MAKE A PRODUCTION ROM

Revision History:

Revision	Date	Comment
1.0	Aug 30, 2005	Initial Version
1.1	Sept. 7, 2007	Format change

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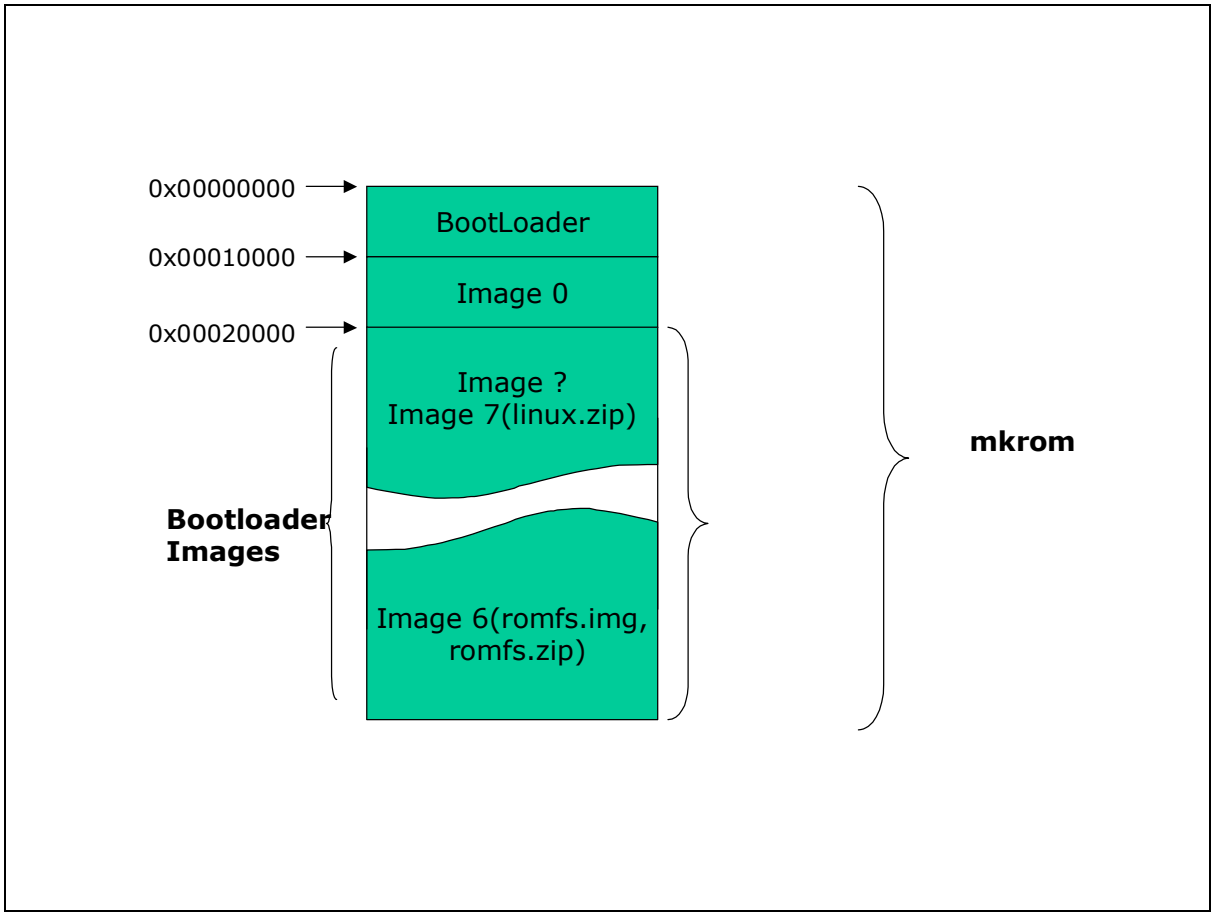
The BSP also provide utilities to make a whole new firmware image(by *mkrom*) to be burned into the flash ROM by flash programmers.

From the following figure, the *mkrom* combinded the bootloader, image 0, image 7, and image 6 as a whole new firmware image.

Figure 1-1 The images made by mkrom



1.1 mkrom

`mkrom :`

It is used to generate the whole new ROM/Flash image, it will includes the `bootloader.bin`, `linux.bin`, `romfs.img`. On production, it can be used to program into the whole new ROM/Flash chip.

It will read the `rom.ini` to get the bootloader and image information to build a whole new image.

```
$ mkrom
```

1.2 Configuration file for MKROM

Introduction:

The MKROM is a tool to generate a ROM image. The ROM image includes

- boot loader,
- Image 0(boot information block)
- and user images.

This generated image can be used to programmed into the flash/ROM chip by the Flash/ROM programmers.

SYNOPSIS:

The MKROM generates a ROM image according to a configuration file. The default configuration file name is *mkrom.ini*. It should be placed in the same directory as mkrom (or mkrom.exe). The configuration file also could be given by argument, such as,

MKROM user_config.ini.

The format of the configuration must be followed and it is case sensitive. It includes four section types. These types

are "[Target Image]", "[Boot Image]", "[Boot Info]", and "[Image N]". Where N could be 1~7, such as,

[Image 1], [Image 2], etc.

NOTE: The sequence of each section is fixed. That is [Target Image] section first, [Boot Image] second, [Boot Info] third, then [Image N].

The sequence of each "[Image N]" must according to its base address in the final ROM image. The [Image N] section with lower base address must be placed in front of the [Image N] section with higher base address.

Setting	Value	Comment
mac=	xx:xx:xx:xx:xx:xx	“MAC address "
ip=	aa.bb.cc.dd	"IP address"
dhcp=	1 : enable DHCP client 0 : disable DHPC client	“DHCP client setting. Setting 1 to, 0 to "
cache=	1 : enable cache 0 : disable cache	“Cache setting. Setting 1 to enable cache, 0 to disable cache"
buffer_base=		“The base address of the buffer used by boot loader"
buffer_size=		"The size of the buffer used by boot loader
baudrate=		“UART baudrate setting”
usb=	1 : enable USB 0 : disable USB	“USB device setting”
serial_number=		“Bootloader serial number”

[Image N Image="] section (The value of N could be 1~7)

Setting	Value	Comment

Image=	.\linux.zip	The file name of the image
Name=	linux.zip	The alias name of the image"
Base=	0xXXXXXXXX	The base address of this image in the W90N740 system"
Load=	0xXXXXXXXX	"The load address of this image in the W90N740 system"
Active=	1: Active Image 0: Inactive Image	The IMAGE_ACTIVE attribute. Setting 1 to enable this attribute, 0 to disable it"
Copy to RAM=	1: Copy to RAM on loading 0: No need to copy it to RAM	The IMAGE_COPY2ROM attribute. Setting 1 to enable this attribute, 0 to disable it
Execution=	1: Executable Image 0: Not executable Image	The IMAGE_EXEC attribute. Setting 1 to enable this attribute, 0 to disable it"
Compressed=	1: Compressed Image 0: Normal Image	The IMAGE_COMPRESSED attribute. Setting 1 to enable this attribute, 0 to disable it"
File=	1: File 0:	The IMAGE_FILE attribute. Setting 1 to enable this attribute, 0 to disable it"

An example of the configuration file is as follows:

```
==============================File name: mkrom.ini ===================================


[Target Image]

Image=rom.bin


[Boot Image]

Image=.\bootloader.bin


[Boot Info]

mac=00:11:22:33:44:01

ip=0.0.0.0

dhcp=1

cache=1

buffer_base=0x300000

buffer_size=0x100000

baudrate=115200

serial_number=1234


[Image 2]

Image=.\linux.zip

Name=linux.zip

Base=0x7F020000

Load=0x8000

Active=1

Copy to RAM=1

Execution=1

Compressed=1
```

```
File=0



[Image 1]

Image=.\romfs.img

Name=romfs.img

Base=0x7F100000

Load=0x7F100000

Active=1

Copy to RAM=0

Execution=0

Compressed=0

File=0


================================================================================
```