

What can we do with a naked Legato?



Welcome

About me:

- David Clement
- Consulting Engineer Brisbane, Australia
- Been using Sierra Wireless smart modules for 5+ years
- Been with Legato Alpha program since late 2013

WHAT CAN WE DO WITH A NAKED LEGATO?

THE LEGATO LAID BARE

WHAT CAN WE DO WITH A NAKED LEGATO?

Normal I/O

- 2 Uarts
- SPI
- I2C
- 10 GPIO
- All I/O is 1V8

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Exotic I/O

- USB 2 slave
- SDIO
- HSIC
- No on-board Ethernet MAC

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Legato Modules

- GNSS
- Modem
- Audio
- Smart USB device

WHAT CAN WE DO WITH A NAKED LEGATO?

SOFTWARE DEVELOPMENT

Operating System

- Yocto Linux
- Android 'fastboot' bootloader
- FULL source available except for Qualcomm binary blobs
- Kernel and root filesystem can be modified as required

Cross-compile, Install and Run

- ARM gcc cross-compiler toolkit prebuilt by Sierra for Ubuntu Host
- Can use makefile build on development Host
- SCP binary to target
- Run target from Legato shell

Using the Legato Environment

- Developer Studio 3 (DS3)
makes it easy
 - Eclipse based
 - No command line – Remote
Target Management tool built in
 - Application configuration tool
(adef files)

Application Run Control

- Configured in adef build file
- Start options
 - Start automatically on boot
 - Manual restart from cmd line
- Restart options on app failure
 - Ignore, restart app, reboot Legato
- Configured for each 'Application' managed by framework

Sandboxing

- Legato framework manages multiple concurrent applications
- Sandbox restricts access to file system/devices
- Framework can restart individual application without interfering with others

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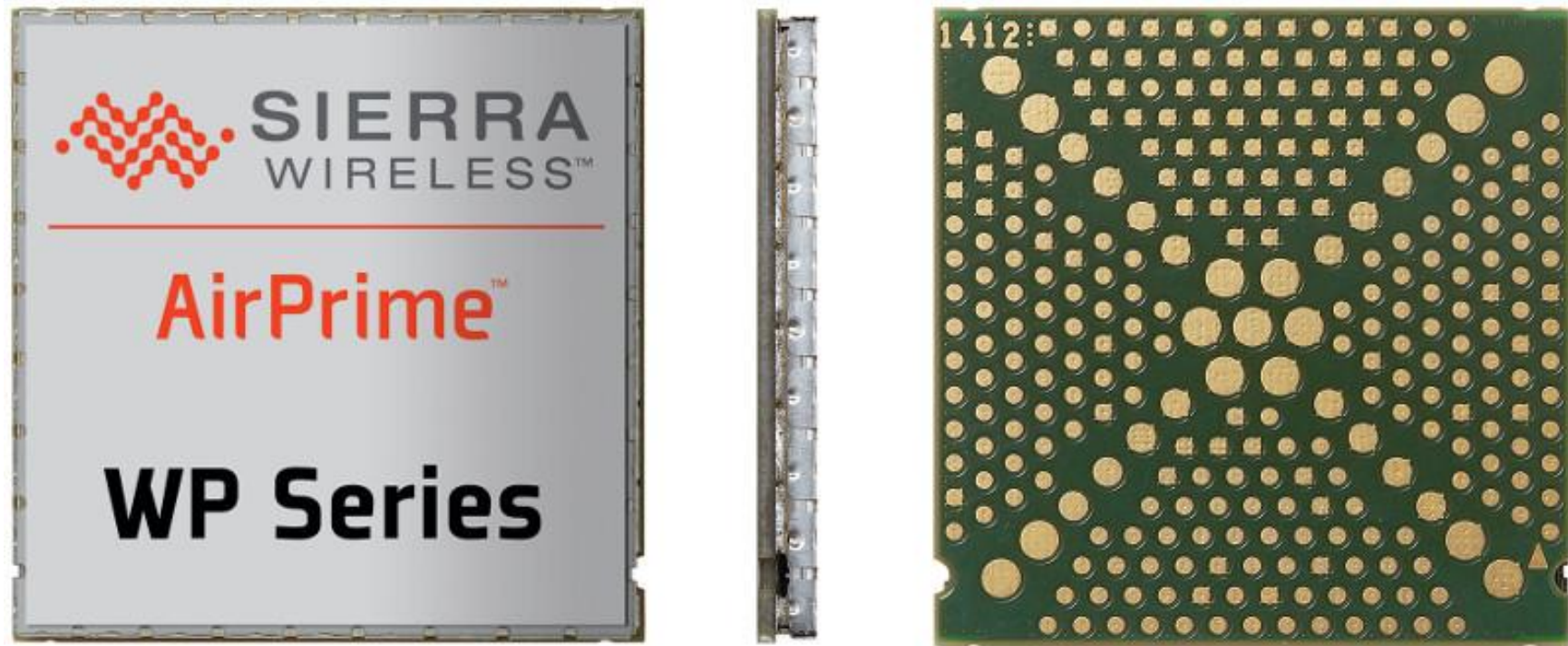
API for Legato Modules

- Legato specific hardware exposed via C api

Wrap up

- Development environment integrated with hardware.
- Legato framework eases application management
- Open source allows personalization as required
- Not just another 'embedded ARM Linux' environment

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**THANKS FOR LISTENING
QUESTIONS?**