

FusivWare™

Software Development Kit for Fusiv® Series of Processors



Processors Supported

- Fusiv Vx180
- Fusiv Vx170
- Fusiv Vx160
- Fusiv Vx200
- Fusiv Vx155
- Fusiv Vx150

Applications

- Home gateway/residential gateway
- Integrated Access Device (IAD)
- Small Office/Home Office (SOHO) gateway
- Security router
- Modem/router

Reference Platforms

- ADSL2+ residential gateway
- ADSLx/VDSL residential gateway
- Gigabit/FTTH residential gateway

Third Party Ecosystem

- SLIC/CODEC
- Wireless Local Area Network
- Fast Ethernet (FE)/Gigabit Ethernet (GE) switch
- MoCA®
- HomePlug®
- Power Line Communications
- DECT

Ikanos' FusivWare™ is an advanced Linux-based software for the rapid development of multi-service next-generation home gateways.

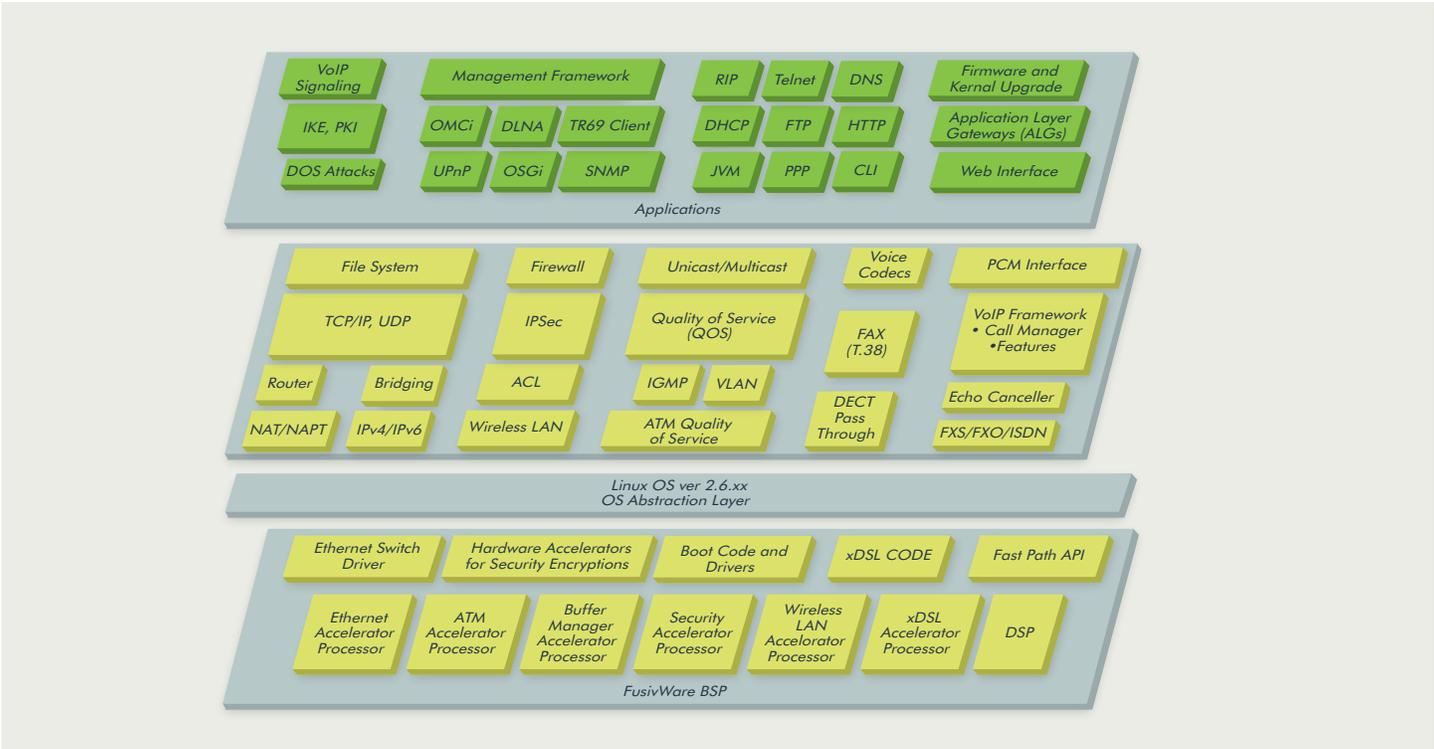
When used in conjunction with Ikanos' innovative Fusiv® processors, FusivWare software enables manufacturers to reduce product development cycles, rapidly prototype and quickly enter production with everything from simple modems to sophisticated Integrated Access Devices (IAD).

The FusivWare flexible software architecture provides customers with the ability to design customer premises equipment (CPE) with a variety of broadband access technologies – including Ethernet, xDSL and PON.

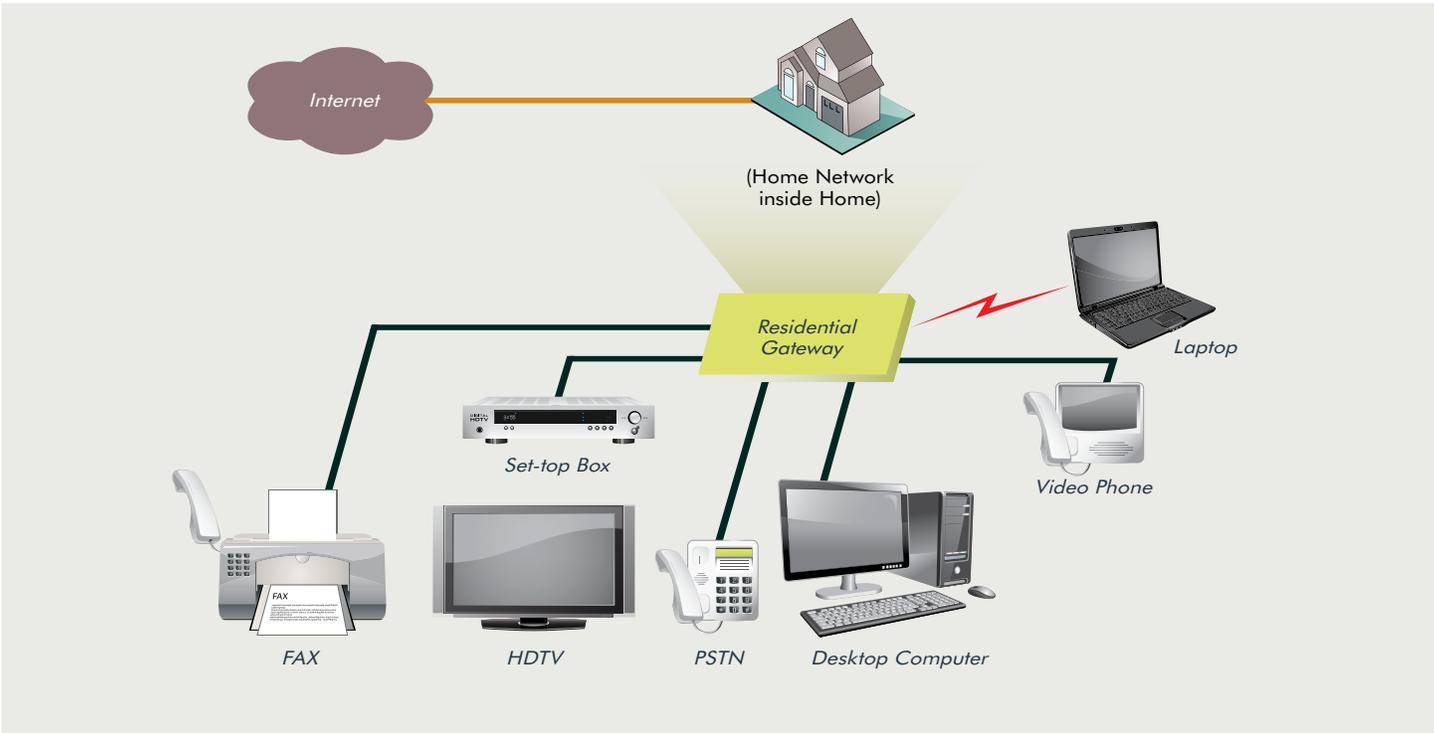
The highly optimized and fully integrated software incorporates routing, bridging, a complete voice over Internet protocol (VoIP) stack, packet classification, marking, bandwidth management and fast-path assisted quality of service (QoS) functions to ensure better performance and drivers.

- Highly optimized to achieve wirespeed packet performance in multi-service environment.
- Flexible, modular software utilizing the accelerator processor (AP) architecture which offloads broadband WLAN, bridging, routing, switching and firewall functions from the host central processing unit (CPU), thereby preserving host processing for advanced triple play functions.
- Application programming interface (API) allows for easy customization and inclusion of a differentiating capabilities, features and user interface (UI).
- Fully-qualified residential gateway software that alleviates the challenges associated with the integration of VoIP, signaling, IPsec, IPv6, and wireless LAN (WLAN).
- Intelligent bandwidth management that guarantees quality of service (QoS) without compromising wirespeed performance.

FusivWare™ Architecture



Silicon and Software that Expedites the Development of Multi-Service Next-Generation Home Gateways



Key Features

- Bridge and Router
 - Simultaneous bridging and routing
 - Transmission control protocol/Internet protocol (TCP/IP)
 - 802.1D Bridging
 - IEEE 802.1Q tagged VLAN
 - Protocol-based and port-based VLAN
 - MAC filtering
 - PPP features
 - Network address translation (NAT) and network address port translation (NAPT)
 - Dual stack support for IPv4 and IPv6 deployments
 - IP multicasting, Internet Group Management Protocol (IGMP) V1/V2/V3
 - IGMP snooping and IGMP proxy
 - Application Layer Gateways (ALGs)
 - Dynamic Host Configuration Protocol (DHCP) options
 - Domain Name System (DNS), Dynamic DNS
 - Routing Information Protocol (RIP)
 - Simple Network Time Protocol (SNTP)
 - Accelerated data path for improved throughput during triple play throughput conditions
 - Command line interface (CLI)
- Quality of Service (QoS)
 - Class-based Bandwidth Reservation Support (CRSVP) or Strict Priority Scheduling
 - 802.1p and 802.q priority mapping
 - Priority Queuing Scheduler
 - L2 Packet QoS priority (TOS/DSCP/COS) generation
 - L3 Packet QoS priority (TOS/DSCP/COS) generation per Diff-Serv standard
 - QoS statistics support
- Device Management
 - SNMP V1 and V2
 - Telnet for remote management
 - Web-based management
 - TR-69/TR-104/TR-111/TR-121*
 - Device configuration and administration via Hypertext Transfer Protocol (HTTP), Trivial File Transfer Protocol (TFTP), File Transfer Protocol (FTP)
 - Firmware upgrade and kernel upgrade via TR-69, TFTP
- Board Support Package
 - FusivWare board support package (BSP) provides proven boot code for various reference designs and includes Ethernet, SLIC/CODEC, and WiFi drivers
- WAN Interface
 - ADSL2+
 - VDSL2
 - Gigabit interface
 - Passive optical network (PoN)
 - Supports a variety of interfaces including MoCA®, Power Line and HomePlug®
 - Firewall
 - Stateful packet inspection (SPI)
 - Prevents DoS attacks
 - Access control list (ACL)
- Media access controller (MAC) address filtering
- Internet protocol (IP) address filtering
- Virtual Private network (VPN)
- Accelerator processor assisted IPsec
- Hardware assisted APIs for DES, 3DES, SHA and AES encryptions
- IKE and PKI
- Voice over IP (VoIP)
 - Signaling framework for easy integration of third party signaling stacks
 - Call features with call manager framework
 - CODECs: G.711, G.729a, G.729AB, G.726, G.723, G.722
 - Architecture supporting 2 FXS/1 FXO or 4 FXS/1 FXO
 - Country specific calibration of tones, caller ID, impedances, validating with local standards
 - 3-way call conferencing
 - Voice quality enhancements
 - Dynamic jitter buffer
 - Silent suppression
 - G.168 echo cancellation
 - FAX over IP (T.38)
 - Wideband CODEC support

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