Integrated Development and Deployment Platforms

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Expanding the TinyOS-cosm

- Stargate
- Instrumented Testbeds
- New TinyOS platforms
Stargate

- PXA255 (400MHz)
- Cradle IF
- MOTE IF
- SA1111
- 32MB FLASH
- CF/PCMCIA
Stargate

MOTE JTAG

CF (only)

64MB SDRAM

NOT a MOTE IF!!!

Bluetooth (Zeevo)
Stargate

- RS-232
- 10/100BaseT
- Power
- USB
- PXA JTAG
Software Support

- **OS**
  - Linux 2.4.19-pxa, glibc-2.2.3 (shared object)

- **Apps**
  - Postgres
  - Java (Open-Wonka/J2ME)
  - uisp (program attached mote)
  - WebServer

- **Tools**
  - arm-linux-gcc (for linux)
Development

• Some knowledge of linux development necessary
• Intel/Crossbow
• For more info…
  ✷ www.xbow.com
  ✷ platformx.sourceforge.net
  ✷ www.handhelds.org
eMote: Got Wires?

MOTE IF  Device Server
eMote

802.3af  MOTIE IF

Tools: uisp & SerialForwarder
Testbeds

21 nodes, EPRB based
Tools: uisp and SerialForwarder
150 nodes, eMote based w/ PoE
Tools: uisp and SerialForwarder, MoteLab scheduler/data coll.
MTS 400

Intersema
MS5534AM

Sensirion
SHT11
iMote

- ARM core/Bluetooth radio
  - Different communication abstraction
- Status
  - Initial port to TinyOS 1.1 complete
  - Scatternet implementation pending
    - Should ease transition to conventional TinyOS communication
Where to get ‘em.

- Crossbow (xbow.com)
  - Stargate, eMote, MTS400/420
- Intel
  - iMote (TBD....)
- webs.cs.berkeley.edu
  - TinyOS, uisp, SerialForwarder
- platformx.sourceforge.net
  - Additional Stargate Info