Protecting Safety-Critical Systems from Voodoo Curses

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The problem with presenting on day 2……

- I was worried that all the <u>good</u> voodoo jokes would have been used!

- Luckily, only the <u>bad</u> voodoo jokes have been!

Why are we worried about voodoo curses?

- What are the concerns during Safety-Critical system development and deployment?

- Everyone knows that voodoo curses will eventually lead to Star Trek Syndrome

    - "…5 year mission to boldly go where no man has gone before…."

The symptoms of being struck by a voodoo curse……

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What are the symptoms of being struck by a voodoo curse

Voodoo curse #1 – High integration costs

- Certification evidence on all components

- Completeness of supporting software
  - All device drivers to appropriate DAL level
  - Bootloaders/data loaders
  - Health monitoring for board and devices
  - BIT

Research before purchasing helps prevent integration nightmare

Voodoo curse #2 – Too many suppliers

- Seek "Best of Breed": Diverse components don't play well together

- Vendors with higher levels of integration capabilities will save time and headaches

One Voodoo witch doctor is bad enough!

Voodoo curse #3 – Managing for obsolescence

- Parts <u>are</u> going to go obsolete!

- Proactive management of obsolescence is critical

- Demand semi-annual and annual obsolescence reviews and action plans

What we don't manage can become a pain in your neck!

# Voodoo curse #4 – Not planning for upgradability

- Safety-Critical systems are deployed for long periods

- New capability/obsolescence will require tech refreshes

- Plan for upgrading today!

Design in upgradability to prevent future headaches

Voodoo curse # 5 – Are your vendors robust?

- The list of qualified vendors continues to shrink

- Vendors with robust financial strength will be there for the duration of the program

- Changing suppliers during deployment greatly adds time and cost
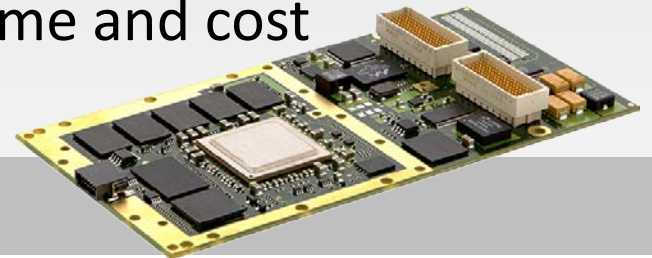
You cannot buy from a frog!

Avoiding voodoo curses

- Turn your 5 year mission into…

  into a nice
  3-hour tour

Safety-Critical systems are never easy!

Thank you!