DPDK-in-a-Box

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Agenda

- Who am I?
- What Is DPDK-in-a-Box?
- What's it for?
- What's in it?
- How do I run it?
- What does it cost?
- What's next?

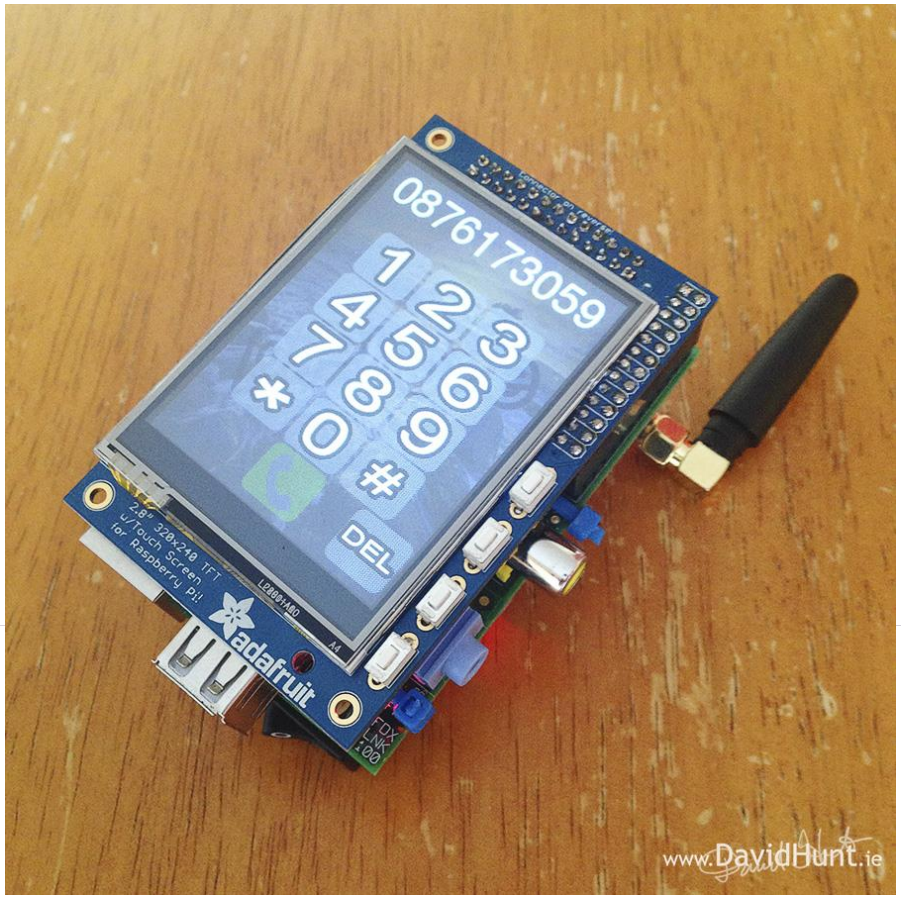
Who Am I

Member of the DPDK family…

Also a “Maker”…

- PiPhone inventor – DIY cellphone
- Motorized Timelapse Rail System
- Still inventing…

Main hobby is embedded systems



What is "DPDK-in-a-Box"?

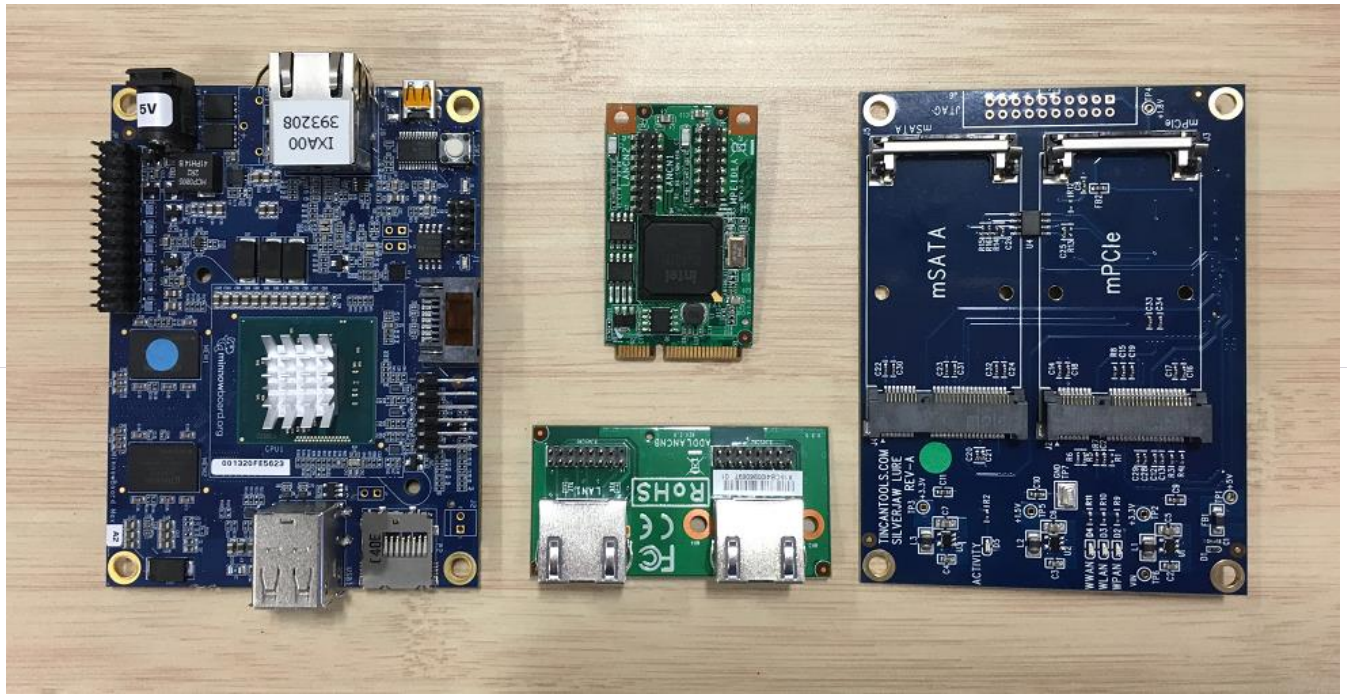
- Small form factor Linux Box
  - Maker world intersecting with the DPDK world
- Components
  - Single Board Computer (Minnowboard Turbot)
    - Intel® Atom™ Processor E3826 (1M Cache, 1.46 GHz)
  - Silverjaw Lure Daughterboard
    - miniPCI slot
  - Intel® Ethernet Controller I350 (Dual Gigabit)
    - Insert into miniPCI slot

What is “DPDK-in-a-Box” for?

- Training
  - Offers realistic, hands-on experience
  - Packets transfer between students
- Academic Research
  - Lower cost solution for wider distribution
  - Easier to research DPDK use cases
- Exhibitions
  - Self contained, portable system
  - Independent of network infrastructure

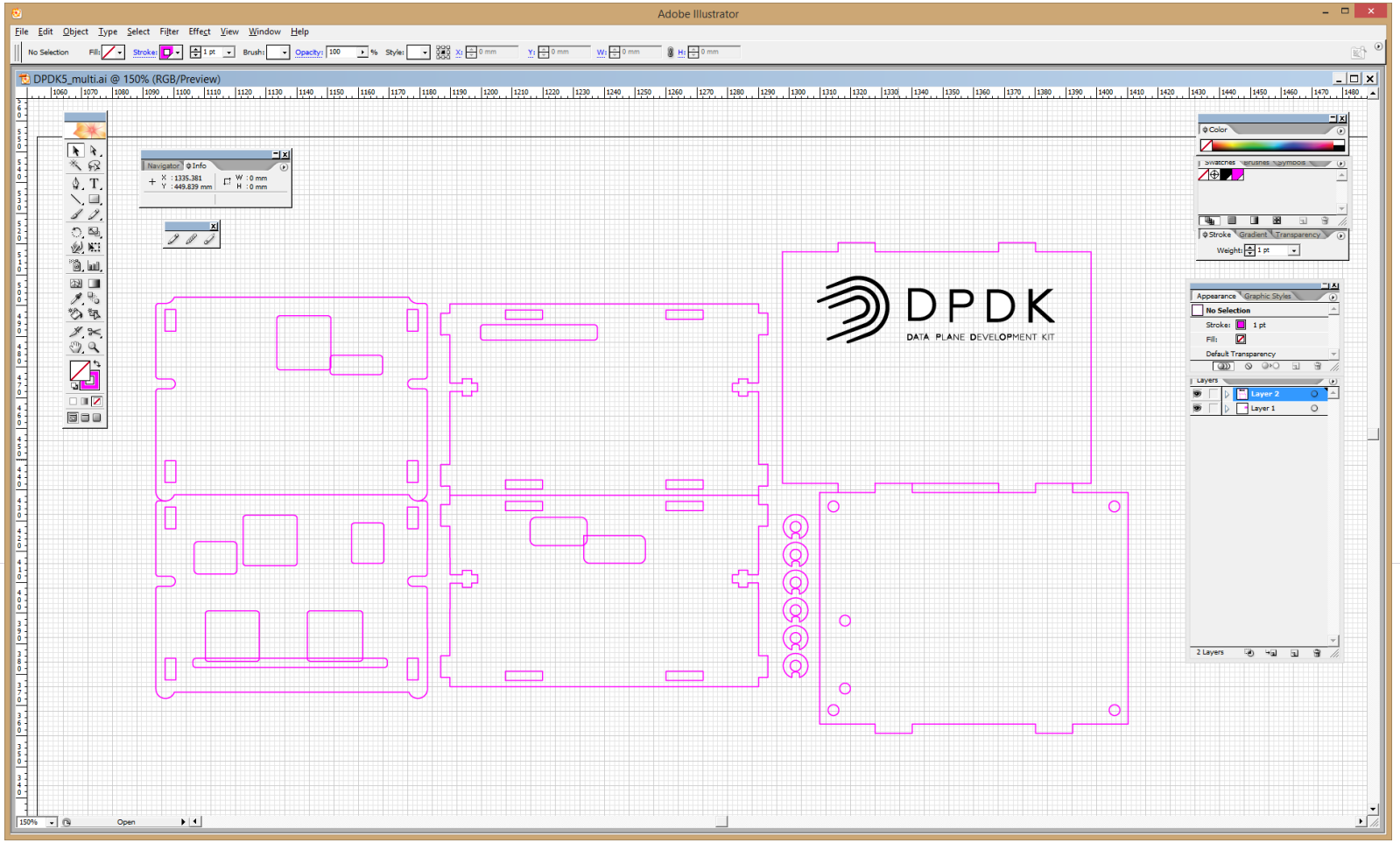
Minnowboard Turbot based

- Low-cost single board computer running Ubuntu Desktop
- Can be used standalone with monitor, keyboard & mouse



Laser-cut acrylic case

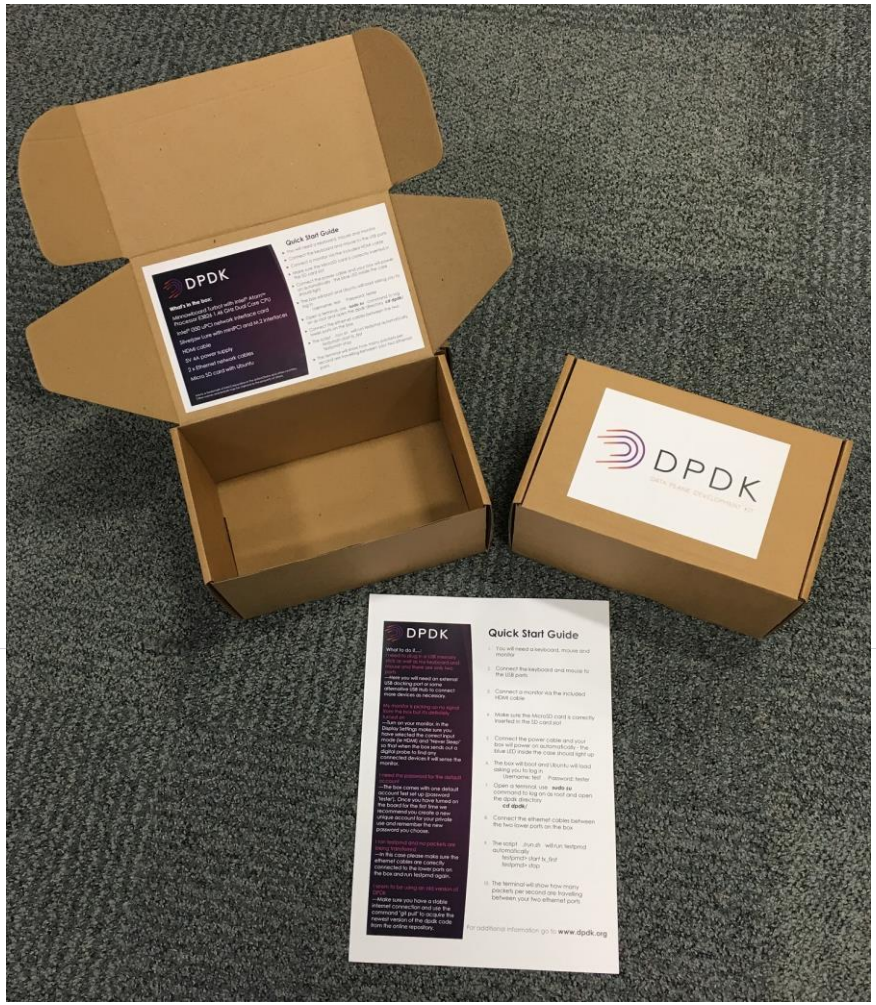
- Including etched DPDK logo
- Design with captive nuts & slots for easy assembly
- Open source design, users can download and cut themselves



Quick-start Guides

- Getting Started
  - Insert SD card
  - Connect keyboard and mouse
  - Power on
  - Run your first DPDK program

(More information regarding DPDK on dpdk.org)



“Known” System for training

- Standard Operating System Installation
  - Predictable Network Interface Setup
  - Predictable resource availability
  - Scope of what can go wrong is limited
  - Apps run in standard way with known flags
- Student physically sets up system
  - More tactile experience

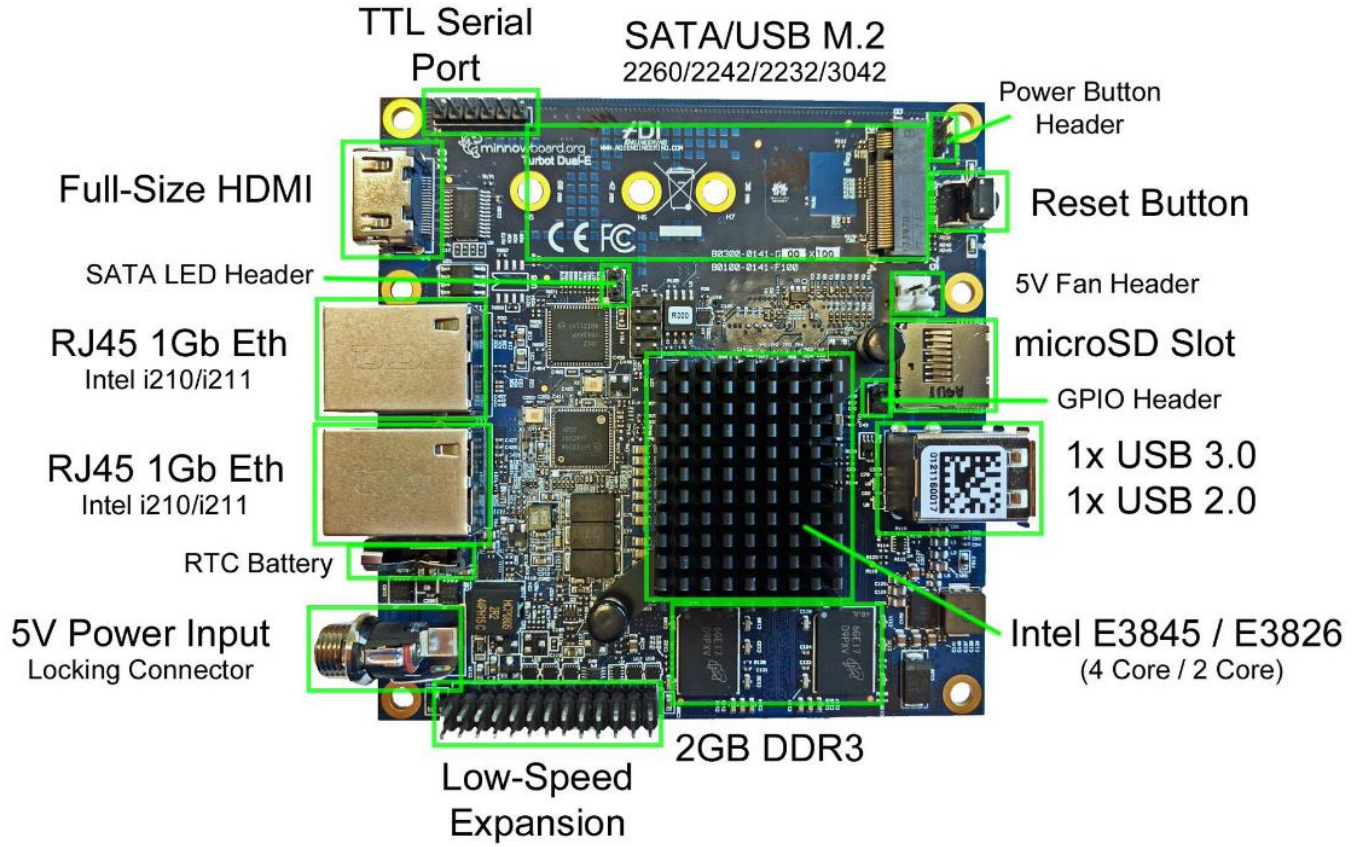
Approximate Costs

- Most parts are off the shelf, with some work needed on case
- Approximate costs:
  - $130 - Minnowboard Turbot (ADI / Netgate)
  - $50 – Silverjaw Lure with mini-PCI & M.2 slots (TinCanTools)
  - $80 – i350 mini-PCI dual port NIC (Jetway).
  - $30 Power Supply + case + SD Card (approx)
- Total: <$300 per unit

Minnowboard Turbot Dual-E (coming Q3 2016)

DPDK

- Includes 2 Gigabit ports on board
  - No need for Silverjaw Lure
  - No need for i350 miniPCI board
  - Reduced box size



ADI Engineering @adiengineering · Jul 6
@MinnowBoard Turbot Dual Ethernet annotated board photo - Coming Q3! adiengineering.com/products/minno...

Further DPDK Information

- **DPDK Website:** http://dpdk.org/
- **Documentation:** http://dpdk.org/doc

  Includes Getting Started Guides, Release Notes, Programmer's Guide, NIC Guides, Sample App Guide, API Guide etc.
- **Mailing Lists:** http://dpdk.org/ml

  The most commonly used are "dev" for development discussions and patches, and "users" for usage discussions.

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Questions?

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