ArcherMind

A Software Development and Services Company

We help deliver your innovations, globally…

Case Study
Telecom High-Performance Router Design

www.ArcherMind.com

About the Client

The Company has changed the networking world by customizing router, firewall and VPN deployment in the same way that Linux is customizing the operating system market. Each month more than 15,000 users worldwide download the Company's open-source networking platform in their search for an alternative to over-priced products from proprietary vendors.

About ArcherMind

ArcherMind Inc. is a well-established, well-respected global software development and services company. Our services include:

- Wireless Mobile Software Development
- IT Service Management
- Software Quality Assurance (CMMI-3)
- Software Internationalization and Localization

Our Expertise

- OS: Windows, Linux, Symbian, Palm
- Tools: C++/Java, Ruby, Eclipse/Netbeans
- Middleware: Qtopia, GTK, UIQ
- Applications: J2ME, Symbian, Brew, QTE
- Stacks: GSM/CDMA, Bluetooth, GPS
- Drivers: LCD, Camera, USB, etc.
- Networks: Cellular, WiFi, LAN/WAN
- Database: Oracle, DB2, MySQL, etc.

Contact

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Client's business challenges

The Customer's router software with Linux kernel ran on X86 PC and the network flow was processed by the CPU. The Company's CPU labored heavily and the network throughput became bottlenecked because of the growing network flow. The issue was that the general architecture could not meet the system's throughput requirements.

Our approach and services

Archermind analyzed the project and selected UFE (Ultra Forwarding Engine) with an AISC chipset to process the network packet. This replaced the CPU based on a approach that would utilize UFE API. The UFE software defines which flow is trusted, which is untrusted, and downloads the information to the UFE under layer chip.

The results

The ArcherMind development team defined the network flow through the gateway/router/firewall in 3 ways: trusted flow, untrusted flow, and unknown flow. All the network flow was processed by the CPU in the system based on X86 architecture. With UFE, only the unknown flow was processed by the CPU, a majority of the trusted and untrusted flow was processed by UFE directly. UFE forwards the trusted flow and drops the untrusted flow. UFE can process a majority of the network flow itself. Of the total, only a small amount was in the unknown flow category. So with the UFE taking over the CPU load, the total system performance was improved.