

Users Guide

Insight Network Command Line Utility (NetworkCLU or OCSCConfig)

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1 Introduction

Delphi Display Systems' Endura Order Confirmation Systems have two main methods for updating graphics and configuration data. The interactive tool Display Manager allows users to directly create slideshows, design the layout of order confirmation screens, and modify dayparts and other configuration settings. Display Manager is designed to be interactive and directly updates Endura Order Confirmation Displays one at a time.

For scripted or batch updates of Order Confirmation Systems, Delphi Display Systems has provided a Network Command Line Utility, a command-line tool used to update systems in a scripted or non-interactive environment. This tool is also generally known as OCSCConfig.

This new version of our Network Command Line Utility is enhanced to support our next-generation Endura 15X product, and the enhanced longevity of our Endura Order Confirmation Systems.

We strongly recommend that you upgrade your Network Command Line Utility to the latest version as soon as possible, to ensure continued support of graphics and configuration updates to Endura and Endura 15X Order Confirmation Systems.

2 Installation

2.1 Network Considerations

In order for the *Network Command-line Utility* to function properly, it must have adequate access to the network. This may require assistance from your network administrator. The Insight *Network Command-line Utility* makes use of TCP/IP sockets to facilitate communication with the OCS. Furthermore, when updating an OCS the utility makes use of FTP or secure HTTP depending on the OCS model being used. Finally, in some cases the utility sends out broadcast UDP packets; for example, when using the query option ("-query"), the utility will send a broadcast packet across the network.

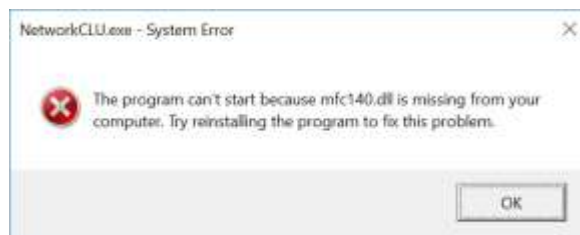
2.2 Installation Process

The Insight Network Command Line Utility is a standalone program and requires no installation. Simply copy the executable file **NetworkCLU.exe** into the directory on the computer where you want to run it. If you have an earlier version of the Network Command Line Utility, simply copy the new file over the old one.

If your existing tool is named **OCSCConfig.exe**, this is the same tool as NetworkCLU. Rename NetworkCLU.exe to OCSCConfig.exe and copy it over the existing file to upgrade.

2.3 Win32 Library Dependency

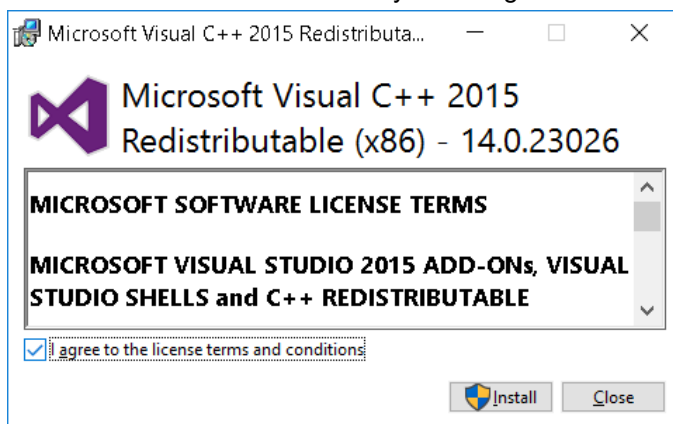
The Network Command Line Utility requires some standard Visual C++ redistributable libraries to be loaded on the computer. In most cases these libraries will already be present. If these libraries are not present on the computer, running the Network Command Line Utility may result in an error:



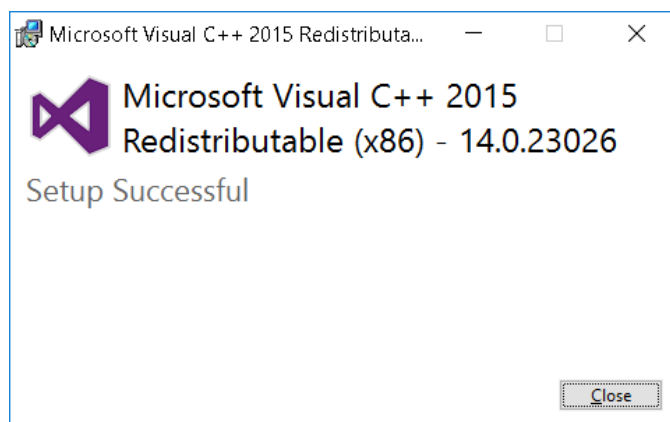
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If you see this error, install the Visual C++ redistributable libraries that are packaged with the Network Command Line Utility by running the program **vcredist_x86.exe** and following these steps:

- 2.3.1 Accept the license terms and conditions by checking the box and clicking “Install”



- 2.3.2 The installation will proceed. When it is complete you will see the “Setup Successful” window. Click “Close”



3 Compatibility with Earlier Versions

If you are using a version of Delphi's Network Command Line Utility today, this new version should work in place with no modifications required. The same command set is supported and is backward compatible, ensuring continued operation of your existing Endura Order Confirmation Systems and enabling support for new Endura and Endura 15X systems. Simply copy the new executable file in place of the existing one and test to validate continued operation. If your existing Network Command Line Utility has a different name other than **NetworkCLU.exe**, then you will need to change the scripts or batch files that invoke the Network Command Line Utility so that they refer to NetworkCLU.exe, or rename the NetworkCLU.exe to the filename of the older utility so that the scripts or batch files run the new utility.

4 Command-Line Arguments

The usage of the command-line is as follows:

NetworkCLU.exe ([**-b**] [**-d**<filename>] [**-deletefile**<remote path>] [**-delphiexecute**<command>] [**-dhcp**] [**-f**<file path>[;use_now]] [**-getfile**<source>:<destination>] [**-g**[**Network** | **Software** | **Hardware** | **System** | **Status** | **Diag** | **Model**]] [**-hwc**<Hardware Command>] [**-i**<New IP Address>] [**-m**<New time>] [**-s**<New Subnet mask>] [**-UDP**<OCS ID>] [**-w**<New Gateway Address>] [**-x**<OCS IP Address>] [**-zf**<Zip file path> [**-za**[-**zd**]]) | [**-zm** | **-query**] [**-o**<Log file path>] [**-r**<Results file path>] [**-user**<user name>] [**-pass**<password>] [**-putfile**<source path>,<target path>] [**-L**]

NOTE: When specifying a file path or command that has space breaks in it, you must enclose the string in double quotes, and use double backslashes instead of single. For example, if you wish to send the file *C:\Images\New Images for Quarter 1\Taco deal.jpg* the command line argument would have to be **-f"C:\\Images\\New Images for Quarter 1\\Taco deal.jpg"**.

4.1 Examples

Following are some examples of usage of the *Network Command-line Utility* application.

- a) Update the OCS. Success/failure information is written to "OCSLogFile.txt":

NetworkCLU.exe -x192.168.2.1 -zfC:\OCBFiles.zip

- b) Update the OCS, and get status information (number of orders placed in previous day). Success/failure information is written to "OCSLogFile.txt", and status information is written to "OCSResults.txt" :

NetworkCLU.exe -x192.168.2.1 -zfC:\OCBFiles.zip -gStatus

- c) Get OCS diagnostics, status, model, software, hardware, and operating system information. Success/failure information is written to "OCS.log", and results are written to "Results.txt":

NetworkCLU.exe -x192.168.2.1 -gDiag -gStatus -gModel -gSoftware -gHardware -gOS -oOCS.log -r"C:\Log Files\Results.txt"

- d) Get OCS diagnostics, status, model, software, hardware, and operating system information. Again, success/failure information is written to "OCS.log", and results are written to "Results.txt":

NetworkCLU -x192.168.2.1 -g -oOCS.log -r"C:\Log Files\Results.txt"

5 Command Details

5.1 Reboot (Reset)

Argument	-b
Description	Reboot (Reset) OCS. Use the -b option to force a reset of the OCS. Note: This option need not be used with the -zf command, as the OCS will reboot itself as part of the update process.

5.2 Delete File (no path)

Argument	-d
Description	Delete a file from the OCS. Do not specify path – use the file name only. The OCS determines where the file resides. I.e. .txt in TEXT folder, or a JPG in the IMAGES folder. To specify the exact location of the file or to delete a folder, use -delete.

5.3 Enable DHCP

Argument	-dhcp
Description	Enable dynamic IP Address for the OCS. Note: The system will reboot upon processing this command to ensure changes take place.
Notes	This command must be used with -w and -s to set gateway and subnet mask in the same command-line call.

5.4 Send Single File

Argument	-f
Description	Send a single file to the OCS. The path name indicates the local file's path and name. Note that the OCS itself will decide where to place the file. If an image file is sent, it will be placed in the IMAGES directory for use by the application. To send a file to a specific location use the -putfile command. If the 'use_now' trailer is specified, the OCS will immediately distribute the file, if not, it will be distributed upon the following reboot.

5.5 Get All Info

Argument	-g
Description	Get All. Use of -g option without any parameters combines all -g parameters, thus providing a shorthand way of specifying all of the following: -gDiag, -gStatus, -gModel, -gSoftware, -gHardware, -gOS. All data is written to the appropriate sections of the results file.
Notes	For Endura OCS systems produced after May 1, 2017, the data returned from this command is different and is limited compared to legacy Endura systems.

5.6 Get Diagnostics

Argument	-gDiag
Description	Get Diagnostics. Perform system diagnostics, or self-test, on the OCS. Results are written to the [Diag] section of the results file.

5.7 Get System Status

Argument	-gStatus
Description	Get Status. Get status information from the OCS. This includes retrieving the number of orders taken during the previous day, and the number of orders taken (so far) during the current day. The data is written to the [Status] section of the results file.

5.8 Get Model Info

Argument	-gModel
Description	Get Model. Get make/model information regarding the OCS unit. The data is written to the [Model] section of the results file.
Notes	For Endura systems manufactured after May 1, 2017, model, partno and serialno may return UNKNOWN. This is not an error.

5.9 Get Software Info

Argument	-gSoftware
Description	Get Software. Get OCS software version information, as follows: OCS Loader application version/build information. OCS Application version/build information. OCS Serial Communications application version/build information. OCS Point-of-Sale (POS) software version/build information. POS interface description. The software version information is written to the [Software] section of the results file.

5.10 Get Insight Software Info

Argument	-gInsightSoftware
Description	Get Insight Software components loaded and respective versions. The software version information is written to the [InsightSoftware] section of the results file.
Notes	This command is only valid for Endura 15X systems. No response will be received for legacy Endura systems.

5.11 Get Hardware Info

Argument	-gHardware
Description	Get Hardware. Get OCS hardware information. The exact information retrieved here remains to be determined. The hardware version information is written to the [Hardware] section of the results file.

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5.12 Get Operating System Info

Argument	-gOS
Description	Get OS. Get operating system version information from the OCS unit. This includes a text description of the operating system, as well as any applicable version/build/service pack information. The OCS version information is written to the [OS] section of the results file.
Notes	For Endura systems manufactured after May 1, 2017, OSDesc and OSVersion may be blank in the results file. This is not an error, but a limitation of the Endura systems.

5.13 Get System Info

Argument	-gSystem
Description	Get System information. Get system date & time, and system resolution of the OCS.

5.14 Get Network Info

Argument	-gNetwork
Description	Get Network. Get network settings information from the OCS.

5.15 Get Help Info

Argument	-h
Description	Help. Writes usage information for the Network Command-line Utility application's command-line interface to the log file.

5.16 Set Static IP

Argument	-i
Description	Set static IP address. This option allows setting of the OCS unit's IP address. Be sure to write down the IP address, and keep it in a safe place.
Notes	This command must be used with -w and -s to set gateway and subnet mask in the same command-line call.

5.17 Synchronize System Time

Argument	-m
Description	Synchronize system time. If this option is used, the OCS unit's date/time will be synchronized with the date/time on the local system on which NetworkCLU.exe is run.

5.18 Set Log Location

Argument	-o
Description	Set log file path and name. Use this argument to specify the full path and name of the (text) log file, which logs activities of the Network Command-line Utility application. Note that the -o option is separate from the -r (results file) option described below. If no log file is specified, a default name ("OCSLogFile.txt") will be used.

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5.19 Target Password

Argument	-pass
Description	Specifies the password for secure transactions with the Insight OCS, and Insight products.

5.20 Set Results Location

Argument	-r
Description	Set results file path and name. Use the -r option to specify the full path and name of the (text) results file, which contains certain diagnostic and status data obtained from the OCS unit. The format of the results file is described later in this document. If no results file is specified, a default name ("OCSResults.txt") will be used.

5.21 Set Subnet Mask

Argument	-s
Description	Set subnet mask
Notes	This command must be used with -w and either -i or -dhcp to set gateway and IP address in the same command-line call.

5.22 User Name

Argument	-user
Description	Specifies the user name for secure transactions with the Insight OCS, and Insight RPM products. Optional to use with the mentioned products. If this switch is not specified, the program uses its own user login (recommended).

5.23 Set Gateway Address

Argument	-w
Description	Set Gateway address on the remote OCS.
Notes	This command must be used with -s and either -i or -dhcp to set subnet mask and IP address in the same command-line call.

5.24 Target IP Address

Argument	-x
Description	Specifies the IP address of the OCS unit to connect to.

5.25 Send Zip File

Argument	-zf
Description	<p>Full path and file name of the zip file to send to the OCS. This may be an absolute or relative path, but if a disk drive is specified, the path must be absolute. For example, -zfOCBFiles.zip and -zfc:\myfolder\OCBFiles.zip are valid, but -zfc:OCBFiles.zip is not.</p> <p>Note: The zip file should not contain path information; path information will be ignored. Including path information may cause unexpected results. Since the -zf option will typically cause the OCS to reboot itself after processing the update package, it is recommended that adding other unrelated options to the command-line be avoided.</p>

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	For example, inclusion of “-g” may fail, as it will attempt to get status which the OCS is rebooting.
--	---

5.26 Query Network For Systems

Argument	-query
Description	Issues a net-wide query for OCS systems. Ignores all other parameters.

5.27 Get Version

Argument	-v
Description	Get version information for the Network Command-line Utility. Information is written to the results file.

5.28 Set System Date/Time

Argument	-mdt <seconds since midnight 1/1/1970 UTC>
Description	Set system date and time
Notes	This command must include the argument of seconds since midnight 1/1/1970 and is only supported for Endura systems manufactured after May 1, 2017 and Endura 15X systems.

5.29 Get Config

Argument	-gc
Description	Get OCS configuration files
Notes	<p>This command must include the argument of seconds since midnight 1/1/1970 and is only supported for Endura systems manufactured after May 1, 2017 and Endura 15X systems.</p> <p>The files default.dpt, menu.csv and ocssystem.ocd are returned in a zip file in response to this command.</p>

6 Command Interpretation

All commands are evaluated in a certain sequence during execution of the application. Some commands also cannot run at the same time as other commands. It is important to understand this relationship as well as the precedence of commands in order to formulate the proper command line, or the results may not be as expected.

If two conflicting commands are used, the application will abort and write an error message to the log file.

6.1 Command Concurrency

Some commands cannot run together with others, and some commands need other commands present in order to work. The general concurrency restrictions are as follows:

- 6.1.1 Help (-h) and Query (-query) must be run alone – if either of these commands are specified, all other commands are ignored. If both are specified, -h will be processed and all other commands, including -query, are ignored.
- 6.1.2 All commands other than Help (-h) and Query (-query) require the command -x (OCS IP Address) to be included.
- 6.1.3 When setting any IP setting (IP address, DHCP, gateway, or subnet mask), the complete IP configuration must be specified in one command. The two valid options are to specify IP, gateway, and subnet mask, or to specify DHCP, gateway, and subnet mask. If only one or two of these commands are issued, the commands will fail.

6.2 Command Sequence

Following is the list of sequence all commands are executed in when the user does NOT specify “-h” or “-query”.

1. Delete File
3. Set time
5. Send single file
6. Send ZIP file
8. Get diagnostics commands
9. Set IP address
10. Set DHCP
11. Set Subnet mask
12. Set Gateway address
13. Reboot

7 The Results File

The results file is used to hold data pertaining to the OCS, based on information requested via the application. Any time *NetworkCLU.exe* is successfully run with a **-g** or **-v** option, a new results file (as specified by the **-r** option) is created, replacing an existing file as necessary. After running the utility, the results file may be examined to obtain any desired information about the OCS unit and its software.

7.1 Results File Format

The results file is a text file which strongly resembles an initialization (.ini) file. It consists of one or more sections of data, each of which contains any number of name-value pairs. The following table shows all possible sections contained in the results file, as well as all possible data names for each section.

Section	Item Name	Sample Data Value	Description
[General]	DateTime	9/5/2002 8:30	Date and time the OCS results were obtained.
	CommandLine	-g -rc:\Results.txt	Command-line arguments used in call to NetworkCLU.exe.
	OCSConfigVer	1.00 (build 100)	Version information for the <i>Network Command-line Utility</i> application.
[Model]	Manufacturer	Delphi Display Systems, Inc.	OCS vendor name. Of course, the vendor is always Delphi.
	Model	9200	OCS model number.
[Diag]	AmbientTempMin	-26.0	Maximum allowed ambient temperature.
	AmbientTempRead	42.2 ©	Actual ambient temperature read (Celsius).
	AmbientTempMax	73.0	Maximum ambient temperature allowed.
	AmbientTempPass	1	1=Pass, 0=Fail.
	CPUTempMin	-20.0	Minimum allowed CPU temperature.
	CPUTempRead	46.5 ©	Actual CPU temperature read (Celsius).
	CPUTempMax	85.0	Maximum allowed CPU temperature.
	CPUTempPass	1	1=Pass, 0=Fail.
	CPUThermLowMin	65.0	Minimum allowed temperature.
	CPUThermLowRead	70.0 ©	Actual temperature read (Celsius).
	CPUThermLowMax	75.0	Maximum allowed temperature.
	CPUThermLowPass	1	1=Pass, 0=Fail.
	CPUThermHiMin	80.0	Minimum allowed temperature.
	CPUThermHiRead	85.0 ©	Actual temperature read (Celsius).
	CPUThermHiMax	90.0	Maximum allowed temperature.
	CPUThermHiPass	1	1=Pass, 0=Fail.
	InternalFanMin	0.095	Minimum allowed internal fan current.
	InternalFanRead	0.151	Actual internal fan current read.
	InternalFanMax	0.185	Maximum allowed internal fan current.
	InternalFanPass	1	1=Pass, 0=Fail.
	HeaterMin	1.500	Minimum allowed heater current.
	HeaterRead	2.185	Actual heater current read.
	HeaterMax	3.500	Maximum allowed heater current.
	HeaterPass	1	1=Pass, 0=Fail.
	BacklightLowMin	0.250	Minimum allowed backlight low current.
	BacklightLowRead	2.443 (A)	Actual backlight low current read (in amps).
	BacklightLowMax	3.50	Maximum allowed backlight low current.
	BacklightLowPass	1	1=Pass, 0=Fail.
	BacklightHighMin	2.100	Minimum allowed backlight high current.
	BacklightHighRead	3.799 (A)	Actual backlight high current read (in amps).
	BacklightHighMax	5.500	Maximum allowed backlight high current.
	BacklightHighPass	1	1=Pass, 0=Fail.
	PhotocellMin	1	Minimum expected photocell value.
	PhotocellRead	65	Actual photocell value read.
	PhotocellMax	255	Maximum expected photocell value.
	PhotocellPass	1	1=Pass, 0=Fail.

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	BatteryVoltMin	2.1	Minimum allowed battery voltage.
	BatteryVoltRead	2.5 (V)	Actual battery voltage read (in volts).
	BatteryVoltMax	3.0	Maximum allowed battery voltage.
	BatteryVoltPass	1	1=Pass, 0=Fail.
	BoardRev	B	OCS motherboard revision.
	WatchdogEnabled	1	1=Enabled, 0=Disabled.
	RS232LoopbackPass	1	1=Pass, 0=Fail.
[Status]	OrderCountYesterday	490	Number of orders processed by OCS yesterday.
	OrderCountToday	256	Number of orders processed by OCS so far today.
	OCSLastStarted	10/11/2002 4:10:11	Date/Time OCS application was last launched.
[Software]	OCSApplication	V6.00 (build 100)	Version/build information for OCS (main) app.
	OCSSerialComm	1.00 (build 10)	Version/build information for OCS serial communications software.
	OCSLoader	V1.00 (build 100)	Version/build information for OCS Loader app.
	OCSPOS	V1.00 (build 100)	Version/build information for OCS POS software.
	POSDesc	Radiant POS	Description of OCS POS interface.
[Hardware]	HardwareVersion	586.0.4.0	Hardware description.
[OS]	OSDesc	Mercury	Descriptor representing the OCS' operating system.
	OSVersion	1.00	Version information for the OCS' operating system.
[Network]	IPAddress	192.168.2.1	IP address of the OCS unit.
	Port	20,21,48500,48501,48502	Network ports used by the OCS unit.
	DHCP	0	DHCP status; disabled=0, enabled=1.
	SubnetMask	255.255.0.0	Subnet mask value.
	Gateway	192.168.0.254	Gateway setting.
	MAC Address	0.2.3.4.195.137	OCS MAC Address.
[Hardware Control]	Command	SET_SERPROTO:232	The command processed, as interpreted by the <i>Network Command-line Utility</i> application.
	Result	Success	The result of the operation specified in "Command"

7.2 Sample Results File

The following is a sample showing possible contents of the results file after the *Network Command-line Utility* is invoked with the command-line:

NetworkCLU.exe -x192.168.2.1 -g

```
[General]
DateTime = 05/01/17 20:25:02
CommandLine = -x192.168.2.1 -g
OCSConfigVer = 2.41 (build 157)

[Model]
Manufacturer = Delphi Display Systems, Inc.
Model = 9200
```

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```
[Hardware Control]
Command = SET_SERPROTO:232
Result = success

[Diag]
AmbientTempMin = -26.0
AmbientTempRead = 39.1 ©
AmbientTempMax = 73.0
AmbientTempPass = 1
CPUTempMin = -20.0
CPUTempRead = 41.0 ©
CPUTempMax = 85.0
CPUTempPass = 1
CPUThermLowMin = 65.0
CPUThermLowRead = 70.0 ©
CPUThermLowMax = 75.0
CPUThermLowPass = 1
CPUThermHiMin = 80.0
CPUThermHiRead = 85.0 ©
CPUThermHiMax = 90.0
CPUThermHiPass = 1
InternalFanMin = 0.095
InternalFanRead = 0.157 (A)
InternalFanMax = 0.185
InternalFanPass = 1
HeaterMin = 1.500
HeaterRead = 2.249 (A)
HeaterMax = 3.500
HeaterPass = 1
BacklightLowMin = 0.250
BacklightLowRead = 2.615 (A)
BacklightLowMax = 3.500
BacklightLowPass = 1
BacklightHighMin = 3.100
BacklightHighRead = 3.950 (A)
BacklightHighMax = 5.500
BacklightHighPass = 1
PhotocellMin = 1
PhotocellRead = 96
PhotocellMax = 255
PhotocellPass = 1
BatteryVoltMin = 2.1
BatteryVoltRead = 2.5 (V)
BatteryVoltMax = 3.0
BatteryVoltPass = 1
BoardRev = B
WatchdogEnabled = 1
RS232LoopbackPass = 1

[Status]
OrderCount = 512
OrderCountingStarted = 10/01/2002 13:27:33
OCSLastStarted = 10/01/2002 20:23:28

[Software]
```

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```
OCSApplication = 6.00 (build 102)
OCSSerialComm = 1.00 (build 10)
OCSLoader = 5.10 (build 1)
OCSPOS = 1.00 (build 100)
POSDesc = Radiant POS
```

```
[Hardware]
HardwareVersion = 586.0.4.0
```

```
[OS]
OSDesc = Mercury
OSVersion = 1.00
```

```
[Network]
IPAddress = 192.168.2.1
Port = 20,21,48500,48501,48502
DHCP = 0
SubnetMask = 255.255.0.0
Gateway = 192.168.0.254
MACAddr = 0.2.3.4.195.137
```

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8 Error Reporting

The utility writes all success/error information to a text log file. By default, the file is named "OCSLogFile.txt", and is written to the same directory as the application. Using the **-o** command-line option, however, any file name and path may be specified.

After the utility has finished execution, this file may be viewed to determine whether or not any failures occurred.

The first line of the log file shall contain an error code describing overall results. The line will have the form:

ErrorCode = <error code>

where <error code> is a 32-bit number representing success or failures, as follows:

Error Code	Description
0x 8000 0000	If the high bit is set, then an extended error has occurred. If an extended error occurs, then the rest of the bits in the Error Code should not be looked at individually; instead, they should be read as a single number that identifies the error. Note: Currently, there are no extended errors. This mechanism is provided only to facilitate future expansion to error reporting.
0x 0000 0000	Success. No errors have occurred.
0x 0000 0001	Invalid Log File. An invalid log file was specified using the -o command.
0x 0000 0002	No Command Specified. No meaningful command-line arguments were provided.
0x 0000 0004	Delete/Archive Incompatibility. Both -d and -a arguments were specified, which is not allowed.
0x 0000 0008	Invalid IP Address. The -x argument was used, but the IP address is invalid.
0x 0000 0010	No IP Specified. The -x argument was not specified.
0x 0000 0020	File Not Found. The file specified with the -f option does not exist.
0x 0000 0040	Synchronize Time Error. The -m option was used, but OCS time could not be set.
0x 0000 0080	Delete Failed. The -d option was used, but the file could not be deleted.
0x 0000 0100	Archive Failed. The -a option was used, but the file could not be archived.
0x 0000 0200	Results File Error. There was an error accessing or writing to the results file.
0x 0000 0400	Diagnostics Failed. The -gDiag option was used, but diagnostic information could not be retrieve.
0x 0000 0800	Get Status Failed. The -gStatus option was used, but status information could not be retrieved.
0x 0000 1000	Get Model Failed. The -gModel option was used, but model information could not be retrieved.
0x 0000 2000	Get Software Failed. The -gSoftware option was used, but software version information could not be retrieved.
0x 0000 4000	Get Hardware Failed. The -gHardware option was used, but hardware version information could not be retrieved.
0x 0000 8000	Get OS Failed. The -gOS option was used, but operating system version information could not be retrieved.
0x 0001 0000	Get Network Failed. The -gNetwork option was used, by network settings information could not be retrieved.
0x 0002 0000	Invalid Parameter. An invalid parameter was specified on the command-line.

0x 0004 0000	Disk Space. The OCS does not have enough free disk space available to complete the specified task.
0x 0008 0000	Use Transfer Files. The OCS was unable to make use of files transferred to it.
0x 0010 0000	Configure IP. The OCS could not change the IP address to the specified value.
0x 0020 0000	Restart OCS. The OCS could not be restarted.
0x 0040 0000	Connect to OCS Failed. Unable to establish a connection with the OCS.
0x 0100 0000	Some Hardware Control Command (-hwc) failed.

8.1 Sample Log File

The following shows a sample log file, which might result when the `-gModel` and `-gOS` command-line options are used, but neither model nor operating system information could be retrieved. The error code is written to the file in decimal form:

```
09/20/02 11:51:07 Error Code = 36864
09/20/02 11:51:07 Error: Unable to retrieve OCS model information.
09/20/02 11:51:07 Error: Unable to retrieve OCS operating system version.
```

8.2 Deciphering Error Code Information

When analyzing error code information, it is important to first check the value of the most significant bit, to determine whether the error code represents standard errors as described above (high bit is clear) or extended errors (high bit is set). When not dealing with extended error codes, multiple error codes may be combined into a single number, since each error code sets a single bit in the Error Code number.

As an example, the following C++ code snippet shows one possible way to decipher an error code of 36864 (0x9000):

```
#define OCS_ERR_EXTENDED          (0x80000000)
#define OCS_ERR_GET_MODEL        (0x00001000)
#define OCS_ERR_GET_OS          (0x00008000)

// Assume error code is 36864 (36864=0x9000=0x8000+0x1000).
Long lErrorCode = 36864L;

if ( lErrorCode & OCS_ERR_EXTENDED )
{
    // This is an extended error...
}
else
{
    if ( lErrorCode & OCS_ERR_GET_MODEL )
    {
        // Unable to get OCS Model information...
    }

    if ( lErrorCode & OCS_ERR_GET_OS )
    {
        // Unable to get OCS Operating System information...
    }
}
```

```
// And so on...  
}
```

9 Document Revisions

Date	Description	Version	Author
5/23/2017	Initial release	A	B. Medvitz
1/16/2018	Updated to new document format and for change in -gInsightSoftware for Endura 15X systems	B	B. Medvitz

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