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Preface

This article is intended for technical audience. If you are unfamiliar with UNIX system internals, refer the document to the appropriate system administration personnel.

Control Center trouble shooting guide for Cognos Reports.

Starting with version 5.4.0.0, Control Center is shipped with Cognos (10.1.1) embedded as part of the product install. Cognos is a Business Intelligence server that offers reporting as one among several other features. Cognos Business Intelligence server requires its own database, with preferences on the collation settings/character set/code page it supports. The following are the different database types Cognos supports.

- IBM DB2 (LUW)
- IBM DB2 (z/OS)
- Oracle
- Microsoft SQL Server

Microsoft SQL ServerRequirements for all database types

Parameter	Description
dbname	Name of the database. Use SID for non-RAC, and Service Name for a RAC.
username	User that has access to the database
password	Password to access the database.
hostname	Host where the database server is located
port	Port where the database server is listening for connections

Note: For Microsoft SQL Server databases, Control Center/Cognos only support SQL authentication.

Requirements for all database types and components

Database Type	Component	Requirement
All	SQL Statement Privileges	The database user must be able to execute the following types of SQL Statements: CREATE TABLE

		ALTER TABLE DROP TABLE CREATE INDEX DROP INDEX CREATE VIEW ALTER VIEW DROP VIEW SELECT FROM <table> INSERT INTO <table> UPDATE <table> DELETE FROM <table>
Oracle	Database user privileges	CREATE SESSION UNLIMITED_TABLESPACE
Oracle	Database settings	Sterling Control Center requires the following parameter settings in your Oracle database: Number of open cursors > 2000 Database block buffers > 19200 Shared pool size > 90000000 Large pool size > 614400 Number of processes > 500 Log buffer > 163840 Database block size > 8192 Sort area size > 65536 Sort area retained size > 65536 Max extends = Unlimited **Character set = AL32UTF8** **Note:** If you are using multi-byte character set, set the following and restart Oracle: nls_length_semantics=CHAR in INIT<INSTANCE_NAME>.ORA file
MS SQL Server	Database user privileges	Grant the DBO (Database Owner) database role to the database user. Also grant DB_DDLADMIN database role to the user
MS SQL Server	Database Settings	Sterling Control Center requires the following

		parameter settings in your MS SQL database: **Collation Setting = SQL_Latin1_General CP1_CI_AS** Sort order = Binary Security authentication = SQL Server and Windows Torn Page = Detection Off **Note:** Sterling Control Center supports only SQL Server authentication.
DB2	Database user privileges	Grant Database Administrator Authority (DBADM) to the database user on this database.
DB2	Database Settings	Sterling Control Center requires the following parameter settings in your DB2 database: APPLHEAPSZ > 10000 APP_CTL_HEAP_SZ > 512 MAXAPPLS > 150 LOCKLIST > 30000 MAXLOCKS = 100 **Database code page = UTF-8**

Requirements by database type and operating system

Database type	Operating System	Information
DB2	Windows/UNIX	Each of the DB2 databases must have: – One buffer pool with a page size of 32K and another with a page size of 4K – One system temporary table space with a page size of 32K and another system temporary table space with a page size of 4K. The temporary table spaces must be defined so that temporary tables can be defined in them.

		– One regular table space with a page size of 32K and another table space with a page size of 4K Determine the location of db2jcc.jar IBM DB2 database driver file.
DB2	z/OS or OS/390	Each of the DB2 databases must have: – One buffer pool with a page size of 32K and another with a page size of 4K – One system temporary table space with a page size of 32K and another system temporary table space with a page size of 4K. The temporary table spaces must be defined so that temporary tables can be defined in them. – One regular table space with a page size of 32K and another table space with a page size of 4K For each database, determine the DB2 database location, which is the path that specifies the DB2 Location name and was defined during the DB2 installation. Determine the location of the db2jcc.jar database driver
Microsoft SQL Server	Windows	Download and install the Microsoft SQL Server JDBC drivers setup.exe program from www.microsoft.com
Oracle	UNIX/Windows	Determine the location of the ojdbc14.jar, ojdbc5.jar, or ojdbc6.jar Oracle database driver file.

Note: Please pay close attention to the collation setting/character set/code page for the database of your choice. Cognos only supports those settings as highlighted above.

Troubleshooting database connectivity issues with Cognos

1. If Cognos BI Server has issues connecting to the database of your choice, validate the connection to the database by establishing a test connection to the database with the user name and password that were used to configure the Cognos database. The Cognos database is configured during Control Center install, if on windows, or while running configCC, on UNIX. Use appropriate database tools to validate the connection to the database. The following is a sample error message that's logged in the cogserver.log file.

   Warning CM-CFG-5063 A Content Manager configuration error was detected while connecting to the content store. CM-SYS-5003 Content Manager is unable to connect to the content store. ***Verify that the database connection properties in the configuration tool are correct and that when you test the connection, the test is successful.***
   [jcc][t4][2057][11264][3.62.57] The application server rejected establishment of the connection. An attempt was made to access a database, sccppddC, which was either not found or does not support transactions. ERRORCODE=-4499, SQLSTATE=08004 Cause:
   [jcc][t4][2057][11264][3.62.57] The application server rejected establishment of the connection. An attempt was made to access a database, sccppddC, which was either not found or does not support transactions. ERRORCODE=-4499, SQLSTATE=08004

2. If the test connection succeeds, verify if the collation setting/character set/code page, applicable to the respective database is set as recommended above. The following is a sample error message when the collation setting is not honoured by Cognos.
   Warning CM-CFG-5063 A Content Manager configuration error was detected while connecting to the content store. CM-SYS-5125 The content store database has a default collation that is case-sensitive. Content Manager requires a content store that has a case-insensitive collation. Before you restart Content Manager, you may need to recreate the content store database or clean it using dbClean_*.sql. Cause: CM-SYS-5126 The content store database uses the collation ***SQL_Latin1_General_CP850_BIN***

3. Verify if the database is configured with the requisite permissions as identified in the requirements section.
4. If the database is configured exactly as per the requirements, but if the connection to the database fails, navigate to the logs directory within the Cognos install folder. Cognos folder is located in <Your SCC Install Location>.
5. Open the cogserver.log and look for errors/exceptions corresponding to database connectivity. The following is a snippet from a connectivity issue to DB2. More often than not, Cognos provides details with regards to database connectivity issues.

The following is a sample error message that's logged by Cognos, when there is an issue with tablespace.*Warning CM-SYS-5007 Content Manager build 10.1.6235.601 failed to start! Review the Content Manager log files and then contact your system administrator or customer support. CM-SYS-5003 Content Manager is unable to connect to the content store. Verify that the database connection properties in the configuration tool are correct and that when you test the connection, the test is successful. A default table space could not be found with a page size of at least "4096" that authorization ID "DB2ADMIN" is authorized to use.. SQLCODE=-286, SQLSTATE=42727, DRIVER=3.62.56 Cause: A default table space could not be found with a page size of at least "4096" that authorization ID "DB2ADMIN" is authorized to use.. SQLCODE=-286, SQLSTATE=42727, DRIVER=3.62.56 Runtime Exception stack trace: com.ibm.db2.jcc.am.SqlSyntaxErrorException: A default table space could not be found with a page size of at least "4096" that authorization ID "DB2ADMIN" is authorized to use.. SQLCODE=-286, SQLSTATE=42727, DRIVER=3.62.56*

Trouble shooting Cognos start up issues

Cognos has several different services as part of its system architecture. Due to reasons pertinent to the operating system where Cognos is installed, the product may not initialize fully, and not function properly. Ensure that all the required patches/software is installed on the machine/host where Control Center 5.4.0.0 is installed. The required patches are listed in this URL.

IBM Cognos 10.1.1 Required Patches

The following sections describe start-up issues that were encountered on Red Hat Linux 64-bit (5.6 and above) due to missing patches. I will provide examples to resolve the same. If there are missing patches on operating systems of your choice, please work with system administrators to resolve the same.

The following are the minimum required patches for Red Hat Linux 5.3 and above.

compat-libstdc++-33
compat-glibc-2.3.4
openmotif22-2.2.3-18

Let's assume these patches are not already installed on the Control Center host. Apparently, Cognos will not completely initialize, and throw the following exception in the pogo log file, located in the logs folder for Cognos.

2013-01-15 15:12:33.387 FATAL [m.cognos.pogo.reportservice.ProcessManager] Thread-51: External Report Server process BIBusTKServerMain cannot be started java.io.IOException: Process BIBusTKServerMain failed to start properly.
at com.cognos.pogo.reportservice.ReportServerProcess.getProcessOutput(ReportServerProcess.java:154)
at com.cognos.pogo.reportservice.ReportServerProcess.start(ReportServerProcess.java:117)
at com.cognos.pogo.reportservice.ProcessFacade.createServerProcess(ProcessFacade.java:219)
at com.cognos.pogo.reportservice.ProcessFacade.<init>(ProcessFacade.java:120)
at
com.cognos.pogo.reportservice.RSComponentFactory.newProcessFacade(RSComponentFactory.java:67)

at com.cognos.pogo.reportservice.ProcessManager.createProcessFacade(ProcessManager.java:514)
at com.cognos.pogo.reportservice.ProcessManager.startProcess(ProcessManager.java:490)
at com.cognos.pogo.reportservice.ProcessManager.startInitialProcesses(ProcessManager.java:364)
at com.cognos.pogo.reportservice.ProcessManager.start(ProcessManager.java:295)
at com.cognos.pogo.reportservice.ReportServerHandler.start(ReportServerHandler.java:737)
at com.cognos.pogo.services.DefaultHandlerService.start(DefaultHandlerService.java:94)
at com.cognos.pogo.services.DispatcherServices.start(DispatcherServices.java:189)
at com.cognos.pogo.services.DispatcherServices.continueStartup(DispatcherServices.java:417)
at com.cognos.pogo.services.DispatcherServices.configure(DispatcherServices.java:137)
at com.cognos.pogo.contentmanager.coordinator.RefreshController.composeAndConfigureServices(RefreshController.java:120)
at com.cognos.pogo.contentmanager.coordinator.RefreshController.run(RefreshController.java:80)
at com.cognos.pogo.contentmanager.coordinator.BootstrapConfigurePublish.startConfiguration(BootstrapConfigurePublish.java:154)
at com.cognos.pogo.contentmanager.coordinator.BootstrapConfigurePublish.checkConfiguration(BootstrapConfigurePublish.java:127)
at com.cognos.pogo.contentmanager.coordinator.BootstrapConfigurePublish$ConfigurationCheckTask.safeRun(BootstrapConfigurePublish.java:120)
at com.cognos.pogo.util.threads.SafeTimerTask.run(SafeTimerTask.java:32)
at java.util.Timer$TimerImpl.run(Timer.java:296

The corresponding exception in the cogserver.log is as follows.

2013-01-15 15:12:33.387 FATAL [m.cognos.pogo.reportservice.ProcessManager] Thread-51: External Report Server process BIBusTKServerMain cannot be started java.io.IOException: Process BIBusTKServerMain failed to start properly.
at com.cognos.pogo.reportservice.ReportServerProcess.getProcessOutput(ReportServerProcess.java:154)
at com.cognos.pogo.reportservice.ReportServerProcess.start(ReportServerProcess.java:117)
at com.cognos.pogo.reportservice.ProcessFacade.createServerProcess(ProcessFacade.java:219)
at com.cognos.pogo.reportservice.ProcessFacade.<init>(ProcessFacade.java:120)
at com.cognos.pogo.reportservice.RSComponentFactory.newProcessFacade(RSComponentFactory.java:67)
at com.cognos.pogo.reportservice.ProcessManager.createProcessFacade(ProcessManager.java:514)
at com.cognos.pogo.reportservice.ProcessManager.startProcess(ProcessManager.java:490)
at com.cognos.pogo.reportservice.ProcessManager.startInitialProcesses(ProcessManager.java:364)
at com.cognos.pogo.reportservice.ProcessManager.start(ProcessManager.java:295)
at com.cognos.pogo.reportservice.ReportServerHandler.start(ReportServerHandler.java:737)
at com.cognos.pogo.services.DefaultHandlerService.start(DefaultHandlerService.java:94)
at com.cognos.pogo.services.DispatcherServices.start(DispatcherServices.java:189)
at com.cognos.pogo.services.DispatcherServices.continueStartup(DispatcherServices.java:417)
at com.cognos.pogo.services.DispatcherServices.configure(DispatcherServices.java:137)
at com.cognos.pogo.contentmanager.coordinator.RefreshController.composeAndConfigureServices(RefreshController.java:120)
at com.cognos.pogo.contentmanager.coordinator.RefreshController.run(RefreshController.java:80)
at com.cognos.pogo.contentmanager.coordinator.BootstrapConfigurePublish.startConfiguration(BootstrapConfigurePublish.java:154)

at
com.cognos.pogo.contentmanager.coordinator.BootstrapConfigurePublish.checkConfiguration(BootstrapConfigurePublish.java:127)
at
com.cognos.pogo.contentmanager.coordinator.BootstrapConfigurePublish$ConfigurationCheckTask.safeRun(BootstrapConfigurePublish.java:120)
at com.cognos.pogo.util.threads.SafeTimerTask.run(SafeTimerTask.java:32)
at java.util.Timer$TimerImpl.run(Timer.java:296

Now that we know, Cognos doesn't initialize fully, the next step would be to verify if the required patches are installed. To do so, logon to the Red Hat Linux 64-bit host where Control Center is installed.

From the command prompt, type the following.

sh redhatlinuxpatchcheck.sh

As a **root** user, type the following command at the prompt. As an example, type the following command to install the 32-bit libraries. If other required patches are missing, work with your UNIX admin, to get the latest libraries installed.
yum install libstdc++-devel.i686 or yum install libstdc++-devel.i386

BmtMDProviderMain Issues.

If BmtMDProviderMain which is a 32-bit process, runs out of memory, make sure the stack size within the ulimit setting is not set too high. The BIBusTKServer needs to complete initialize before Control Center engine can execute any reports.

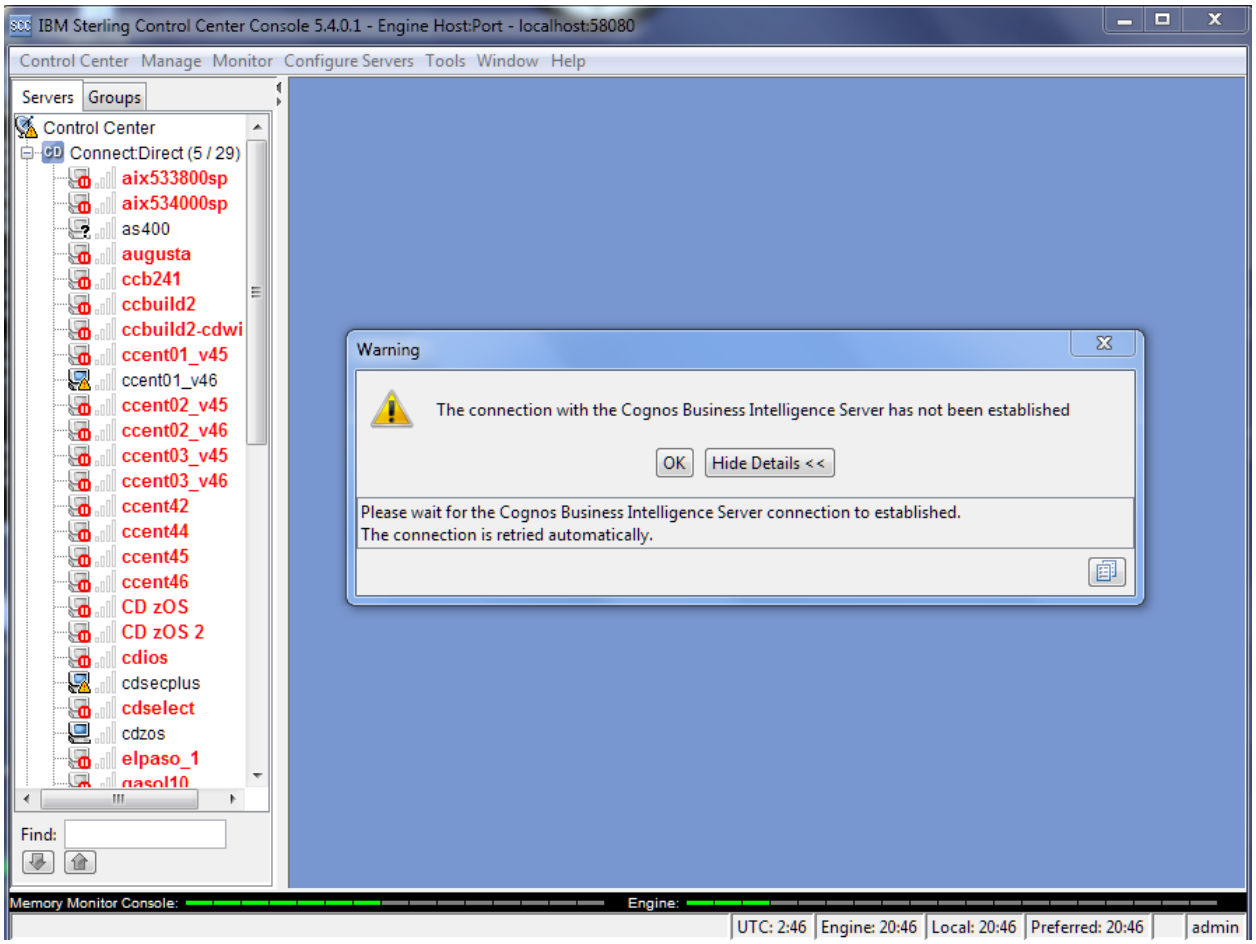
```
./BmtMDProviderMain
port=54476 pid=9711
CCL-SRV-0513 The BIBusTKServer process ran out of memory.
CCLOutOfMemoryError


CCL-SRV-0504 The BIBusTKServer process caught an unexpected exception of
unknown type.

Other symptoms could be as follows

*** glibc detected *** /u01/EFTS/IBM/SCC/Cognos/bin/BmtMDProviderMain:
malloc(): memory corruption (fast): 0x091ede0f ***
```

The following ulimit parameters were sufficient to run Cognos on Red Hat Linux 64-bit platform.

core file size (blocks, -c) 0
data seg size (kbytes, -d) unlimited
scheduling priority (-e) 0
file size (blocks, -f) unlimited

pending signals (-i) 30720
max locked memory (kbytes, -l) 32
max memory size (kbytes, -m) unlimited
open files (-n) 4096
pipe size (512 bytes, -p) 8
POSIX message queues (bytes, -q) 819200
real-time priority (-r) 0
stack size (kbytes, -s) 10240
cpu time (seconds, -t) unlimited
max user processes (-u) 30720
virtual memory (kbytes, -v) unlimited
file locks (-x) unlimited

The following error message is displayed in the Control Center classic console, if Cognos Report Service fails to initialize



The following logs provide detailed information with regards to the Cognos startup issues.

- cogserver.log (Located under <Your_SCC_Install_Location>\Cognos\logs directory)
- pogo*.log (Located under <Your_SCC_Install_Location>\Cognos\logs directory)
- CognosReportService*.log (Located under <Your_SCC_Install_Location>\log directory)

Note: * indicates additional text that's part of the file name.

If the above logs do not provide informational messages that can be evaluated, run the data collector script located in the Control Center bin folder, open a PMR with Control Center technical support, and upload the SCCdata*.zip file to EcuRep.