

# Fusiv®

## Vx180-IKF6850

### Gateway Processor for Multi-mode VDSL2/ADSL2+ Residential Gateways



#### Target Markets

- FTTx Units
- CPE Equipment for Video, Data and Voice Service
- Multi-Dwelling, Multi-Tenant Units (MxU)

#### Target Applications

- VDSL2 Residential Gateways
- VDSL2 SoHo/SME Gateways

#### Fusiv Vx180

- Integrated VDSL2 Datapump Backward Compatible with ADSL2+/ADSL2/ADSL
- Integrated Dedicated Voice Processing Engine
- Accelerator Processors
- 2x GMII/MII/RMII Interfaces
- PCI Interface
- 2 x USB 2.0 High Speed Host
- 32 GPIOs
- DDR Controller

#### Software

- FusivWare™ advanced Linux-based operating software
- xDSL Drivers
- Full-Chain Voice Processing
- Network Management
- IP Middleware
- Wire speed Routing and Switching with QoS
- IPSec VPN

Ikanos' Fusiv® Vx180 is a member of the high performance, highly integrated and cost-effective series of Fusiv gateway processors.

The Vx180 is a single chip, multi-mode VDSL2 gateway processor that provides advanced processing power, VoIP, multi-mode DSL and security, while supporting best-in-class QoS and wire speed performance.

The Vx180 provides a MIPS-based™ CPU core to support CPU-intensive features like 802.11n and still have additional processing power for new applications. It achieves wire speed performance across all LAN and WAN interfaces using Ikanos' unique Accelerator Processor architecture and supports a rich set of interfaces that easily integrate with home networking technologies like MoCA™, HomePNA™, HomePlug® and 802.11n. The Vx180 delivers full-chain VoIP with a deployment-proven integrated DSP.

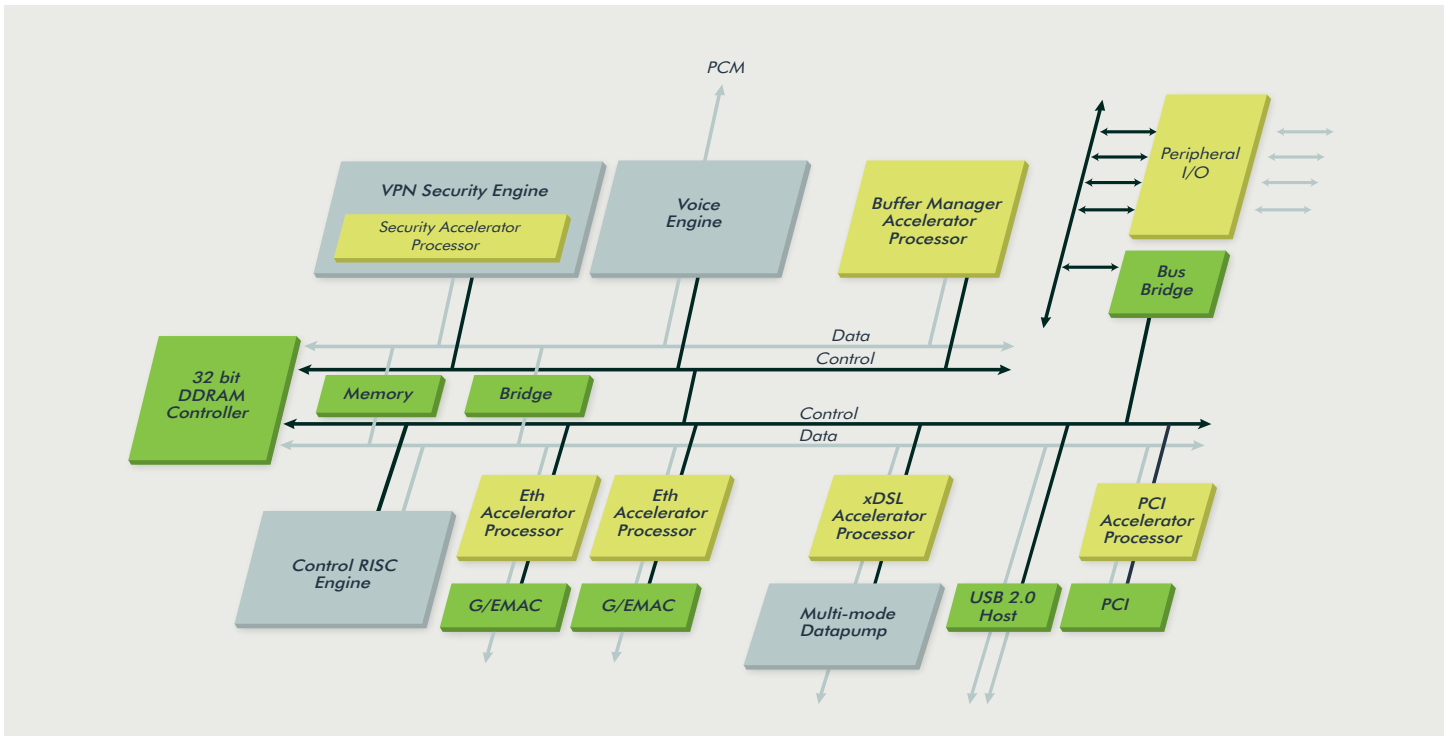
The Vx180 is designed to enable the development of a high performance, integrated residential gateway platform for quadruple play applications. The Vx180 integrates industry leading VDSL2 customer

premises equipment (CPE) PHY and its widely deployed Fusiv network processor architecture onto a single chip. Ikanos' Vx180 supports field-proven VDSL2, ADSL2+, ADSL2, ADSL and VDSL standards, and is hardware ready for IPTV and triple-play optimized features such as dynamic rate repartitioning (DRR) and seamless rate adaptation (SRA). The Vx180 also supports maximum interleaver and deinterleaver memory for high levels of impulse noise protection, as well as on-chip quality of service (QoS) and wire speed performance, all of which is intended to enable optimum viewing experience.

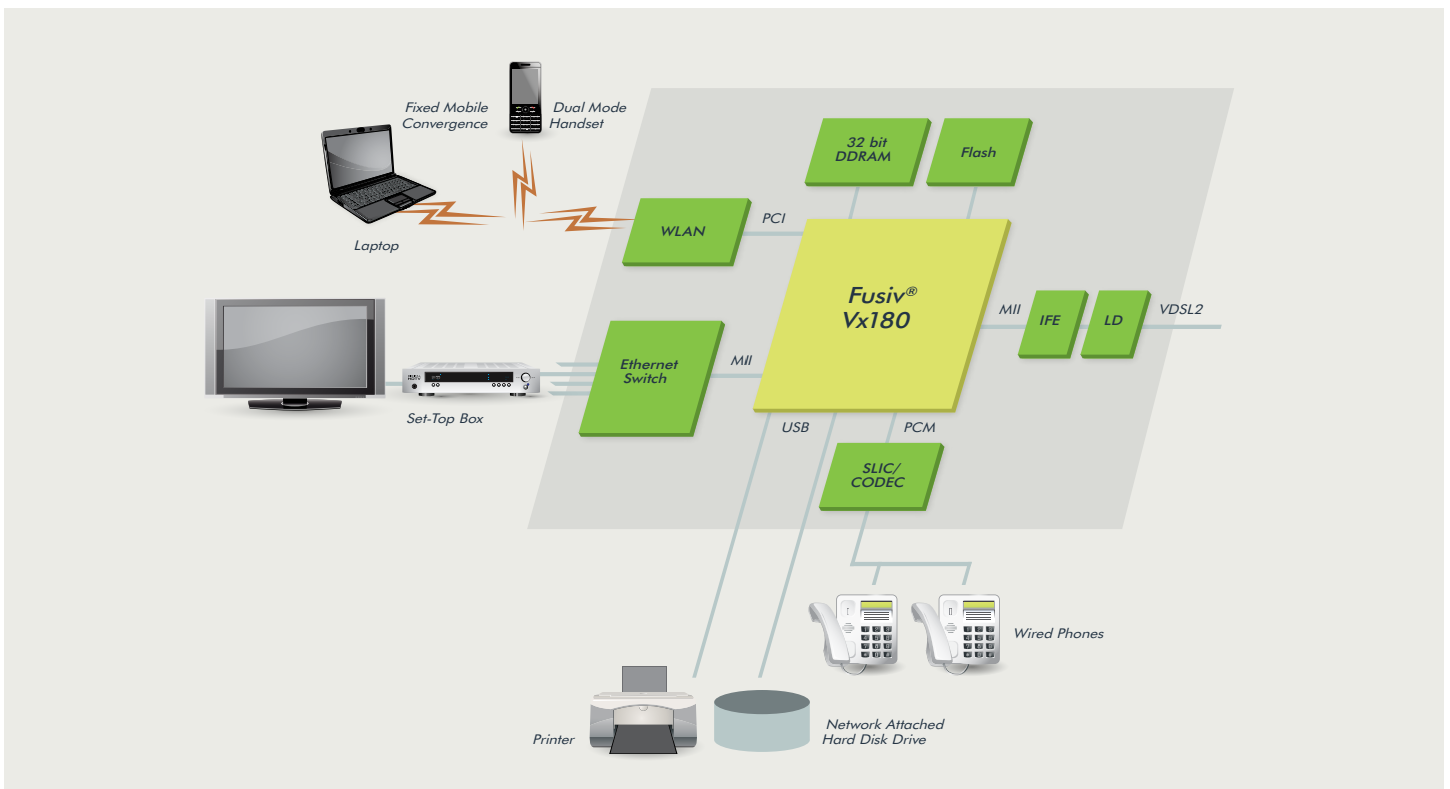
Ikanos provides a comprehensive suite of Vx180 software that includes operating system independent drivers for Ethernet, xDSL and integrated peripherals. FusivWare™, Ikanos' Linux-based software, includes a networking stack, voice processing and network management functions, making it possible for system vendors to quickly develop residential gateways.

**EN-Genius Network Product of the Year – Best LAN Product**

## Fusiv® Vx180 System Architecture



## Fusiv® Vx180 Based – Quadruple Play VDSL2 Gateway



## Key Features

- Highly integrated processor with field-proven Fusiv architecture:
  - 500 MHz 32-bit MIPS-based™ host processor
  - Dedicated voice processing engine (DSP subsystems)
  - Six accelerator processors running 333/400 MHz for microcoded data path computing
- Supports all VDSL2 profiles - 8a, 8b, 8c, 8d, 12a, 12b, 17a and 30a - as well as VDSL, ADSL2+, ADSL2, and ADSL standards, and is optimized for 17.6 and 30 MHz spectrums
- 32 KB local buffer and table memory
- Multiple on-chip buses to exploit the full bandwidth of the 333 MHz/32-bit DDR SDRAM memory
- Interfaces:
  - Two 10/100/1000 gigabit Ethernet interfaces (GMII/MII/RMII)
  - 66 MHz 32-bit PCI 2.2 interface, which works in host and satellite modes
  - Two USB 2.0 HS/FS/LS host with UTM1-PHY
  - Two asynchronous serial UART ports (UART1 is Bluetooth capable)
  - Serial peripheral interface (SPI)
  - Two SPORT (TDM) interfaces for the VoIP DSP subsystem
  - 32 general purpose IOs (GPIOs)
- General purpose timers
- On-chip asynchronous memory controller for asynchronous RAM, FLASH and external devices
- On-chip DDR controller for 32-bit DDR of 333 MHz
- IEEE 1149.1 compliant JTAG interface
- Software features:
  - Software drivers such as Linux board support package and voice framework
  - ATM WAN processing module
  - Network software for TCP/IP, routing protocols and network management
  - IP services/QoS software for QoS/bandwidth management and firewall applications
  - Security modules such as VPN, IPSEC, SSL, etc.
  - VoIP software for voice compression, echo cancellation, CNG, PLC, DTMF detection and generation, call progress tone generation, FSK caller ID generation, country-specific tones, and fax pass through



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For more information, contact Ikanos.

Ikanos Communications, Inc.  
47669 Fremont Boulevard  
Fremont, California 94538

[www.ikanos.com](http://www.ikanos.com)

P +1 510.979.0400

F +1 510.979.0500

E [sales@ikanos.com](mailto:sales@ikanos.com)

