NintendoWare for CTR

c3be File Format User's Guide

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PROVISIONAL TRANSLATION

The content of this document is highly confidential and should be handled accordingly.

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1 Introduction

In addition to the conventional method of outputting an intermediate file by opening a scene with a 3D DCC tool, NintendoWare for CTR allows intermediate files to be output all at once for a single scene or multiple scenes, without starting a 3D DCC tool (in the background). This process is called "batch export."

To execute batch export, the scene to be output, export options, and the folder for intermediate file output must be specified. The file used to specify this information is called a cb3e (**C**TR **3**D **B**atch **E**xport) file.

An c3be file is a text format file having the extension `.c3be`.

c3be files use a common format independent of any given 3DCG tool. This manual describes the c3be file format. For details on performing batch export using c3be files, see the manual for the plug-in for each separate 3D DCC tool.

2 c3be File Format

2.1 c3be File Structure

The executable lines in an c3be file consist of a keyword indicating a command, arguments, and options.

Note: Keywords, arguments, and options must be separated by one or more single-byte spaces or tabs.

Keywords and options can be written using either uppercase or lowercase.

Arguments are enclosed in double quotes.

During batch export, keywords are processed in order beginning from the start of the c3be file.

Lines that start with a pound sign (#) are comments and are not processed.

A forward slash (/) is used to delimit folders when specifying a file or directory path as an argument. The final forward slash at the end of a directory path may be omitted.

The character code set using when encoding c3be files is Shift-JIS. Be sure to specify a character code set, such as Shift-JIS or ANSI, when selecting the character encoding method to be used when saving with a text editor.

2.2 c3be File Authentication

The first line in an c3be file must contain a comment such as the following:

```
# NW4C_BatchExport
```

The comment must begin with a pound sign (#) followed by an ASCII space code.

Batch export will not be carried out if the first line is invalid.

2.3 List of Keywords

Table 2-1 List of Keywords

Keyword	Description	Example
Log	This keyword specifies the log file in which to place output information about the intermediate file and any errors and warnings that may be generated. This keyword takes the path to the log file as its argument. (Any file name and extension may be specified.) A log file is not created unless this keyword is included. This keyword must appear earlier in the file than any other keyword. This keyword is disabled if it appears after another keyword or more than once.	Log "C:/nw4c_data/batch_export_log.txt"

Keyword	Description	Example
`InputFolder`	This keyword specifies a folder containing the target scene file or files. The method of setting used with this keyword differs for each 3D DCC tool. • When Using Maya This keyword takes the path to the project folder as its argument. This keyword is enabled until a new InputFolder is specified.	`InputFolder "C:/maya_data/project1"`
`OutputFolder output_folder`	This keyword specifies the folder in which to output intermediate files as an argument. This keyword is enabled until a new OutputFolder is specified.	`OutputFolder "C:/nw4c_data/output"`
`ScriptFolder`	If a 3D DCC tool script will execute before the intermediate file is exported, the argument of this keyword specifies the folder where that script file resides. The name of the script file to be executed is specified using an option of the Scene keyword, which is described below. This keyword is enabled until a new ScriptFolder is specified.	ScriptFolder "C:/nw4c_data/scripts"
`c3esFolderc3es`	This keyword specifies the folder containing the cc3es file(s) to be accessed as an export option. This keyword is enabled until a new c3esFolderc3es is specified.	`c3esFolder "C:/nw4c_data/settings"`
`cc3es`	This keyword specifies the c3es file name(s) to be accessed as an export option using an argument. cc3es files can be output from the plug-in for any 3D DCC tool. However, the following items inside the cc3es file are not reflected in output. • ExportTarget — Use the options of the Scene keyword to output just a particular node. • OutputFolder — Use the keyword OutputFolder. In the case of OutputFileName, it is also possible to rename a file using an option of the Scene keyword. This keyword is enabled until a new cc3es file is specified.	`c3es "export_settings.c3es"`
`Scene`	This keyword specifies the name of the scene file to be output. Intermediate file name nodes to be output, nodes that are not to be output, and some Export options can be specified. An intermediate file is output every time this keyword is specified. The method of setting used for this keyword differs for each 3D DCC tool.	

Keyword	Description	Example
	When using Maya the argument represents an `ma` (Maya ASCII) or an `mb` (Maya Binary) file name. A file extension must be specified. The options for this keyword are described in section 2.4, Options for the Scene Keyword.	Scene "player1.mb"

2.4 Options for the Keyword "Scene"

The following options can be specified with the keyword "Scene." The options are entered after the scene filename.

The setting specified with options take priority over the settings stored in the c3esc3es file. However, they are not continued into the next Scene. Settings must be specified individually for each Scene.

Note: Options and arguments must be separated by one or more single-byte spaces or tabs.

Table 2-2 Options for the Keyword "Scene"

Option	Argument	Description
`-Name`	string (filename)	This option corresponds to the "Output File Name" Export option. It is used when you want to output data under another file name than is set for the c3esc3es file(s). If this option is omitted, data is output using the filename specified by the c3es file. For example, in the following case, an intermediate file having the name `player.c***` is output. Example: `Scene "modelA.mb" –Name "player"` **Note :** Intermediate filenames cannot use characters which cannot be used in file names. These excluded characters are double-byte characters, single-byte katakana characters, equal signs (=), and semicolons (;).
`-Node`	string (node name)	This option specifies the nodes to be output. Specifying this option results in the same processing as when output is made with the Export Target export option set to Selection. Only those nodes specified by this option and nodes lower in the hierarchy are output. Omitting this option results in the same processing as when output is made with the Export Target export option set to All, and all valid nodes in the scene will be output. For example, in the following case, the node named "head" and all nodes in the hierarchy beneath it are output to the intermediate file. Example 1: `Scene "modelA.mb" -Node "head"` When specifying more than one node at a time, be sure that node names are separated with commas (,) as shown below. Example 2: `Scene "modelA.mb" -Node "arm,leg"` **Note 1:** If more than one node has the same name in a scene, all nodes having that name are targeted. **Note 2:** When the specified node does not exist inside the scene, the following error is generated: Node is not found

Option	Argument	Description
-Cut	string (node name)	This option specifies the nodes that are not to be output. If this option is specified, the specified node and all nodes below it are not output. This option can be used to output a parent node without outputting children nodes. When specifying more than one node at a time, be sure that node names are separated with commas (,) as shown below. Example: `Scene "modelA.mb" –Cut "sword,shield"` **Note 1:** If more than one node has the same name in a scene, all nodes having that name are targeted. **Note 2:** An error is not generated even if the specified node does not exist in the scene. **Note 3:** This option can be used at the same time as the `-Node` option. When using the Maya plug-in, the name of the display layer can also be specified in place of a node name. If the name of a display layer has been specified, nodes in the display layer and nodes under that will not be output.
-MergeCmdl	string (cmdl file path)	This option corresponds to the "Merge cmdl File" Export option. Specify this option when you want to merge an cmdl file that is different from the c3esc3es file settings. Example: `Scene "modelA.mb" -MergeCmdl"C:/ data/ test.cmdl"` **Note**: Even if MergeCmdlis false in the c3es file, the file will be merged if this option is specified.
-Start	Integer	This option corresponds to Start Frame in the Export option (Range specification). It must be specified with the `-End` option, below. Example: `Scene "animA.mb" -Start "15" -End "75"`
-End	Integer	This option corresponds to End Frame in the Export option (Range specification). It must be specified with the `-Start` option, above. Example: `Scene "animA.mb" -Start "15" -End "75"`
-cmdl	truefalse	This option corresponds to specifying the Export option to output a cmdl file. Example: `Scene "animA.mb" - cmdl "false"`
-ctex	true false	This option corresponds to specifying the Export option to output a ctex file. Example: `Scene "animA.mb" - ctex "false"`
-cskla	truefalse	This option corresponds to specifying the Export option to output a cskla file. Example: `Scene "animA.mb" - cskla "true"`
-cmata	true false	This option corresponds to specifying the Export option to output a cmatafile. Example: `Scene "animA.mb" - cmata "true"`
-ccam	true false	This option corresponds to specifying the Export option to output a ccam file. Example: `Scene "animA.mb" - ccam "true"`
-clit	true false	This option corresponds to specifying the Export option to output a clit file. Example: `Scene "animA.mb" - clit "true"`

Option	Argument	Description
`-FrameFormat`	true false	This corresponds to the Export option FrameFormat Example: `Scene "animA.mb" - FrameFormat "true"`
`-Bake`	true false	This corresponds to the Export option Bake All Animation. Example: `Scene "animA.mb" - Bake "true"`
`-Precision`	1.0 0.5 0.2 0.1	This corresponds to the Export option Frame Precision. Example: `Scene "animA.mb" - Precision "0.5"`
`-Loop`	true false	This corresponds to the Export option Loop. Example: `Scene "animA.mb" - Loop "true"`
`-ToleranceS`	Real number (excluding 0.0)	This option corresponds to the Export option Node Scale (error tolerance). Example: `Scene "animA.mb" -ToleranceS"0.2"`
`-ToleranceR`	Real number (excluding 0.0)	This option corresponds to the Export option Node Rotate (error tolerance). Example: `Scene "animA.mb" -ToleranceR"0.4"`
`-ToleranceT`	Real number (excluding 0.0)	This option corresponds to the Export option Node Translate (error tolerance). Example: `scene "animA.mb" -ToleranceT"0.05"`
`-Script`	String (filename)	This option specifies the script file to be executed before exporting the intermediate file. When this option is specified, must describe the folder where the script file resides using the ScriptFolder keyword before the Scene keyword. The option is specified in a different way for every 3D DCC tool. When using the Maya plug-in, the argument represents a MEL filename or a Python filename (.py file). To execute multiple scripts, specify the filenames as a series delimited with commas, as shown in the example below. Example: Scene "animA.mb" –Script "Rename1.mel,ResetPosition1.mel"

2.5 Precautions for Using c3be Files

Be sure to specify **InputFolder**, **OutputFolder**, **c3esFolder** and **c3es** before specifying the Scene keyword. If any of these are not set, an error results, and the batch export halts at that point.

Invalid keywords are ignored. Furthermore, if there is any problem with arguments or options (for example, the folder or file specified does not exist), an error results, and batch export halts at that point.

If there is a keyword you want to temporarily keep from executing, you can disable it by putting a pound sign at the start of the line on which it appears to make that line a comment.

Even if a scene file contains export option settings, they are not referred to during batch export. The c3es file settings specified using the `c3es` keyword are applied.

3 Sample c3be Files

This chapter takes a look at sample c3be files.

3.1 Using the Same c3esc3es File to Export Multi-Model rmdl Files

This section contains an example of batch export from Maya using the same c3es file to export cmdl files of multiple models.

Output intermediate files: `modelA.cmdl`, `modelB.cmdl`, `modelC.cmdl`

```
# NW4C_BatchExport

Log             "C:/nw4c_data/batch_export_log.txt"     ← Specifies log file output

# for modelA                                            ← Comment
InputFolder     "C:/maya_data/projectA"                 ← Specifies a project
OutputFolder    "C:/nw4c_data/output"
c3esFolder      "C:/nw4c_data/c3es"
c3esc3es                "cmdl_settings.c3es"                ← Specifies Export options for cmdl files
Scene           "modelA.mb" –Name "modelA"              ← Specifies a scene file for intermediate file output

# for modelB
InputFolder     "C:/maya_data/projectB"                 ← Changes the project
Scene           "modelB.mb" –Name "modelB"

# for modelC
InputFolder     "C:/maya_data/projectC"                 ← Changes the project
Scene           "modelC.mb" –Name "modelC"
```

3.2 Batch Export of Multiple Animation Files From Maya

This section is an example of batch export of multiple animation files from Maya.

Output intermediate files: `human_walk. cskla`, `human_run. cskla`, `human_jump. cskla`

```
# NW4C_BatchExport

# export animation                                      ← Comment
InputFolder     "C:/maya_data/human"                    ← Specifies a project
OutputFolder    "C:/nw4c_data/output"
c3esFolder              "C:/nw4c_data/c3es"
c3es            "cskla_settings.c3es"                   ← Specifies export options for cskla files
Scene   "human_walk.mb" -Name "human_walk"              ← Specifies a scene file for intermediate file output
Scene           "human_run.mb" -Name "human_run"
Scene           "human_jump.mb" -Name "human_jump"
```

3.3 Divided Output of Nodes Along With Their Hierarchy from Maya

This section is an example of divided output of a particular node in a scene and the hierarchy underneath the node.

Output intermediate files: `s1_tower.cmdl`, `s1_lake.cmdl`, `s1_forest.cmdl`, `s1_ground.cmdl`

```
# NW4C_BatchExport

Log             "C:/nw4c_data/batch_export_log.txt"    ← Specifies log file output

# export a part of scene                               ← Comment
InputFolder     "C:/maya_data/field"                   ← Specifies a project
OutputFolder    "C:/nw4c_data/output"
c3esFolder      "C:/nw4c_data/c3es"
c3es            "cmdl_settings.c3es"                   ← Specifies Export options for  cmdl files
Scene   "stage1.mb" -name "s1_tower"  -Node "tower"    ← Output only nodes at or  below "tower"
Scene   "stage1.mb" -name "s1_lake"   -Node "lake"     ← Output only nodes at or below "lake"
Scene   "stage1.mb" -name "s1_forest" -Node "forest"   ← Output only nodes at or below "forest"
Scene   "stage1.mb" -name "s1_ground" -Node "ground"   ← Output only nodes at or below "ground"
```

4 Revision History

Version	Revision Date	Description
0.7.0	2010/05/14	Added the options MergeCmdl, cmata and FrameFormat to the Scene keyword.
0.5.0	2010/02/12	Initial version