Company Background

- Founded in 2003
- Premium Venture Backing in 2006
- Seasoned Business Leadership
  - Rick Schell: CEO, joined October 2006
    SVP, EVP, GM, CEO roles at
    Netscape, Symantec, Sun, Borland, Intel, and others
Founders

Joe Polastre – UCB EECS PhD 2005
- Led first WSN deployments on Great Duck Island, Maine
- Invented SP abstraction for WSN communication
- Managed Windows XP Wireless Services API

Rob Szewczyk – UCB EECS PhD 2005
- Co-founded TinyOS with Jason Hill and Alec Woo
- Co-designed early mote systems
- Deployed numerous applications (GDI, Energy Metering, …)

Cory Sharp – UCB EECS MS 2000
- Led DARPA WSN Deployments and Demos 2003-2005
- Designed and Implemented numerous WSN abstractions in use in TinyOS 1.x and TinyOS 2.x

Moteiv Products

Tmote Connect Network Appliance
Tmote Sky Nodes

Legacy Systems, PDAs, and Phones
Boomerang Host Tools
Open software system
Data logging and processing

Sensor Network
Tmote Sky Development Kit
Tmote Invent Application Kit
Open-source Boomerang software
Wireless Sensor Networks
A Berkeley-centric Retrospective with a Moteiv-bias
“Smart Dust” (1999) by Kahn, Katz, Pister

→ WeC mote (1999) by Seth Hollar and James McLurkin

WeC Mote (1999) by Seth Hollar and James McLurkin

→ TinyOS founded (1999) by Rob Szewczyk, Jason Hill, and Alec Woo
TinyOS Founded (1999)

- TinyOS founded (1999) by Rob Szewczyk, Jason Hill, and Alec Woo
- Rene mote designed by Szewczyk, Hill, and Woo (2000)
- Expansion capabilities

Rene Mote (2000)

- Rene mote designed by Szewczyk, Hill, and Woo (2000)
- Expansion capabilities
- Mica mote designed by Jason Hill (2001)
- Named by Rob Szewczyk
- Dot mote designed for Intel IDF
- 800 node one-time deployment
Mica Mote (2001)

- Mica mote designed by Jason Hill (2001)
- Delivered 1,000 in Feb 2002

Spec (2002)

Jason Hill’s “mote on a chip”

= DUST NETWORKS

Founded 2002

Mica Mote (2001)

- Mica mote designed by Jason Hill (2001)
- Delivered 1,000 in Feb 2002


Iterations on Jason’s Mica design

Crossbow
**Mica Mote (2001)**

- Mica mote designed by Jason Hill (2001)
- Delivered 1,000 in Feb 2002
- 150-node outdoor system

**Great Duck Island (2002-2003)**

- 150-node outdoor system
- Telos (2004) by Joe Polastre and Rob Szewczyk
- Integrated, standards-based, low power development platform
Telos (2004)

- Telos (2004) by Joe Polastre and Rob Szewczyk
- Integrated, standards-based, low power development platform

Tmote Sky (2005)

- Tmote Sky (2005) Enhanced, lower power, certified

Tmote Sky (2005)

- New hardware platform

Tmote Sky (2005)

- New hardware platform
- Sensornet Protocol (2005) by Joe Polastre
  "Unifying Data Link Abstraction"

Hardware Abstraction Architecture (2005)

- TinyOS 2.x (2006) by Phil Levis et al.
**Sensornet Protocol and Hardware Abstraction Architecture**

- Commercial open systems such as Moteiv’s Boomerang
- Open protocols, APIs, and services

**Open Software Systems**

- Commercial open systems such as Moteiv’s Boomerang
- Development community building a wide-range of sensor applications
Development Community

- Development community building a wide-range of sensor applications
- Real-world Deployments

Real World Deployments

- Self-powered corrosion detector by Gerardo Peña at Boeing
- Installed in hard to service locations

Image courtesy of Boeing
ASME International Mechanical Engineering Exposition 2006
Machine Condition Monitoring

- Next-generation self-powered sensor node
- Designed by Rockwell, tested with BP

Real World Deployments

- Orchid Growers in Taiwan
- Condition, Harvest, and Irrigation
Future Developments

- Lots happening in 2007, applications are the main focus.
- Monitoring applications are just the beginning.
- Open systems are yielding applications we never dreamed of…
- Moteiv is hiring!

Thank you
joe@moteiv.com