



Technical Support Bulletin

Product	SUBJECT		Dossier	Number	Rev
BullSequana SA Server	SMBIOS / SMBIOS Reader		SA	21-05	01
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October 27, 2021	D. Demougin	P. Arbenz	Level 2	Undef.	

SMBIOS / SMBIOS Reader

This document explains what is the SMBIOS file, how to get this SMBIOS file from a BullSequana SA system, and how to read the file using the SMBIOS Reader utility.

What is the SMBIOS file ?

SMBIOS stands for System Management Basic I/O System.

SMBIOS data are data structures provided by the BIOS (Operating System independent) that can be used to probe and detect the hardware components and low-level behaviours (firmware revisions, ...) of the system.

For BullSequana SA systems, an SMBIOS file with SMBIOS structures can be downloaded. This file can be downloaded from the BMC, and analyzed.

More about the SMBIOS specifications : <https://www.dmtf.org/standards/smbios>

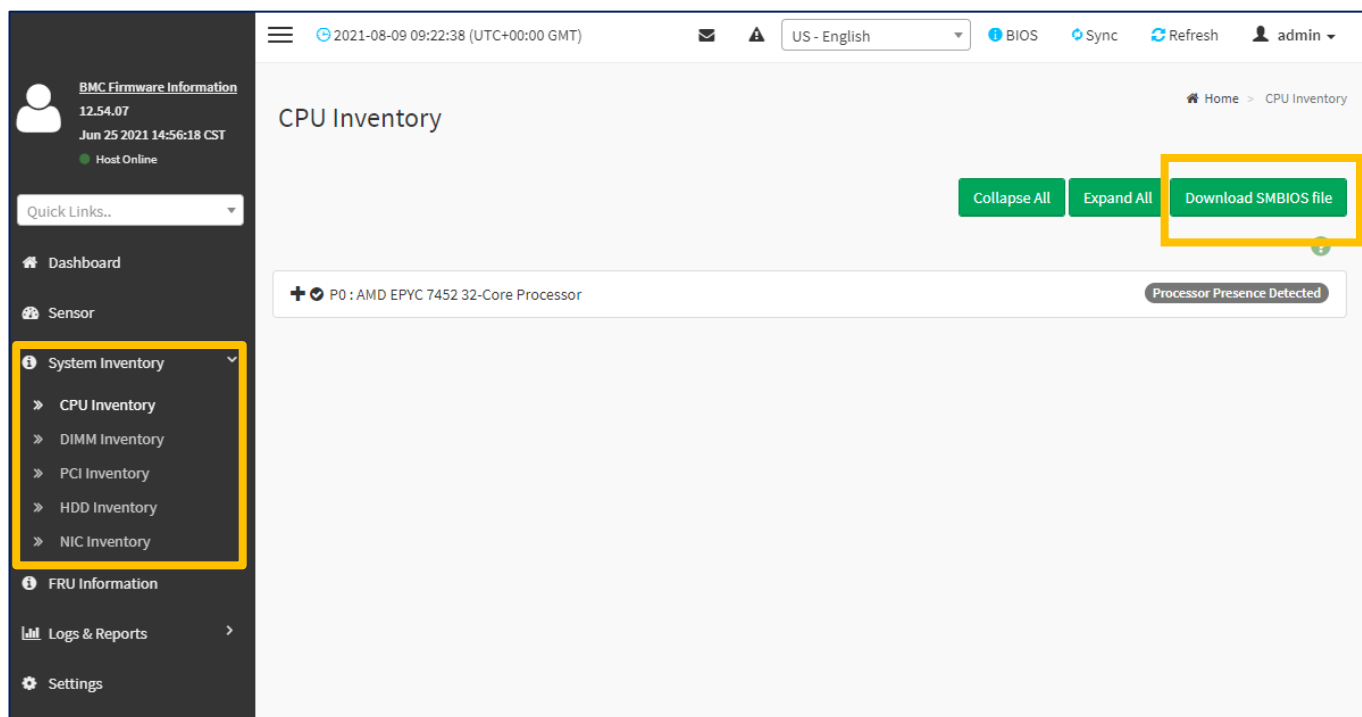
The SMBIOS structures are detected at first system boot (full boot), and transferred to the BMC after system reboot:

- a full boot cycle (up to tentative for loading the Operating System - trying to boot on drive, or PXE boot) is required, even if the Operating System is not installed.
Warning : the SMBIOS structures are not updated when going to the BIOS menu at boot (not a full cycle boot).
- then, a second boot cycle has to be initiated. During this stage, the SMBIOS file, with the SMBIOS data structures, will be copied to the BMC. The BIOS menu can be accessed during this boot cycle.

Following these 2 steps, the SMBIOS file located in the BMC is up-to-date.

Getting the SMBIOS file

The SMBIOS data from a BullSequana SA system can easily be downloaded through the BMC Web GUI. Connect to the BMC Web GUI, and select any item of the System Inventory (CPU, DIMM, ...) on the left menu. Then, on the right side, you will have a button to download the SMBIOS file



Note : when pushing the "Download SMBIOS file", the SMBIOS file is downloaded into the default download directory (according to the web browser configuration), and it is named "smbios.bin". If "smbios.bin" file is already present in this directory, the new SMBIOS file can have another name (it may be "smbios (1).bin", or any other name, according to the web browser configuration).

When working with several systems, or if you are downloading several SMBIOS files from the same system with different configurations, it may be interesting to rename the SMBIOS file with an accurate name.

Example : smbios-<system name>-<timestamp>.bin

SMBIOS Reader for BullSequana SA

What is SMBIOS Reader for BullSequana SA ?

The SMBIOS file is a binary file that cannot be read using an usual text editor.

Example : Hexadecimal and text view of an SMBIOS file :

00000000	5F 53 4D 33 5F CF 18 03-02 00 01 00 51 19 00 00	_SM3_.....Q...
00000010	18 00 00 00 00 00 00 00-00 1A 00 00 01 02 00 F0
00000020	03 FF 80 98 8B 37 01 00-00 00 03 0D 05 0E FF FF	..€.7.....
00000030	10 00 47 49 47 41 42 59-54 45 00 52 32 31 00 31	..GIGABYTE.R21.1
00000040	30 2F 30 38 2F 32 30 32-30 00 00 01 1B 01 00 01	0/08/2020.....
00000050	02 03 04 00 80 51 70 B2-5A EB 11 80 00 B4 2E 99€Qp.Z...€....
00000060	AE 0A 09 06 05 06 42 55-4C 4C 00 53 41 31 30 00BULL.SA10.
00000070	30 31 30 30 00 47 4B 4F-31 4E 47 34 31 32 41 30	0100.GKOLNG412A0
00000080	30 30 37 00 30 31 32 33-34 35 36 37 38 39 30 31	007.012345678901
00000090	32 33 34 35 36 37 38 39-41 42 00 53 65 72 76 65	23456789AB.Serve
000000A0	72 00 00 02 0F 02 00 01-02 03 04 05 0D 06 03 00	r.....
000000B0	0A 00 47 49 47 41 42 59-54 45 00 4D 5A 33 32 2D	..GIGABYTE.M732-

These binary data are following the SMBIOS specifications, based on a standardized header followed by structured. The aim of the "SMBIOS Reader for BullSequana SA" is to display the SMBIOS data in a human readable way.

How to install and how to start the "SMBIOS Reader for BullSequana SA"

"SMBIOS Reader for BullSequana SA" has been designed in the way to easily be installed and started. For installation, just copy the "smbios-reader -<release>.html" file to your working directory. There's no need of specific privilege.

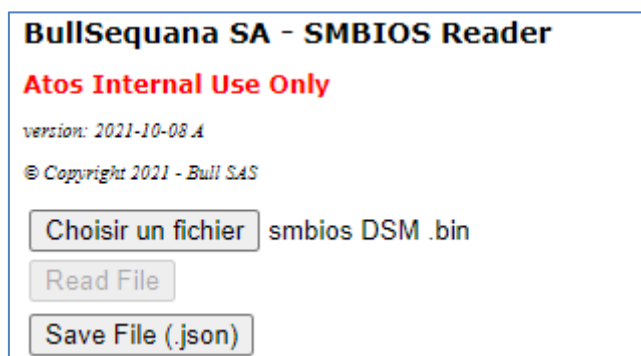
For starting "SMBIOS Reader for BullSequa SA", just open the file with your web browser (privileged Web Browser: Google Chrome, but it should work with any other web browser).

Warning : if you are using script control extensions (example : no script), Javascript has to be enabled for running "SMBIOS Reader for BullSequana SA".

Running SMBIOS Reader for BullSequana SA

After "SMBIOS Reader for BullSequana SA" has been started

- Using the "Choisir un fichier" button, select the SMBIOS file you want to inspect
- Click on the "Read File" button



SMBIOS data are displayed in blue, in a JSON formatted text that you can save in file using the button "Save File" Example :

```
Entry Point" :
{
  "Anchor" : "_SM3_",
  "Checksum" : "191",
  "Entry point length" : "24",
  "Major" : "3",
  "Minor" : "2",
  "Docrev" : "0",
  "Rev" : "1",
```

```
"Reserved" : "0",
"SMBIOS structure max size" : "9812",
"SMBIOS structure address" : "24"
},

"structure" :
[
{
  "Handle" : "0",
  "Type" : "0 (BIOS Information)",
  "Data" :
  {
    "vendor" : "GIGABYTE",
    "BIOS version" : "R16",
    "BIOS starting Segment Address" : "61440",
    "BIOS release date" : "07/10/2020",
    "BIOS ROM Size" : "255",
```

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