

Initial memory map

The standard PC has the following memory map:

Addresses	Name	Description
0x000000-0x09FFFF	Conventional memory	RAM, which can be used by user
0x0A0000-0x0BFFFF	Video memory	RAM, used by video adapter
0x0C0000-0x0CFFFF	Adapter's ROM	ROM, used by different adapters
0x0D0000-0x0DFFFF	Page Frame	RAM used to map Expanded memory
0x0E0000-0x0FFFFFFF	BIOS	PC BIOS ROM

Conventional memory mapped as:

Addresses	Name	Description
0x000000-0x0003FF	Interrupt Vectors	This memory used to control Interrupts
0x000400-0x0004FF	BIOS Data Area	Used by ROM BIOS

After BIOS POST

Addresses	Name	Description
0x000000-0x0003FF	Interrupt Vectors	This memory used to control Interrupts
0x000400-0x0004FF	BIOS Data Area	Used by ROM BIOS
0x000500-0x007BFF	Free	Free, unused memory
0x007C00-0x007DFF	MBR	
0x007E00-0x09FFFF	Free Conventional memory	RAM, which can be used by user
0x0A0000-0x0BFFFF	Video memory	RAM, used by video adapter
0x0C0000-0x0CFFFF	Adapter's ROM	ROM, used by different adapters
0x0D0000-0x0DFFFF	Page Frame	RAM used to map Expanded memory
0x0E0000-0x0FFFFFFF	BIOS	PC BIOS ROM

After MBR

This information correct for our [MBR](#)

Addresses	Name	Description
0x000000-0x0003FF	Interrupt Vectors	This memory used to control Interrupts
0x000400-0x0004FF	BIOS Data Area	Used by ROM BIOS
0x000500-0x0005FF	Free	Free, unused memory
0x000600-0x0007FF	MBR	Master Boot Record
0x000800-0x007BFF	Free	Free, unused memory
0x007C00-0x007DFF	Boot record	Boot Record loaded from boot sector of active partition
0x007E00-0x007FFF	MBR Work area	This area was used as MBR work area
0x008000-0x09FFFF	Free Conventional memory	RAM, which can be used by user
0x0A0000-0x0BFFFF	Video memory	RAM, used by video adapter
0x0C0000-0x0CFFFF	Adapter's ROM	ROM, used by different adapters
0x0D0000-0x0DFFFF	Page Frame	RAM used to map Expanded memory

Addresses	Name	Description
0x0E0000-0x0FFFFFFF	BIOS	PC BIOS ROM

After boot record

This information correct for our [bootsector](#)

Addresses	Name	Description
0x000000-0x0003FF	Interrupt Vectors	This memory used to control Interrupts
0x000400-0x0004FF	BIOS Data Area	Used by ROM BIOS
0x000500-0x0005FF	Free	Free, unused memory
0x000600-0x0007FF	MBR	Master Boot Record
0x000800-0x007BFF	Free	Free, unused memory
0x007C00-0x007DFF	Boot record	Boot Record loaded from boot sector of active partition
0x007E00-0x007FFF	Boot record Work area	This area was used as Boot Record work area
0x008000-(MuFSDStart-1)	Free	Free, unused memory
MuFSDStart-MuFSDEnd	MicroFSD	MicroFSD/BlackBox code
(MuFSDEnd+1)-0x09FFFF	Free Conventional memory	RAM, which can be used by user
0x0A0000-0x0BFFFF	Video memory	RAM, used by video adapter
0x0C0000-0x0CFFFF	Adapter ROMs	ROMs, used by different adapters
0x0D0000-0x0DFFFF	Page Frame	RAM used to map Expanded memory
0x0E0000-0x0FFFFFFF	BIOS	PC BIOS ROM

MuFSDStart=0x008000 or 0x090000. Now we use 0x090000 as LILO does but have a plan to use 0x008000 for more compact memory reuse and less possibility of overlapping.

MuFSDEnd is (0x008000+MicroFSD_file_length-1)

After MicroFSD/BlackBox

Memory map after MicroFSD/BlackBox work known via MemoryMap structure.

After FreeLDR

Memory map after FreeLDR work known via Multiboot Information block.

After L4Ka::Kickstart

Memory map after L4Ka:Kickstart work known to microkernel via Kernel Interface Page. Other tasks has access to memory via sigma0 server. Strating from this point all memory operation controlled by L4 microkernel.

Discussion

From:

<http://osfree.ru/doku/> - **osFree wiki**

Permanent link:

<http://osfree.ru/doku/doku.php?id=en:docs:boot:memmap&rev=1363054095>

Last update: **2013/03/12 02:08**

