

Introduction to



coreboot

Who am I?

- Joseph Smith (aka linux_junkie)
- Founder of www.settoplinux.org
- High Interest in X86 Set-Top-Boxes
- Got involved with coreboot to replace Windows CE proprietary firmware
- coreboot developer for about 5 years
- Specialize in Intel chip-set coreboot development

History

- Formally known as LinuxBIOS
- Started by Ron Minnich at Los Alamos National Laboratory (LANL) in 1999 to solve vendor BIOS issues in cluster environments
- Originally designed to boot straight to Linux kernel in firmware
- In 2008 decision was made to change name to coreboot

What is Coreboot?

- coreboot does mainboard hardware initialization, including CPU, Northbridge, Memory, Southbridge, SuperIO, and any other programmable devices.
- Then Payload takes over to boot the OS

Payloads

- Straight to Linux Kernel
- FILO
- SeaBIOS
- GRUB2
- Etherboot
- Tiano Core

Related tools

- Flashrom
- Superiotool
- Nvramtool
- Getpir
- Inteltool
- MSRtool
- Ectool
- SerialICE
- crossgcc

Code Flow

Power On ->
switches to protected mode 32bits ->
CAR ->
early serial console ->
raminit ->
jump to coreboot in memory ->
resource allocator ->
all hardware init ->
jumps to payload

How can you start developing coreboot?

Get familiar with the code

Great support on mailing list and irc

Use of many tools (lspci is your friend)

Thank You!