

Architectural Overview

etherFAX Offers a Hybrid Solution

to Extend Existing Fax Servers to the Cloud



The widespread use of fax as the second most predominant messaging medium has dramatically changed all aspects of business. While this proven technology has maintained its status of a legal and secure communication, the struggle to maintain high availability in today's ever changing and challenging environments remains. While fax servers have greatly improved communication speed and effectiveness, fax offers new challenges with respect to managing Telco and IP infrastructures. The introduction of virtualization and T.38 (FoIP) has made it easier to achieve this, however, there are still barriers to overcome in order to have a fully redundant and stable solution. Read how etherFAX can overcome these barriers below:

ANALOG

- No intelligent DID routing
- Requires dedicated phone lines to be run to fax server
- Individual monthly line charges
- Expensive to setup HA and Fail over
- Restricted to location and Telco provider
- Requires Physical server and Fax Board
- Double investment for DR site

DIGITAL

- T1/E1 required locked in contract
- Costly digital fax board
- Requires physical fax server
- Restricted to location
- Monthly cost for PRI/T1 plus usage
- Costly to expand
- Costly for DR (PR/T1 sitting in cold)
- Require manual cut over to DR site
- Double investment for DR site

FOIP (T.38)

- SIP trunk, T1, E1 required
- Media gateway
- Layer 3 backbone on network for QoS
- T.38 requires 4 times more bandwidth and processing power
- Large faxes more susceptible to failure
- Interoperability with various phone systems, firmware upgrades, etc.
- Costly SIP channels
- Double investment for DR site

ENSURING DATA PRIVACY & COMPLIANCE

etherFAX is best described as an Infrastructure as a Service (IaaS) platform. etherFAX enables many existing fax server applications to send and receive faxes via the cloud, allowing organizations to eliminate the need to provision and/or maintain costly telecommunications connections or purchase expensive fax boards, servers and related services. By leveraging the cloud to terminate inbound/outbound faxes, all images, transmissions and property information are transparent to etherFAX and stored on your server within your infrastructure. By eliminating recurring monthly phone line expenses, you only pay for faxes sent and received through etherFAX at a fraction of the cost.

THE BASICS

First, you must understand the communication between the client side fax server and etherFAX. etherFAX does not use T.38 when establishing a session. The etherFAX communications protocol (ECP) is a proprietary, real-time encrypted communication transport between your fax server and the etherFAX data center, ensuring 100 percent reliable communications. etherFAX does not experience the issues that SIP T.38, G711 or FoIP face today. Unlike some demanding communications such as T.38, our services are simply Web-enabled and designed to operate in the most unreliable of environments using minimal network bandwidth. The customer's server simply provides the document and destination, then etherFAX reliably manages the fax transmission from start to finish.

An advanced solution like etherFAX consists of three major interrelated parts:

- 1. Board Servers:** The board servers are responsible for all fax transmissions inbound and outbound. The board servers are architected in a way that multiple board servers could fail and/or be switched off line for maintenance without affecting service.
- 2. Web Service:** Fax server clients talk with the etherFAX data center utilizing secure web methods. This allows us to setup multiple web server farms and use DNS load balancing to service all communications between the fax server client and the etherFAX data center. This also allows us to establish a reliable connection for fax delivery.
- 3. Database:** etherFAX utilizes the latest and greatest when it comes to both database and infrastructure. The latest version of the SQL server enables us to design a highly tuned transactional database. Since etherFAX does not store any images, the database only contains transactional information, thus allowing maximum performance. The replication of databases is completed on the SAN level, enabling the SQL server to manage only what it needs with no added overhead for replication.

THE FLOW

Inbound

When a number is called into the etherFAX data center, we receive an Inbound Direct Inward Dial (DID) that is then mapped to an account and a session is established to the fax server. The fax server receives all the information about the call as well as the fax image. The fax server then processes its rules in the same way as it does with a local fax board. The only difference is that we are now using existing infrastructure.

Toll free processes the same exact way as DID. However, with this server we are able to load balance across multiple toll free carriers since etherFAX is a registered RespOrg company. In the unlikely event that one of our carriers has an outage, the toll free numbers are automatically redirected to the other carrier. etherFAX employs both Verizon and Excel communications for the toll free services and ATL for the RespOrg services.

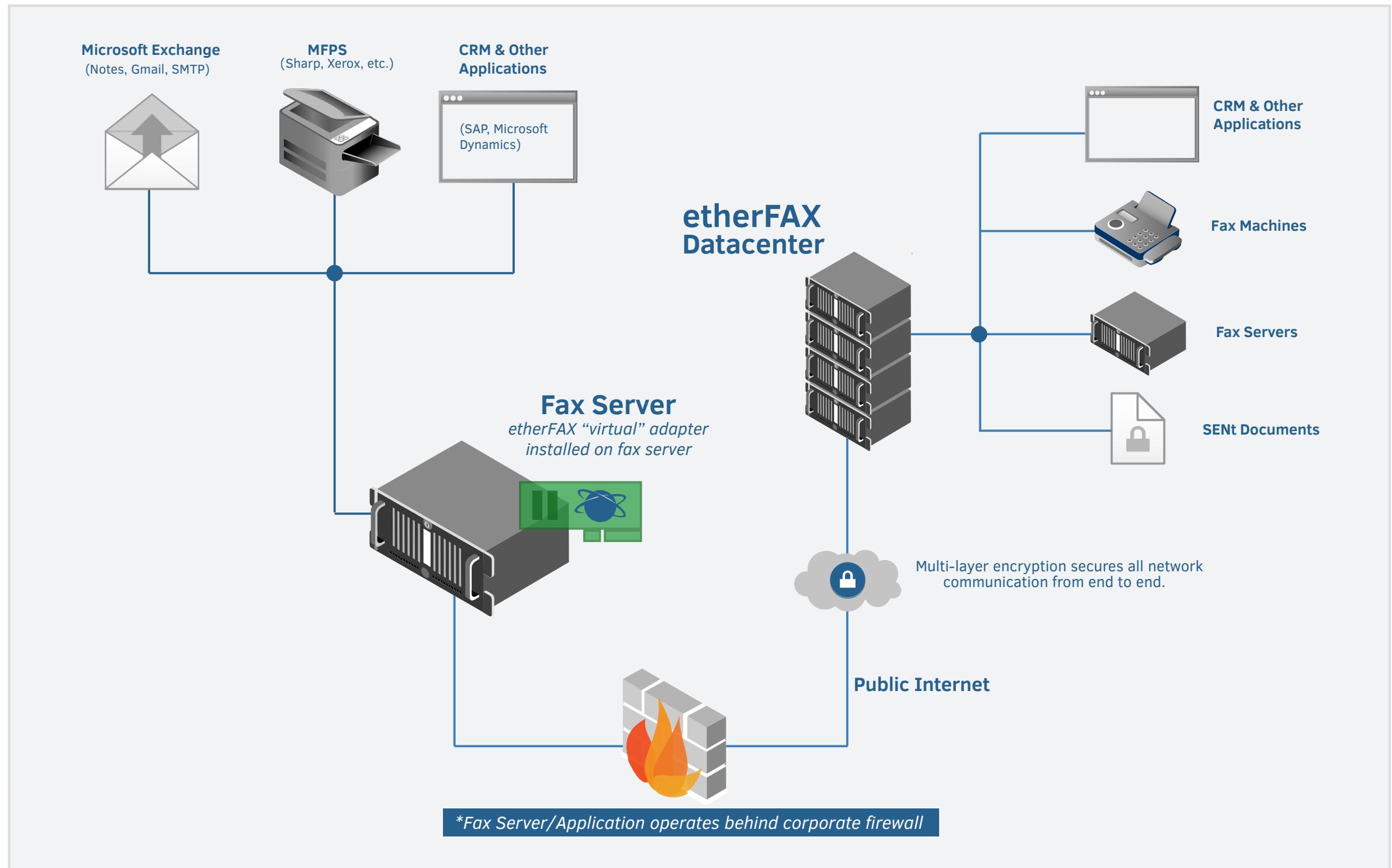
Outbound

When a fax job is submitted to your fax server, the image is rendered, stored and then transmitted via secure HTTPS to the etherFAX data center for processing. There, the available board server latches onto the job and submits it over the TDM network. Upon completion of the fax, a confirmation is sent back to the originating server, resulting in a notification to the sender of the fax. This process only requires an Internet connection.

SUMMARY

etherFAX provides the means and technology to make fax communications less complicated and more affordable. While email is an application that can be fully outsourced and/or hosted, the same is not applicable for fax. There are many back-end integrations that revolve around the fax server, therefore outsourcing is not always an option. That being said, it is best to keep your fax server in-house and use the K.I.S.S. method when it comes to Telco. etherFAX is best known as a “Partly Cloudy” or “Hybrid Solution” and if one were to look at it, yes...it could be considered an outsourced or hosted solution. etherFAX works similarly to the way a carrier brings a PRI or Analog circuit into your facility and connects you to their back-end. The difference is, etherFAX utilizes your existing connections and guarantees secure communications.

Architectural Overview



How much does etherFAX cost?

Cost effective packages start as low as 500 pages per month or 6,000 pages per year. Low flat rate/page for high volume accounts processing more than 10,000 pages per month.

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How secure is etherFAX?

Security is a clear differentiator when comparing other outsourced fax services to etherFAX. etherFAX incorporates a multilevel encryption/security system known as a “defense-in-depth” approach. It is a layering tactic, conceived by the National Security Agency (NSA), as a comprehensive approach to information and electronic security. In addition, all fax transactions are processed in a secure and encrypted database utilizing the same standards. Lastly, any images/content in the etherFAX system only persists for the life of the transmission and is then destroyed with all data being zeroed, ensuring etherFAX meets all regulatory compliance requirements.

etherFAX and HIPAA

The etherFAX solution is HIPAA compliant. It is also important to understand that there is no Federal Agency that certifies that a solution is HIPAA Compliant. There are published guidelines that must be adhered to and the etherFAX solution does adhere to the HIPAA guidelines.

If you have any questions,
please call us at **877-384-9866** or **info@etherFAX.net**.