

Nintendo TWL-System

TWL 3D Batch Export (n3be) File Format

Version 1.2.0

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and should be handled accordingly.**

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Revision History

Version	Revision Date	Description
1.2.0	2008/05/30	Revisions resulting from NITRO-System name change (updating to TWL-System).
1.2.0	2008/03/24	Added support for batch exports from the 3ds Max plug-in to Chapters 1 and 2.
1.1.0	2007/05/22	Changed date format.
1.1.0	2007/01/29	Added the following options to the scene keyword: -start, -end, -imd, -ica, -iva, -ima, -itp, -ita, -interp, -end_to_start, -frame_step, -tolerance_s, -tolerance_r, -tolerance_t, -tolerance_tex_s, -tolerance_tex_r, -tolerance_tex_t, -tolerance_color
1.0.0	2005/01/14	Initial version.

1 About n3be Files

In addition to the normal method of exporting intermediate files by opening scenes in a 3DCG tool, Nintendo TWL-System allows you to export a single scene or multiple scenes without starting the 3DCG tool (it starts up in the background). This method is called "Batch Export."

To execute a batch export, you must designate which scene will output an intermediate file, under what output conditions, and to what locations. The file that describes those settings is known as an n3be (NITRO 3D Batch Export) file.

An n3be file is a text-format file with an extension of .n3be.

This manual describes the format of an n3be file.

An n3be file is a shared format that does not rely on any 3DCG tools. For an explanation of how to use an n3be file to perform a batch export, please refer to the appropriate NITRO intermediate file plug-in manual for each 3DCG tool.

Note: Although NITRO-System offered compatibility for SOFTIMAGE|3D, there is none in TWL-System for that product.

Note: A batch export can be executed using each of the NITRO intermediate file plug-ins for Maya, SOFTIMAGE|XSI, and 3ds Max. All 3DCG tools process in the background except for the 3ds Max tool, which executes from the MaxScript Listener.

2 n3be File Format

An `n3be` file is a text-format file. Describe it using the following format.

2.1 n3be File Authentication

On the first line of an `n3be` file, show that this is an `n3be` file with the following character string:

```
# NNS_Batch_Export      (Note: There should be a space after #.)
```

If this character string is incorrect, the batch export will not be executed.

2.2 Keywords

In an `n3be` file, enter the command keywords on one line along with the character strings and options configured with those keywords. *The process executes in order from the top line of the file.*

The following keywords are available.

Table 2-1 Overview of Keywords

Keyword	Description
log	<p>Creates a log file containing the intermediate file output information, any errors that were detected, and warning displays.</p> <p>Include the output file name after the keyword. The file name and extension are optional.</p> <p>Example: log "D:/tmp/log.txt"</p> <p>This keyword must be entered at the very beginning of the file.</p> <p>Note: Any use of this keyword after the first position will be ignored.</p>
input_folder	<p>The location of the scene file to convert into an intermediate file.</p> <p>The method for using this keyword differs for each 3D CG tool.</p> <p>Maya</p> <p><u>Designate the path to the project folder.</u> Include the path to the folder after the keyword. (Separate folders with a "/". The "/" is optional after the last folder in the path).</p> <p>Example: input_folder "D:/data/maya_data/maya_project"</p> <p>SOFTIMAGE XSI</p> <p><u>Designate the folder where the scene file is located.</u> Include the folder path after the keyword. (Separate folders with a "/". The "/" is optional after the last folder in the path).</p> <p>Example: input_folder "D:/data/xsi_data/xsi_project/scenes"</p> <p>3ds Max</p> <p><u>Designate the folder where the max file is located.</u> Include the folder path after the keyword. (Separate folders with a "/". The "/" is optional after the last folder in the path.)</p> <p>Example: input_folder "D:/data/3dsmax_project/scenes"</p> <p>This keyword remains valid until a new <code>input_folder</code> is designated.</p>

Keyword	Description
output_folder	<p>The folder into which the intermediate file will be generated.</p> <p>Include the folder path after the keyword. (Separate folders with a "/". The "/" is optional after the last folder in the path).</p> <p>Example: output_folder "D:/data/nitro_3d_data"</p> <p>This keyword remains valid until a new output_folder is designated.</p>
n3es_folder	<p>The folder where the n3es file to reference as an intermediate file output option is located.</p> <p>Include the folder path after the keyword. (Separate folders with a "/". The "/" is optional after the last folder in the path).</p> <p>Example: n3es_folder "D:/data/nitro_n3es"</p> <p>This keyword remains valid until a new n3es_folder is designated.</p>
n3es	<p>The n3es file name to reference as an intermediate file output option.</p> <p>Include the file name after the keyword.</p> <p>Example: n3es "export_setting.n3es"</p> <p>However, the following items are not reflected in the n3es file:</p> <p>settings_version</p> <p>generator_name</p> <p>generator_version</p> <p>data</p> <p>export</p> <p>output_file_name</p> <p>process_mode</p> <p>output_folder</p> <p>merge_imd</p> <p>merge_imd_path</p> <p>NOTE: Designate the process that corresponds to the selection with the keyword "scene" option.</p> <p>NOTE: Designate with the scene file name or with the options.</p> <p>NOTE: Cannot transmit to the 3D Material Editor.</p> <p>NOTE: Designate with keyword "output_folder".</p> <p>NOTE: Cannot transmit to the 3D Material Editor.</p> <p>NOTE: Cannot transmit to the 3D Material Editor.</p> <p>Note: The n3es file can be input and output from the NITRO intermediate file output plug-in for each 3DCG tool.</p> <p>This keyword remains valid until a new n3es is designated.</p>
scene	<p>Designates the name of the scene file that outputs the intermediate file. Include the scene file name after the keyword. The method for setting this keyword differs for each 3DCG tool.</p> <p>Maya</p> <p>Designate an ma (Maya Ascii) or an mb (Maya Binary) file name.</p> <p>Note: You must use either an .ma or an .mb extension.</p> <p>Example: scene "sample.mb"</p> <p>SOFTIMAGE XSI</p> <p>Designate the scene file saved in the scenes folder in the project.</p> <p>The following node formats are also valid.</p> <p>Example:</p> <p>scene "test.scn" NOTE: Designate the scene file as is.</p> <p>scene "test" NOTE: No extension is designated.</p> <p>3ds Max</p> <p>Designate the name of the max file.</p>

Keyword	Description
	<p>Note: Always specify a <code>.max</code> extension.</p> <p>Example: <code>scene "sample.max"</code></p> <p>The name of the intermediate file to be created is not the character string designated in the <code>n3es</code> file. It is the scene file name.</p> <p>For example, in a case like the following, an intermediate file with the name <code>modelA_run.i**</code> is generated.</p> <p>Example: <code>scene "modelA_run.mb"</code></p> <p>NOTE: It is possible to specify options for the scene keyword. For further details, refer to the description on the following page.</p>

The following options can be specified for the scene keyword.

Multiple options can be specified at the same time.

Note: Any specified options take precedence over the configuration stored in the `n3es` file.

However, the options must be assigned individually to each scene since they will not be carried over to the next scene.

All arguments other than those specified will be invalidated.

Table 2-2 Options for the scene Keyword

Option	Argument	Description
<code>-name</code>	string	<p>This corresponds to the file name specified when outputting an intermediate file.</p> <p>After <code>-name</code>, specify the name of the intermediate file to output.</p> <p>In the following example, an intermediate file named <code>A_run.i**</code> is being output.</p> <p>Example: <code>scene "modelA_run.mb" -name "A_run"</code></p> <p>Note: Only single-byte letters can be used in the name of the intermediate file.</p>
<code>-root</code>	string (Node name)	<p>This corresponds to the Selection specified when outputting an intermediate file.</p> <p>If the name of a node is specified after <code>-root</code>, the nodes under that node will be output to the intermediate file.</p> <p>If this option is not specified, it will correspond to All when outputting a normal intermediate file, and all nodes within the scene will be output to the intermediate file.</p> <p>In the example below, the nodes under the node named "head" are output to the intermediate file.</p> <p>Example: <code>scene "modelA.mb" -root "head"</code></p> <p>When specifying multiple nodes at once, separate the node names with commas, as shown below.</p> <p>Example: <code>scene "modelA.mb" -root "left_arm,right_arm"</code></p> <p>Note: If there are multiple nodes with the same name within a scene, all identically-named nodes will be output to the intermediate file.</p> <p>Note: If a node name is specified for a node name that does not exist within a scene, "Node is not found. [node name]" will be displayed, and an error will occur.</p>

Option	Argument	Description
-start	Integer	This corresponds to the StartFrame-Range specified when outputting an intermediate file. When specifying this option, make sure to configure it along with the -end option. Example: scene "animA.mb" -start "15" -end "75"
-end	Integer	This corresponds to the StartFrame-Range specified when outputting an intermediate file. When specifying this option, make sure to configure it along with the -start option. Example: scene "animA.mb" -start "15" -end "75"
-imd	on off	This corresponds to the [.imd] specified when outputting an intermediate file. Example: scene "animA.mb" -imd "off"
-ica	on off	This corresponds to the [.ica] specified when outputting an intermediate file. Example: scene "animA.mb" -ica "on"
-iva	on off	This corresponds to the [.iva] specified when outputting an intermediate file. Example: scene "animA.mb" -iva "on"
-ima	on off	This corresponds to the [.ima] specified when outputting an intermediate file. Example: scene "animA.mb" -ima "on"
-itp	on off	This corresponds to the [.itp] specified when outputting an intermediate file. Example: scene "animA.mb" -itp "on"
-ita	on off	This corresponds to the [.ita] specified when outputting an intermediate file. Example: scene "animA.mb" -ita "on"
-interp	linear frame	This corresponds to the Interpolation specified when outputting an intermediate file. Example: scene "animA.mb" -interp "frame"
-end_to_start	on off	This corresponds to the Interpolate End Frame to Start Frame specified when outputting an intermediate file. Example: scene "animA.mb" -end_to_start "off"
-frame_step	1 2 4 auto	This corresponds to the Frame Step Mode specified when outputting an intermediate file. Example: scene "animA.mb" -frame_step "2"
-tolerance_s	Real number 0.0 or greater	This corresponds to the Node Scale in the Tolerance Options. Example: scene "animA.mb" -tolerance_s "0.01"
-tolerance_r	Real number 0.0 or greater	This corresponds to the Node Rotate in the Tolerance Options. Example: scene "animA.mb" -tolerance_r "0.5"
-tolerance_t	Real number 0.0 or greater	This corresponds to the Node Translate in the Tolerance Options. Example: scene "animA.mb" -tolerance_t "0.1"

Option	Argument	Description
- tolerance_text_s	Real number 0.0 or greater	This corresponds to the Texture Scale in the Tolerance Options. Example: scene "animA.mb" -tolerance_ts "0.01"
- tolerance_text_r	Real number 0.0 or greater	This corresponds to the Texture Rotate in the Tolerance Options. Example: scene "animA.mb" -tolerance_tr "0.5"
- tolerance_text_t	Real number 0.0 or greater	This corresponds to the Texture Translate in the Tolerance Options. Example: scene "animA.mb" -tolerance_tt "0.1"
- tolerance_color	Integer 0 or higher and 31 or lower	This corresponds to the Color in the Tolerance Options. Example: scene "animA.mb" -tolerance_color "1"

3 n3be File Example

The following is an example of an n3be file.

Example: Generating multiple model files from Maya using the same n3es file

Output intermediate files: modelA.imd, modelB.imd, modelC.imd, modelD.imd, modelE.imd

```
# NNS_Batch_Export

log      "D:/tmp/export_log.txt"          ← Designates log file
output

# for modelA                                ← Comment
input_folder      "D:/data/maya_data/MayaProject_A"  ← Designates project
output_folder     "D:/data/nitro_3d_data"
n3es_folder       "D:/data/n3es"
n3es              "imd_settings.n3es"              ← Designates imd output
                                                    method
scene            "modelA.mb"                    ←Designates scene file and
                                                    output intermediate file

# for modelB
input_folder      "D:/data/maya_data/MayaProject_B"  ← Changes project
scene            "modelB.ma "

# for modelC
input_folder      "D:/data/maya_data/MayaProject_C"  ← Changes project
scene            "modelC.mb "

# for modelD
input_folder      "D:/data/maya_data/MayaProject_D"  ← Changes project
scene            "modelD.ma "

# for modelE
input_folder      "D:/data/maya_data/MayaProject_E"  ← Changes project
scene            "modelE.ma "
```

Example: Generating from designated nodes in a SOFTIMAGE|XSI scene

Output intermediate files: s1_tower.imd, s1_lake.imd, s1_forest.imd, s1_ground.imd, stagel_field.imd

```
# NNS_Batch_Export

log "D:/tmp/export_log.txt"          ← Designates log file output

# Export only part of the scene      ← Comment
input_folder "D:/data/xsi_data/XSIProject_A/scenes"  ← Designates the folder
                                                    where the scene file is located

output_folder "C:/nitro/game_data/"
n3es_folder "C:/nitro/n3es"
n3es "field_imd_settings.n3es"
scene "stagel_field" -name "s1_tower" -root "tower"  ← Only the nodes from
                                                    "tower" down are generated
scene "stagel_field" -name "s1_lake" -root "lake"    ← Only the nodes from
                                                    "lake" down are generated
scene "stagel_field" -name "s1_forest" -root "forest" ← Only the nodes from
                                                    "forest" down are generated
scene "stagel_field" -name "s1_ground" -root "ground" ← Only the nodes from
                                                    "ground" down are
                                                    generated

# Export scene
Scene "stagel_field"                  ← Specifies the scene name and
                                                    generates the intermediate file
```

4 n3be File Cautions

- Before using the `scene` keyword, you must configure `input_folder`, `output_folder`, `n3es_folder`, and `n3es`. If any of these are not used, the batch export aborts and an error occurs at that point.
- Incorrect keywords are ignored. Also, if there is a problem in the format after the keyword (for example, if a designated folder or file does not exist), an error occurs, and the batch export aborts at that point.
- In an n3be file, lines starting with `#` are comments. To temporarily disable a line from execution, you can comment out the line with `#`.
- Even if the settings for the intermediate file output options are saved in the scene file itself, they will not be referenced in a batch export. The only settings that affect the output of a batch export are those in the n3es file.

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