

BOARD SUPPORT PACKAGE

NeST has a dedicated business unit that concentrates embedded system development working in technology domains such as Networking, Multimedia, Storage, and Security. The unit is focused on skills and technologies that drive the convergence of consumer and computing devices and caters to a wide customer base. Here is a summary of our capabilities.

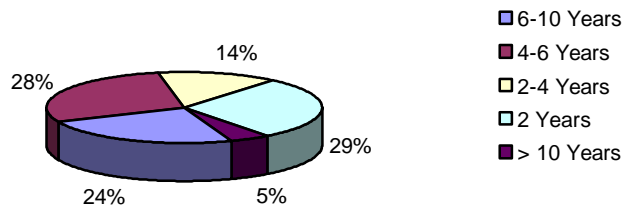
The various skills that the group has accumulated so far are as follows:

OS
VxWorks, pSOS, QNX
Linux, Montavista Linux, RT Linux
ITRON
WinCE / XP Embedded
MicroC OS
Proprietary/Custom OS

H/W
SH7044 to SH7144 RISC, SH4, SH7750, Intel IXP425 processors, Rabbit 3000
ARM processor, Broadcom BCM5690 controller, TX4927
MIPS, Power PC 8245 processors
Hitachi 2623 based hardware

The technical skills of our team in porting, firmware development and protocol implementation area allow our customers to choose us as the best partners for their product development.

Experience



PROJECTS SNAPSHOT

DNA Sequencer:

The project aims to port current running 3730/3730 XL DNA Sequencer software to Linux Operating System. The DNA Sequencer is the collection of modules, which is formed by porting VxWorks, based source code to Linux. It communicates with Labview diagnostics application over TCP/IP. It uses a set of peripherals, one group connected to the DNASequencer over VME bus and another set over serial communication link. It is done for a Japanese customer.

Bluetooth Stack Porting

The project involved the porting of Bluetooth stack from Extended System to the Hitachi 2623 based ICELAND hardware and YECOS operating system. It also involved the development of an enhanced Hands Free application compliant to the version 0.96 of Hands Free Profile specifications from Bluetooth SIG. The project is done for a US company.

Application Development for iPAQ

The project involved the porting of original PC based application to the COMPAQ iPAQ pocket PC. Firmware was also underwent modifications, but the basic functionality of the system remained same. iPAQ runs Win CE OS and has built in Bluetooth connectivity. The project is done for US Company.

CCD Control Subsystem

This project aims to develop a CCD Control subsystem for the 3730/3730XL type DNA Sequencer. The subsystem consists of two hardware units. For this, replaced the existing CCD Sensor in the current system (Hamamatsu H7031) with the new CCD sensor from Texas Instruments (TC323) and replaced the existing SH7044 CCD Control CPU with new processor SH7144. The project is done for a Japanese customer.

Application Development and WLAN driver enhancement for Home Gateway

The project involved the development of web pages to configure some of the Home Gateways running OpenRG. The configurations were to set up a GRE tunnel with an ISP's router and enable

different settings for DHCP relay, WLAN security, Scheduling, Remote Syslog and firmware upload. The WLAN driver for the Access Point was ported from Vx-Works to Linux and security improvements were made. The project is done for a Japanese customer.

Routing Protocol porting for Home Gateway

The project involved the porting of the open source implementation for VRRP (Virtual Router Redundancy Protocol) client to OpenRG platform used in the Japanese Home Gateway. Done in OpenRG platform for IXP425 Processor

Cable Transponder

Developed a Transponder compatible with the Data Over Cable System Interface Specification (DOCSIS) for use in Cable Network Monitoring Solutions. This is done in pSOS and VxWorks for MIPS and ARM processors. The DOCSIS compliant cable modem transponders, monitor Broadband Power supplies in the field. They will have the required analog or serial interfaces to talk to the Power supplies on one end and will have the RF interface talking DOCSIS protocol on the other end.

USB Dongle

For WinCE 4.2.net, developed a driver for USB WLAN Dongle (WN-250gi) device in x86 platform to configure the WLAN device as STA. Two modes are supported for STA – Infrastructure and Ad-hoc mode. The device supports 802.11a and 802.11g specifications. The device uses USB controller (2280) internally for communicating with PCI-WLAN chipset. The application of the device is in telephony products.

Layer 2 Switch

The project is done in Montavista Linux for power PC platform. Implemented the Switch OS software -- One model each of the 3 Managed intelligent switch types - Layer 2 Switch, Layer 3 Switch and Blade Chassis Switch.

Dual Stack Router

Developed a dual stack router based on Intel IXP425 platform. Implemented Forwarding/Routing (IPv4, IPv6, RIPng, IPv6 Multicast, Filtering, PPPoE), features in Montavista Linux. It is done for a Japanese customer.

