

The MicroTCA Management

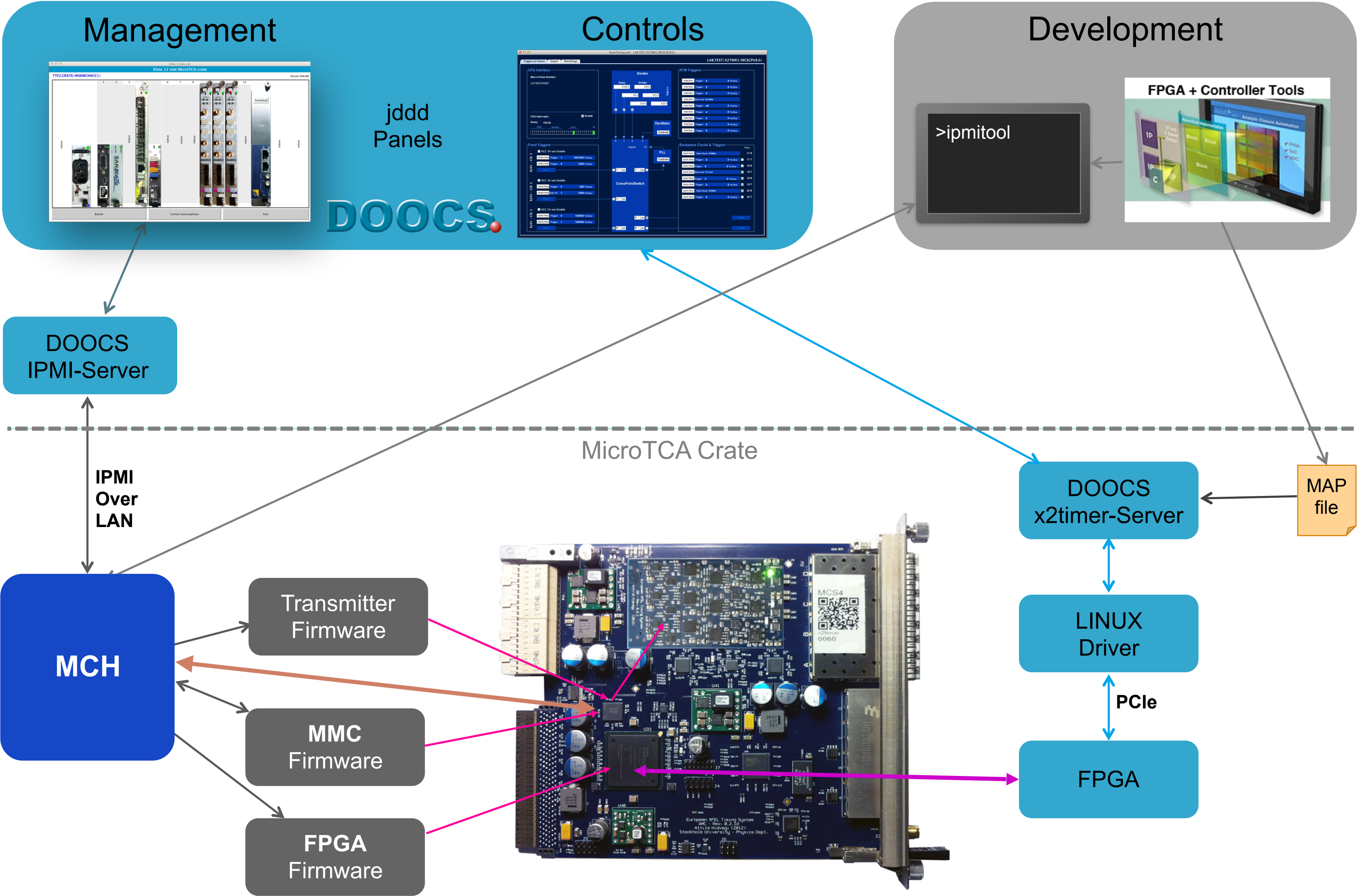
How does it work?

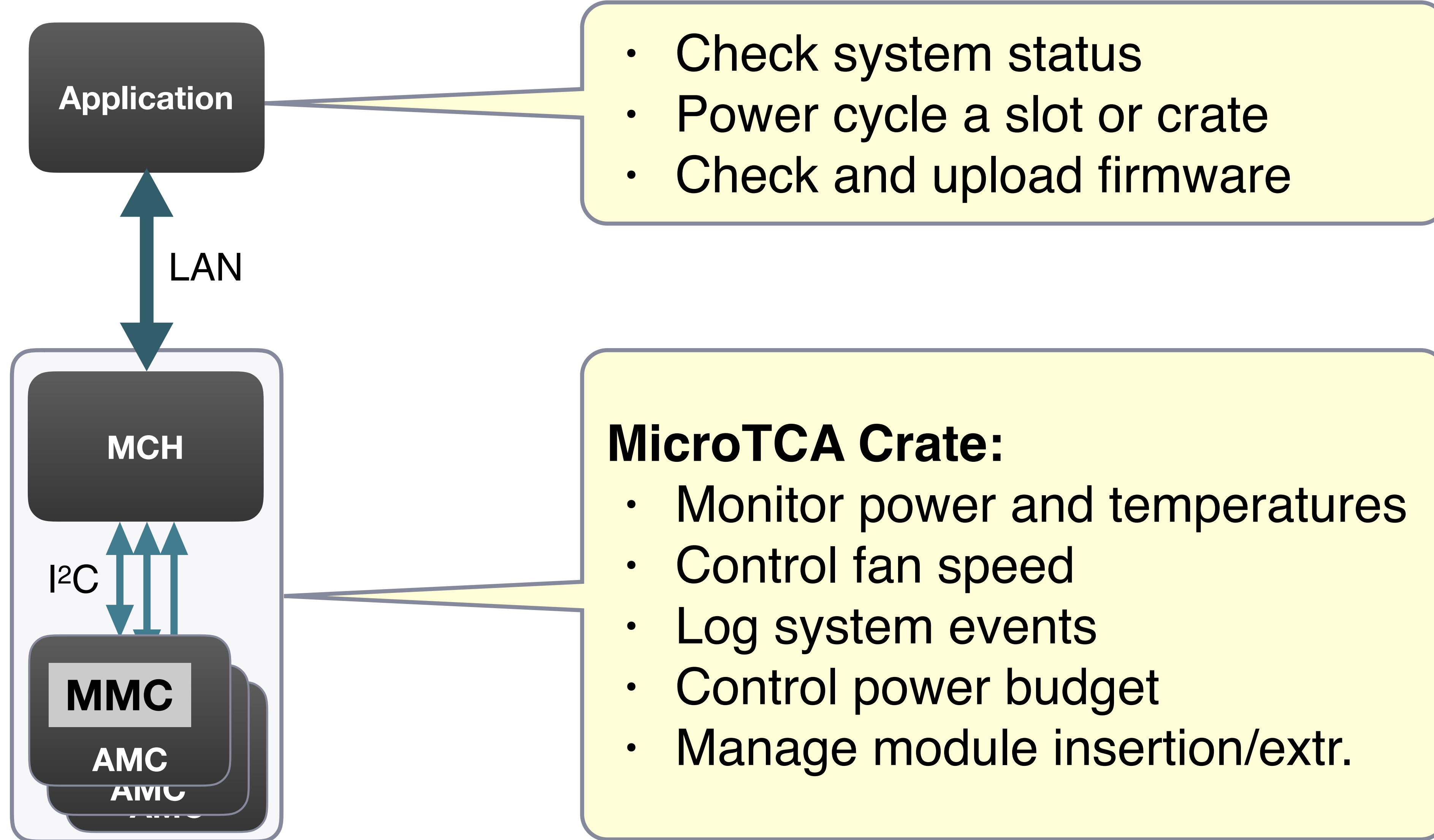
How to use it

Kay Rehlich

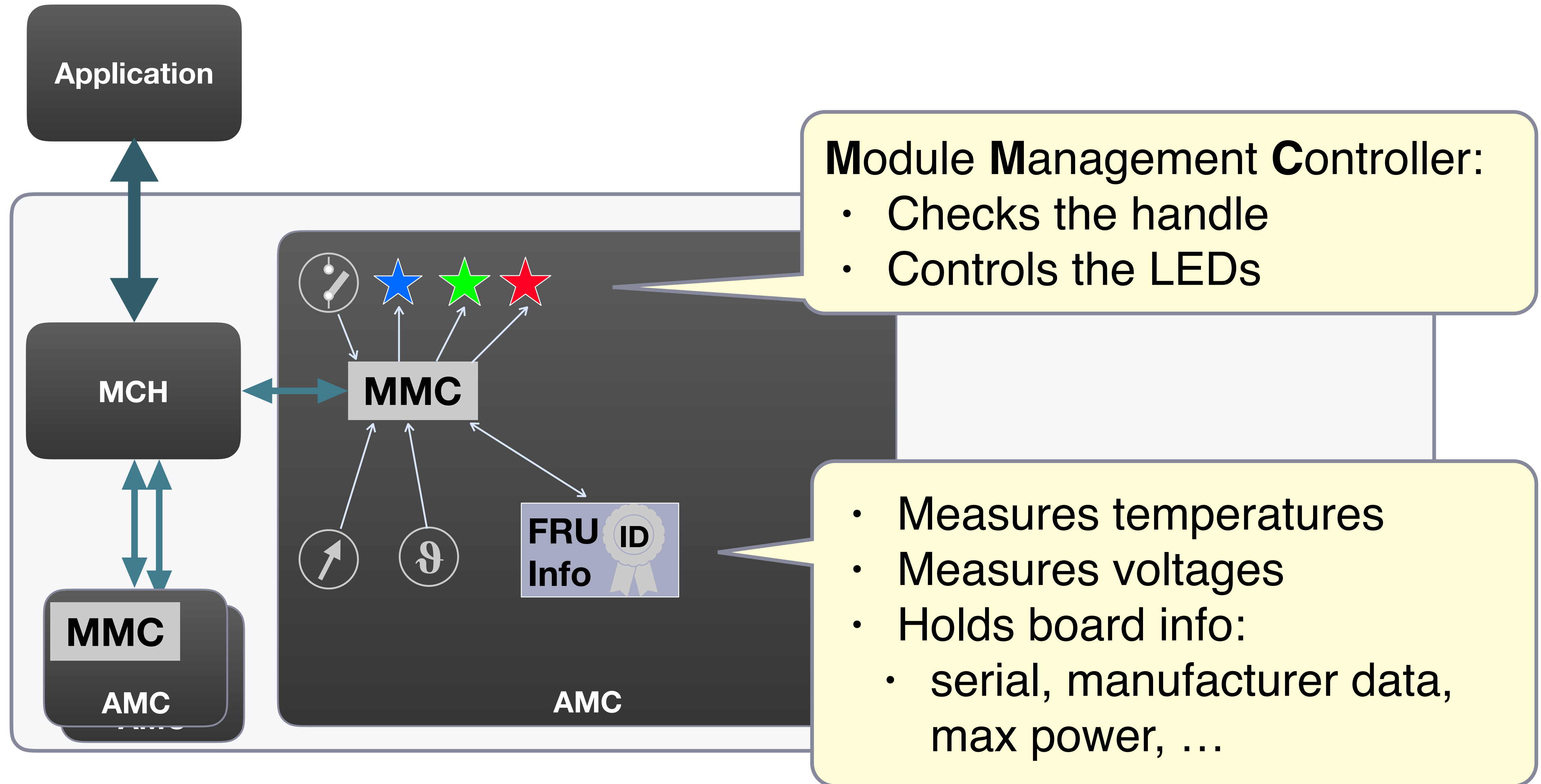
DESY & MicroTCA Lab

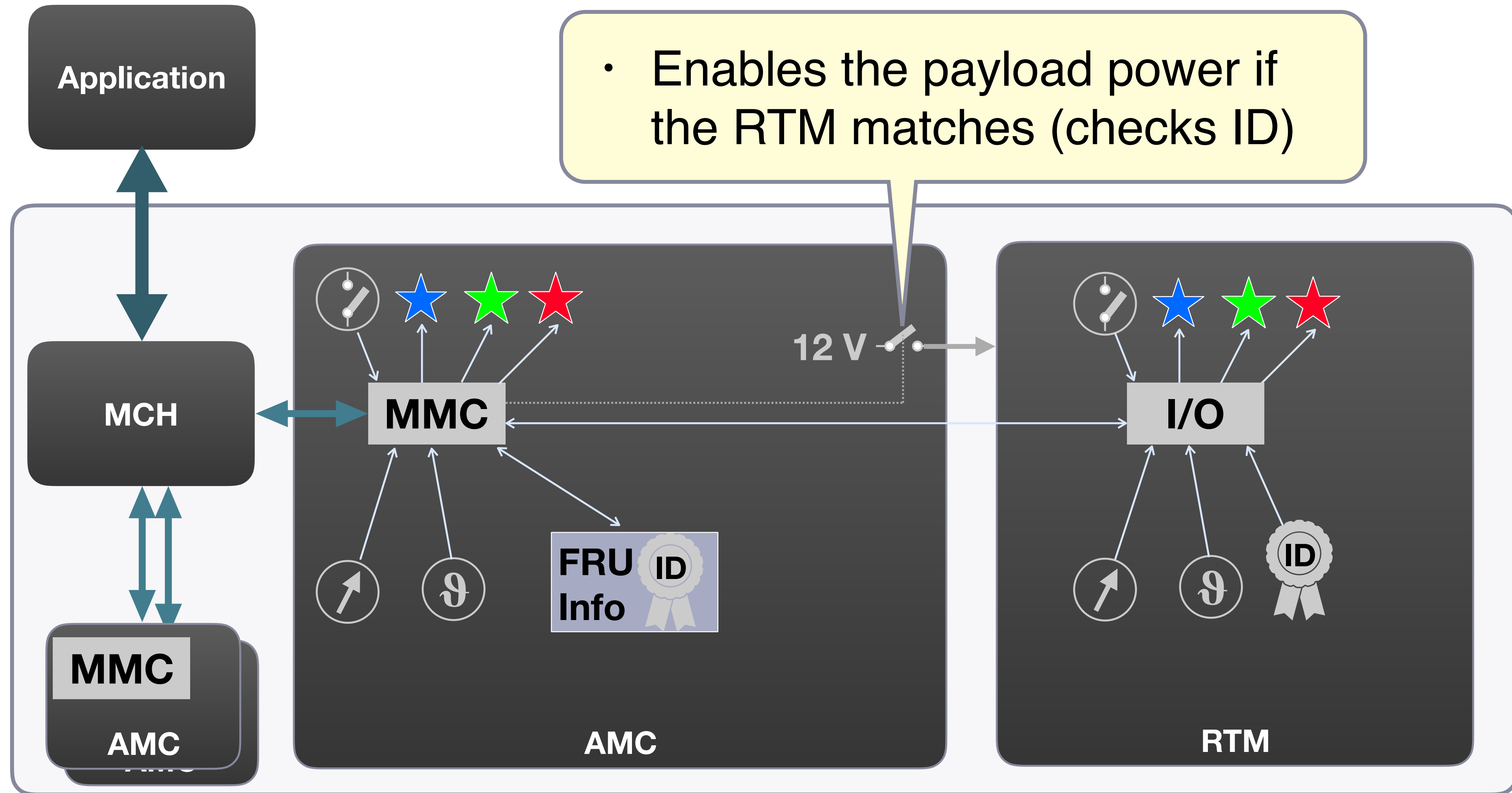
MicroTCA <—> Control System

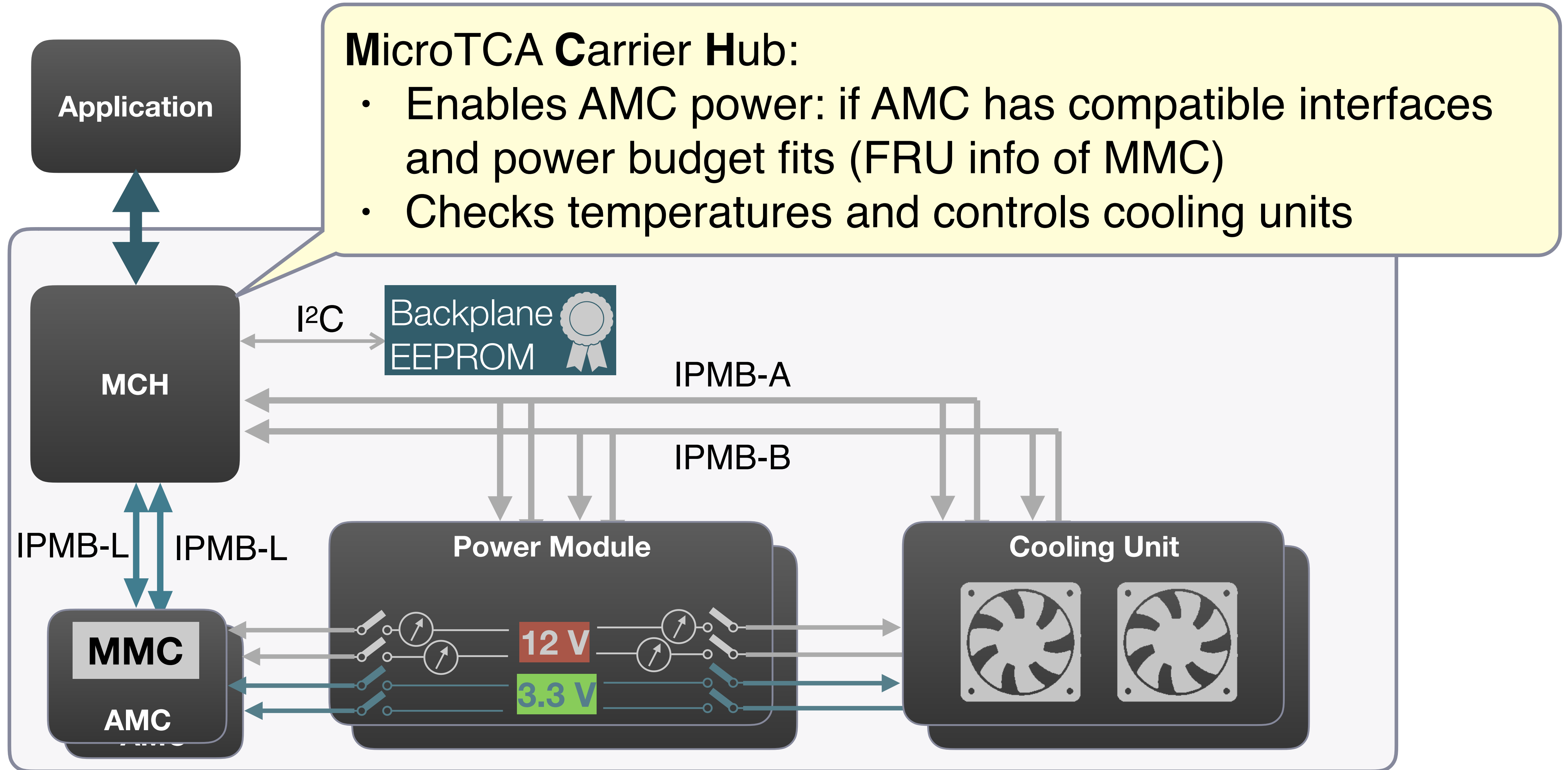




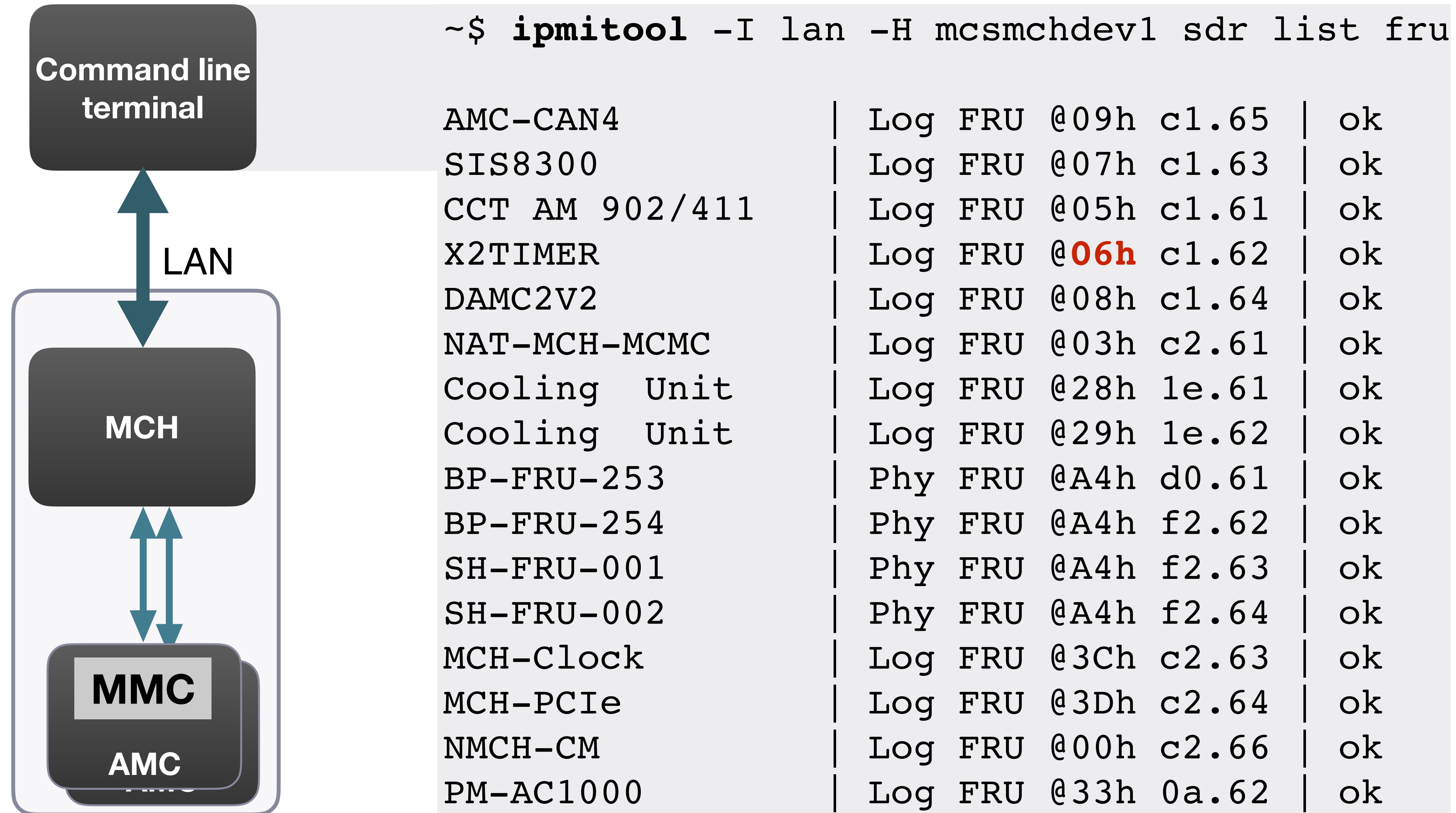
MMC: handle, indicators, voltages, temperatures, code



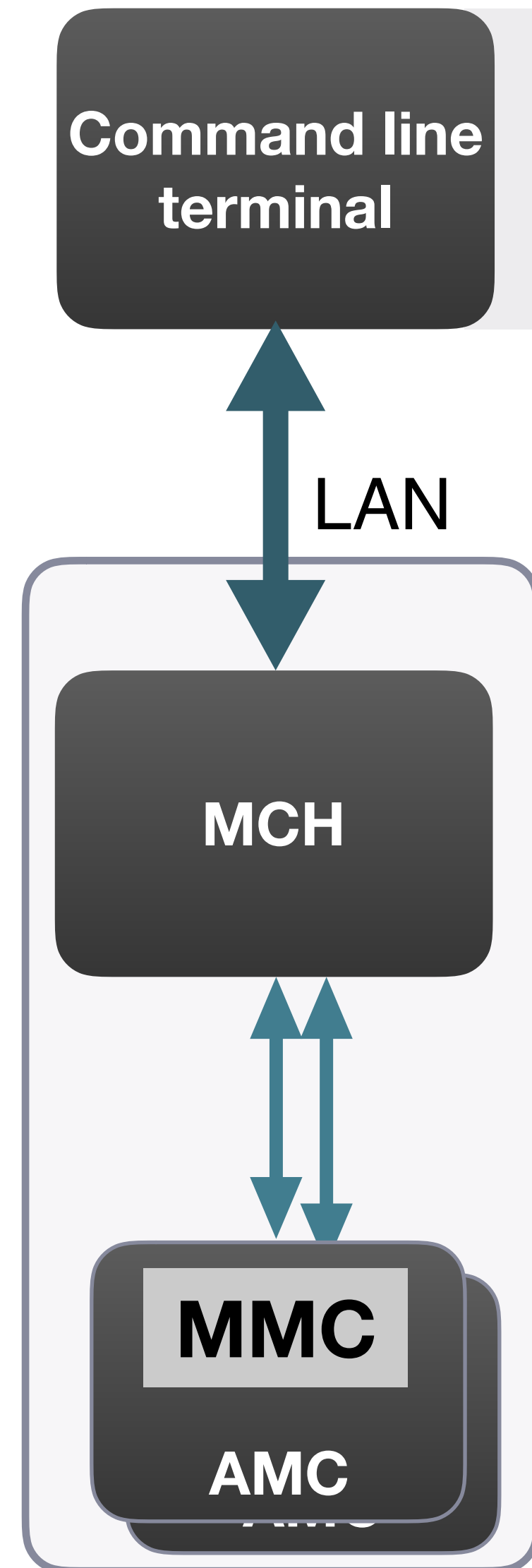




Applications: ipmitool -> System Status



Applications: ipmitool -> AMC Status

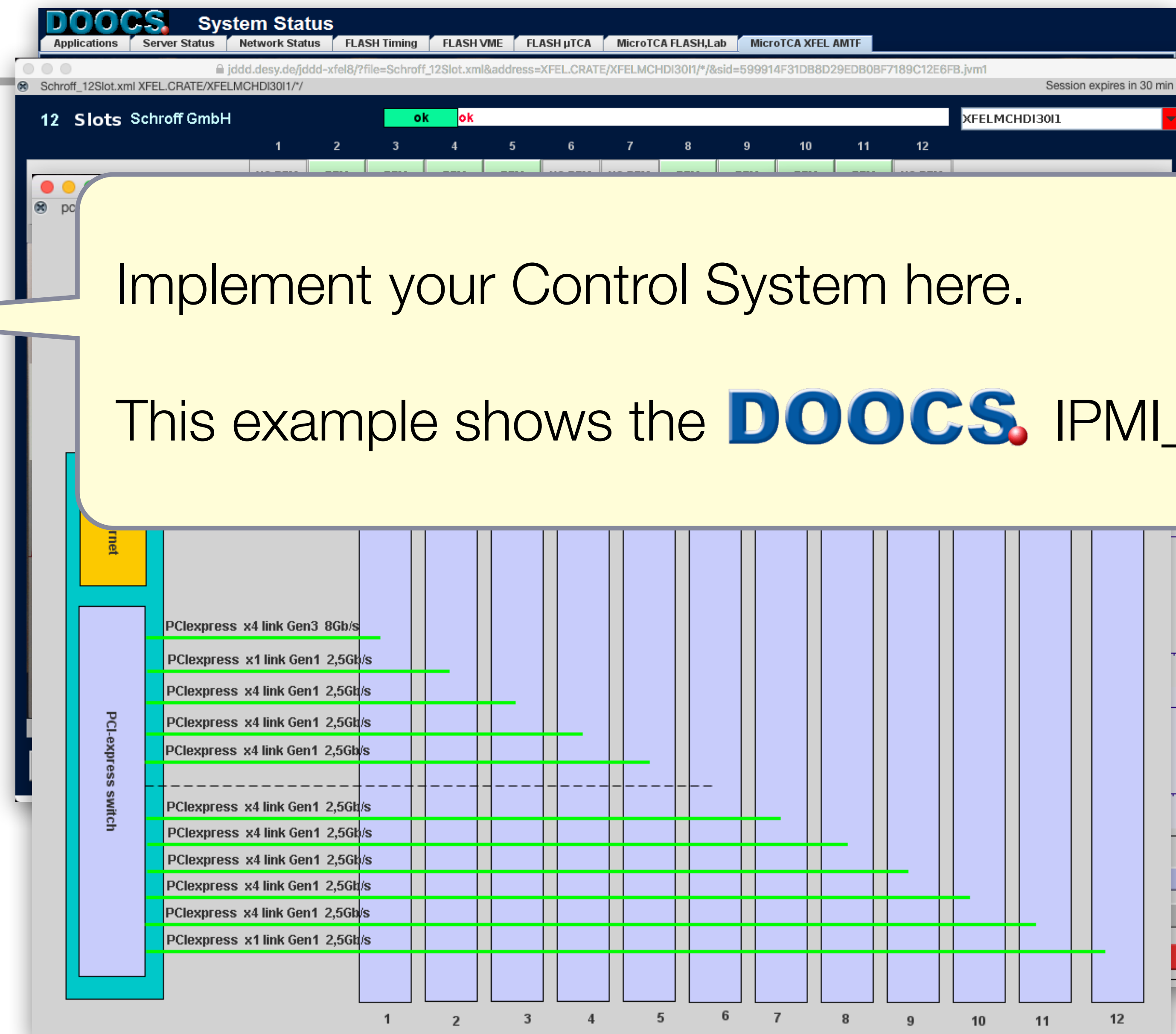
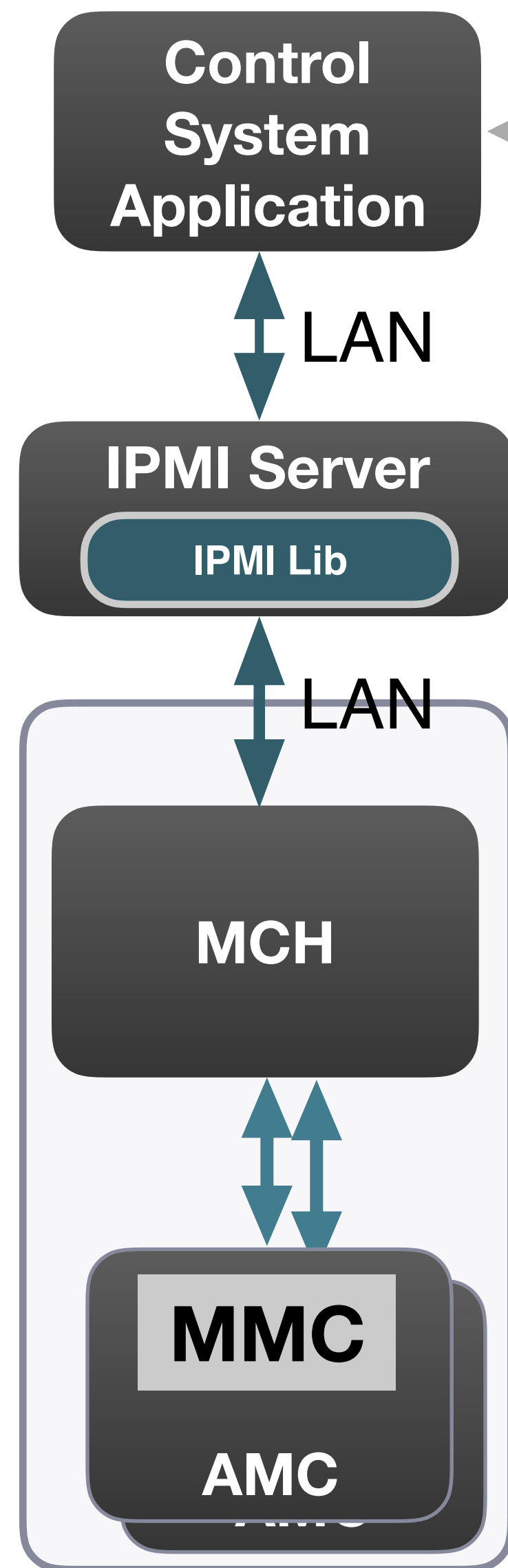


```

~$ ipmitool -v -I lan -H mcschdev1 fru print 6

Board Mfg Date      : Wed Nov 10 04:23:00 2017
Board Mfg           : N.A.T. GmbH - Germany
Board Product       : NAMC-psTimer
Board Serial        : 193
Board Part Number    : 115811
Board FRU ID         : NAMC-psTimer_xxxx.fru
Product Manufacturer : N.A.T. GmbH - Germany
Product Name         : NAMC-psTimer
Product Part Number  : 115811
Product Version      : 1.1
Product Serial       : 193
Product Asset Tag    : 150623
Product FRU ID       : NAMC-psTimer_xxxx.fru
PICMG Extension Record
FRU_AMC_CURRENT
Current draw(@12V): 3.40 A [ 40.80 Watt ]
...
  
```

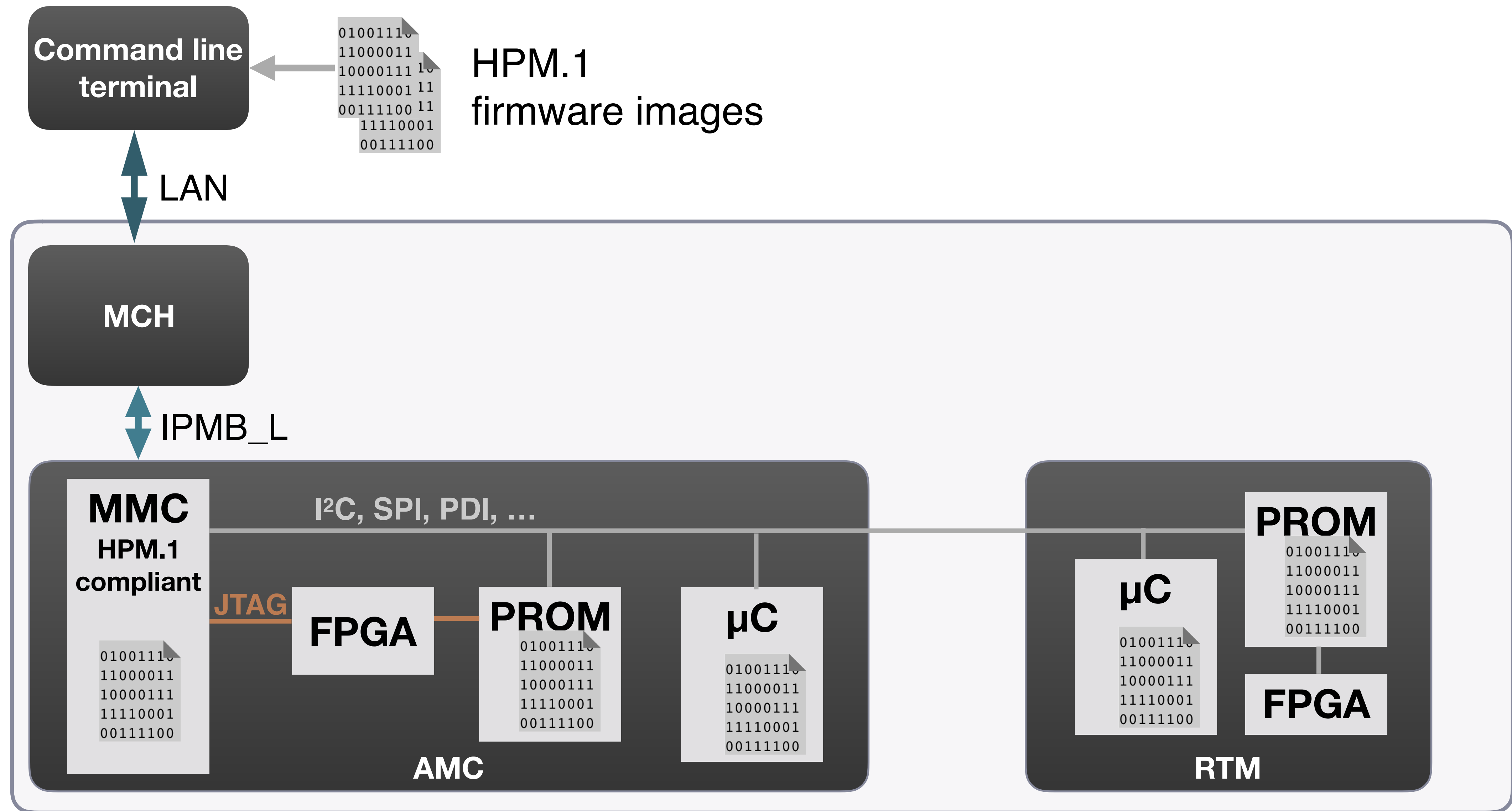

IPMI Server: DOOCS Implementation Example



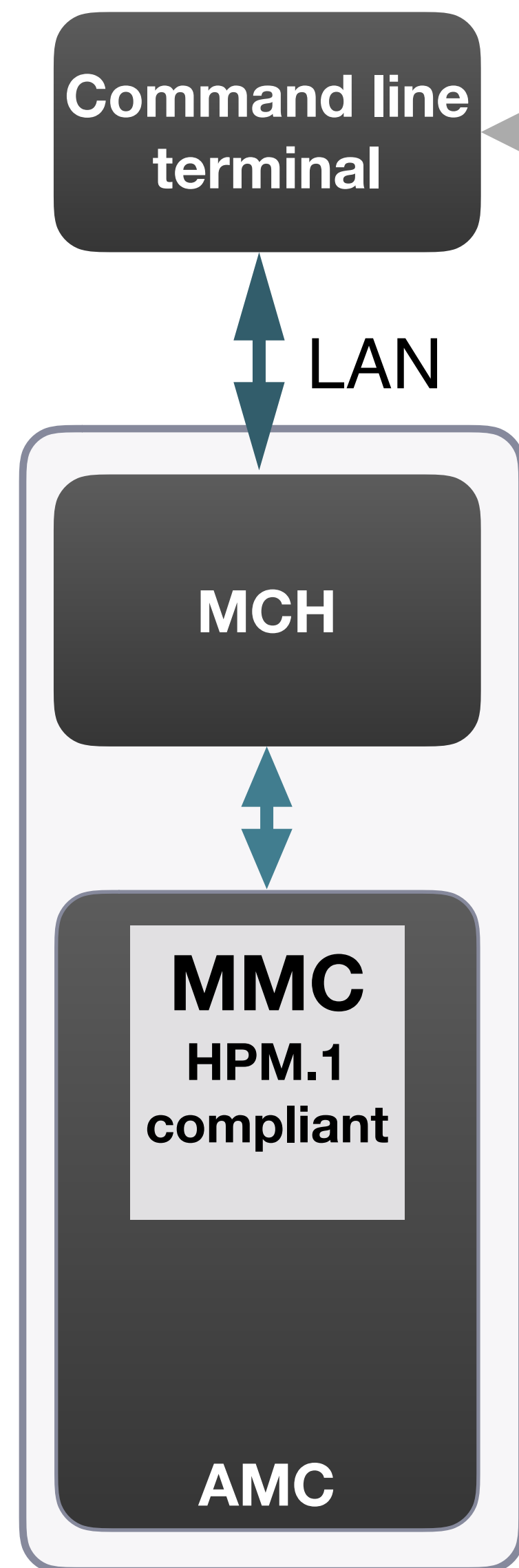
Implement your Control System here.

This example shows the **DOOCS** IPMI_server

HPM.1: Firmware update



Applications: ipmitool -> Firmware upgrade



```

Terminal
File Edit View Search Terminal Help
mcsvahan:~/ATCA/DESY_AMC/DAMC2v2> ipmitool -I lan -H mcsmhvahan -t 0x7c hpm upgrade damc2_bpm_firmware.hpm activate
Password:

PICMG HPM.1 Upgrade Agent 1.0.2:

Validating firmware image integrity...OK
Performing preparation stage...OK

Performing upgrade stage:

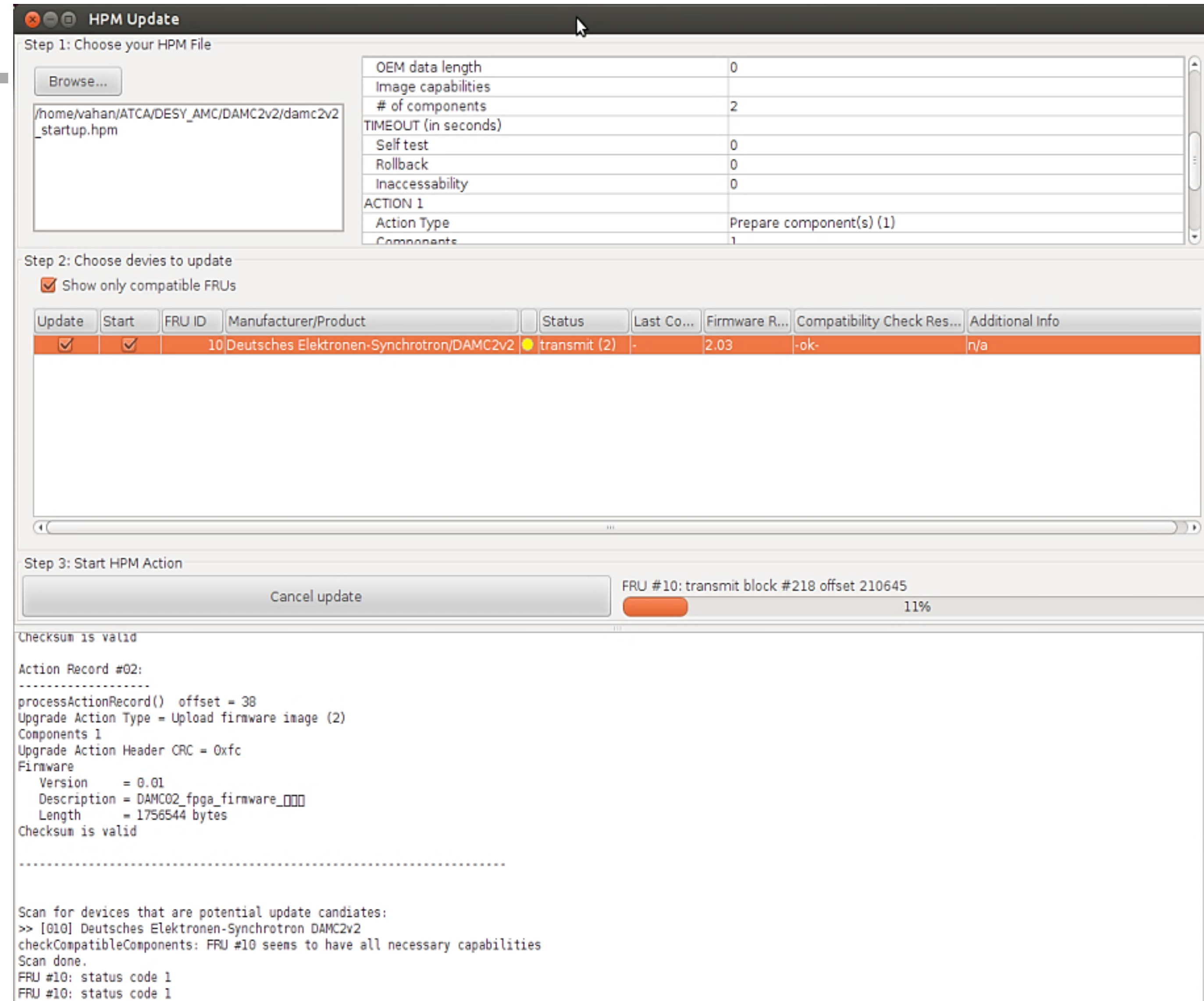
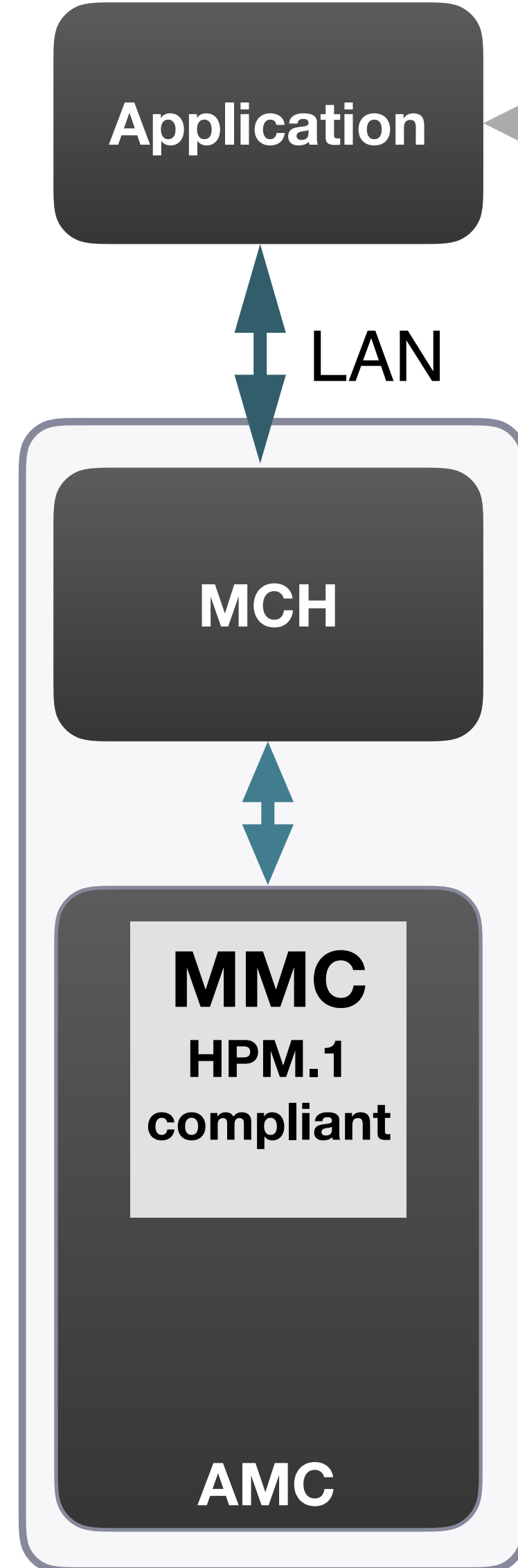
-----
|ID | Name      | Versions          | Upload Progress | Upload| Image | | |
|   |           | Active| Backup| File | 0%    50%   100%| Time  | Size  |
|---|-----|-----|-----|-----|-----+-----+-----|-----|-----|
|*1 | FPGA-PCIE-4| 0.05 | --.-- | 0.01 | .....| 10.49 | 1acd80 |
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(*) Component requires Payload Cold Reset
Performing activation stage:

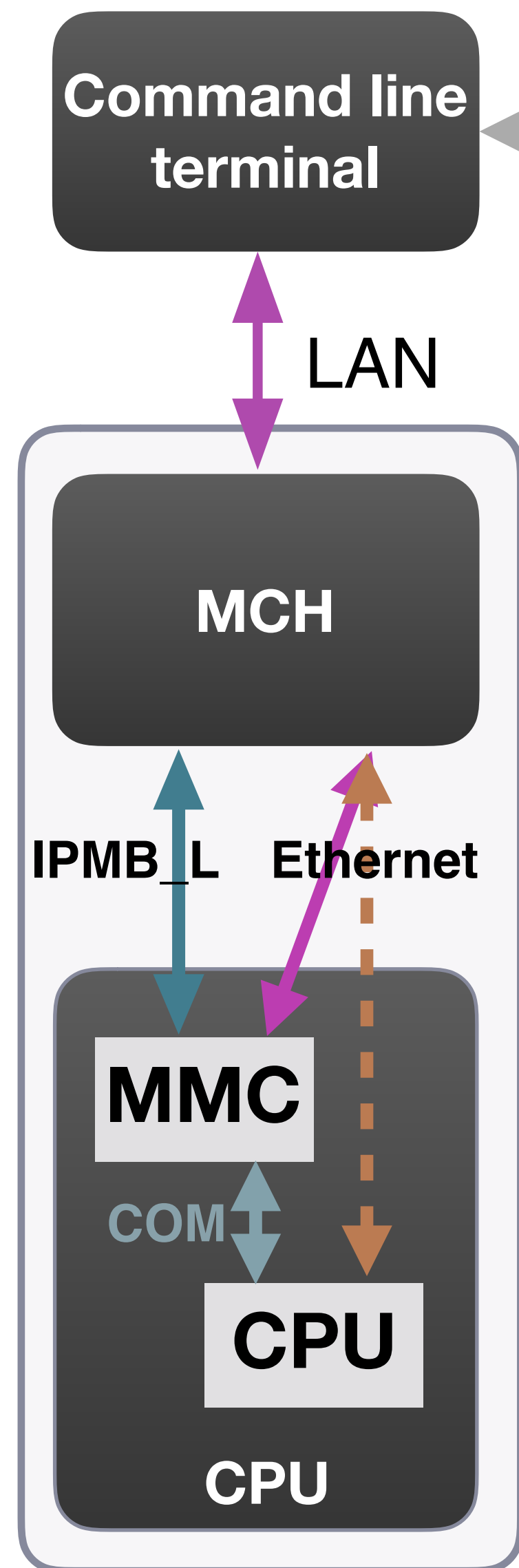
Firmware upgrade procedure successful

mcsvahan:~/ATCA/DESY_AMC/DAMC2v2>
  
```


Applications: NATview -> Firmware upgrade



Applications: SoL = Serial over LAN



```
~$ ipmiconsole -I 0 -h sinbadadmdi2
[ SOL established ]
```

Admin
Port

BIOS Terminal

Booting

```
[ OK ] Started LSB: Automounts filesystems on demand.
[ OK ] Reached target Multi-User System.
[ OK ] Reached target Graphical Interface.
        Starting Update UTMP about System Runlevel
Changes...
```

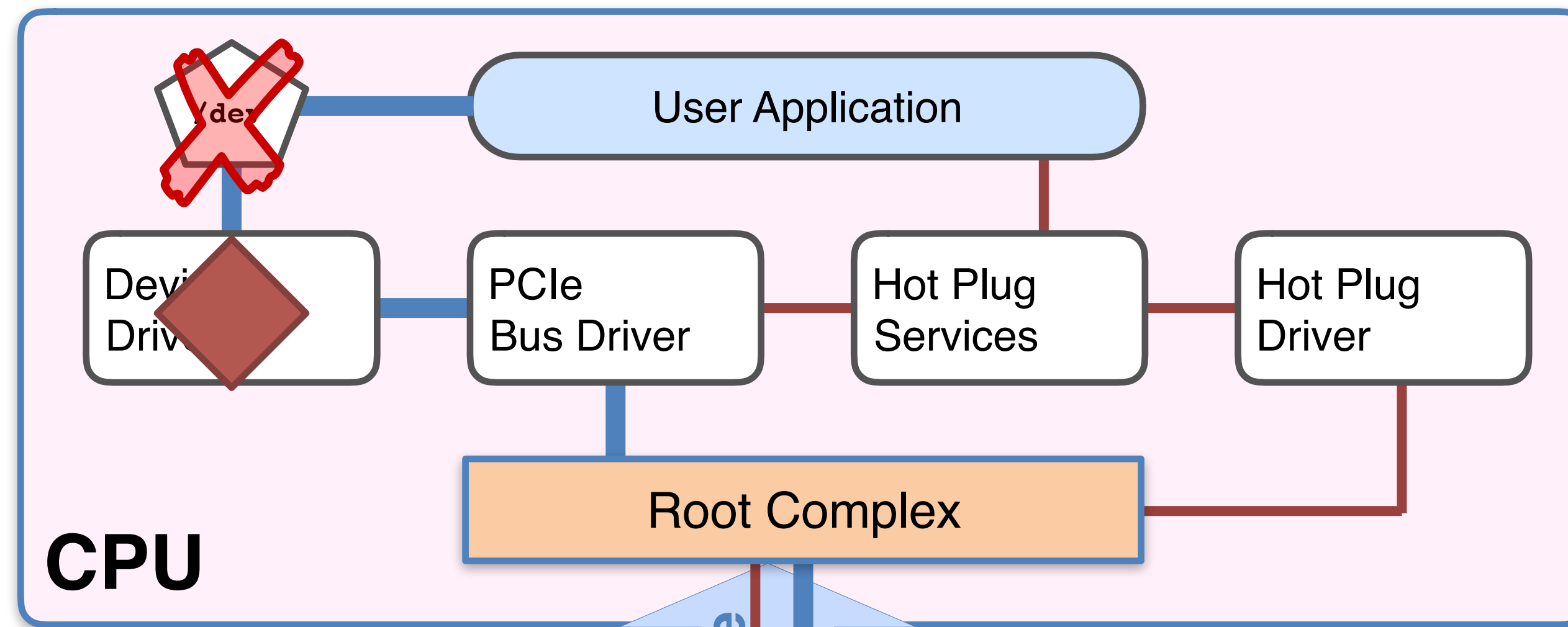
```
[ OK ] Started Stop ureadahead data collection 45s after
completed startup.
[ OK ] Started Update UTMP about System Runlevel Changes.
```

Ubuntu 16.04.5 LTS sinbadcpudi2 ttyS0

sinbadcpudi2 login:

Standard Port
= CPU name

Management : PCIe with Hot-Swap



PICMG Hot-Swap Design Guide:

<https://www.picmg.org/openstandards/microtca/mtca-4-pci-express-hot-plug-design-guide/>

Driver etc.:

<https://github.com/MicroTCA>

