



DCMI Conformance Test Suite (DCTS for Windows) User Guide

Rev 1.4

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1. Glossary of Terms

This document uses the following terms and abbreviations:

Term	Definition
DCMI	Data Center Management Interface
DCTS	DCMI Conformance Test Suite
FW	Firmware
IB	In Band
IPDC	Internet Portal Data Center
IPMI	Intelligent Platform Management Interface
KCS	Keyboard Controller Style
MC	Management Console
NIC	Network Interface Card
NM	Node Manager
OEM	Original Equipment Manufacturer
OOB	Out of Band
OS	Operating System
RMCP	Remote Management Control Protocol
SDR	Sensor Data Record
SEL	System Event Log
TBD	To Be Determined
TMode	Terminal Mode
UUT	Unit Under Test

2. Introduction

2.1 Scope and Purpose

This document covers operational procedures, configuration and setup needed to run the DCMI conformance test suite (DCTS),

2.2 Audience

This document is intended for use by Validation Engineers, Program/Project Managers, Development Engineers, and the Internet Portal Data Center counterparts to test DCMI compliance. It is assumed that the reader has a background in Server manageability and DCMI.

2.3 Location of this Document

Updates to the user document can be obtained from the following link:

<http://www.intel.com/technology/product/DCMI/index.htm>

2.4 Change History

Date	Rev	Comments
06/11/08	0.7	Stakeholder Review
07/02/08	0.8	Peer Review
08/04/08	1.0	Updated for Release
02/03/09	1.1	Updated for Release
03/25/09	1.2	Formatting changes
05/28/09	1.3	Updated for Release
08/11/09	1.4	Updated for DCMI 1.0 Errata Revision 1 Date: 4/21/09 DCTS Release: 1.3

3. DCMI Conformance Suite Overview

3.1 General Description

The DCMI Conformance Test Suite (DCTS) provides a baseline set of tests for verifying compliance with the Data Center Management Interface (DCMI) specification. DCTS is designed to perform “Black Box” testing, wherein the focus is solely on the outputs generated in response to selected inputs and execution conditions. The primary objectives of the test suite are:

1. Reduce ambiguity in the specification s interface description.
2. Increase customer s confidence in interoperability between different implementations.
3. Identify which parts of the specification have been implemented.
4. Help implementers and users understand how the DCMI interfaces are expected to be called.

DCTS presents a simple menu driven user interface. Each test scenario verifies a logical unit of functionality and reports a pass or a fail. A cross reference of tests to DCMI specification references can be viewed in Appendix B.

Based on the method chosen for communication with the target system, the following two modes of testing are supported.

- **In-Band Testing (IB)**
 - Using KCS Channel
 - The test tool resides on the Server Platform to be tested
- **Out-of-Band Testing (OOB)**
 - Using Ethernet LAN based connectivity via IPMI/RMCP+ protocol
 - The test tool resides on the remote PC.

3.2 Software Components

The package is distributed as a self extracting executable; it contains the files listed below and all files should be extracted to the same directory. The user has the option of installing in the directory of their choosing.

- **DCMIConformance.exe** – WIN32 application, that serves as the

- Presentation layer for user Input/Output
- Send, receive and process the commands.
- Report results
- **TransportKcs.dll** – In-band driver component
- **TransportRmcpp.dll** – Out-of-band driver component.
- **Userconf.cfg** – Text file for configuring the user and network environment.
- **ReleaseNotes.txt** – Text file that has the release information.

3.3 Userconf.cfg

The basic network and session configuration for the test environment is extracted from the file “Userconf.cfg”. Please note this is a text file and it is modeled after the “.INI” file that is commonly used in the Windows environment. A complete list of parameters along with default values are listed in the sample user config file in Appendix A.

4. Usage Pre-Requisites

All the prep-work listed in this section should be completed before starting the actual test run.

4.1 Installation

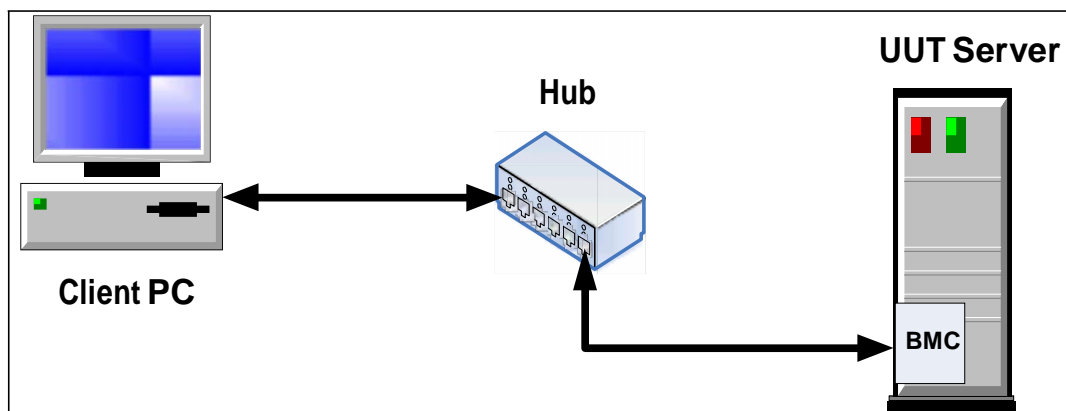
- Extract the DCMI_Conformance.zip file into a folder of your choice.
 - For OOB application install on your client PC.
 - Client PC should be running Windows Server 2003, or Windows Server 2008
 - For IB application install on the UUT or Target Server.
 - Requires Windows Server 2003, or Windows Server 2008
 - Obtain, install, and configure on the client PC/Server any utility that will allow you to view the TCP/IP packets that will need to be observed during the platform DHCP discovery operation.

4.2 Out-of-Band testing

4.2.1 Network Connectivity & IPMI Session Configuration

It is assumed that the user is familiar with the tools and procedures to configure the server manageability stack on the UUT.

- The Manageability Controller should be configured for IP connectivity, this implies IP address and ensuring there is IP based network connectivity between the UUT and the host PC.
- The test is intended to run in a one-to-one configuration. It is not meant to run on a network with significant network traffic.



- A set of usernames and passwords with admin privilege should be configured on the server as part of BMC provisioning

4.2.2 DHCP/DCMI Discovery

1. This test is in support of Test Case 13.7 of the DCMI Conformance Test Suite.
2. This test assumes that the user will be using DHCP for the target server.
3. Start the packet sniffing tool and insure you are reading from the test network port that is connected to your test network.
4. DC cycle the UUT to off.
5. Cycle AC power off for about 30 seconds.
6. Cycle AC power on.
7. Immediately after AC power on, use the packet capture tool to capture the initial DHCP discovery packet and verify the DHCP host name.
8. Take note or write down the host name as this will be requested in the test execution.

4.2.3 DCTS Configuration

The values for out-of-band testing are shown below.

```
[DCMI_Conformance]
# Log details level for screen
# [summary, details, debug]
screen-output=summary
# Log details level for logfile
# [no, summary, details, debug]
log-to-file=details
# Log file name
log-file-name=results.log
[RMCP]
targetIP=XXX.XXX.XXX.XXX
username=username
password=password
CipherSuite=11
The user may need to edit the timeout values if the system being
verified has latent timeout issues. The user shouldn't
arbitrarily adjust these values but should only adjust with the
understanding of the hardware limitations of the system under
test.
```

```
# Define Time Out Values

# If left empty the test will use a default value in the code of
1 second
[TimeOutValues]
TimeOutSELReserve=1
TimeOutSELGet=1
TimeOutSELClear=1
TimeOutSysOff=15
TimeOutSysOn=35
TimeOutSysReboot=35
TimeOutPwrOn=25
TimeOutPwrOff=15
TimeOutLedBlink=15
```

4.3 In-Band testing

4.3.1 IPMI Driver Installation

In the case of in-band testing the management and monitoring tools need to be selected and the ipmi driver installed⁽¹⁾. Please refer to the reference [http://msdn.microsoft.com/en-us/library/aa391402\(VS.85\).aspx](http://msdn.microsoft.com/en-us/library/aa391402(VS.85).aspx). The steps are listed below:

- Select Control Plane
 - Add or Remove Programs
 - Add/Remove Windows Components
 - Select Management and Monitoring Tools
 - Deselect Microsoft .NET Framework* 2.0
- At the command prompt enter <rundll32 ipmisetp.dll, AddTheDevice>⁽²⁾

(1) The standard install of Windows may not include the complete list of files needed for enabling the management and monitoring tools. Have your install CD/DVD available to enable the tools. Also, insure you have administrator rights to install the components.

(2) User will not get an indication that this passes or fails.

4.3.2 DCTS Configuration

Further details can be viewed in Appendix A.

```
[DCMI_Conformance]
# Log details level for screen
# [summary, details, debug]
screen-output=summary
# Log details level for logfile
# [no, summary, details, debug]
log-to-file=details
```

```

# Log file name
log-file-name=results.log
The user may need to edit the timeout values if the system being
verified has latent timeout issues. The user shouldn't
arbitrarily adjust these values but should only adjust with the
understanding of the hardware limitations of the system under
test.
# Define Time Out Values
# If left empty the test will use a default value in the code of
1 second
[TimeOutValues]
TimeOutSELReserve=1
TimeOutSELGet=1
TimeOutSELClear=1
TimeOutSysOff=15
TimeOutSysOn=35
TimeOutSysReboot=35
TimeOutPwrOn=25
TimeOutPwrOff=15
TimeOutLedBlink=15

```

5. Test Execution

1. Open a command window on the Client PC(3) if executing OOB or on the Unit.
2. Under Test if running in-band.
3. Verify if running OOB that the UUT is turned on and booted to the OS.
4. Move to the directory that has the DCMIconformance.exe file resident.
5. Run DCMIconformance.exe and the menu will open as shown in the screen shot below, select one of the four options.

```

C:\Windows\system32\cmd.exe - DCMIconformance.exe
DCMI Conformance Test Suite application started.
=====
DCMI Conformance Test Suite?
** Tool Revision 1.4 **
** Spec Revision 1.00 **
=====
** DCMI Conformance Test Main Menu **
Enter a number and <Enter> to start the test required:
RMCP+ - OOB Conformance Test.....1
KCS - InBand Conformance Test <Run on UUT only>.....2
Validate RMCP+ CipherSuites Supported on Platform OOB..3
EXIT Test .....0
-> _

```

NOTE: At various times the test will delay. You may see the prompt; **“Waiting for X seconds.”** This is primarily used to allow the Manageability controller to stabilize before and after power cycles and during flash reads and writes which take longer to execute than routine command issues.

Administrator rights not needed to execute the in-band test.

6. Test Completion

On completion of the test run, the summary results will appear as shown below.

Please note the results are captured in results.log file (Sample in Appendix C) in the same directory where the executable is located. The log will contain details of the test execution summary. There are four possible outcomes to each test case:

- **PASS** all the expectations for that test case were met.
- **FAIL** at least one of the test
- **ABORTED** test could not be completed due to connectivity issues.
- **TEST SKIPPED** skipped because the feature is not supported.

```
C:\WINDOWS\system32\cmd.exe

Conformance Test Results.

Test Case 1 : Get Device Id : PASS
Test Case 2 : Get DCMI Capabilities
Test Case 2.1 : Supported DCMI Capabilities : PASS
Test Case 2.2 : Minimum Platform Attributes : PASS
Test Case 2.3 : Optional Platform Attributes : PASS
Test Case 2.4 : Manageability Access Attributes : PASS
Test Case 3 : Get System Guid : PASS
Test Case 4 : Asset Tag Command : PASS
Test Case 5 : SEL
Test Case 5.1 : Get SEL Info : PASS
Test Case 5.2 : Reserve SEL : PASS
Test Case 5.3 : Get SEL Entry
Test Case 5.3.1 : Get SEL Entry with Reservation ID : PASS
Test Case 5.3.2 : Get First SEL Entry without Reservation ID : PASS
Test Case 5.3.3 : Get Last SEL Entry with Reservation ID : PASS
Test Case 5.4 : Clear SEL : PASS
Test Case 5.5 : Verify SEL : PASS
Test Case 6 : Temperature Sensor Discovery : PASS
Test Case 7 : Get SDR Repository Info : PASS
Test Case 8 : Chassis
Test Case 8.1 : Get Chassis Capabilities : PASS
Test Case 8.2 : Chassis System Status : PASS
Test Case 8.3 : Chassis Identify : PASS
Test Case 8.4 : Get ACPI power state : PASS
Test Case 8.5 : Chassis System Power OFF : PASS
Test Case 8.6 : Chassis System Power ON : PASS
Test Case 8.7 : Chassis System Reset : PASS
Test Case 9 : VLAN Support Test : PASS
Test Case 10 : SOL Support Test : PASS
Test Case 11 : TMODE Support Test : SKIPPED
Test Case 12 : Power Management : SKIPPED
Test Case 13 : LAN Tests
Test Case 13.1 : Lan Configuration Gratuitous Arp Check : PASS
Test Case 13.2 : Lan Configuration Arp Control Check : PASS
Test Case 13.3 : Lan Configuration IP Source Check : PASS
Test Case 13.4 : Lan Configuration Access Mode Check : PASS
Test Case 13.5 : Multi Session Test : PASS
Test case 13.6 : DHCP Host String Discovery Test : PASS

Attempting to close Interface ..... Completed closing Interface

Press any key to exit...
```

7. Troubleshooting Guide

Issue

Unable to connect to UUT via RMCP.

Unable to start execution of the KCS test on the UUT.

Test aborts and indicates no DCM1 compliance.

Possible Solution

Possible incorrect IP Address incorrect in userconf.cfg file.

Unable to ping the UUT using <ping IP Address>

Username or Password not in sync for the UUT and the userconf.cfg file.

Management and monitoring and driver not enabled in the OS.

Expected Behavior Manageability Controller doesn't support DCM1 interface.

Appendix A

This appendix provides in detail the descriptions and variables the user should have knowledge of in preparing to execute the test suite against a DCM1 supported server.

```
#####
#       User Configuration File - userconf.cfg
#####
# The User Configuration file defines the Settings for the
# main application, and the RMCPP connection parameters,
# the timeout options of the Platform.
# This file is intended to be changed only if you have a
# good knowledge of the Manageability Controller and Platform
# Caution: Please follow the guidelines for initializing
# the following user configurations, any deviations
# will result in unpredictable behavior. All options need to be
# initialized.
#####

#=====
#[DCM1_Conformance] section defines the following options
# to control the level of information displayed in the Test
# suite to the screen and the file, the name of the result file
# options:
# -> screen-output
# -> log-to-file
# -> log-file-name
#=====
[DCM1_Conformance]

#-----
# Option       : screen-output
# Description  : Defines the level of detail to be printed on
#               screen. The user can choose -
#               summary - for high level output to screen
#               details - for more detailed output to screen
#               debug   - prints the raw data sent to the DCM1
#               commands and other debug information
# Valid Options : [summary, details, debug]
# Usage        : screen-output=summary
# Space terminates line, make sure there is no space before and
# after =
#-----
screen-output=summary

#-----
# Option       : screen-output
# Description  : Defines the level of detail to be printed to
#               log file. The user can choose -
#               no      - log file will not be generated
#               summary - for high level output to file
#               details - for more detailed output
```

```

#          debug - prints the raw data sent to the DCM1
#          commands and other debug information
# Valid Options : [no, summary, details, debug]
# Usage       : log-to-file=summary
# Space terminates line, make sure there is no space before and
# after =
#-----
log-to-file=summary

#-----
# Option      : screen-output
# Description  : Defines the level of detail to be printed to
#              log file. The user can choose -
#              no   - log file will not be generated
#              summary - for high level output to file
#              details - for more detailed output
#              debug  - prints the raw data sent to the DCM1
#              commands and other debug information
# Valid Options : valid File name
# Usage        : log-to-file=results.log
# Space terminates line, make sure there is no space before and
# after =
#-----
log-file-name=results.log

#=====
# [RMCPP] section defines the following options
# to provide the settings for RMCPP transport
#
# options :
# Target IP -> The target IP to establish RMCPP connection
# Username  -> Username of manageability account provisioned in UUT
# Password  -> Password corresponding to username
#=====
[RMCPP]

#-----
# Option      : Target IP
# Description  : Target IP of UUT (assigned to BMC)
# Valid Options : Target IP should have following format
#              <xx.xx.xx.xx>. xx should be in decimal.
# Usage       : (ex) targetIP=222.94.222.32
# Space terminates line, make sure there is no space before and
# after =
#-----
targetIP=222.222.222.98

#-----
# Option      : Username
# Description  : Valid Username provisioned in the BMC
#              leave empty for NULL user account
# Valid Options : Username can be maximum of 16 characters

```

```

# Usage      : (ex) username=root
# Space terminates line, make sure there is no space before and
# after =
#-----
username=four

#-----
# Option      : Cipher Suite
# Description  : The Cipher Suite ID as in the Table-4: Mandatory
#               Cipher Suite support
# Valid Options : The valid IDs supported are - 0, 1, 2, 3, 6, 7, 8, 11, 12
# Usage      : (ex) Cipher Suite=8
# Space terminates line, make sure there is no space before and
# after =
#-----
CipherSuite=2

#=====
# [TimeOutValues] section defines the following options
# to provide platform specific Delay time in seconds required for
# the UUT to stabilize after power off! power on etc, before
# sending the next command to BMC. The test suite expects these
# time outs to be less than 50 seconds. The tests may fail if the
# time-out delays are not adequate enough for the BMC to stabilize.
# options :
# TimeOutPwrOn=25
# TimeOutPwrOff=15
# TimeOutLedBlink=15
# TimeOutSELReserve= 1
# TimeOutSELGet= 1
# TimeOutSELClear=1
# AcpiOffCheckInterval=20
# AcpiOnCheckInterval=5
#=====
[TimeOutValues]

#-----
# Option      : TimeOutPwrOn
# Description  : The TimeOutPwrOn is the time in seconds required
#               for the platform to stabilize after a DC ON
#               is issued.
# Valid options: time delay of 1 -50. Minimal delay of 25 is
#               suggested
# Usage      : (ex)TimeOutPwrOn=30
# Space terminates line, make sure there is no space before and
# after =
#-----
TimeOutPwrOn=25

#-----
# Option      : TimeOutPwrOff
# Description  : The TimeOutPwrOff is the time in seconds required
#               for the platform to stabilize after a DC OFF

```

```

#           is issued.
# Valid options : time delay of 1-50. Minimal delay of 15 is
#           suggested
# Usage       : (ex)TimeOutPwrOff=30
# Space terminates line, make sure there is no space before and
# after =
#-----
TimeOutPwrOff=15

#-----
# Option      : TimeOutLedBlink
# Description  : The TimeOutLedBlink is the time in seconds for
#           blinking the LED in the Chassis Identify command
#           test case. This is the delay time for user to
#           observe the LED blinking in the platform
# Valid options: time delay of 1-50.
# Usage       : (ex)TimeOutLedBlink=15
# Space terminates line, make sure there is no space before and
# after =
#-----
TimeOutLedBlink=15

#-----
# Option      : TimeOutSELReserve
# Description  : The TimeOutSELReserve is the time in seconds
#           for the BMC in the platform to complete a
#           SEL Reserve action
# Valid options: time delay of 1-50.
# Usage       : (ex)TimeOutSELReserve=1
# Space terminates line, make sure there is no space before and
# after =
#-----
TimeOutSELReserve=1

#-----
# Option      : TimeOutSELGet
# Description  : The TimeOutSELGet is the time in seconds
#           for the BMC in the platform to complete a
#           SEL Get action
# Valid options: time delay of 1-50.
# Usage       : (ex)TimeOutSELGet=1
# Space terminates line, make sure there is no space before and
# after =
#-----
TimeOutSELGet=1

#-----
# Option      : TimeOutSELClear
# Description  : The TimeOutSELClear is the time in seconds
#           for the BMC in the platform to complete a
#           SEL Clear action
# Valid options: time delay of 1-50.
# Usage       : (ex)TimeOutSELClear=1
# Space terminates line, make sure there is no space before and

```

```

# after =
#-----
TimeOutSELClear=1

#-----
# Option      : AcpiOffCheckInterval
# Description  : The AcpiOffCheckInterval is the time in seconds
#               after which the ACPI power state can be checked
#               after a DC OFF
# Valid options: time delay of 1-50. A minimal timeout of 10
#               is suggested.
# Usage       : (ex)AcpiOffCheckInterval=20
# Space terminates line, make sure there is no space before and
# after =
#-----
AcpiOffCheckInterval=20

#-----
# Option      : AcpiOnCheckInterval
# Description  : The AcpiOnCheckInterval is the time in seconds
#               after which the ACPI power state can be checked
#               after a DC ON
# Valid options: time delay of 1-50. A minimal timeout of 5
#               is suggested.
# Usage       : (ex)AcpiOnCheckInterval=20
# Space terminates line, make sure there is no space before and
# after =
#-----
AcpiOnCheckInterval=5

```

Appendix B – Specification Cross Reference

This appendix provides a cross reference map of the line items in the DCMI specification to the test case number contained in the conformance test suite and brief description of the test case.

DCMI Specification V1.0 Revision 1.0 Reference section.	Test Case Number	Test Case Description
6.0, 6.4.2	1	Get Device ID
6.1	2	Get DCMI Capabilities
6.1	2.1	Supported DCMI Capabilities
6.1	2.2	Minimum Platform Attributes
6.1	2.3	Optional Platform Attributes
6.1	2.4	Manageability Access Attributes
2.5.1, 3, 3.1.2, 6, 6.4.3	3	Get System GUID
2.5.2, 3, 3.1.1, 5.5.1.1, 6, 6.4.1, 6.4.1.1,	4	Asset Tag Command
3, 3.1.3, 6, 6.3	5	SEL Check
6, 6.3.1	5.1	Get SEL Info
6, 6.3.2	5.2	Reserve SEL
6.3.2, 6.3.3	5.3.1	Get SEL Entry with Reservation ID
6.3.2, 6.3.3	5.3.2	Get SEL Entry without Reservation ID
6.3.2, 6.3.3	5.3.3	Get Last SEL Entry with Reservation ID
6, 6.3.4	5.4	Clear SEL
6, 6.3.4	5.5	Verify Clear SEL Action
6.1, 6.5.1, 6.5.2, 6.5.3, 6.5.4	6	Temperature Sensor Discovery
Errata E1 Addenda Table 6-1	7	Get SDR Repository Info
3, 3.1.2, 6, 6.1, 6.2, 6.2.2	8	Chassis Control
Errata E1 Addenda Table 6-1	8.1	Get Chassis Capabilities
6, 6.1, 6.2.1	8.2	Chassis System Status

6, 6.1, 6.2.3	8.3	Chassis Identify
6, 6.2.4	8.4	Get ACPI power state
3, 3.1.2, 6, 6.1, 6.2, 6.2.2	8.5	Chassis System Power OFF
3, 3.1.2, 6, 6.1, 6.2, 6.2.2	8.6	Chassis System Power ON
3, 3.1.2, 6, 6.1, 6.2, 6.2.2	8.7	Chassis System Power Reset
5.3.1.2, 6.1, 7.1.1	9	VLAN Support Test
2.5, 5.2, 5.3.1.2, 5.4.1.3, 6.1, 7,	10	SOL Support Test
2.5, 5.2, 5.3.2.1, 5.4.2.1, 6.1	11	TMODE Support Test
2.5.3, 3, 3.2.1, 6, 6.6, 6.6.1, 6.6.2, 6.6.3, 6.6.4	12	Power Management
5.3.1.2	13	LAN Configurations
5.3.1.2.1	13.1	Gratuitous ARP check
5.3.1.2.2	13.2	ARP Control check
5.3.1.2.3	13.3	IP Source check
5.3.1.2.5	13.4	Access Mode check
5.2, 5.2.3	13.5	Multi-Session check
5.5.1.2	13.6	DHCP Host String Discovery check

Appendix C – Excerpts from results.log

This appendix shows a sample excerpt from the results.log that will be output by the DCMI conformance test suite.

Date: 08/11/09 Time: 11:57:09

DCMI Conformance Test Suite application started.

```
=====
DCMI Conformance Test Suite!
```

```
** Tool Revision 1.3 **
```

```
** Spec Revision 1.00 **
=====
```

```
** DCMI Conformance Test Main Menu **
```

Enter a number and <Enter> to start the test required:

```
RMCP+ - OOB Conformance Test.....1
KCS - InBand Conformance Test (Run on UUT only).....2
Validate RMCP+ CipherSuites Supported on Platform OOB..3
EXIT Test .....0
```

-> User has selected to run the RMCP+ OOB DCMI Conformance Test.

Establishing RMCP+ session with CipherSuite: 0

[RMCPP transport]: Issuing GetDCMICapabilityInfo Command with session-less

[RMCPP transport]: GetDCMICapabilityInfo Command Executed Successfully for session-less privilege level.

Test Case 1: Checking Get Device ID from Management Controller.

```
Privilege Level set to USER in UUT
```

```
Received valid completion code for Get Device ID from UUT.
```

```
Management Controller Firmware Major Revision :0
```

```
Management Controller Firmware Minor Revision :        0x38
```

```
Privilege Level set to OPERATOR in UUT
```

```
MAC Address of Platform (Hex):  001517909066
```

Test Case 2: Checking DCMI Capabilities for Parameter Data.

```
Privilege Level set to USER in UUT
```

Test Case 2.1: Checking Supported DCMI Capabilities for Platform.

Get DCMI Capabilities Info Command Returned a Valid Completion Code.
The DCMI Discovery Group Extension code of 0xDC is correct.
DCMI Specification conformance Major version is: 0x01
DCMI Specification conformance Minor version is: 0x0
DCMI Specification Parameter Revision is : 0x02
Optional Platform Capabilities is Complaint with DCMI Specification.
Platform Manageability access Capabilities is Compliant with DCMI Specification.

Test Case 2.2: Checking DCMI Minimum Platform Attributes

Get DCMI Capabilities Info Command Returned a Valid Completion Code.
The DCMI Discovery Group Extension code of 0xDC is correct.
SEL Capabilities:
Number of SEL entries is : 3639
Identification Attributes:
Platform Mandatory Identification Feature is Complaint
with DCMI Specification.

Test Case 2.3: Checking Optional Platform Attributes

Get DCMI Capabilities Info Command Returned a Valid Completion Code.
The DCMI Discovery Group Extension code of 0xDC is correct.

Test Case 2.4: Checking Manageability Access Attributes.

Get DCMI Capabilities Info Command Returned a Valid Completion Code.
The DCMI Discovery Group Extension code of 0xDC is correct.
Manageability Access Attributes:
Primary LAN channel number is :0x1

Test Case 2.5: Checking Supported CipherSuites in Platform.

The DCMI spec compliant CipherSuites supported in the platform :

- Cipher - 0
- Cipher - 0x1
- Cipher - 0x2
- Cipher - 0x3
- Cipher - 0x6
- Cipher - 0x7
- Cipher - 0x8
- Cipher - 0xb
- Cipher - 0xc

The Platform supports all the 9 Ciphersuites as per DCMI 1.0 spec

Capabilities Summary:

Power Management	- NOT Supported
In Band KCS	- Available
Out-Of-Band Serial TMODE	- NOT Available
Out-Of-Band Secondary LAN	- NOT Available
SEL automatic Rollover	- Disabled
DHCP Host Name Support	- Supported
Asset Tag Support	- Supported
Secondary LAN Channel number	- NOT Supported
Serial OOB TMODE Support Channel	- NOT Available