc/inittab`** if it does not exist: `cala:2:once:/etc/rc.cala`
hpux10	• generate start script **`/sbin/init.d/cala`** • create link **`/sbin/rc3.d/S500CenitCALA`** • create link **`/sbin/rc0.d/K500CenitCALA`**
solaris2	• generate start script **`/etc/init.d/cala`**

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interpreter type	autostart configuration
	• create link **/etc/rc3.d/S500CenitCALA** • create link **/etc/rc0.d/K500CenitCALA**
w32-ix86	• execute **cala_srv** `-remove` to remove CALA service if it was already installed • execute **cala_srv** `-auto` to install service

Registry entries on Windows

The installation of the ECM SM CALA service creates the following registry key:

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\cala_srv

The following subkeys are added by the installation script calainst.sh:

Subkey	Meaning
CALA_DIR	CALA installation directory
CALA_CACHE_DIR	Directory for CALA cache files
TIV_ENV_FILE	Full-qualified name of the Tivoli environment file for DOS (setup_env.cmd) This entry is needed by the Tivoli based versions of the TEC Interface Server only (Secure or Endpoint version).
CALA_ENV_FILE	Full-qualified name of the additional CALA environment file for DOS (usually %CALA_DIR%/cala_env.cmd; see *Customization Issues* subchapter *Adding environment settings for CALA* for details).

These registry keys can be overridden by specifying environment variables.

CALA will now be started.

interpreter type	CALA start command
aix4-r1	execute `$CALA_DIR`**/cala.sh** with parameter `startup`
hpux10	execute `$CALA_DIR`**/cala.sh** with parameter `startup`
solaris2	execute `$CALA_DIR`**/cala.sh** with parameter `startup`
w32-ix86	execute **net start cala_srv**

Processes

The following processes can be found in the process list (**ps** `-ef` on UNIX, Taskmanager on Windows) if CALA is up and running.

- ascfileread

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- cala_srv
- calamon
- cmdemit
- logctlsrv
- msgclsfsrv
- mssqlread
- mysqlemit
- ntevtlogread
- oracleread
- reportemit
- snmpread
- snmpemit
- smtpemit
- tecfmtemit
- tecfmtfilt
- tecifcsrv[end|sec|uns]
- v2fmtfilt

NOTE Only components referenced in the configuration file logctlsrv.conf will be started.

Distribution logfiles

After successful distribution and installation of CALA, all temporary files will be removed.

The distribution logfile **`caladist.log`** can be found in the CALA installation directory. The contents of the file will be shown in a subwindow of the CALA installer during the installation process.

Possible error conditions

- Not enough space for CALA binaries in **`<directory>`**. This message can occur if CALA is already installed and there is only little disk space left. The script does not check if any binaries are overwritten during distribution but requires as much space as if it was performing a new installation.
- Windows service *`ECM SM CALA`* could not be installed. If you specified a user for CALA installation, this error message can indicate that the user and / or password is invalid.

All other error texts are self-explaining.

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Uninstall CALA

Uninstall using the Installer GUI

To remove CALA from a client, you can use the installer GUI. Check the **Remove** option and start the instalaltion process.In this case the CALA installation script **calainst.sh** is called with the command line parameter `-r`.

CAUTION This will remove the COMPLETE configuration! Do not use this option to remove specific logfiles or monitors from theCALA configuration.

Manual uninstall

If you do not want to use the installer GUI, you must remove CALA manually.

If CALA is installed in the default directory described above, you can execute the installation script **calainst.sh** with the command line parameter `-r` to remove CALA and all related files.

NOTE On Windows platforms, the file calainst.sh cannot be deleted because it is locked during execution. The same applies to the installation directory CALA_DIR. The script and the directory must be removed manually.

If the script **calainst.sh** is not available or CALA is installed in another directory, you must remove the installation manually. The required actions are described in the following paragraphs.

First, make sure to stop CALA by issuing the appropriate stop command. The table of interpreter types and corresponding stop commands can be found above.

Additional de-installation steps depending on the interpreter type:

w32-ix86

Remove the CALA service by executing **cala_srv** `-remove` from the command line. This removes the service and all related entries from the registry.

hpux10, solaris2

Remove the links mentioned in the table *auto start configuration* and the start script.

aix4-r1

Remove the `/etc/inittab` CALA-entry mentioned in the table *auto start configuration* and the start script.

Finally, remove the CALA installation directory and the CALA cache directory. For the location of these directories see table at the start of this chapter.

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Component Architecture

CALA is realized as a multi component Client/Server architecture, which enables customers to realize any kind of centralized and distributed Logfile and monitoring architecture. Almost all components are available on a comprehensive list of platforms (see restrictions on below site).

CALA System platforms

For detailed information about supported server and client platforms check the latest release notes.

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Supported JAVA JRE or JDK versions (CALAGUI and CALA V2S Editor prerequisite)

For detailed information about required Java JRE or JDK versions for JAVA tools check latest release notes.

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Implementation on Microsoft Windows based systems

Implementation of CALA on the Windows system platform has been implemented as an Windows Service.

CALA installation as Windows Service

Installation of the Windows Service is performed using the program **cala_srv.exe**.

Installation with start mode manual : **cala_srv.exe** `-install`

Installation with start mode automatic : **cala_srv.exe** `-auto`

The Windows Service normally runs under the Local System Account. To install the service as another user, use the following commands:

Installation with start mode manual : **cala_srv.exe** `-install <user> <password>`

Installation with start mode automatic : **cala_srv.exe** `-auto <user> <password>`

CALA de-installation on Windows systems

To remove the CALA Windows service start **cala_srv.exe** `-remove` from the command line.

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Configuration file logctlsrv.conf for a Windows service installation

If CALA is installed as an Windows service, configuration file **logctlsrv.conf** must either be placed in directory/folder %SystemRoot%\system32\config or in a directory/folder of your choice, which is mapped to the environment variable CALA_DIR of the Windows system environment.

The CALA Windows service reads environment variables CALA_DIR and CALA_CACHE_DIR out of the registry (registry key HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\cala_srv) if they are not mapped in the environment.

If all registry keys are set properly (see chapter Tivoli integration, Post distribution: CALA installation for details) there is no need to reboot the Windows system.

NOTE The CALA processes can also be started as a normal program instead of an Windows service. In this case the CLI-program **logctlcmd** (refer to description) should be used should be used for starting and stopping of the CALA components.

NOTE On Windows, CALA needs the file **PSAPI.DLL** to be available on the system. The file is automatically installed with CALAin the CALA installation directory and must not be removed.

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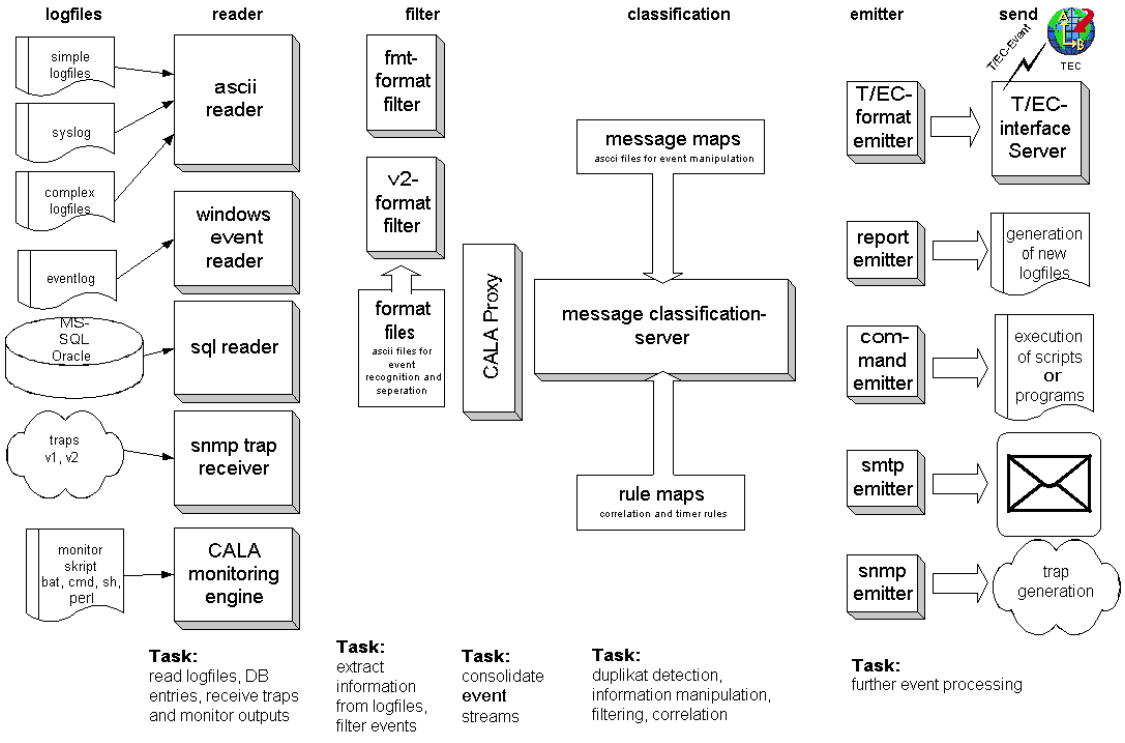
Client / Server Architecture

To satisfy various requirements (source-independent duplicate recognition, performance, configuration during operation), a specific client/server architecture was developed for the CALA system which distinguishes between the following functions:

- Reading of event sources
- Event filtering
- Classification and duplicate recognition
- Transmitting data (e.g. sending events to the T/EC)

All component of this architecture can be implemented on various systems, or just on a single system (computer).

This diagram illustrates a possible architecture of the CALA system:



This open architecture enables CALA to be implemented at almost any desired level of complexity or heterogeneity.

In addition, the CALA firewall component calaproxy can be interposed between any FIR-based component.

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Implemented components

Read-only component (Reader)

Readers can be used to read event sources. Event sources can be regular files (Logfiles) or pipes, but also Windows Event Logs. The following readers are components of the CALA module:

Component name	Component type	Description
ascfileread	ASCII File reader	This component reads files and pipes available in ASCII format.
ntevtlogread	Windows Event Log reader	This component reads out the Windows Event Log.
mssqlread	MS SQL database reader	This component reads logfiles written into a MSSQL database.
oracleread	Oracle database reader	This component reads logfiles written into a oracle database.
jdbcread	JDBC database reader	This component reads logfiles written into a database accessible via JDBC.

For all readers there is a special CLI parameter (`-E`), which should be used whenever the intention is solely to process events from the sources being read and which have been written to (generated) since the adapter was started.

NOTE As an option, other readers can be implemented on a customer-specific basis.

Filter component (Filter)

Filters are used to disassemble data streams, which were read out of event sources by readers. In all cases, readers are only able to transmit to filters because only they have the ability to disassemble unstructured data streams into events (FIRs) based on format definitions (format files).

In technical terms, filters are arranged between the reader and the processing process or the emitter process.

Component name	Component type	Description
tecfmtfilt	T/EC Format filter	Interprets and classifies input from components ascfileread and ntevtlogread based on Tivoli .fmt files. This protects existing customer investment in format files.

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Component name	Component type	Description
v2fmtfilt	Complex filter	This component filters and interprets input from reader ascfileread based on the CALA-format description.

Event generating components

Component name	Component type	Description
snmpread	SNMP trap receiver	Receives SNMP traps and forwards them as CALA events (FIRs) to the specified targets.
calamon	Monitoring engine	Executes monitoring scripts/programs and generates events (FIRs) depending on return codes or output.

Processing server msgclsfsrv (Message Classification Server)

Correlation system msgclsfsrv is the brain behind CALA and is used for duplicate detection, event handling and computing (basic forms of computing).

Event handling includes the functions of event suppression as well as escalation (change in severity).

Component name	Component type	Description
msgclsfsrv	Classification server	This component is the brain behind CALA. It contains the functions of classification, duplicate detection, event suppression and escalation.

Sub components Rules Engine and Message Mapping (msgclsfsrv sub components)

The rules engine and the massage mapping component are subcomponents of the message classification server and are used to process correlating events and timer on events as well as any manipulation on events.

For detailed information about the Rules Engine and the Message Mapping Component refer to related sub chapters within this chapter.

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Sub component Completer (msgclsfsrv sub component)

The sub component Completer in process msgclsfsrv is used for downstream (i.e. after processing by the central processing server) bulk setting or deleting of slots (Tivoli T/EC slots) as a function of other existing or unmapped slots, or to fade out slots.

Language constructs such as *if!*, *unless!* or *for!* are implemented for processing purposes based on the existence (if) or absence (unless) of slots.

Application area:

Mapping of unmapped default slots, e.g. severity.

Fading out of mapped slots, e.g. those required for internal processing.

Sub component Remapper (msgclsfsrv sub component)

Sub component Remapper in process msgclsfsrv is capable of re-mapping slot contents, or of defining new slots.

This enables the system to rename event class names in a customer-specific manner.

Example:

Changing LogfileBase to <customername>_LogfileBase.

Comment: the event class <customername>_LogfileBase must be defined in a BAROC file.

Emitter components

Emitters (Senders) are used for sending or subsequently processing events, e.g. after a report has been raised. The following emitters/senders are available:

Component name	Component type	Description
tecfmtemit	T/EC-Event-Preparation	This component prepares the logs to be processed and sends them to the T/EC transmit component (see below).
cmdemit	Task Engine	This component is capable of executing any commands. Parameters are read out of Message Map files.
reportemit	Reporting Emitter	This component is used for all the events. Events may be reported in T/EC Event dump format or in a own format specified in a template file.
snmpemit	SNMP Trap Emitter	This components throws SNMP events from received CALA FIRs.
smtpemit	SMTP Emitter	This component sends emails to report the received CALA FIRs.

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Component name	Component type	Description
jdbcemit	Database Emitter	This component writes events to a database accessible via JDBC.

T/EC transmit component

Component name	Component type	Description
tecifcsrv	T/EC Interface Server	This component sends prepared events to the T/EC. There are 3 variants of this component: • Secure Version: oserv communication (ManagedNode) • Unsecure Version: TCP/IP communication (EIF) • Endpoint Version: Tivoli TMA communication

Application proxy for DMZ

Component name	Component type	Description
calaproxy	Application proxy	This component is used as an application proxy in Demilitarized Zones (DMZ). This sends received FIRs to a downstream component on a computer on the far side of a firewall.

Control component logctlsrv

Component name	Component type	Description
logctlsrv	Control server	This component is used to control and configure all other CALA components.

Logctlsrv is controlled using the CLI (command line interface) **logctlcmd**. **Logctlcmd** reads configuration information from the file `logctlsrv.conf` and starts the process **logctlsrv**, which then takes control of the configuration management of all other CALA component.

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CLI logctlcmd

The Command Line Interface **logctlcmd** is used on all platforms supported by external control of the CALA component.

> **NOTE** Starting and stopping the CALA component on Windows systems can be implemented by the Windows Service Manager (refer to CALA installation as an Windows service) as well.

Supported logctlcmd commands

startup
Starting the CALA component. A CALA Windows installation is started by the command **net start cala_srv** if CALA is installed as a service.

shutdown
Stopping the CALA component. A CALA Windows installation is stopped by the command **net stop cala_srv** if CALA is installed as a service.

restart
Restarts the CALA component

status
Status query of the CALA component. In addition to the output of all status information for the installed CALA component, output includes information about the Tivoli environment employed as well as important CALA environment variables.

reconfigure
Reconfiguration of the CALA component during runtime. Changes to the configuration (configuration file `logctlsrv.conf`) are taken into account at this time.

maintenance_on
Activation of the Maintenance Level (processing is delayed)

maintenance_off
Deactivation of the Maintenance Level (processing is restarted)

test <logical_name>
This command is employed in order to generate a CALA test event from a component. This test event can be used to test communication between the component (local on a computer or on a remote computer).

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NOTE The CALA programs need a shared library which has to be available to them. See the following table for the name of the library and the environment variable to be set to it s path.

operating system	filename of shared library	environment variable
MS Windows	libcala.dll	`PATH`
AIX	libcala.so	`LIBPATH`
Solaris	libcala.so	`LD_LIBRARY_PATH`
Linux	libcala.so	`LD_LIBRARY_PATH`
HP-UX	libcala.sl	`SHLIB_PATH`

Generating test events

Apart from the emitters (senders), all components are able to generate test events. This means that communication can be tested between the individual components. Test events can be generated using the CLI call:

logctlcmd `test <logical componentname>`

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Possible component architecture (predecessors / successors)

The following table illustrates the possible component architecture with predecessors (previous stage) and successor (subsequent stage).

Componentname	predecessor	successor
ascfileread	-	tecfmtfilt, v2fmtfilt
ntevtlogread	-	tecfmtfilt v2fmtfilt
tecfmtfilt	ascfileread, ntevtlogread	any FIR processing component[1]
v2fmtfilt	ascfileread, ntevtlogread	any FIR processing component
snmpread	-	any FIR processing component
calamon	-	any FIR processing component
mssqlread	-	any FIR processing component
oracleread	-	any FIR processing component
jdbcread	-	any FIR processing component
javasrv / pchread	-	any FIR processing component
msgclsfsrv	any FIR generating component[2]	any FIR processing component
cmdemit	any FIR generating component	-
reportemit	any FIR generating component	-
snmpemit	any FIR generating component	-
smtpemit	any FIR generating component	-
jdbcemit	any FIR generating component	-
tecfmtemit	any FIR generating component	tecifcsrv (end, sec, uns)
calaproxy	any FIR generating component	any FIR processing component
remote component	any FIR generating component	any FIR processing component, tecifcsrv (end, sec, uns)
tecifcsrv (end, sec, uns)	tecfmtfilt	-

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Communication between CALA components

Communication between individual CALA components is based on TCP/IP communication with variable package size.

The data records read in (Logs, Windows Event Log, Syslog, etc.) are transferred by the filter processes to Filter Input Records (FIR) which form the basis for communication between all other CALA components.

When this standardized data object (FIR) is implemented for CALA component communication, CALA components are able to link up in almost any conceivable order.

The data (FIRs) can be transmitted through ports configured in any desired manner, and every component can also receive or transmit data via any desired number of ports.

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Default TCP ports used by CALA components

The following table shows the default TCP ports used by CALA components. Chapter 10 "Configuration file logctlsrv.conf" describes how the port settings can be changed.

component name	default port
logctlsrv	23861
logctlcmd	23860
ascfileread	23831
ntevtlogread	23832
calamon	23833
snmpread	23834
oracleread	23835
mssqlread	23836
jdbcread	23837
tecfmtfilt	23838
V2fmtfilt	23839
msgclsfsrv	23840
calaproxy	23841
tecfmtemit	23842
cmdemit	23843
reportemit	23844
snmpemit	23845
smtpemit	23846
tecifcsrv	23847
jdbcemit	23848

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Event caching

If a component looses contact with a downstream component during the transmission of events, these events are then stored in a cache file. In this case, the client process tries to reconnect to the server every 5 seconds.

As soon as a new connection can be established, the cached event can be transmitted. Once the transmission confirmation has been received, the cache entries are deleted.

Cache files are stored in the directory/folder defined by the environment variable CALA_CACHE_DIR. If CALA_CACHE_DIR has not been set, environment variables `TEMP` and `TMP` (with Windows also the `SystemRoot`) are evaluated. If none of these variables has been set, the cache file is stored in the current directory/folder.

NOTE The cache files are named `.<client>.<server>.cache`, so they may not be displayed by a normal **ls** call.

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CALA configuration

Global information

This chapter provides detailed information about CALA configuration.

First, it describes global files like templates and general input files. These files are used for all datatypes in a configuration.

The following sub-chapters provide descriptions of all datatype definitions contained in this module.

Who should read this chapter?

We recommend this chapter for all who are interested in details about the logfiles processed by CALA.

Related information

For information about the directory structure on client see *Technical details of CALA configuration.*

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Global configuration files

Configuration files

These files are located directly in the CALA installation directory (`$CALA_DIR`):

Name	Function
`logctlsrv.conf`	CALA configuration file; this file is generated from the input files and templates described in this chapter

Templates

The template files serve as base for the main CALA configuration file **`logctlsrv.conf`**. The template is included in the package you select for installation.

Name	Function
`logctlsrv.client.templ_CLIENT`	template for ECM SM client configuration
`logctlsrv.complete.templ_SERVER`	template for ECM SM server configuration

Configuration input files

These files are used in combination with the template files and the input files for the selected datatypes to create a client-specific configuration file. The input files are located in `$CALA_DIR`**`/repos`**.

Name	Function
`aux_fnislog.cala`	auxkey definitions for datatype *`fnislog`*. The auxkey definitions are used for dupe detection based on *`error_id`* and the starting characters of *`original error text`* (optional).
`remapper_fnislog.cala`	remapper definitions for datatype *`fnislog`*; controls renaming of internal slots to the slots defined for the event console
`<datatype>.cala`	description files for each datatype; the datatypes available in this module are described in the following chapters

For a detailed description of the input files see *Technical details of CALA configuration*.

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Datatype fnds_auditlog - IBM FileNet CS Auditlog

Processing of audit log events created by IBM FileNet CS.

Application and supported versions

- IBM FileNet CS 5.1, 5.2, 5.3, 5.4 and 5.5

Data sources

Databases

- table *AUDIT_LOG* in Library System database

How to activate IBM FileNet CS Audiglog logging

IBM FileNet CS Audit Logging can be configured using the IBM FileNet CS Explorer.

Related files

File	Function
fnds_auditlog.cala	Input file for configurator
fnds_auditlog_class.map	classmap file; maps CS event id to classnames
fnds_auditlog_sev.map	set severity and create entry for slot msg
fnds_auditlog_filt_harmless.map	filter for harmless events
fnds_auditlog_logon.rmp	rule to send specific critical logon events

Additional information

The initial **fnds_auditlog.cala** files does not contain any *DB_** entries. The *DB_** entries are added automatically on the client depending on the defined systems.

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Datatype fndslog - IBM FileNet CS Replication and Index Logfiles

Processing of log files created by IBM FileNet CS Replication and Indexing.

Application and supported versions

- IBM FileNet CS 5.2, 5.3, 4.5 and 5.5

Data sources

Logfiles

- `<CS Replication Manager path>/Repl/repl.log`
- `<CS Content Manager path>/<Library System>/Content/index/csi*.log`
- `<CS Content Manager path>/<Library System>/Content/index/index*.log`

How to activate IBM FileNet CS Replication and Index logging

IBM FileNet CS log files are always written.

Related files

File	Function
`fndslog.cala`	Input file for configurator
`fndslog.v2s`	Formatfile
`fndslog_filt_harmless.map`	filter for harmless events
`fndslog_idxlog.rmp`	rule for capacity warning from index logfile
`fndslog_timer.rmp`	timer rule for csmerge process

Additional information

The initial `fndslog.cala` file does not contain any *`LOG_*`* entries. The *`LOG_*`* entries are added automatically on the client depending on the defined systems.

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Datatype ntlog - Windows Eventlog

Processing of Windows Eventlog entries.

Application and supported versions

- Windows NT 4.0 (English)
- Windows 2000 (English), Windows 2003 (English), Windows XP, Windows 2008, Windows 7 (all English)

Data sources

Eventlogs

- Application
- Security
- System

How to activate Windows Event logging

Windows event logs are always written.

Related files

File	Function
`ntlog.cala`	Input file for configurator
`ntlog.fmt`	Formatfile
`ntlog_filter_tec.map`	filter harmless and/or warning events (Tivoli based version only)
`Application_flt.in`	inbound prefilter for FileNet events from Application log
`Application_flt.out`	outbound prefilter for informational events from Application log (non-FileNet version only)
`System_flt.out`	outbound prefilter for informational events from System log

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Datatype veritylog - IBM FileNet CS Verity Fulltext Engine Logfiles

Processing of log files created by the Verity Fulltext Indexing Engine for IBM FileNet Content Services.

Application and supported versions

- IBM FileNet CS 5.3, 5.4 and 5.5

Data sources

Logfiles

- `<CS path>/Verity/data/host/log/status.log`
- `<CS path>/Verity/data/host/log/audit.log`
- `<CS path>/Verity/data/services/<Verity Brokername>/log/status.log`
- `<CS path>/Verity/data/services/<Verity Servername>/log/status.log`

How to activate Verity logging

Verity log files are always written.

Related files

File	Function
`veritylog.cala`	Input file for configurator
`veritylog.v2s`	Formatfile

Additional information

The initial `veritylog.cala` files does not contain any *`LOG_*`* entries. The *`LOG_*`* entries are added automatically on the client depending on the defined systems.

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Customization Issues

This chapter contains the most common customization tasks for CALA. For a complete description of all CALA options see *CALA components.*

Globalization settings (NLS support)

In general log file and Eventlog entries are processed with the character settings of the system. The globalization support additionally allows processing logfiles containing characters that are not identical with the system settings.

Example: To process a logfile containing character set 'ISO-2022-JP' characters the following settings need to be used:

- **`C:/TEMP/logs/mylogfile.log:ISO-2022-JP`**

The complete list of all supported character sets are added as an appendix.

Adding logfile definitions

The logfiles for each datatype are defined in the corresponding .cala file. The datatype controls which format file will be used to parse the logfile. If you want to add logfiles to the CALA configuration, you must make sure that they can be processed with the format files associated with the datatype.

These are the default logfile settings:

Datatype *`fnislog`* - FileNet ELOG Logfiles and HPII / MRII Logfiles

- `${__FNIS__FN_LOC_PATH}`**`/logs/elogs/elogYYYYMMDD`**
- `${__FNIS__FN_LOC_PATH}`**`/logs/elogs/elYYYYMMDD`**
- `${__FNIS__HPII_PATH}`**`/journals/*YYYYMMDD`**

Datatype *`fndw4log`* - FileNet DocWarehouse 4.0 Logfiles

- **`/tmp/srvlink.log`**
- `${__FNIS__SRVLINK_PATH}`**`/srvlink.log`**
- `${SystemRoot}`**`/srvlink.log`**

To add more logfiles for a datatype, unpack the corresponding .tar.gz archive, edit the .cala file directly and rereate the .tar.gz archive.

Adding message map definitions

You can add your own message map definitions to the CALA configuration.

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First, create a message map file according to the map files provided with the modules. The name of the message map file must follow the naming convention **<datatype>_<suffix>.map**.

Now add the new map entry to the appropriate .cala file.

You must edit the file **<datatype>.cala** which is located in the directory **temp** in the configuration tar.gz archive (see *Technical details of CALA configuration*, section *Directory structure in ECM SM installation archives* for details of the configuration archives).

Add a block for the message map file. The block must look like this:

```
MAP_NAME_<n>=<suffix>
MAP_PRI_TYPE_<n>=v2
MAP_TARGET_<n>=<target>
```

<*n*> is the number of the map. Note that the sequence of the *MAP_* entries in the .cala file is relevant for the processing of the message maps. Make sure that the numbering of the map entries is unique.

The *MAP_TARGET* entry can be copied from the existing map entries.

Adjusting port numbers

The components of the ECM SM CALA use ports for their communication. If you want to change the standard ports, make sure to change the *-P <portnum>* entry as well as the corresponding *port!<portnum>* specification. You can change the port numbers after configuration / distribution of CALA if you want to change them for one target only. If you want to change the port numbers for all targets, you can edit the template file.

Component	Standard port number
ascfileread	23831
ntevtlogread	23832
tecfmtfilt	23838
v2fmtfilt	23839
mssqlread	23836
oracleread	23835
calamon	23833
javasrv/pchread	23849
snmpread	23834
msgclsfsrv	23840
tecfmtemit	23842
tecifcsrv	23847
snmpemit	23845
smtpemit	23846
cmdemit	23843
reportemit	23844

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If your CALA installation is client-server based, the client component uses the port specified for msgclsfsrv in the server template as remote port number (23840 in the table above).

Activate logging for CALA

You can turn on logging for each of the CALA components. Add the `-d:<loglevel>:<logfilename>` parameter to the configuration entry of the component.

The <*loglevel*> can be a number between 0 and 9. The lower the loglevel is, the more will be written to the logfile.

Note that the logfile may grow very fast if you choose a high loglevel and process large logfiles.

The following configuration fragment shows an entry for the component ascfileread with activated logging. Note that the referenced subdirectory **logs** must already exist to allow creation of the logfile **ascfileread.log**.

```
ascfileread=run!ascfileread -P 11001 -d:3:logs/ascfileread.log,port!11001,targets!v2fmtfilt,↵
pathlist!1;/fnsw/local/logs/elogs,ptrnlist!1;elogYYYYMMDD,assoc!1;1;v2;fnislog,conf!port;↵
run;targets;pathlist;ptrnlist;assoc
```

Activate heartbeat events for CALA

CALA heartbeat is enabled by default. The events are handled automatically by the Webconsole.

The heartbeat is controlled by the `-ZHEARTBEAT_PERIOD=<secs>` parameter in the configuration entry of the component that creates events of the class CALA_HEARTBEAT_OK.

<*secs*> is the interval between two heartbeat events. If it is set to zero, no heartbeat events will be generated.

The following configuration fragment shows an entry for the component v2fmtfilt with activated heartbeat. The heartbeat interval is set to 300 seconds (5 minutes).

```
v2fmtfilt=run!v2fmtfilt -P 11004 -ZHEARTBEAT_PERIOD=300,port!11004,targets!msgclsfsrv,↵
formatlist!fnislog;fmt/fnislog.v2s,conf!port;run;targets;formatlist
```

This option is appropriate for the filter component *v2fmtfilt* in a complete or a client configuration and for the server component *msgclsfsrv* in a server configuration.

Adding environment settings for CALA

If you need to set client specific environment variables for CALA, you can create an additional environment file:

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UNIX:	$CALA_DIR/cala_env.sh
Windows:	%CALA_DIR%\cala_env.cmd

No additional changes are required. The new file will be used as soon as the startup script is executed the next time (UNIX) or the cala_srv service is restarted (Windows).

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Sample configuration

This is a sample configuration files that processes ELOG logfiles on a UNIX system. The configuration is complete, containing the client (reader) component as well as the server (message classification and TEC interface) components.

```
#operating-system: sun-solaris
#name of configuration: Generated by CALACFG
#user:
#password:
serverlist=ascfileread,v2fmtfilt,msgclsfsrv,tecfmtemit,tecifcsrv
ascfileread=run!ascfileread -P 11001,port!11001,targets!v2fmtfilt,pathlist!1;/fnsw/local/log↵
s/elogs,ptrnlist!1;elogYYYYMMDD,assoc!1;1;v2;fnislog,conf!port;run;targets;pathlist;↵
ptrnlist;assoc
v2fmtfilt=run!v2fmtfilt -P 11004,port!11004,targets!msgclsfsrv,formatlist!fnislog;↵
fmt/fnislog.v2s,conf!port;run;targets;formatlist
msgclsfsrv=run!msgclsfsrv -P 11009,port!11009,targets!tecfmtemit,types!fnislog_v2_mct,↵
auxkeys!aux_fnislog_0_8;aux_fnislog_0_15;aux_fnislog_0_6;aux_fnislog_0_2;aux_fnislog_0_↵
0;aux_fnislog_0_20;aux_fnislog_generell,remappers!tecfmtemit_remap,conf!port;run;↵
targets;types;auxkeys;remappers
fnislog_v2_mct=type!v2;fnislog,handledby!tecfmtemit,msgmaps!misc/fnislog_evt.map;fnislog_↵
evt_map;misc/fnislog_dup.map;fnislog_dup_map;misc/fnislog_except_0_15.map;fnislog_except_0_↵
15_map;misc/fnislog_except_0_8.map;fnislog_except_0_8_map;misc/fnislog_except_0_4.↵
map;fnislog_except_0_4_map;misc/fnislog_filter.map;fnislog_filter_map
fnislog_evt_map=key!error_id;L,fields!severity;msg;error_cause;corrective_action
fnislog_dup_map=key!error_id;L,fields!$DUPEKEY;$ESCAT;$ESCLEV;$ESCCNT
fnislog_except_0_15_map=key!error_id;L;original_error_text;F0T15w16,fields!severity;↵
msg;error_cause;corrective_action
fnislog_except_0_8_map=key!error_id;L;original_error_text;F0T8w9,fields!severity;msg;error_↵
cause;corrective_action
fnislog_except_0_4_map=key!error_id;L;original_error_text;F0T4w5,fields!severity;msg;error_↵
cause;corrective_action
fnislog_filter_map=key!severity;L,fields!$CLASS;severity
# auxkey definitions
aux_fnislog_0_0=error_id;L
aux_fnislog_0_2=error_id;L;original_error_text;F0T2
aux_fnislog_0_20=error_id;L;original_error_text;F0T20
aux_fnislog_0_6=error_id;L;original_error_text;F0T6
aux_fnislog_0_4=error_id;L;original_error_text;F0T4
aux_fnislog_0_15=error_id;L;original_error_text;F0T15
aux_fnislog_0_8=error_id;L;original_error_text;F0T8
aux_fnislog_generell=error_id;L;original_error_text;L
# remapper definitions
tecfmtemit_remap=for!tecfmtemit,fieldalias!$ESCCNT;occurrences_before_send
tecfmtemit=run!tecfmtemit -P 11010,port!11010,targets!tecifcsrv,conf!port;run;targets
tecifcsrv=run!tecifcsrvend -P 11011 -h @EventServer ,port!11011,conf!port;run
```

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Appendix A. Local Environment File fnds_srv_env.sh

This table provides an overview for the information stored in the local environment file **fnds_srv_env.sh** that is created on each IBM FileNet CS server.

NOTE These variables cannot be used in the logfile definitions for the ECM SM CALA (CALA) yet.

These are the global settings on each server:

Variable name	Description
SYS_n	Library System name
SYS_n_PM	server is a Property Manager
SYS_n_SM	server is a Storage Manager
SYS_n_CM	server is a Content Manager
SYS_n_RM	server is a Replication Manager
SYS_n_VS	server is a Verity engine
SYS_n_SM_DEV	
SYS_n_CM_DEV	
SYS_n_RM_DEV	
SYS_n_FNDS_VERSION	FileNet software version
SYS_n_IDMDS_HOME	
SYS_n_L_ROOT	
SYS_n_PM_NAME	name of Property Manager for this system
SYS_n_VS_NAME	name of Verity engine for this system
SYS_n_FN_DB_PATH	database installation path
SYS_n_FN_DB_TYPE	database type (*MSSQL* / *ORACLE*)
SYS_n_FN_DB_USER	database user
SYS_n_FN_DB_PASSWORD	password for database user
SYS_n_FN_DB_GLOB_NAME	Oracle global DB name or MSSQL server name for remote connect
SYS_n_ORACLE_SID	Oracle SID
SYS_n_ORACLE_HOME	Oracle home
SYS_n_NLS_LANG	NLS_LANG setting for database
SYS_n_ORACLE_USER	
SYS_n_VERITY_DIR	
SYS_n_VERITY_BIN	
SYS_n_VERITY_FILTERS	

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Variable name	Description
SYS_n_VERITY_COMMON	
SYS_n_VERITY_CFG	
SYS_n_VERITY_LOG	
SYS_n_VERITY_ADMIN_PORT	
SYS_n_VERITY_ADMIN_ALIAS	
SYS_n_VERITY_BROKER_NAME	
SYS_n_VERITY_SERVER_NAME	
SYS_n_FNDS_USER	
SYS_n_VERITY_USER	
SYS_n_SHLIB_PATH	
SYS_n_PATH	

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Appendix B. Copyright notice

IBM Enterprise Content Management System Monitor (November 2012)

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