

RDKB CcspLogAgent Component in RPI - Design - 2019 M7

Introduction

All components have separate TR181 parameters to control the LogLevels and LoggerEnable options during run-time.

All components logger TR181 parameters exist in LogAgent.xml file which is handled by CcspLogAgent component. Those parameters are stored in syscfg.db file for persistent storage.

- **LoggerEnable:** This will help to enable/disable logs for particular component. If it is TRUE logs are enabled otherwise logs are disabled.

Note: We can enable/disable logging for the all components based on "X_RDKCENTRAL-COM_LoggerEnable" parameter. It is by default set to "TRUE".

- **LogLevels:** We can set different log levels for each component. By default all modules log level is 4 (RDK_LOG_INFO).

CcspLogAgent component provides the ability to change the log levels at run time for individual components.

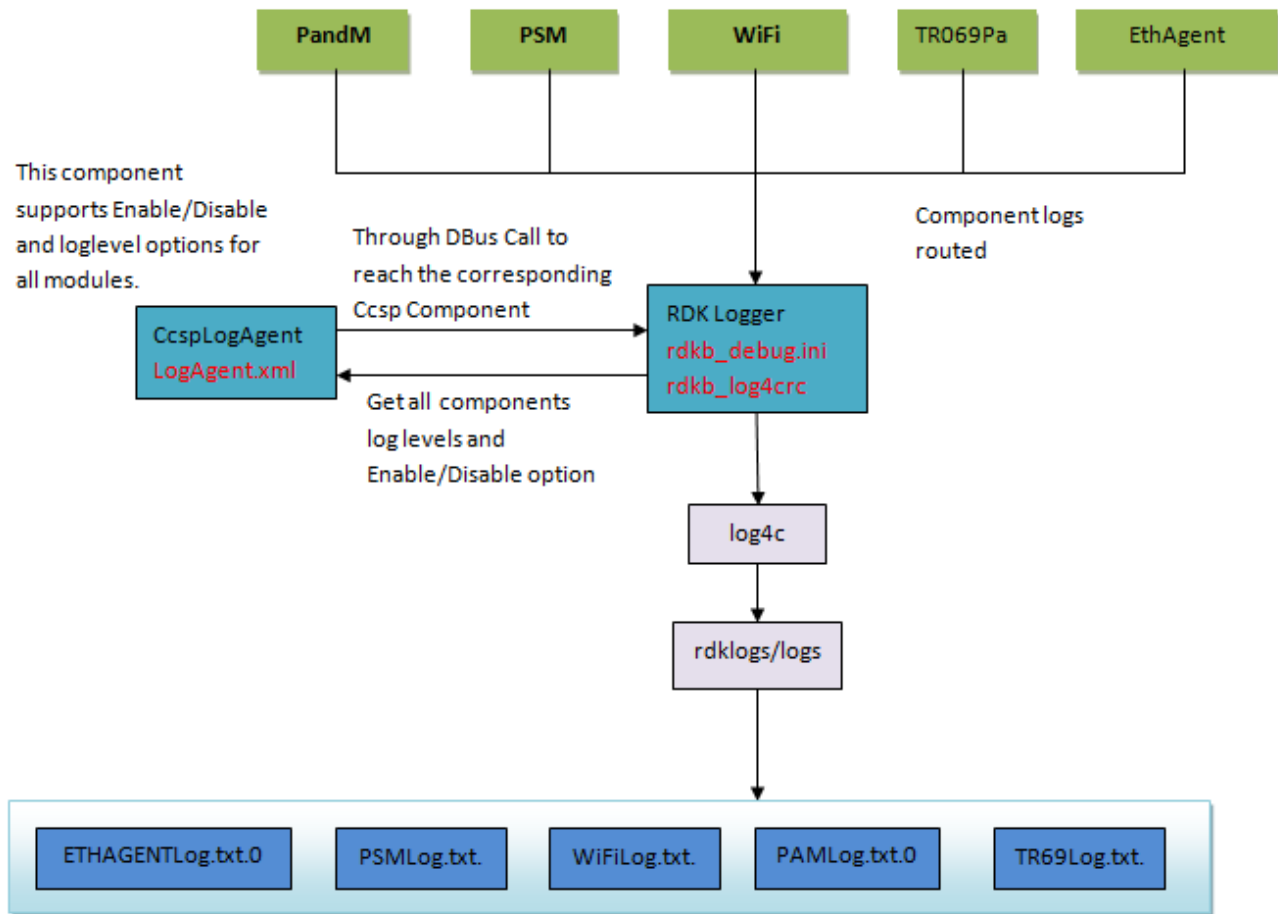
Below mentioned are the supported LogLevels:

Log Level Index	Log Level
0	RDK_LOG_FATAL
1	RDK_LOG_ERROR
2	RDK_LOG_WARN
3	RDK_LOG_NOTICE
4	RDK_LOG_INFO
5	RDK_LOG_DEBUG
6	RDK_LOG_TRACE1
7	RDK_LOG_TRACE2
8	RDK_LOG_TRACE3
9	RDK_LOG_TRACE4
10	RDK_LOG_TRACE5
11	RDK_LOG_TRACE6
12	RDK_LOG_TRACE7
13	RDK_LOG_TRACE8
14	RDK_LOG_TRACE9

If LogLevel is set to 3, all logs related to 0 to 3 levels are routed to logger which means RDK_LOG_FATAL, RDK_LOG_ERROR, RDK_LOG_WARN and RDK_LOG_NOTICE prints are routed to logger, other prints not routed to logger.

Note: Log level for all components can be controlled using "X_RDKCENTRAL-COM_LogLevel" parameter. It is by default set to level 4 which is RDK_LOG_INFO.

RDK-B Logger Architecture



Example:

TR069 parameters for RDK logger,

Device.LogAgent.X_RDKCENTRAL-COM_TR69_LoggerEnable

Device.LogAgent.X_RDKCENTRAL-COM_TR69_LogLevel

PAM Parameters for RDK logger,

Device.LogAgent.X_RDKCENTRAL-COM_PAM_LoggerEnable

Device.LogAgent.X_RDKCENTRAL-COM_PAM_LogLevel

Limitations :

Scenario 1:

1. Use the CFLAG "DISABLE_LOGAGENT" during compilation.
 2. Set the log levels to "TRACE" in the debug.ini file.
 3. Try to generate a the logs for any component.
 4. An example would be to enable and disable the Device.ManagementServer.EnableCWMP parameter for TR069
- Expected Result:
Logs should be generated in the TR69log.txt.0 file.
- Actual Result:
Logs are generated in the TR69log.txt.0 file.

Scenario 2:

1. Do not use the CFLAG "DISABLE_LOGAGENT" during compilation.
2. Set the log levels to "7" for Device.LogAgent.X_RDKCENTRAL-COM_TR69_LogLevel and "true" for Device.LogAgent.X_RDKCENTRAL-COM_TR69_LoggerEnable.
3. Try to generate a the logs for the TR069 component.
4. An example would be to enable and disable the Device.ManagementServer.EnableCWMP parameter for TR069

Expected Result:
Logs should be generated in the TR69log.txt.0 file.
Actual Result:
Logs are generated in the TR69log.txt.0 file.

2. So far, RPI boards supports only five ccsp components modules(PAM,PSM,WiFi,EthAgent,TR69).

3. Once we set the log level ,logger enable/disable paramter by using dmcli .Immediately , that corresponding component will restart.

4. If we need to add any CCSP components for logger support in future, we need to add those DM parameters in LogAgent.XML and cosa_apis_logagentplugin.c in CcspLogAgent Component. Also, those DM parameters are globally defined in CcspCommonLibrary Component in ansc_debug.c file.Please refer the below steps,

How to add rdklogger to a new component

Steps to add rdklogger to a new component:

Need to add LoggerEnable and LogLevel parameters in "LogAgent.xml" file for new component.

- X_RDKCENTRAL-COM_New_LoggerEnable
- X_RDKCENTRAL-COM_New_LogLevel

Need to add the new parameters in "system_defaults_arm" file for persistent storage.

```
$ X_RDKCENTRAL-COM_New_LogLevel=4
```

```
$ X_RDKCENTRAL-COM_New_LoggerEnable=1
```

Code functionality for LogLevel & LoggerEnable parameters set/get in "cosa_apis_logagentplugin.c" file

Initialise rdklogger by calling rdk_logger_init (/fss/gw/lib/debug.ini) in the new component

Add new component entry in "rdkb_debug.ini" file

```
LOG.RDK.New = ALL FATAL ERROR WARNING NOTICE INFO DEBUG TRACE
```

Add the below configuration in "rdkb_log4src" file for new component

```
<rollingpolicy name="New_rollingpolicy" type="sizewin" maxsize="2097152" maxnum="2"/>
```

```
<appender name="RI_Newrollingfileappender" type="rollingfile" logdir="/rdklogs/logs/" prefix="Newlog.txt" layout="comcast_dated"
rollingpolicy="New_rollingpolicy"/>
```

```
<category name="RI.Stack.New" priority="debug" appender= "RI_Newrollingfileappender"/>
```

```
<category name="RI.Stack.LOG.RDK.New" priority="debug" appender= "RI_Newrollingfileappender"/>
```