

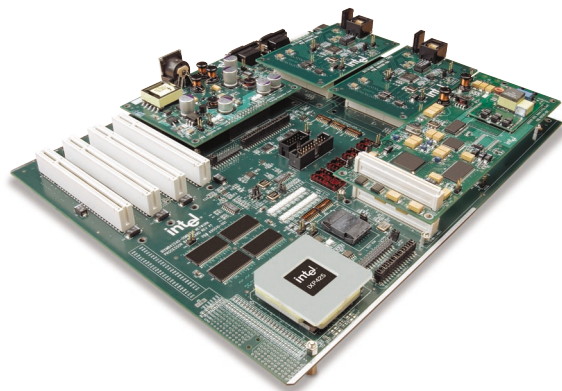


Intel® IXP425/IXCDP1100 Development Platform

A Total Development Environment

Product Highlights

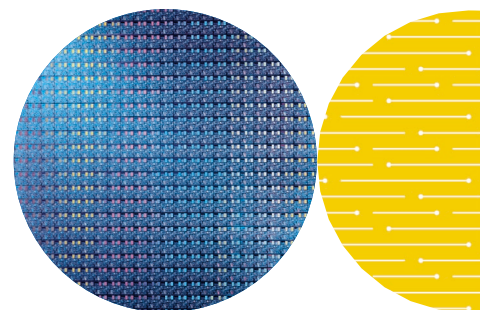
- Accelerates time-to-market product development based on the Intel® IXP4XX Product Line of Network Processors or the Intel® IXC1100 Control Plane Processor
- Provides initial processor and system performance evaluation
- Serves as a system-level test bed for prototyping and integration
- Enables customers to add their own operating system and application stack
- Expandable via expansion cards
- Development Platform hardware includes:
 - Network processor base card with the Intel® IXP425 network processor at 533 MHz
 - Four modular cards:
 - Two Intel® LXT972A LAN PHY expansion cards
 - One ADSL PHY expansion card
 - One voltage regulator expansion card
- Operating systems supported:
 - Wind River® VxWorks®
 - MontaVista® Linux®
 - Linux®
 - QNX® Neutrino® (available through third parties)
 - GreenHills® Integrity®
 - Microsoft® WinCE® (future support)
- Development environment supported:
 - Wind River® VxWorks Developers Toolkit (VDT) 2.2
 - Wind River® Platform for Network Equipment (PNE) 1.0
 - MontaVista Linux Professional Edition 2.1 and 3.0
 - QNX® Momentics (available through third parties)
 - GreenHills Integrity (available through third parties)
 - Microsoft WinCE.net® 4.2 Platform Builder (4Q '03)
 - Microsoft Visual Studio.net® (4Q '03)
- Available software includes:
 - Intel® IXP400 software releases
 - Board Support Package (BSP) for VxWorks and Linux
- Includes hardware, software, documentation and a Tornado 2.2 evaluation CD, forming a total development environment.



Product Overview

New networking products must meet growing demands from users for high-performance data, low power, and voice and networked multimedia products. Manufacturers of networking equipment need to develop these new solutions under stringent time-to-market deadlines and deliver products that can be easily upgraded with software. The Intel® IXP425/IXCDP1100 Development Platform speeds time to market by eliminating the need for developers to start their design efforts "from scratch" for each new product based on the Intel® IXP4XX product line of network processors or Intel® IXC1100 control plane processor. It also allows equipment manufacturers to easily differentiate their products by adding their own intellectual property.

Intel in
Communications



The Intel® IXP4XX product line and the IXC1100 control plane processor combine the processing capability of an Intel® XScale™ core with the flexibility and scalability of Network Processor Engines (NPEs). These highly integrated processors can enable on-chip integration of voice and data functions, support multiple WAN and LAN technologies, offer a choice of operating systems, and are supported by a broad range of Intel XScale core development tools.

When combined with the operating system and tools, the Intel IXP425/IXCDP1100 Development Platform forms the foundation for a total development environment. This development platform can be used to prototype a wide variety of networking products such as high-end residential gateways, small-to-medium enterprise (SME) routers, switches, security devices, mini-DSLAMs (Digital Subscriber Line Access Multi-plexers), xDSL line cards, control plane line cards, wireless access points, industrial control systems, and networked printers.

Development Platform Solution

This powerful development platform solution is ideal for developing and verifying the hardware and software used with the Intel IXP4XX product line or the IXC1100 control plane processor by providing easy access to the various processor interfaces through independent connectors. The Intel IXP425/IXCDP1100 Development Platform kit includes a base card and four expansion cards including one ADSL Annex A PHY, two 10/100 Ethernet PHYs and a voltage regulator card. The kit also contains associated documentation, a user's guide, and schematics.

The base card enables customers to develop their own expansion cards through connectors that provide access to the I/O interfaces of the Intel IXP4XX product line and IXC1100 control plane processor. To facilitate debugging, the development platform also includes a boundary scan test port and JTAG ICE port that provide a direct connection to the processor's key JTAG and debug logic signals. The included ADSL PHY and Ethernet PHY expansion cards enable out-of-the-box construction of an ADSL-Ethernet broadband access device and other networking systems. Key features of the base card include:

- One Intel IXP425 network processor at 533 MHz
- 256-Mbytes of SDRAM memory
- 16-Mbytes Intel StrataFlash® memory for BootROM functionality
- Two MII connectors
- One Utopia 2 connector
- One Voltage Regulator connector

- Two High-Speed Serial (HSS) ports
- Two UART (DB-9) connectors
- One USB connector
- Four PCI bus connectors
- One JTAG interface connector

Operating Systems, Tools, Software and Driver Support

The Intel IXP425/IXCDP1100 Development Platform includes support for the Linux, Wind River VxWorks 5.5, QNX and GreenHills Integrity operating systems, and multiple development tools. The kit provides the developer with a convenient "plug and play" experience, which includes an evaluation CD for the Tornado development tools. A license can be obtained directly through Wind River Systems upon completion of the trial evaluation. The Intel IXP400 software releases are available on the Intel Web site. The software releases include a set of application programming interfaces (APIs) that allow developers to easily access and use the NPEs and application "codelets" to assess I/O performance. The software release, VxWorks BSP, QNX BSP, GreenHills Integrity BSP, and Linux LSP include drivers for all the peripherals on the system and the expansion cards. (BSPs available through third parties.)

This platform provides the development tools needed to simulate, write, assemble, optimize, debug and verify software for systems based on the IXP4XX product line or IXC1100 control plane processor. Developers can use the platform to evaluate networking applications or to design their own custom value-added products. To help speed time to market and reduce development costs, developers also have a wide choice of third-party tools, including compilers, linkers, debuggers, and board support packages.

Outstanding I/O Flexibility

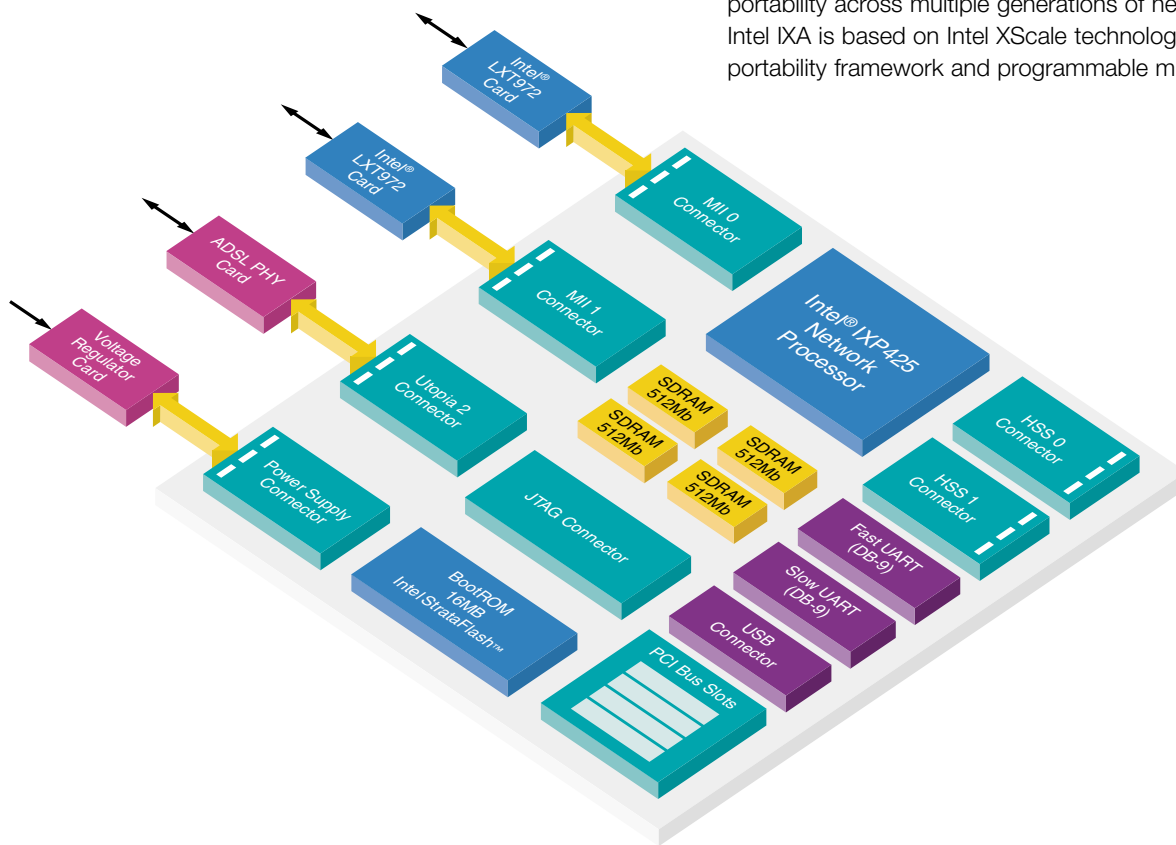
The modular hardware design of the development platform enables developers to quickly build a solution that meets their application requirements. Developers can use this flexible and extendable platform to conduct rapid initial chip evaluation, chip performance evaluation, product development and prototyping. By using the various connectors on the base card a developer can use the platform to test value-added expansion cards before building a complete board. The Utopia 2 connector supports up to 24 ADSL or G.SHDSL PHYs or one VDSL PHY at 52 Mbps. The four PCI bus slots give developers the flexibility to connect devices such as 802.11 MAC/PHYs, PCMCIA controllers, hard disk drive controllers, graphics controllers, Ethernet MACs, and cable MAC/PHYs. The two HSS connectors allow a high-speed port for direct connection

to industry-standard SLIC/CODECS and to T1/E1 framers. The two MII connectors allow direct connection to Ethernet PHYs. Each of these connectors also provides access to the Intel IXP425 network processor expansion bus, allowing flexible control signaling. The two UART DB-9 serial connectors provide a standard interface for application development and control of devices such as a serial Bluetooth** module. The USB connector allows 12 Mbps access to the Intel IXP425 network

processor from a USB host controller. The JTAG interface connector provides a standard interface to many ICE debug tools. The power supply connector enables development of a customized power supply when needed to support power-hungry I/O devices.

Intel® Internet Exchange Architecture

The Intel IXP4XX product line of network processors is part of the Intel® Internet Exchange Architecture (Intel® IXA), a packet processing architecture that provides a foundation for software portability across multiple generations of network processors. Intel IXA is based on Intel XScale technology, the Intel IXA portability framework and programmable microengines.



Intel Advantage

Intel is a leading supplier of communications building blocks, adding value at many levels of integration. Through continuous innovations and advancements in connectivity and processing in the network, Intel is delivering, along with its customers and

developer community, a wide choice of solutions that enable faster time to market, longer time in market, and increased revenue opportunity.

Product Ordering Information**Order Number**

Intel® IXP425/IXCDP1100 Development Platform	KIXDP425BD
Intel® IXP425 Network Processor, 266 MHz	FWIXP425BB
Intel® IXP425 Network Processor, 400 MHz	FWIXP425BC
Intel® IXP425 Network Processor, 533 MHz	FWIXP425BD
Intel® IXP425 Network Processor, 266 MHz Extended Temperature	GWIXP425BBT
Intel® IXP425 Network Processor, 400 MHz Extended Temperature	GWIXP425BCT
Intel® IXP425 Network Processor, 533 MHz Extended Temperature	GWIXP425BDT
Intel® IXP420 Network Processor, 266 MHz	FWIXP420BB
Intel® IXP421 Network Processor, 266 MHz	FWIXP421BB
Intel® IXP422 Network Processor, 266 MHz	FWIXP422BB
Intel® IXC1100 Control Plane Processor, 266 MHz	FWIXC1100BB
Intel® IXC1100 Control Plane Processor, 400 MHz	FWIXC1100BC
Intel® IXC1100 Control Plane Processor, 533 MHz	FWIXC1100BD
Intel® IXC1100 Control Plane Processor, 266 MHz Extended Temperature	GWIXC1100BBT
Intel® IXC1100 Control Plane Processor, 400 MHz Extended Temperature	GWIXC1100BCT
Intel® IXC1100 Control Plane Processor, 533 MHz Extended Temperature	GWIXC1100BDT

Intel® IXP4XX Product Line and IXC1100 Control Plane Processor Literature

Intel® IXP425 Network Processor Product Brief
Intel® IXP420 Network Processor Product Brief
Intel® IXP421 Network Processor Product Brief
Intel® IXP422 Network Processor Product Brief
Intel® IXC1100 Control Plane Processor Product Brief

Intel Access

Communications Processing	http://www.intel.com/go/comsprocessing
Network Processor Web Page	http://intel.com/go/networkprocessors
Intel® Communications Alliance	http://www.intel.com/go/ica
Intel® Technical Documentation Center	http://intel.com/go/techdoc (800) 548-4725 7am - 7pm CST (USA and Canada) International locations please contact your local sales office
General Information Hotline	(800) 628-8686 or (916) 356-3104 5am - 5pm PST

For more information, visit the Intel Web site at: **developer.intel.com**

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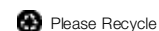
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