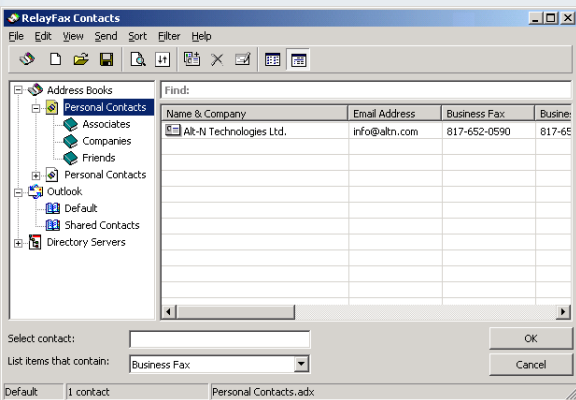




MAINPINE LAB



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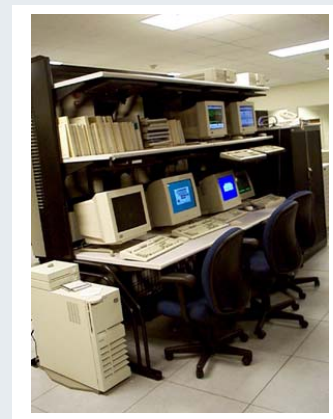
Certification Overview

Interoperability, Performance and Reliability

Fax hardware plays a crucial role in the sending and receiving of business documents. The RockForce™ intelligent fax board series enables fax servers like Alt-N Technologies' RelayFax™ application to electronically store, archive and manage corporate documents while reducing workflow costs and improving productivity and efficiency processes.

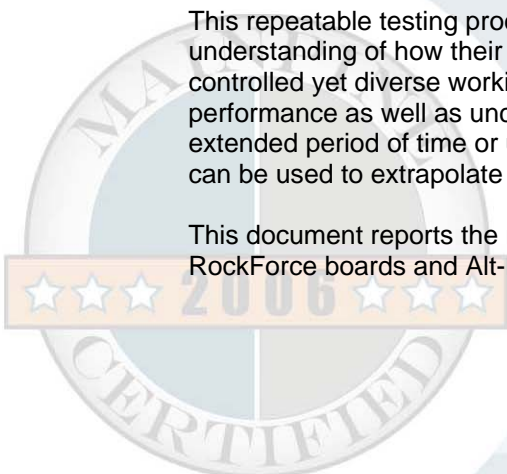
A perception exists that most fax boards and fax modems are similar. The reality is that vast disparities exist in terms of performance and reliability.

Mainpine demands its line of fax boards perform exceptionally well with fax software applications like RelayFax which is why the company has built a state-of-the-art lab facility to provide expert performance and interoperability testing. The testing facility simulates nearly any 'real world' messaging environment in which a RelayFax server equipped with RockForce hardware may be utilized.



This repeatable testing procedure provides fax server manufacturers with a way to gain an in-depth understanding of how their fax applications perform with RockForce™ intelligent fax boards in a variety of controlled yet diverse working conditions. Load and stress testing allow the discovery of maximum performance as well as uncover any anomalies or instabilities that may only become apparent over an extended period of time or under high usage. The results of the RockForce / RelayFax performance tests can be used to extrapolate real-world performance figures.

This document reports the results of various load and stress testing performed with Mainpine's RockForce boards and Alt-N Technologies RelayFax software application.



Methodology

The Mainpine hardware library consists of dozens of test platforms, monitors, fax machines, multi-function devices, NICs, LAN/WAN equipment, printers and other peripherals.

RelayFax was tested for interoperability with RockForce intelligent fax boards with over 50 fax machine and multi-function devices and with a dozen networked desktop computers to give the widest variety of compatibility configurations possible.



The RockForce / RelayFax combination went through high-volume stress testing which included broadcasts using single and multi-page industry standard fax images. The RelayFax software application was tested with RockForce DUO+, QUATRO+ and OCTO+ intelligent fax boards to measure reliability, speed and performance on the send and receive side from various V.29 (9600 Kbps), V.17 (14.4 Kbps) and V.34 (33.6 Kbps) fax devices.

Hands-on testing was performed by a Mainpine field technician and engineer and took approximately 5 business days. At the conclusion of the testing, log files were analyzed. These are available upon request and with permission from Alt-N Technologies. This report provides a comprehensive and accurate assessment of the RelayFax / RockForce results.

Product Profile

Product: Relay Fax 6.7 by Alt-N Technologies



Operating Environments: Windows XP, Windows 2003, Windows 2000, Windows NT and Windows 98

System Requirements:

CPU: Pentium II 450 MHz

Memory: 256 MB RAM

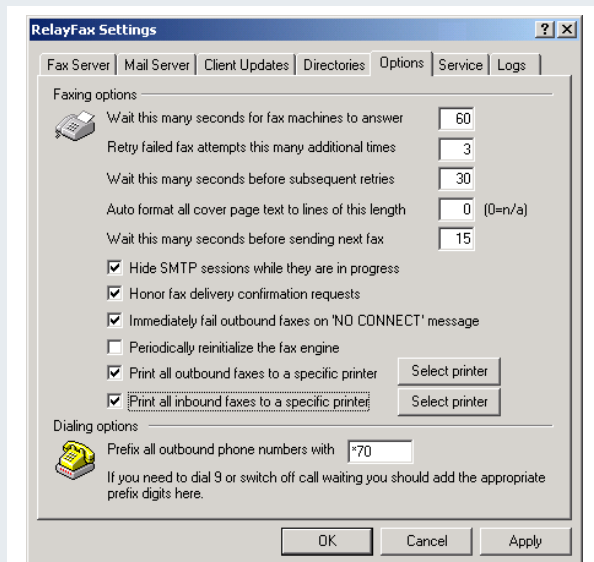
Disk Space: 30 MB RAM, additional for mail storage

Network: TCP/IP with connection to Internet, intranet or LAN

Fax Protocols Supported: V.34, V.17, V.29, V.27

RelayFax Description

RelayFax provides full faxing capabilities for network users. As a client/server fax application it automates sending, receiving and managing network faxes, and integrates full faxing capabilities directly into existing email systems.



RelayFax connects to any number of POP mailboxes at scheduled intervals and collects waiting messages. The software then emails, faxes or prints the faxes as defined in customized fax rules. With RelayFax, users send outgoing faxes and receive incoming faxes without leaving their workstations.

Incoming faxes can be converted to various image formats such as TIFF, JPEG and BMP. Optical Character Recognition (OCR) can be used to convert faxed images into editable document formats (DOC, PDF, etc.). RelayFax also supports sending a single fax to multiple destinations and automatically assigns pre-defined cover pages or templates to specific users and groups.

RelayFax works in combination with Alt-N Technologies' flagship application, MDaemon, a Windows-based email server that contains full mail server functionality and control with a strong emphasis on security to protect email communications.

Results of RelayFax™ / RockForce™ Performance Testing

Beyond the feature checklists on a product's technical specifications are the real-world performance capabilities of how that application performs with fax hardware in "real-world" scenarios.

A variety of questions can be answered by conducting in-depth testing including:

How many faxes go through on a first try attempt?

How many attempts does it take to send a fax?

How many faxes never get sent at all?

How often does the fax server connect at the highest advertised fax speed?

Is each page transmitted at the highest compatible and achievable speed?

Is high-quality call progress performed?

In other words, are different tones detected accurately? If not the result is an inefficient use of fax server resources and higher than necessary fax phone bills.

Is the fax server and hardware combination able to keep all ports busy during peak or high-volume send and receive times?

Phase One: RelayFax / RockForce Broadcast Testing

The first portion of the RelayFax / RockForce testing included the sending of 2,000 individual fax pages from 2 ports on a DUO+ RockForce card to 2 other ports on the same DUO+ RockForce card that received the faxes. This test gauged how well the RelayFax application was able to handle a high volume of sending and receiving faxes simultaneously. It also provided a fax completion percentage on the first attempt, and an average transmission time under the cleanest line conditions. A single page fax image as well as a 13 page fax image were tested.

This test measured the following information regarding RelayFax with a RockForce fax board:

1. The number of calls that succeeded or failed on the first attempt.
2. The number of calls that succeeded or failed eventually.
3. The lowest and highest connection speeds during the fax broadcast.
4. The shortest and longest transmission times of the faxes during the fax broadcast.

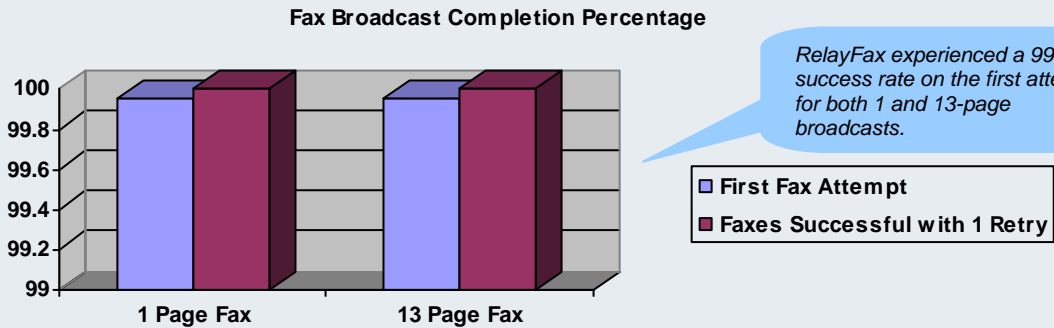


Test Result 1: RelayFax Completion Percentage on the First Attempt

Obviously it is desirable for a fax to connect and transmit successfully on the first attempt. When multiple attempts are necessary this delays the message, ties up server ports and phone lines and results in increased charges.

Out of the 2,000 fax pages, RelayFax only required a single retry for the 1 page document and 13 page document. This means that out of 2,000 fax pages, only 1 page was not sent on the first try, a 99.95 percent success rate on the first attempt.

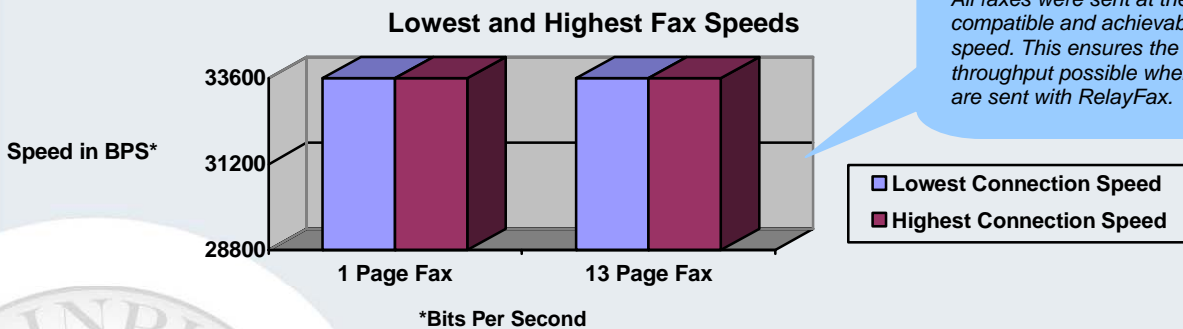
Below are the percentages of completion for the 2000 fax broadcast tests.



Test Result 2: RelayFax Lowest and Highest Connection Speeds

Connection speed is important because it reduces phone charges and because it reduces the time needed for the transmission to complete. The latter is especially important if the document is urgent.

RelayFax sent every fax at the highest possible connection speed of 33600 BPS during the broadcast.



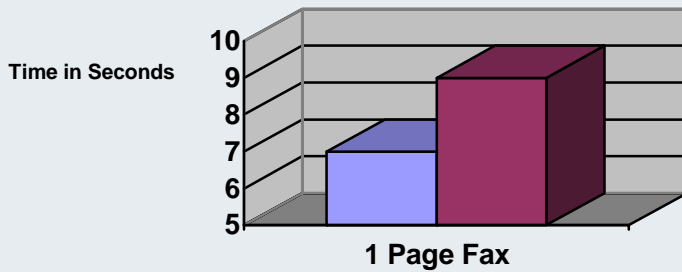
Test Result 3: RelayFax Shortest and Longest Transmission Time

Although RelayFax does not support JBIG image compression, all the faxes were sent and received at 33600 BPS so the shortest and longest transmission times were very close. Faster compression speeds translates to reduced transmission time, which results in lower fax phone bill charges.

The RelayFax / RockForce combination supported MH, MR, and MMR compression where appropriate. It is estimated that approximately 90% of all fax traffic uses MR or MMR.

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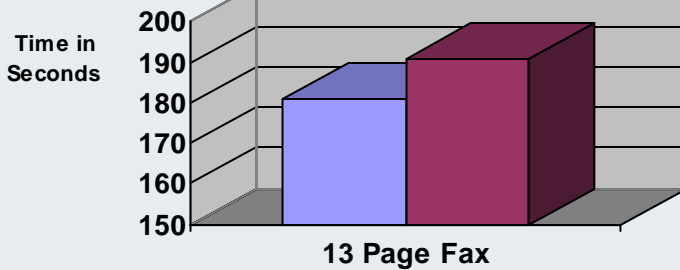
1 Page Fax Time



The shortest transmission time for the 1-page fax with RelayFax was 7 seconds. The longest transmission time was 9 seconds.

Shortest Transmission Time Highest Transmission Time

13 page Fax Time



The shortest transmission time for the 13-page fax with RelayFax was 180 seconds (3 minutes). The longest transmission time was 190 seconds (3 minutes, 10 seconds).

Shortest Transmission Time Highest Transmission Time



Phase Two: RelayFax / RockForce Fax Machine Testing

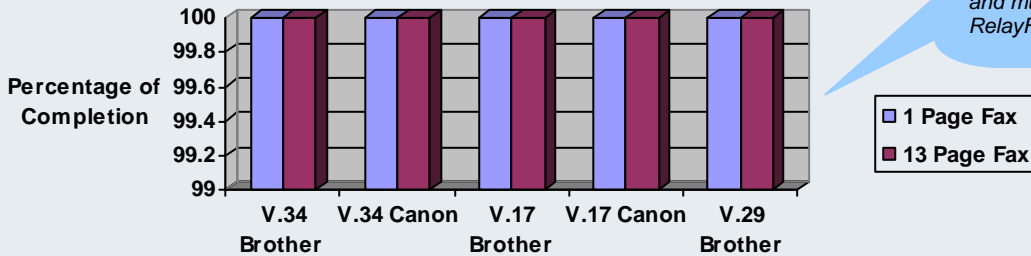
Using RelayFax, single page faxes and 13 page faxes were sent to dozens of different fax machines that support a range of speeds from 14.4 Kbps to 33.6 Kbps. Fax machines were from a variety of vendors including Brother, Canon, Ricoh, Sharp and Xerox. The testing took place in the Mainpine Lab using a RockForce fax card. Also, single page faxes and 13 page faxes were sent from the same fax machines back to the RockForce card. The testing recorded the following results:

1. The number of calls that succeeded or failed.
2. The lowest and highest connection speeds when sent to and received from each fax machine.
3. The shortest and longest transmission times when sent to and received from each fax machine.

Test Result 1: RelayFax Sent and Received Faxes Completion Percentage

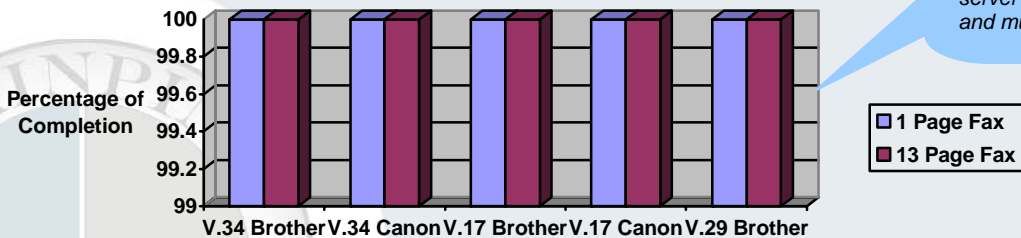
RelayFax achieved a perfect 100% success rate when sent to and received from the various test fax machines in the Mainpine Lab. For distribution purposes across a range of fax machines and multi-function devices, five of the 1 page faxes and two of the 13 page faxes were sent to each device. Then five of the single page faxes and two of the 13 page faxes were sent to the RockForce card from the same fax machines.

Sending to Fax Machines - Completion Percentage



RelayFax received a 100% success rate when faxes were sent from various fax machines and multi-function devices to the RelayFax server.

Receiving from Fax Machines - Completion Percentage



A 100% success delivery rate was also achieved when faxes were sent from the RelayFax server to various fax machines and multi-function devices.

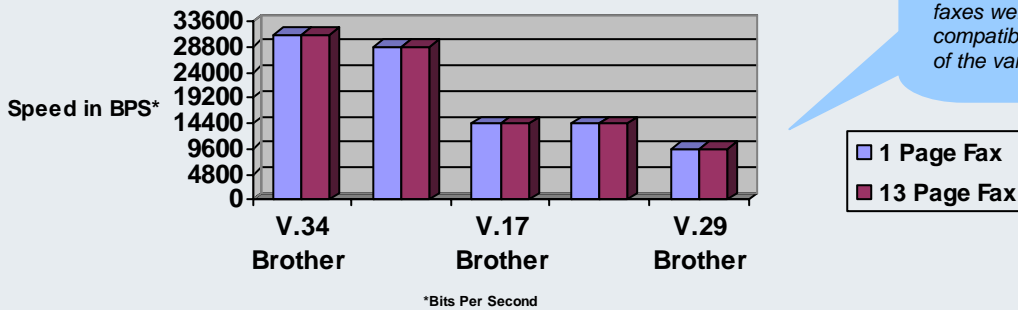


Test Result 2: Lowest and Highest Connection Speeds

Mainpine technicians also tested RelayFax to determine the lowest and highest connection speeds when sending to, and receiving from, the test fax machines and multi-function devices in the Mainpine Lab. The connection speed is the rate at which a single page is sent, measured in seconds per page.

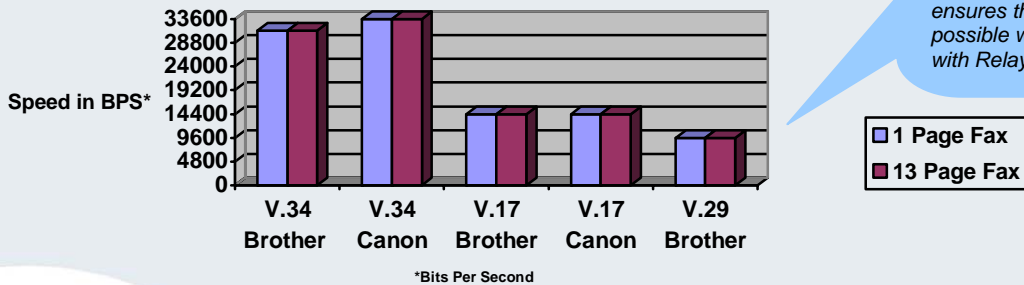
RelayFax in Class 1.0 mode was able to send at the highest fax speeds available by each fax machine. When sent from the test fax machines the outgoing pages were scanned and converted into a series of light and dark dots. This pattern was then translated into audio tones and sent over regular phone lines to the RelayFax server. This was demonstrated in the test results below.

Sending to Fax Machines - Connection Speed



When sending the 1 and 13-page fax documents from RelayFax, all faxes were sent at the highest compatible and achievable speed of the various fax devices.

Receiving from Fax Machines - Connection Speed



On the receive side, the RelayFax server was able to receive faxes at the highest possible speed transmitted by the various fax machines. This ensures the fastest throughput possible when faxes are received with RelayFax.

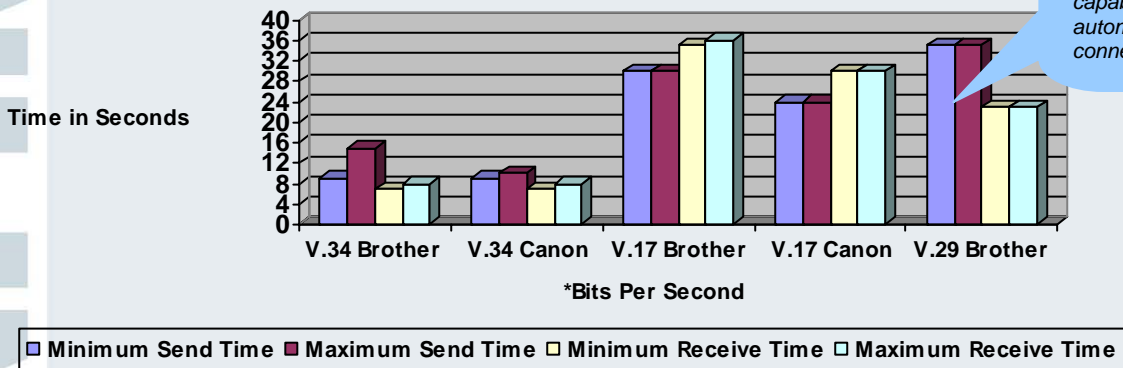


Test Result 3: Sending and Receiving from Fax Machines
Minimum and Maximum Transmission Time

Tests were also performed with sending and receiving documents from fax machines. Whether on the send or receive side, RelayFax was able to send and receive faxes very quickly, and the recorded transmission times in the tests demonstrated that fact.

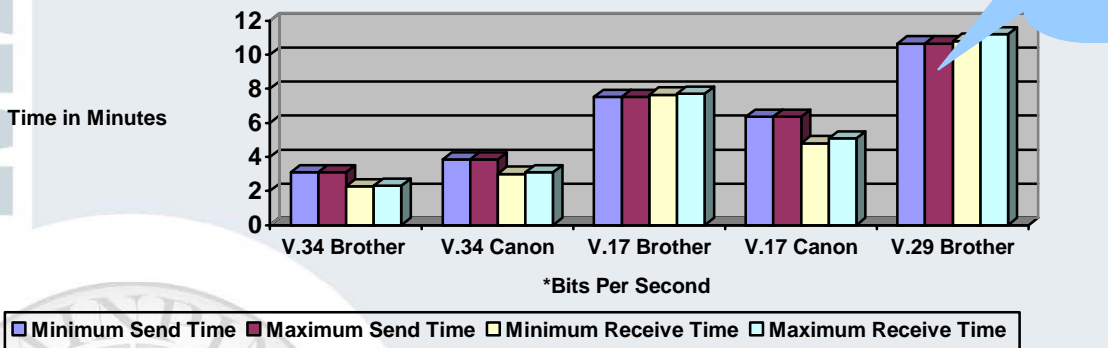
As shown in the tests results, the RelayFax / RockForce combination was able to support the highest data rates when possible. In some cases, where the test fax machine was only able to support lower rates of 14,400 bits/second, the RelayFax server automatically adjusted down to accommodate the lower rate.

Fax Machine Tests - 1 page - Sending and Receiving Transmission Times



When sending single-page faxes, RelayFax was able to intelligently negotiate with the data rate capability of the other device and automatically adjust its connection speed accordingly.

Fax Machine Tests - 13 page - Sending and Receiving Transmission Times



When sending the longer, 13-page test documents, RelayFax continued to intelligently negotiate to handle the data rate of the other device.



Summary

This report provides a comprehensive and accurate assessment of the RelayFax / RockForce results. The log files from the testing were analyzed by a Mainpine lab technician and are available upon request and with permission from Alt-N Technologies.

RelayFax passed all stress tests conducted in the Mainpine Lab. The results of all tests demonstrated RelayFax's excellent T.30 protocol implementation. T.30 is the protocol used to communicate between fax devices and is a standard, defined by The International Telecommunications Union (ITU). However, like all standards, it is somewhat open to interpretation and its implementation can vary by device.

RelayFax's implementation of the T.30 protocol combined with Mainpine's experience in fax applications has resulted in a highly robust T.30 implementation that can connect to virtually any fax device in the world. This is evidenced in the perfect scores achieved during testing with the RockForce series of intelligent fax boards.

In addition, in combination with the RockForce boards, the RelayFax server was able to achieve maximum image file compression and intelligently negotiate with the receiving capability of the fax machines tested and vice versa. The ability to intelligently communicate with a variety of fax devices, demonstrated RelayFax's ability to avoid time-consuming retransmissions caused by errors.

The installation was simple and all the ports of the RockForce fax card were detected automatically by RelayFax. The RelayFax server supports Class 1.0, so the faxes were able to send and receive at the highest V.34 fax speeds available. Also, the fax completion percentages of all the tests were the highest Mainpine has encountered to date compared with other fax servers.

Combined with the test results provided by Alt-N Technologies, the Mainpine Certification Lab is pleased to announce that RelayFax is **Mainpine Certified** at the **Gold Level**.

