

# MIOS SWITCHER

## I) PREAMBLE

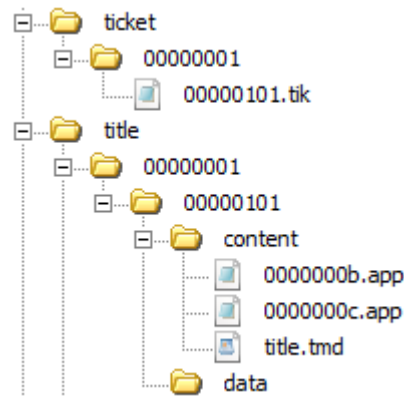
This article describes the strategy used to manage multiple *MIOS*.

## II) INTRODUCTION

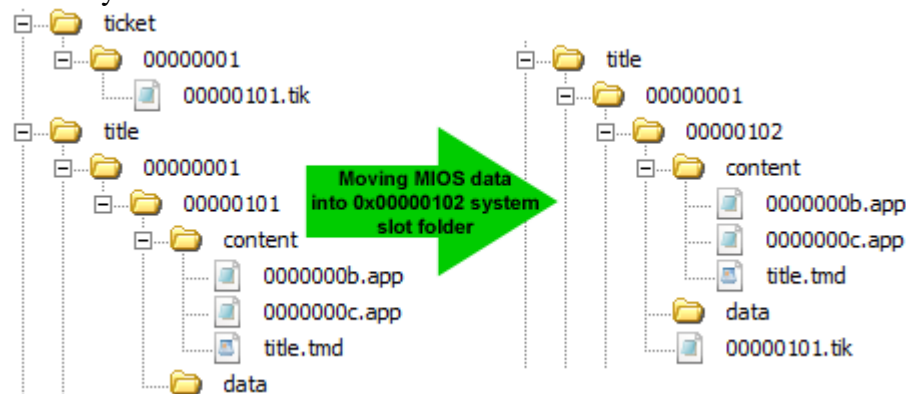
MIOS is a piece of software to run GameCube games on Wii. Its official versions (especially v4 and v10) were used to build custom MIOS (*cMIOS*) with DVD-R and/or GC homebrew support, the SD/USB support implemented later in the *DIOS MIOS* projects. As the Wii system uses the specific title id **0x0000000100000101** for it, a new MIOS installation systematically overwrites that already existing in its official system slot 0x00000101. However, a basic solution for multiple MIOS support is feasible by storing “alternative MIOS” data into free system slots > **0x00000101** with the possibility to activate a given MIOS with simple renaming operations.

## III) MIOS INSTALLATION

MIOS, cMIOS, DIOS MIOS data are always installed with the following structure into the NAND:



Before each installation the existing MIOS ticket and data folder content are moved into the “next system slot available” folder to free the official MIOS slot.



## IV) MIOS UNINSTALLATION

Just delete the system slots > 0x00000101 folders contents knowing that this job can be performed manually with *anytitle deleter* by uninstalling the IOS 258+ in the system titles list.

## V) MIOS ACTIVATION

Just switch the alternative MIOS to activate and the current active MIOS data in accordance with the structures described above.

## VI) MIOS IDENTIFICATION

MIOS identification uses internal information if the *MIOSINFOS.xml* file is missing in the homebrew app folder. Adding new entries into this file provides new MIOS support in the homebrew. This file stores MIOS identification information with the following XML data structure.

```
<?xml version="1.0" encoding="utf-8"?>
<titles count="29">
  <title name="DIOS MIOS v2.2" titleid="0x100000101" mid="1"
hash="0x43,0xc5,0xd3,0xa7,0x15,0x46,0x00,0x52,0x5f,0xbf,0xd3,0x98,0x2e,0xac,0x6a,0xfe,0x78,0xf6,0xd9,0xa0a" infos="FAMILY ID=dm|DEVICES=usb,dvd|UNSUPPORTED
TITLES=GBLPGL"/>
  <title name="DIOS MIOS v2.3" titleid="0x100000101" mid="1"
hash="0xb9,0x13,0xb0,0xb7,0xd5,0x23,0x55,0x1e,0x0b,0xc3,0xa2,0x2a,0xf1,0xce,0x46,0xb6,0xb1,0x69,0x80,0xe9" infos="FAMILY ID=dm|DEVICES=usb,dvd|UNSUPPORTED
TITLES=GBLPGL"/>
  <title name="DIOS MIOS v2.4" titleid="0x100000101" mid="1"
hash="0xf4,0x49,0xa9,0xa6,0x50,0x97,0x72,0xfc,0x1b,0x1b,0x7a,0xce,0x13,0x07,0x13,0xa6,0xa3,0xb3,0x13,0xb1" infos="FAMILY ID=dm|DEVICES=usb,dvd|UNSUPPORTED
TITLES=GBLPGL"/>
  <title name="DIOS MIOS v2.5" titleid="0x100000101" mid="1"
hash="0xb3,0x63,0x74,0xf1,0x58,0x52,0x69,0x2c,0x6d,0xe5,0x2e,0x92,0xd4,0xc8,0xf1,0xcb,0xcc,0xf6,0x4e" infos="FAMILY ID=dm|DEVICES=usb,dvd|UNSUPPORTED
TITLES=GBLPGL"/>
  <title name="DIOS MIOS v2.6" titleid="0x100000101" mid="1"
hash="0xbe,0x6d,0x37,0xe0,0xea,0xb9,0x21,0x26,0x35,0x48,0xf1,0x33,0x66,0xbc,0xa1,0xc7,0x8b,0xc8,0x1f,0xa7" infos="FAMILY ID=dm|DEVICES=usb,dvd|UNSUPPORTED
TITLES=GBLPGL"/>
  <title name="DIOS MIOS v2.7" titleid="0x100000101" mid="1"
hash="0x99,0xc3,0xef,0xe7,0xe6,0x82,0xf5,0x66,0x60,0x1c,0xad,0x03,0xa5,0xf6,0xad,0x31,0xe2,0xff,0x04,0x81,0xfd" infos="FAMILY ID=dm|DEVICES=usb,dvd|UNSUPPORTED
TITLES=GBLPGL"/>
  <title name="DIOS MIOS v2.8" titleid="0x100000101" mid="1"
hash="0x0c,0xe8,0xb0,0xd0,0x4e,0x15,0x2e,0xe7,0x1a,0x09,0xe0,0xf0,0x4a,0xa3,0xec,0xd6,0x81,0xa0,0x0c,0xe8" infos="FAMILY ID=dm|DEVICES=usb,dvd|UNSUPPORTED
TITLES=GBLPGL"/>
  <title name="DIOS MIOS v2.9" titleid="0x100000101" mid="1"
hash="0x02,0x52,0xe0,0x62,0xa6,0xe6,0x95,0x66,0x60,0x9b,0x9c,0x9a,0x47,0x72,0x17,0x13,0x1e,0xc3,0x82,0x13" infos="FAMILY ID=dm|DEVICES=usb,dvd|UNSUPPORTED
TITLES=GBLPGL"/>
  <title name="DIOS MIOS v2.10" titleid="0x100000101" mid="1"
hash="0xa9,0xf8,0x65,0xd3,0x7d,0x00,0xf7,0x3e,0x62,0xa6,0xab,0xef,0x2d,0x77,0x25,0x21,0x8b,0x65,0x59,0x3a" infos="FAMILY ID=dm|DEVICES=usb,dvd|UNSUPPORTED
TITLES=GBLPGL"/>
  <title name="DIOS MIOS v2.11" titleid="0x100000101" mid="1"
hash="0xaf,0xf3,0xd5,0xe7,0xe6,0x82,0xef,0x69,0xa1,0x6b,0xb9,0x80,0xf8,0x67,0x7b,0x86,0xb6,0x38,0x23,0x15" infos="FAMILY ID=dm|DEVICES=usb,dvd|UNSUPPORTED
TITLES=GBLPGL"/>
  <title name="DIOS MIOS Lite v2.2" titleid="0x100000101" mid="1"
hash="0x7b,0x8f,0x01,0xeb,0x0c,0x12,0x6b,0xaf,0x5a,0xac,0xc4,0x5c,0xb8,0xd4,0x8b,0xfe,0x32,0xc4,0x36,0xdb" infos="FAMILY ID=dm1|DEVICES=sd,dvd|UNSUPPORTED
TITLES=GBLPGL"/>
  <title name="DIOS MIOS Lite v2.3" titleid="0x100000101" mid="1"
hash="0xa2,0x73,0x3c,0x4e,0x38,0x59,0xe5,0x03,0x07,0xf3,0x91,0x9b,0x0f,0xf1,0x95,0xf6,0x5d,0x99,0xa5,0x31" infos="FAMILY ID=dm1|DEVICES=sd,dvd|UNSUPPORTED
TITLES=GBLPGL"/>
  <title name="DIOS MIOS Lite v2.4" titleid="0x100000101" mid="1"
hash="0xf0,0xa3,0x8e,0x5a,0xe4,0xd7,0x3a,0xbe,0x81,0xb5,0xfb,0x74,0xd9,0xa8,0x2e,0xe7,0xd8,0xab,0x0c,0x2d" infos="FAMILY ID=dm1|DEVICES=sd,dvd|UNSUPPORTED
TITLES=GBLPGL"/>
  <title name="DIOS MIOS Lite v2.5" titleid="0x100000101" mid="1"
hash="0x73,0x8e,0xae,0x9f,0xf1,0xd7,0x8f,0x75,0x00,0x5d,0x48,0xb6,0x39,0xbb,0x98,0x3c,0xbc,0xb5,0xb0,0x35" infos="FAMILY ID=dm1|DEVICES=sd,dvd|UNSUPPORTED
TITLES=GBLPGL"/>
  <title name="DIOS MIOS Lite v2.6" titleid="0x100000101" mid="1"
hash="0xb1,0x3c,0xfc,0x30,0x9e,0xcfc,0xc0,0xdc,0x16,0x5d,0xf5,0x8a,0xa0,0x1d,0xa4,0x4b,0x4d,0x16,0x82,0xa4" infos="FAMILY ID=dm1|DEVICES=sd,dvd|UNSUPPORTED
TITLES=GBLPGL"/>
  <title name="DIOS MIOS Lite v2.7" titleid="0x100000101" mid="1"
hash="0x33,0x7d,0xc0,0x9a,0x36,0xb5,0xe7,0x18,0xf5,0xff,0xbf,0x2a,0xfe,0x73,0x33,0x63,0xef,0x3b,0xd8,0x1d" infos="FAMILY ID=dm1|DEVICES=sd,dvd|UNSUPPORTED
TITLES=GBLPGL"/>
  <title name="DIOS MIOS Lite v2.8" titleid="0x100000101" mid="1"
hash="0x37,0xb3,0x30,0x7d,0xcc,0x8f,0xe9,0x0a,0xa2,0xa5,0x4f,0x8d,0xa8,0x53,0x6a,0xb1,0xa2,0x1f,0xce" infos="FAMILY ID=dm1|DEVICES=sd,dvd|UNSUPPORTED
TITLES=GBLPGL"/>
  <title name="DIOS MIOS Lite v2.9" titleid="0x100000101" mid="1"
hash="0x24,0xd5,0x21,0xf6,0x88,0x47,0x9d,0x83,0x29,0xb9,0x51,0xae,0xd0,0xd1,0x71,0xd2,0x01,0x59,0xa5,0xa1" infos="FAMILY ID=dm1|DEVICES=sd,dvd|UNSUPPORTED
TITLES=GBLPGL"/>
  <title name="DIOS MIOS Lite v2.10" titleid="0x100000101" mid="1"
hash="0xad,0xfa,0x91,0x42,0xe1,0x39,0x16,0x7a,0x65,0x8b,0x14,0x48,0xc4,0x39,0x3e,0xa9,0x5d,0x4e,0xf3,0x44" infos="FAMILY ID=dm1|DEVICES=sd,dvd|UNSUPPORTED
TITLES=GBLPGL"/>
  <title name="DIOS MIOS Lite v2.11" titleid="0x100000101" mid="1"
hash="0xe6,0xb5,0xae,0xfd,0xaf,0x73,0x18,0xc7,0x58,0xd0,0x07,0x45,0x0a,0x6c,0x18,0x16,0xdd,0xb4,0x09,0xc1" infos="FAMILY ID=dm1|DEVICES=sd,dvd|UNSUPPORTED
TITLES=GBLPGL"/>
  <title name="MIOS v4" titleid="0x100000101" mid="1"
hash="0xc0,0xe6,0x64,0x88,0x46,0x87,0xdc,0xcd,0x4c,0x4a,0x06,0xea,0xd3,0x3c,0x62,0x49,0x6b,0xbf,0x6e,0xf9" infos="FAMILY ID=mios|DEVICES=dvd|PRIORITY
TITLES=GBLPGL"/>
  <title name="MIOS v5" titleid="0x100000101" mid="1"
hash="0x69,0xb2,0xfb,0x76,0xac,0xd2,0x50,0x0c,0x93,0x0e,0xf4,0x02,0xeb,0x45,0xb9,0xd4,0x1c,0x26,0x5c,0x2d" infos="FAMILY ID=mios|DEVICES=dvd|PRIORITY
TITLES=GBLPGL"/>
  <title name="MIOS v8" titleid="0x100000101" mid="1"
hash="0x89,0x19,0x5f,0x6b,0x96,0xd1,0x9e,0xc6,0x41,0x24,0x2f,0xcfc,0x22,0x64,0x83,0xdf,0x6a,0x54,0x22,0x29" infos="FAMILY ID=mios|DEVICES=dvd|PRIORITY
TITLES=GBLPGL"/>
  <title name="MIOS v9" titleid="0x100000101" mid="1"
hash="0x97,0xbe,0xfc,0xd1,0xca,0x1b,0x68,0xa9,0x31,0xc4,0x89,0x8f,0x45,0x52,0xbc,0xfd,0x2c,0x76,0xfb,0xdc" infos="FAMILY ID=mios|DEVICES=dvd|PRIORITY
TITLES=GBLPGL"/>
  <title name="MIOS v10" titleid="0x100000101" mid="1"
hash="0xe8,0x49,0xd9,0x90,0x72,0x79,0x22,0x35,0x20,0x51,0x96,0xdb,0x15,0x30,0x20,0xc0,0xc2,0x3a,0x49,0x75" infos="FAMILY ID=mios|DEVICES=dvd|PRIORITY
TITLES=GBLPGL"/>
  <title name="Waninkoko cMIOS v4rev5" titleid="0x100000101" mid="1"
hash="0x77,0x67,0x39,0x97,0x6c,0x87,0x9f,0x3e,0xd7,0x54,0x49,0x77,0xe3,0x28,0xd1,0x1e,0x33,0x3a,0xda,0xec" infos="FAMILY ID=cmios|DEVICES=dvd|PRIORITY
TITLES=GBLPGL"/>
  <title name="Wigator cMIOS v4" titleid="0x100000101" mid="1"
hash="0xae,0x2d,0x5e,0xde,0x34,0x59,0xb6,0x1d,0xeb,0x7a,0x58,0x07,0x2e,0x35,0x46,0x87,0xd1,0x41,0xb1,0x08" infos="FAMILY ID=cmios|DEVICES=dvd|PRIORITY
TITLES=GBLPGL"/>
  <title name="Wigator cMIOS v10" titleid="0x100000101" mid="1"
hash="0xe3,0x8a,0xe1,0x65,0x4c,0xde,0x5e,0xe5,0xe6,0xb6,0x1f,0x40,0xa7,0x37,0x4f,0xf8,0x31,0x4e,0x35,0x2b" infos="FAMILY
ID=cmios|DEVICES=dvd,car,cardb|PRIORITY TITLES=GBLPGL"/>
  <title name="Quadforce v4.1" titleid="0x100000101" mid="1"
hash="0xfd,0xa9,0x91,0x18,0x02,0xb2,0x41,0x34,0x80,0x17,0xc7,0x73,0x02,0x05,0x8a,0x28,0xc8,0x05,0xd1,0x4d" infos="FAMILY ID=dmq|DEVICES=sd,usb|DEDICATED
TITLES=GGPE01,GGPE02,GFZJ8P,GVSJ8P,GVS46E,GVS46J"/>
</titles>
```

XML attribute	Description	Comment(s)
<i>name</i>	Title label (user-defined string)	Explicit and not too long
<i>titleid</i>	Title id (u64)	Known
<i>mid</i>	Record index of the content used in the title identification process (u16)	1 for MIOS titles 0 for cIOS titles < title TMD contents count
<i>hash</i>	Content hash expected (u8 sequence)	Use <i>viewtmd</i> utility to get the wanted hash value from the title wad file (see example below)

```

terminal DOS
E:\temp\Modmii\COPY_TO_SD\WAD>dir
Le volume dans le lecteur E s'appelle DATA
Le numéro de série du volume est 9462-E750

Répertoire de E:\temp\Modmii\COPY_TO_SD\WAD

26/04/2014  17:24    <REP>          .
26/04/2014  17:24    <REP>          ..
20/04/2014  19:11                269.568 WiiGator_cMIOS.wad
                   1 fichier(s)          269.568 octets
                   2 Rép(s)  36.859.719.680 octets libres

E:\temp\Modmii\COPY_TO_SD\WAD>viewtmd WiiGator_cMIOS.wad > WiiGator_cMIOS.txt
E:\temp\Modmii\COPY_TO_SD\WAD>notepad WiiGator_cMIOS.txt
E:\temp\Modmii\COPY_TO_SD\WAD>_

```

```

WiiGator_cMIOS.txt - Bloc-notes
Fichier Edition Format Affichage ?

***TMD hashes***
Signed TMD hash: 93 34 a7 5f d5 04 2e c9 ed 05 ea 3c 9e 93 65 a2 3a b7 29 61
TMD hash: 80 b2 56 50 ab c6 53 84 27 63 ec bf bf 37 e6 3e 84 a8 e5 b5

***TMD data***
Issuer: Root-CA00000001-CP00000004
Version: 0 (0x00)
Ca_crl_version: 0 (0x00)
Signer_crl_version: 0 (0x00)
Fill2: 0 (0x00)
Sys_version: 0 (0x0000000000000000)
Title_id: 4294967553 (0x0000000100000101)
Title_type: 1 (0x00000001)
Group_id: 1 (0x0001)
Zero: 0 (0x0000)
Region: 0 (0x0000)
Ratings: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Reserved: 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Ipc_mask: 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Reserved2: 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
Access_rights: 1 (0x00000001)
Title_version: 65535 (0xffff)
Num_contents: 2
Boot_index: 1 (0x0001)
Fill3: 891 (0x037b)

***TMD contents data***
Content index: 0 (0x0000), id: 11 (0x0000000b), type: 1 (0x0001), size: 64 bytes, hash: 2c 43 13 37 43 7b 97 b2 40 a4 21 45 60 35 8b b2 1e 34 11 fa
Content index: 1 (0x0001), id: 12 (0x0000000c), type: 1 (0x0001), size: 265568 bytes, hash: e3 8a e1 65 4c de 5e e5 e6 b6 1f 40 a7 37 4f f8 31 4e 35 2b
Total contents size: 265632 bytes
TMD contents hash: 0e 41 e0 c0 eb 91 57 01 8d 42 bf 08 32 4a 65 48 ae 1e 1d 66

```

Up to 4 metadata to describe MIOS titles with the **Infos** XML by using the pipe character as delimiter:

**FAMILY ID** = *dm* (Dios Mios) or *dml* (Dios Mios Lite) or *dmq* (Quadforce) or *mios* (Official Mios) or *cmios* (Custom Mios)

**DEVICES** = *usb* and/or *dvd* and/or *sd* and/or *carda* and/or *cardb*

**UNSUPPORTED TITLES** = optional unsupported titles id list

**PRIORITY TITLES** = optional list to recommend the MIOS for titles id

**DEDICATED TITLES** = optional exclusive titles id list supported by the MIOS

## **VII) ADDITIONAL INFORMATION**

- MIOS Switcher only accepts the DMToolbox storage structure (<device>:/games/<title id>/...) for GC ISO backups automatic detection.
- Launching a GC game from SD-gecko device force MIOS switcher to use the Wiigator cMIOS v10 and its GC homebrew mode to run Swiss 0.3 r174 by default if there are no swiss.dol file in the homebrew app folder and no DOL files in the root of the SD-gecko.

## **VIII) MIOS RESOURCES**

Modmii: <https://code.google.com/p/modmii/>

DIOS MIOS: <http://code.google.com/p/diosmios/>

Quadforce: <http://gbatemp.net/threads/crediar-to-release-newer-version-of-quadforce.346229/>