WIDE Internet FAX

FaxConnect 1 at San Jose on December 1-2, 1998

WIDE Project and Tokyo Institute of Technology has participated in FaxConnect 1 as free implementation producers.

1   Features

The WIDE Internet FAX has functions that are specified in RFC 2305. It sends and receives e-mail messages, prints received messages, and plays the role of an Offramp Gateway. Since it works as a mail server by itself, it can send e-mail messages directly and pull out e-mails from a mail server by POP. We developed the WIDE Internet FAX under the policy of adopting existing hardware and software. Our work not only cuts down the cost for development but also facilitates installation and operation, which are factors that we believe will help promote the wide use of Internet FAXes. The features of the WIDE Internet FAX are as follows.

- Stable and reliable.
A PICKLES information kiosk adopts PICKLES SYSTEM which is based on BSD/OS. BSD/OS is widely used for Internet servers, and its stability and reliability are highly valued. Also, the WIDE Internet FAX takes advantage of qmail, ghostscript, HylaFax, etc. The stability and reliability of these software has been proven by their wide spread usage.

- Flexible.
The WIDE Internet FAX works with many kinds of printers and fax modems. It has a flexibility that allows it to perform with various notebook type, desk top type, and other types of hardware. The most smallest and lightest setup will be presented at the site of FaxConnect 1. The WIDE Internet FAX running on a PICKLES information kiosk works as a WWW server, a mail server, and/or an IP router. By itself, it provides most of the services necessary within an organization. So, its usage in a SOHO-like environment is economical and will lessen the burden of server management.

- Secure.
The WIDE Internet FAX provides strong security. It rejects faxes and e-mails from specific addresses, limits the maximum number of pages when receiving a message, controls action when sending. The strong security of qmail which is an MTA of the WIDE Internet FAX is well known. Even if it receives many messages at once, it guarantees secure performance by a queueing mechanism

- Extensible.
The WIDE Internet FAX has its own communication function with external modules in order to easily include new functions. It is possible to attach many interfaces for input/output, for instance, a client using Java or CGI-bin, a client which forwards input from a PDA, etc. It is possible to make the WIDE Internet FAXes directly communicate with each other through these ports. This function can be used in the future to easily extend to Full-mode Internet FAX.

- Runs on a PICKLES information kiosk.
The WIDE Internet FAX runs on a PICKLES information kiosk, which has been developed by us. A PICKLES information kiosk supports easy maintenance by enhancing modularization of both hardware and software. It is an information kiosk which can work with a very small portable computer, and has the potential of to relay messages from the WIDE Internet FAX to a very small portable computer.

- To be distributed as a freeware.
We will distribute the WIDE Internet FAX as freeware. Anyone in the world may obtain, install, and use it freely.
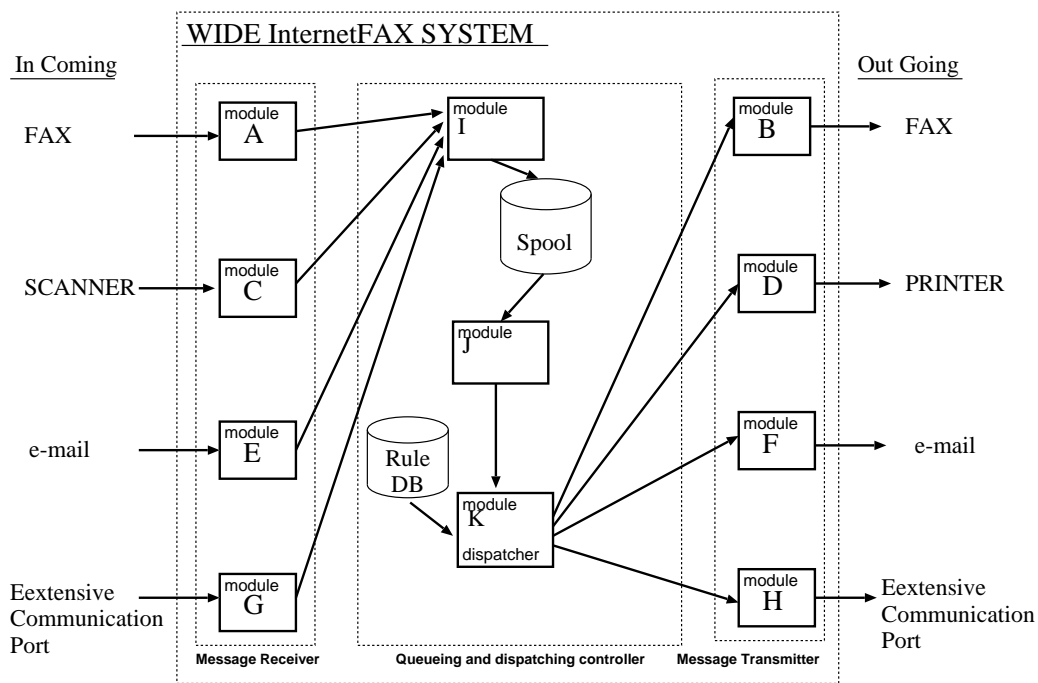
Figure 1: The modules of the WIDE Internet FAX

2 Components of the System

Hardware components

The WIDE Internet FAX is able to have any hardware component within the range of specification for PICKLES information kiosk. The smallest one which we use in the experiment of FaxConnect 1 consists of these.

- TOSHIBA Libretto 60
  - Pentium100MHz
  - 32MB RAM
  - 2.1GB HDD
- PCMCIA Ethernet Card (10BASE-T) or Xircom Pocket Ether
- PCMCIA Fax/Modem Card
- Cannon BubbleJet Printer BJC50v

Software components

The figure 1 indicates the modules of the WIDE Internet FAX. All messages are once stored in a spool of the hard disk and sequentially processed even if many messages are sent simultaneously. Because of this, the load on the system does not rise extremely. Besides, descriptions about how to relay sent messages are in a rule database. We can flexibly describe this rule for relaying, for example, to change a destination according to the source address of a message.

3 How to Obtain/Distribute

The WIDE Internet FAX will be in public as a freeware. Consult the following URL for getting and distribution. The contents will be updated whenever necessary.

http://www.ohnolab.org/researches/ifax/

The following URLs are related pages.

Ohno Laboratory http://www.ohnolab.org/

WIDE Project http://www.wide.ad.jp/

WT-wg in WIDE Project
http://www.wide.ad.jp/wg/wt/