NVT-Loader Reference Guide V1.00.002

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Support Chips:
W55FA Series

Support Platforms:
Non-OS

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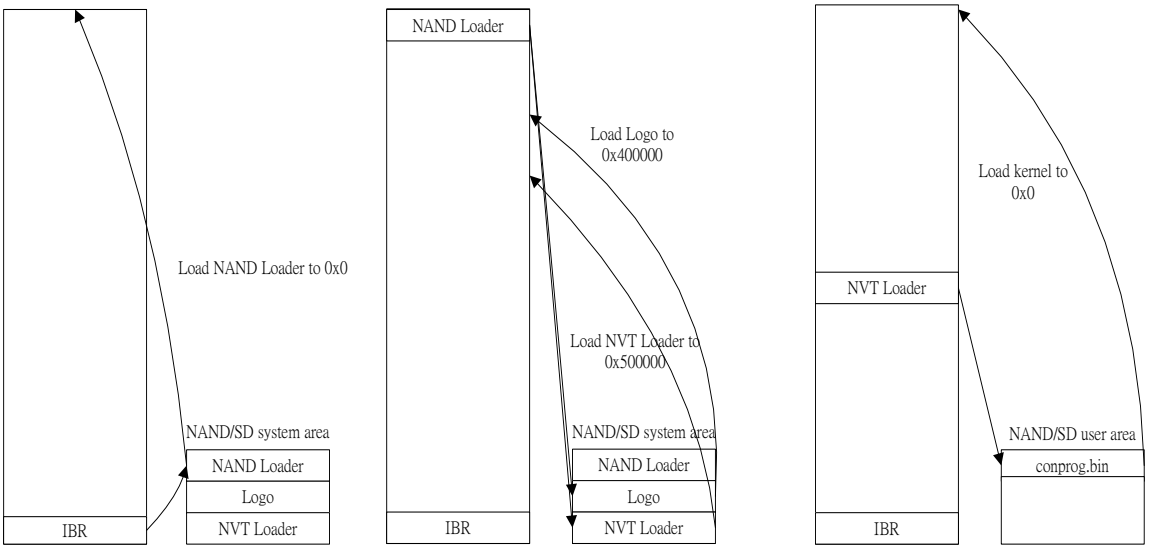
1. General Description

NVT loader acts as the 3nd stage to load kernel. NVT Loader is used to load Linux kernel to memory address 0 and make it running well. It can load kernel binary file from NAND disk or SD card. As power on, CPU runs at IBR. IBR detects the DRAM memory type and size then parsing the NAND-Loader whether exists or not on NAND or SD card system area. IBR will load the NAND-Loader to SDRAM memory address 0. Then pass the CPU control to NAND-Loader. NAND-Loader set the default PLL to 192MHz or 240MHz and the SDRAM timing and clock skew respectively. Then checking the system area whether has logo file or not. And NVT-Loader binary file. It loaded logo file and NVT-Loader to memory address 0x400000 and 0x500000 respectively.

The sequence for loading the kernel from power on was showed as following figure.

Figure 1-1: Sequence for loading kernel



2. Introduction

NVT-Loader acts as the 3nd stage to load kernel. It does not have code size limitation thus could provide more features than NAND loader. NVT-Loader's feature includes:

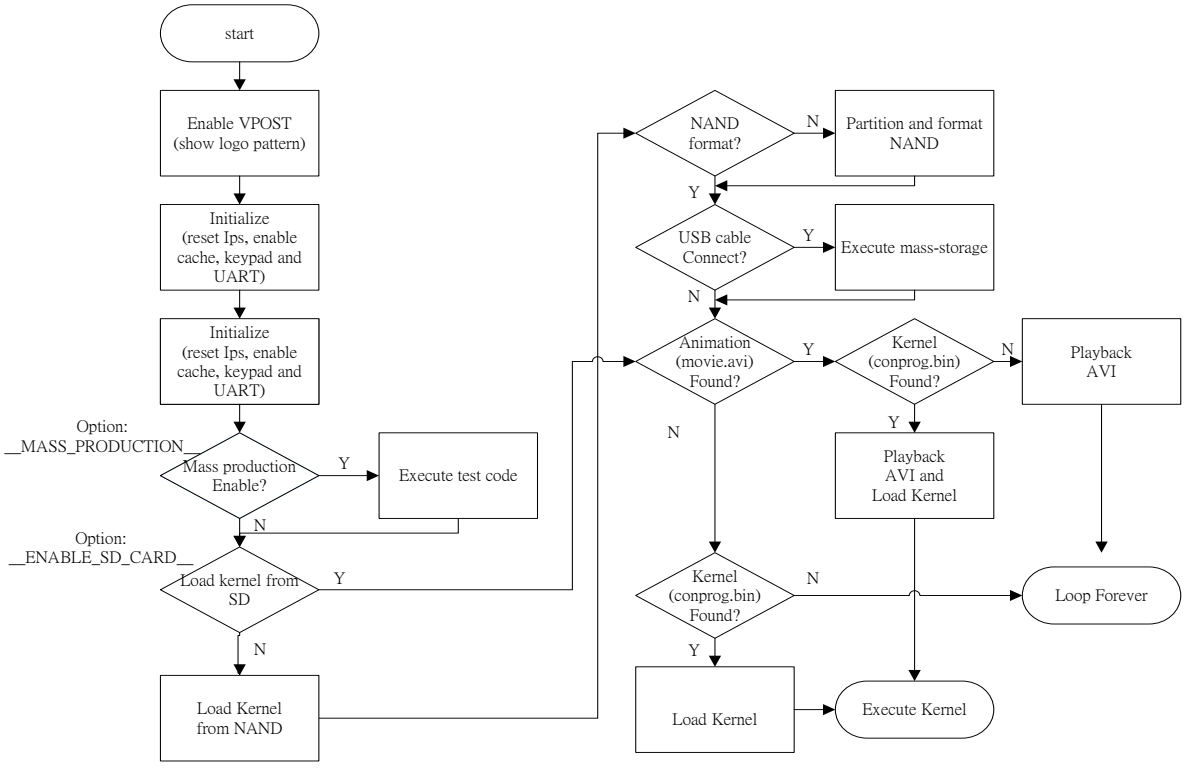
2.1. Feature

- Supports FAT file system on NAND flash.
- Supports USBD mass storage connection with PC.
- Supports AVI playback
- Supports basic production test code

2.2. Execution Flow

There are two mainly branch to load kernel from on board NAND flash or external SD card. The following figure shows the control flow.

Figure 2-1: Execute Flow

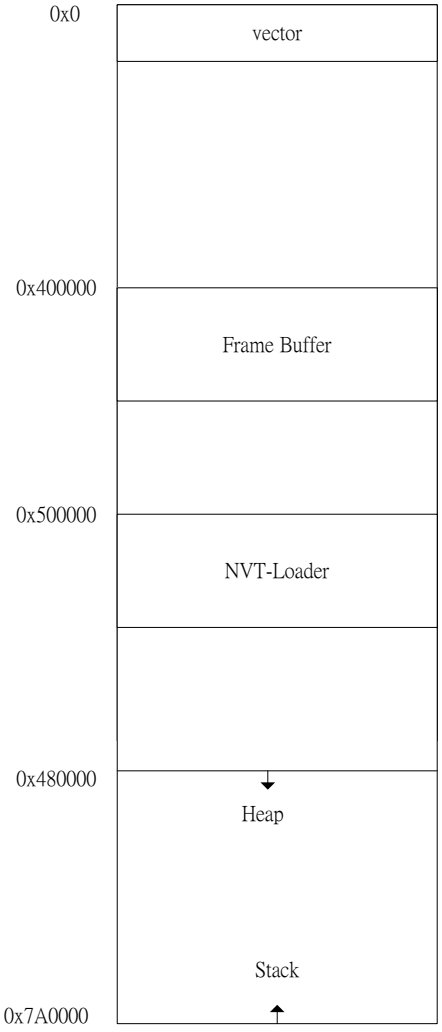


Please note the file conprog.bin, user could rename any binary code of sample code into conprog.bin. Copy the file into the root directory to exeute.

2.3. Memory Map

Scatter description loading file describes the memory map in load and execute view. NVT-Loader should be loaded to address 0x500000. Otherwise, it does not run well. The following figure shows the execute view.

Figure 2-2: NVT-Loader Execute View



3. Revision History

Version	Date	Description
V1.00.002	Jul. 12, 2012	● Modify for FA93QDN
V1	May. 5, 2011	● Created

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