

Double Espresso

FEATURES/BENEFITS

- **PCI Express Host Interface**
Increased packet throughput with host computer
- **Flexibly-Configured Dual IXP2350s**
Increased performance; ability to run in parallel, ingress/egress, or independent configurations with PPL Software
- **Add-in Card Form Factor**
Useful for advanced development such as integrating with host processor; useful for deployment
- **Integrated with PPL and PXD software**
Create complex NPU applications in hours



IP Fabrics' Double Espresso is fully compatible with the PCI Express form factor, allowing it to serve as both a development vehicle and deployable system module.

IP Fabrics' Double Espresso is the market's first dual Intel® IXP2350 PCI Express card.

In addition to offering the most advanced NPU development environment – including the ability incorporate NPU-to-host packet transfer and interaction – the Double Espresso is also a fully-deployable subsystem, compatible with many existing rack-mount and desktop servers and allows for advanced integration with the server CPU via the PCI Express interface.

Double Espresso is powered by two Intel IXP2350 network processors, each with 640MB of DDR DRAM and an additional 8MB of external QDR-II SRAM. The network processors can uniquely be configured to operate as ingress/egress, pipelined, or independent NPU subsystems. Double Espresso's I/O includes four 10/100/1000 data plane Ethernet connections with pluggable SFP modules along with two 10/100 Base-T management/console Ethernet connections. The standard form factor is compatible with x8 PCI Express expansion slots.

Double Espresso is fully supported by IP Fabrics' innovative PPL for IXP23xx software. PPL (Packet Processing Language) includes everything needed to create, test, and deploy network processor applications for the Intel IXP23XX network processor product line. The product can shorten software development time by up to 90% when used in "deep packet processing" applications such as intrusion detection, voice-over-Internet, anti-spam, anti-virus, web filtering, content switching, Internet traffic management, and application-level cryptography, compared to programming in assembly language or C.

IP Fabrics' innovative PXD add-on to PPL provides very high-speed packet transfer and remote procedure call mechanisms between Intel IXP and host processors using PCI Express.

Double Espresso Data Sheet

PRODUCT SPECIFICATIONS

Processors:

- Two Intel IXP2350
- Each IXP2350 contains:
 - 900MHZ XScale
 - Four 900MHZ microengines
 - 2 NPE's

Memory (each IXP2350):

- 512MB ECC DDR DRAM (ME accessible)
- 128MB ECC DDR DRAM (XScale accessible)
- 8MB QDR SRAM (external)
- 128KB ECC SRAM (internal)
- 32MB flash (build option for 64MB)

Memory Bandwidth (each IXP2350):

- 300 MHz x 64 DDR (ME accessible)
- 300 MHz x 32 DDR (XScale accessible)
- 400 MHz x 16 QDR SRAM

Internal PCI Bus: 64 bit, 66MHZ PCI bus (each IXP2350)

I/O:

- Four 10/100/1000 SFP data plane interfaces
- 10/100 Base-T debug/management interfaces, via single RJ-45 breakout cable included
- Two UART serial debug ports via header
- JTAG debug/emulator 20-pin connector

Mechanical:

- Full-Size PCI Express adapter using x8 PCI Express connector

Power Requirements:

- 50W Max

Software:

Boot Loader/POST: Redboot

Embedded O/S (XScale): MontaVista 3.1
Professional Edition Linux

NPU Programming:

- IP Fabrics PPL for IXP23xx (subscription required)
- IP Fabrics PXD high-speed PCI Express packet transfer and remote procedure call add-on (subscription required)
- Intel SDK Workbench Server support

Application Reference Platform (minimum configuration):

Server/chassis: Intel Entry Server Platform
SR1425BK1-E

Processor: 2.8Ghz Pentium 4 520J

Memory: 1 GB DDR2-533 non-ECC

Drives:

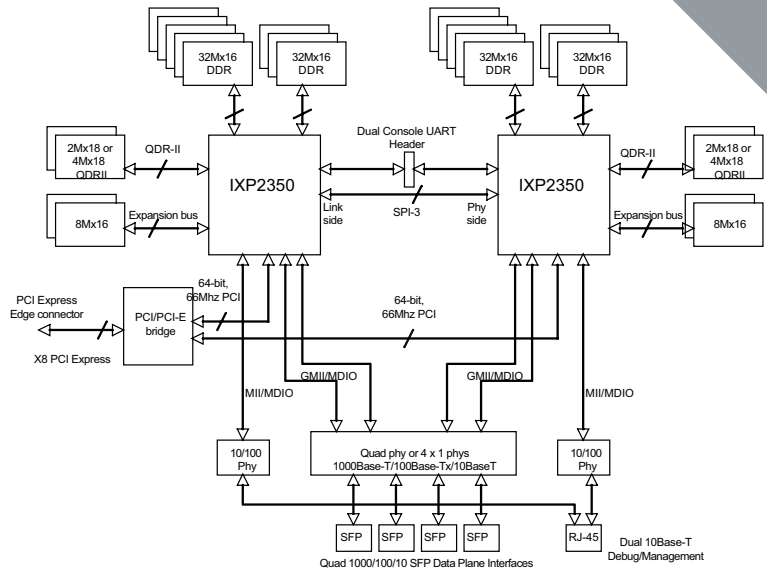
- 120GB 7200rpm 8mb cache SATA HD w/NCQ
- Slimline CD-ROM
- Floppy

Power Supply: 300W

Software Pre-loads:

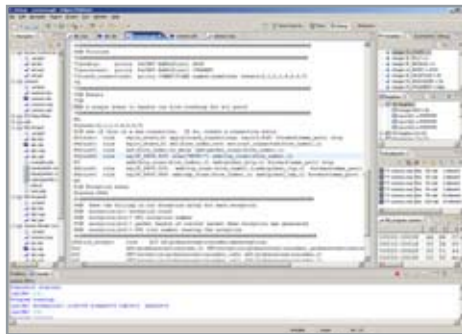
- Linux
- PPL for IXP23xx (subscription required)
- PXD (subscription required)

BLOCK DIAGRAM



INTEGRATED PLATFORM

Double Espresso is also available as an integrated application reference platform. The application reference platform includes Double Espresso installed in an appliance-type server with preloaded Linux and IP Fabrics' PPL software.



The Integrated Platform includes IP Fabrics' PPL software to speed time to market.

ORDERING INFORMATION

For more information, including pricing, availability, and ordering, please contact IP Fabrics by email at info@ipfabrics.com or at the phone numbers below right.



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