Kernel Seminar

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BIOS POST

- POST – Power On Self Test
- Power supply starts the clock generator and asserts
- #POWERGOOD signal on the bus CPU
- #RESET line is asserted

BIOS POST – 2

- POST checks are performed with interrupts disabled
- IVT initialized at address zero

BIOS POST – 3

- BIOS bootstrap function is invoked via INT 0x19
- This loads track 0, sector 1 at physical address 0x7C00 (0x07C0:0000)

Overview of Booting

The process can be divided into following six logical stages:

1. BIOS selects the boot device

2. BIOS loads the boot sector from the boot device

Overview of Booting - 2

3. Boot-sector loads setup, decompression routines and compressed kernel image

4. Kernel is uncompressed in protected mode

Overview of Booting – 3

5. Low level initialization is performed by the asm code

6. High-level C initialization

/boot Directory

- config-X.X...
- grub
- initrd-X.X...
- Memtest86+-4.10 (optional)
- symvers-X.X...
- System.map-X.X...
- vmlinuz-X.X...

/lib/modules Directory

- X.X..... 3.14.1
- X.X..... 3.15-rc2
- X.X... 3.13.11 [EOL]

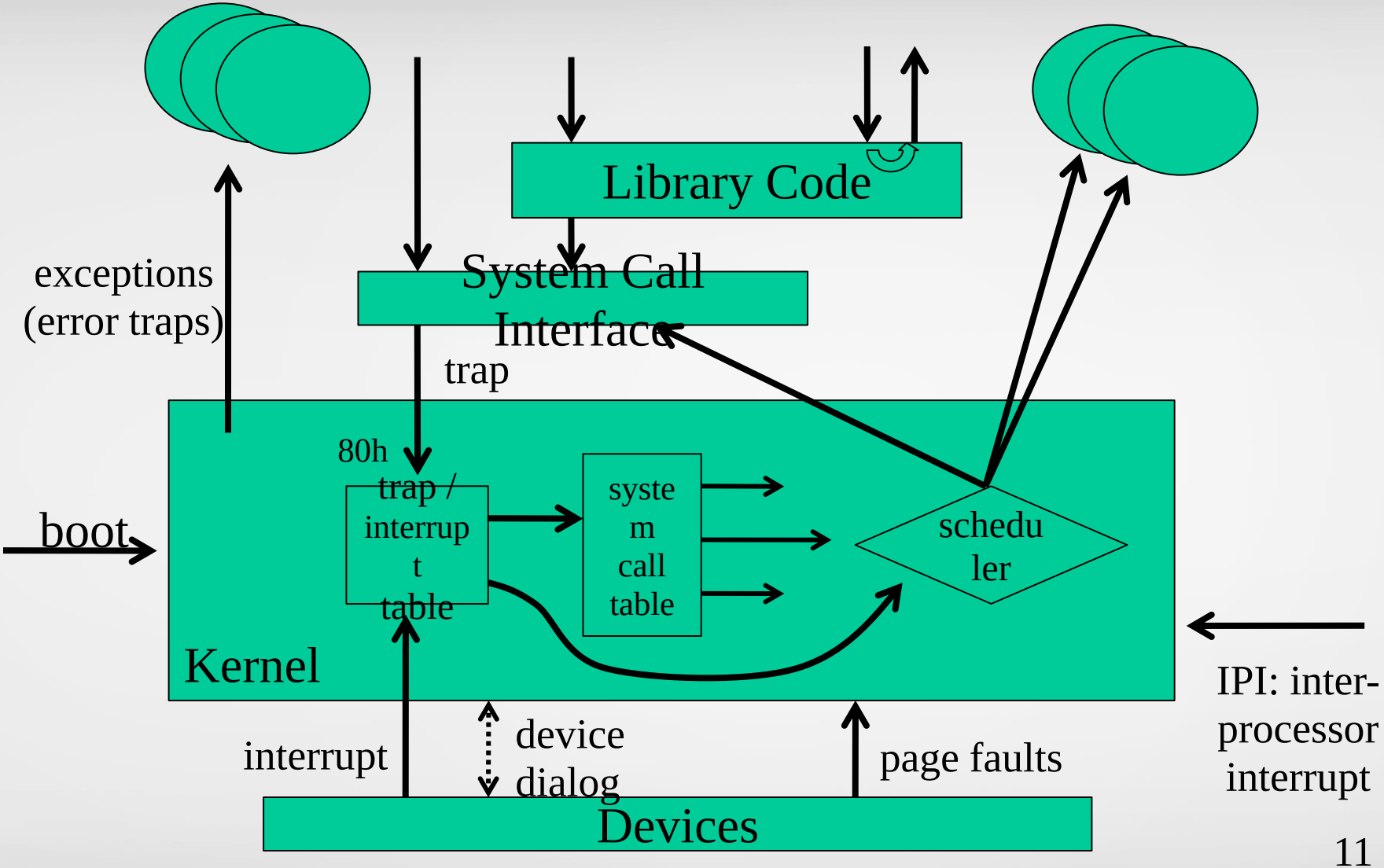
/lib/modules/X.X... Directory

build modules.dep modules.pcimap updates extra modules.ieee1394map modules.seriomap weak-updates

kernel modules.inputmap modules.symbols

modules.alias modules.isapnpmap modules.usbmap

modules.ccwmap modules.ofmap source


Library Code
exceptions
(error traps)
System Call
Interface
trap
80h
trap /
interrup
t
table
syste
m
call
table
schedu
ler
boot
Kernel
IPI: inter-
processor
interrupt
interrupt
device
dialog
page faults
Devices

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dmesg Command

NAME

dmesg - print or control the kernel ring buffer

SYNOPSIS

dmesg [-c] [-r] [-n level] [-s bufsize]

DESCRIPTION

dmesg is used to examine or control the kernel ring buffer.

/var/log/messages

klogd

syslogd

rsyslogd

syslog-ng

Thanks :)

Question ?