

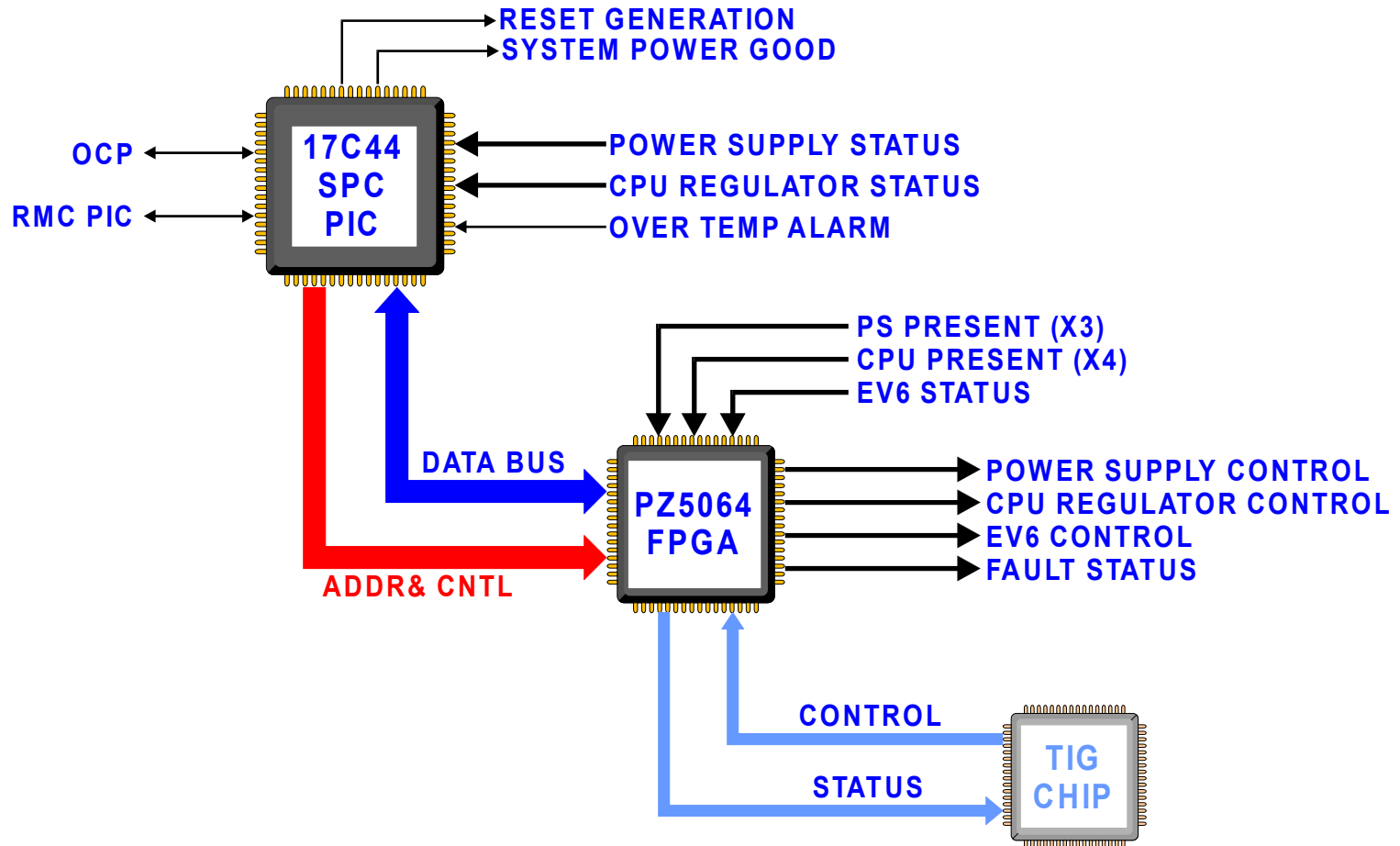


Clipper System Power Control ("SPC")

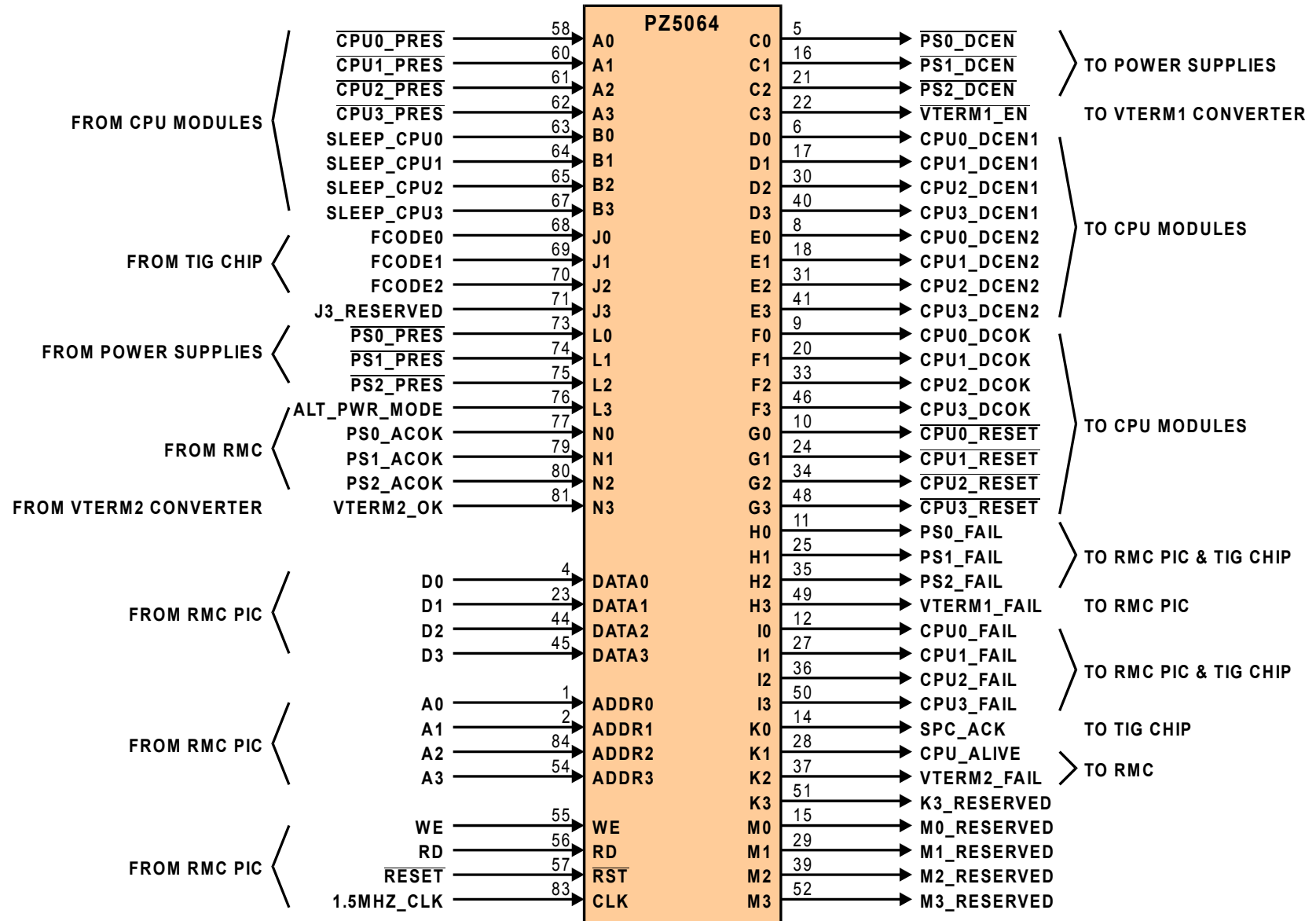
Dave Tatosian
Alpha Volume Server Engineering

- **Controls all system power supplies and converters**
 - Detects system configuration and enables correct sequencing and monitoring functions
 - Responds to OCP and RMC power On/Off commands
 - Performs power sequencing and manages processor “Sleep” modes
 - Monitors power supply and DC/DC converter status
 - Supports power supply “Hot Swap” sequencing
- **Controls boot process in concert with SRAM and TIG**
 - Selects primary processor and initiates SRAM load
 - Provides sequencing of secondary processor initialization
 - Logs boot failures and manages processor boot fail-over
- **Communicates fault status to RMC and system**
 - Detected faults are signaled to RMC PIC and TIG

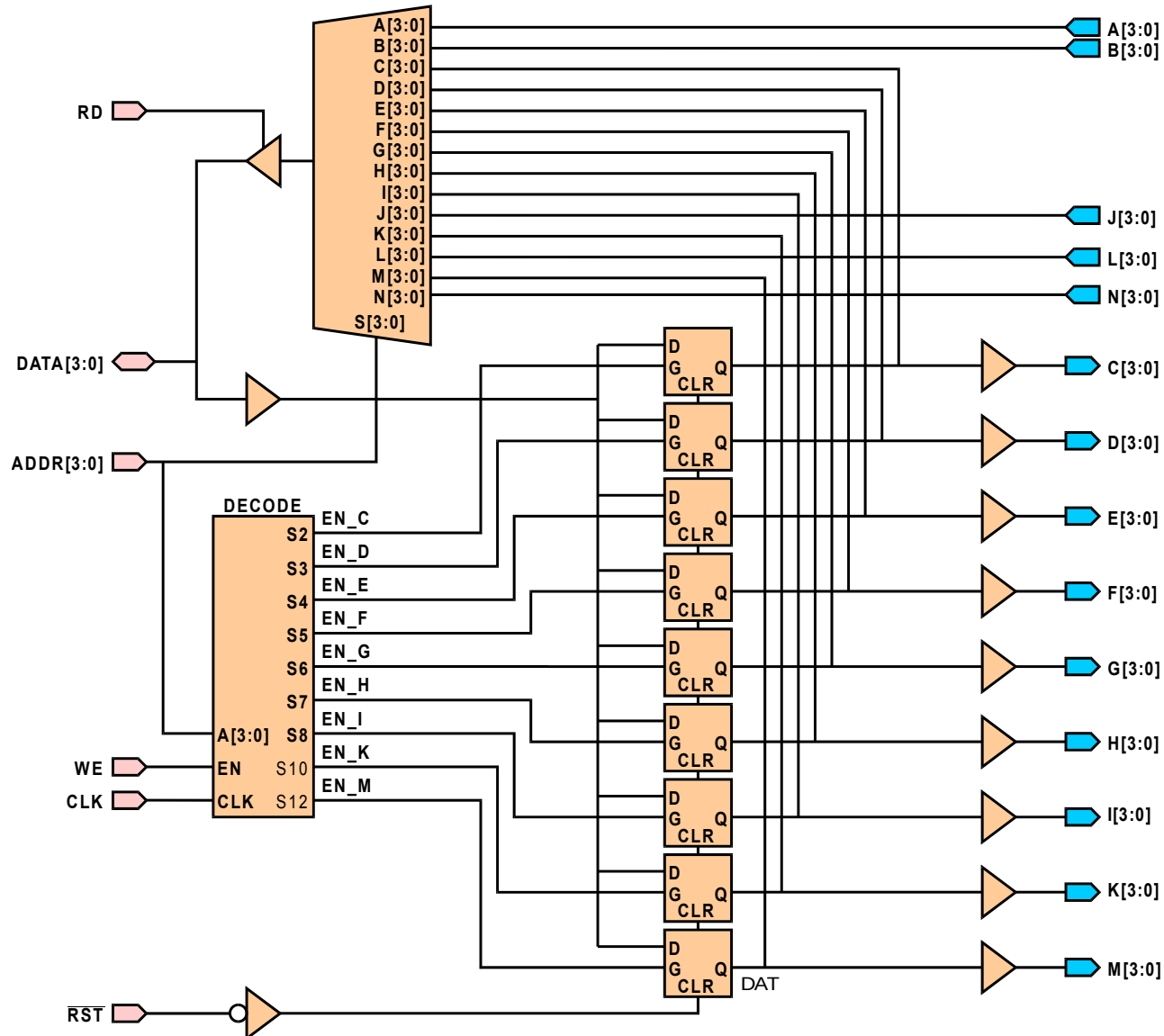
SPC Block Diagram



SPC Port Expander (PZ5064)

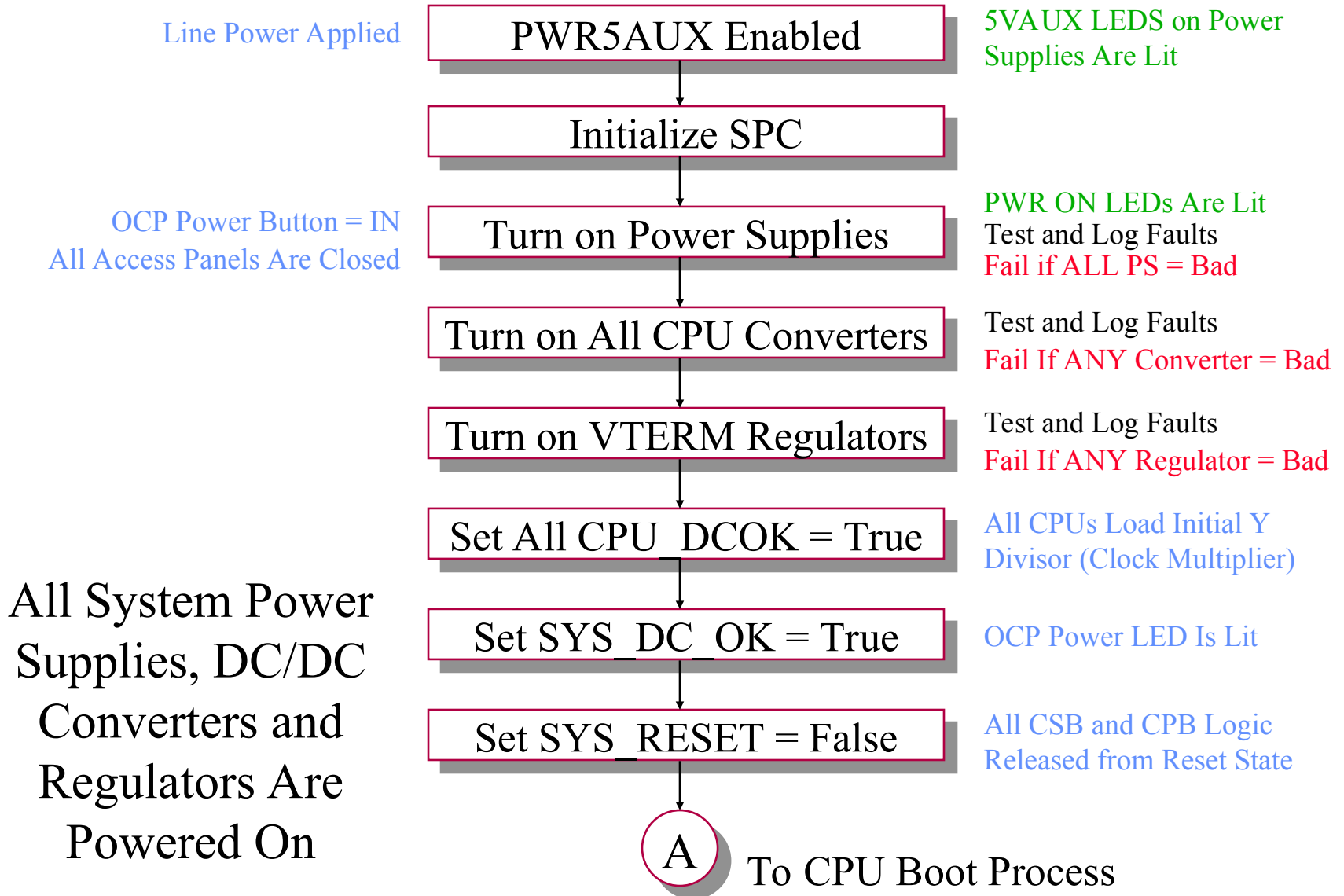


SPC Port Expander Block Diagram

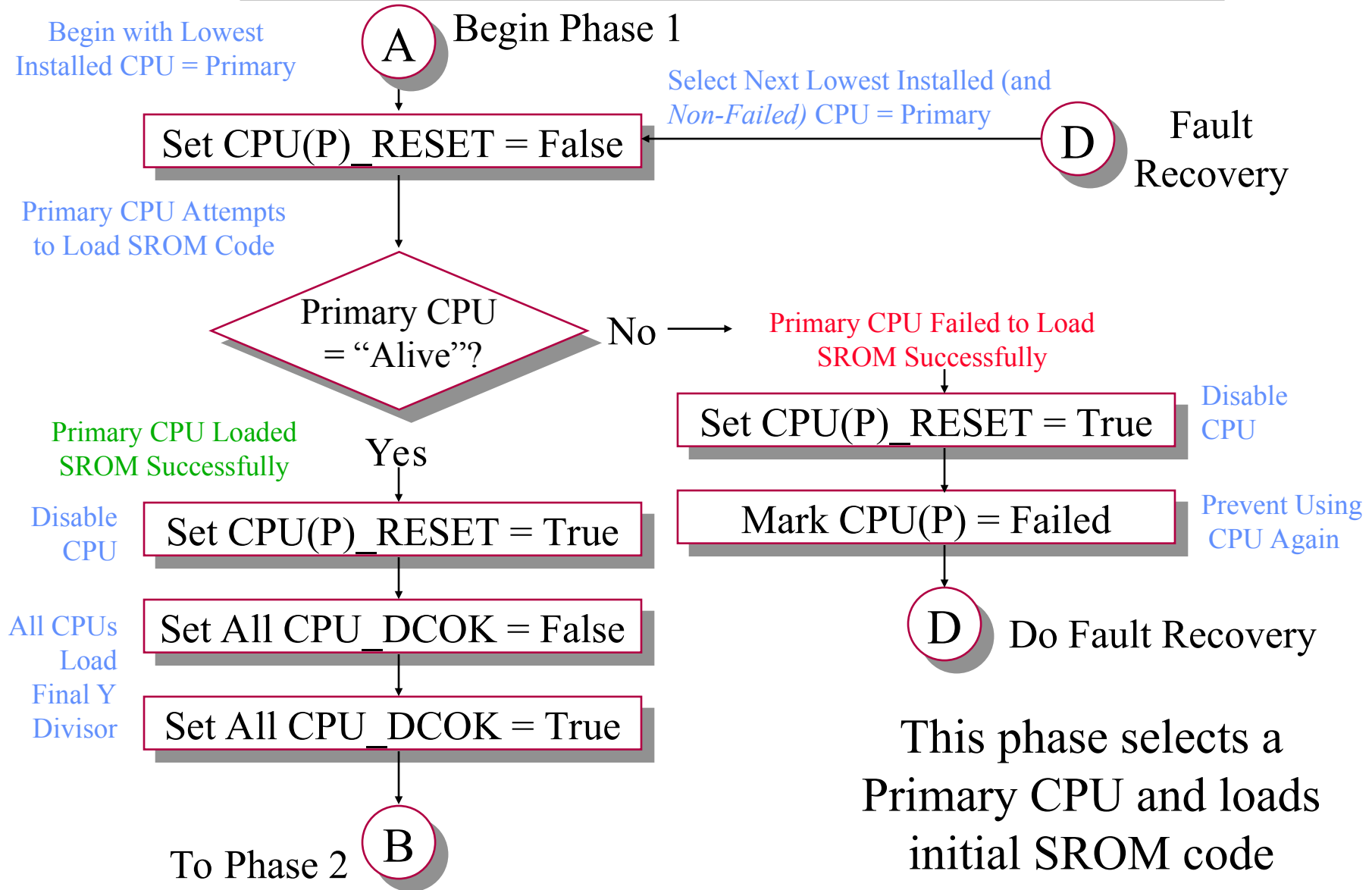


- **Power supply failure**
 - If N+1 power supplies are present, single PS failure is not fatal
 - If not N+1, any power supply failure is fatal
- **CPU module DC/DC converter failures**
 - All CPU converter failures are considered fatal
- **Term Power DC/DC converter failures**
 - Either Term Power converter failure is fatal
- **System over temperature event**
 - Overtemp alarm is fatal if enabled
- **Primary boot processor failure**
 - Select new primary processor and attempt to boot
- **Secondary boot processor failure**
 - Disable failed processor
 - Initiate boot of next secondary processor if installed

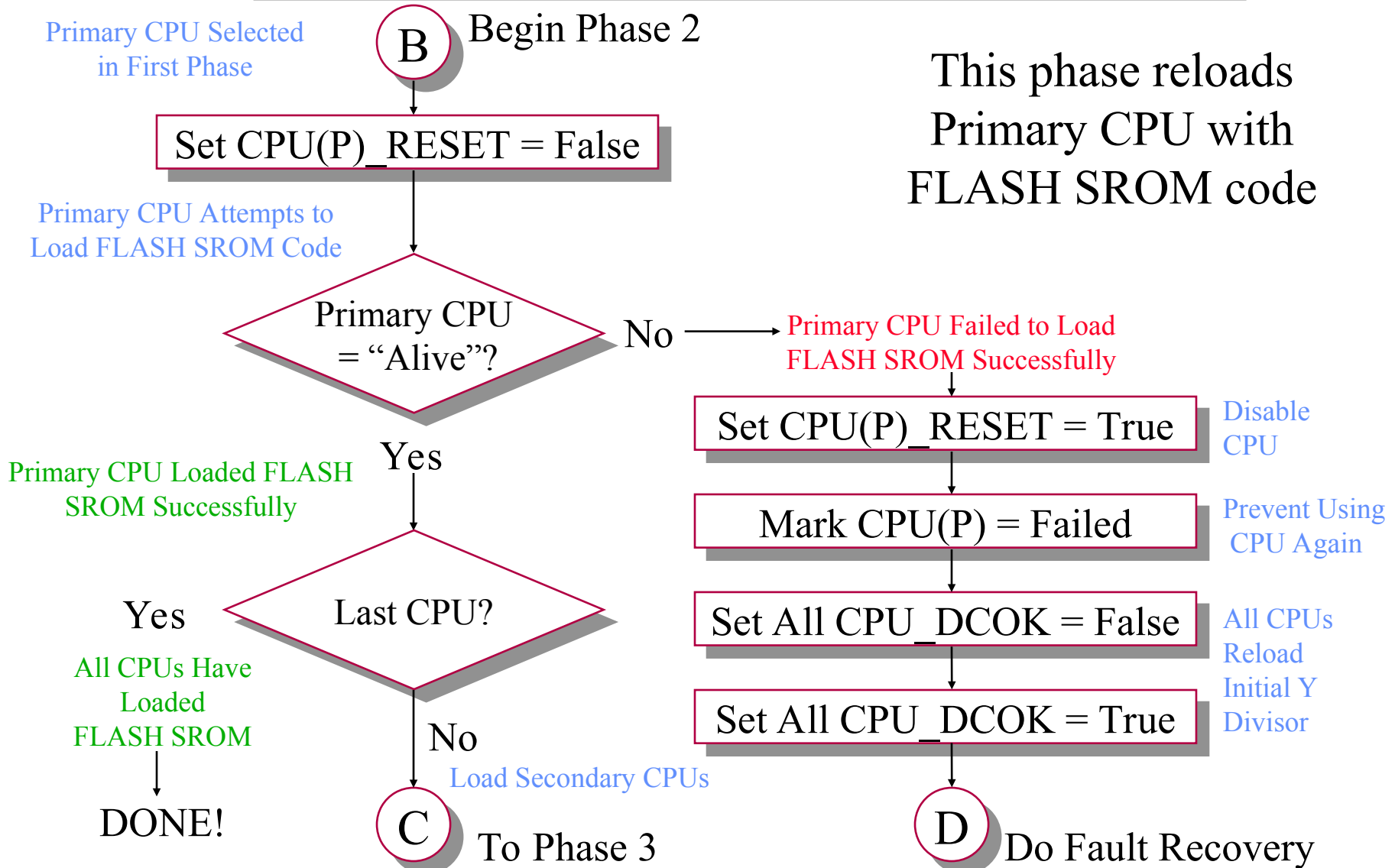
System Power-On Process



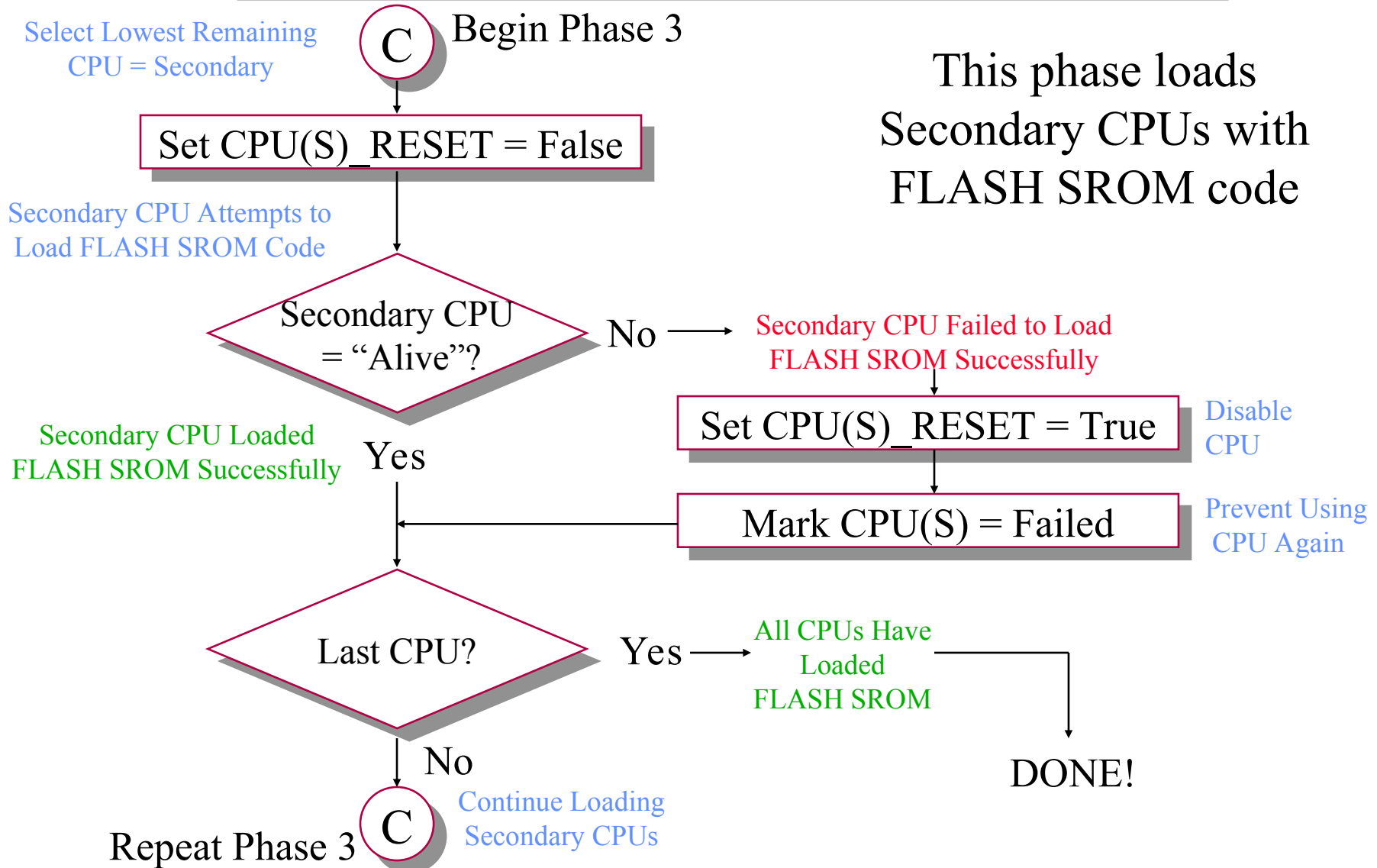
System Boot Process - Phase 1



System Boot Process - Phase 2



System Boot Process - Phase 3



Power Supply Hot-Swap Sequence

