As more and more enterprises consolidate voice, video, and data application on a single network infrastructure, the benefits of Fax over IP (FoIP) are becoming increasingly persuasive. Organizations that have transitioned to Voice over IP (VoIP) are becoming increasingly aware that routing faxes over their IP network results in costs savings and productivity benefits. Now, FAX.on.net network fax server T.38 Real-time Fax over IP (FoIP) solution allows you to route your faxes over an IP network in real-time leveraging Voice over IP (VoIP) deployment for immediate cost savings and productivity gains.

Overview

In any fax session, timing is crucial and traditional telephone lines are really good in this regard because they provide constant timing for each phase of the fax session; making the connection, exchanging signals, sending and confirming receipt of page data, sending and confirming multipage alerts, and terminating the call. At each step along the way, the machines are exchanging information with each other to make sure everything is going according to plan. A real-time FoIP session includes all of these phases and confirmations; FoIP uses the same method of compressing and interpreting image data as traditional fax (G3) does, but it uses a different protocol for transmitting that data. The protocol that enables real-time faxing over the Internet is the T.38 protocol.

FoIP provides companies with a way to continue communicating by fax while taking advantage of IP technology and of the benefits related to this technology. There is no initial investment or installation required, and the system offers strengthened security, simplicity, usability and reduced costs. The traditional FoIP solution is shows as the bellow Figure 1.

What’s T.38 Fax over IP

T.38 is the real-time FAX over IP protocol. This means it is designed to work like traditional faxing. T.38 is used to encapsulate the traditional T.30 fax protocol for working over IP; it also provides facilities to eliminate the effects of packet loss through data redundancy i.e. previously sent packets are resent.

FoIP (Fax over Internet Protocol) is also called IP faxing and is a method of sending faxes over the Internet or your wide area network. FoIP changes the transmission method of faxing in much the same way that VoIP (Voice over Internet Protocol) changes the transmission method of a phone call. In both FoIP and VoIP, data
makes most of the connection between sending and receiving devices on a packet-switched network, often avoiding the long-distance phone lines of the telephone network. This reduces the cost of transmission and can be a more efficient setup for a business that already has access to Internet bandwidth or a wide area network. It is a common misconception that all of the fax transmission from end to end is conducted over IP. Unless you are sending messages within the organisation this will not generally be the case; you will need to switch out through your PSTN gateways to deliver to the destination fax machine.

How does FAX.on.net FoIP works?

Figure 2. shows the three solutions of FAX.on.net FoIP. By these solutions, all your sending and receiving faxes will be free cost.

Benefits of using FAX.on.net T.38 FoIP solutions:

- Easy to use
  Easy to configure and setup. Eliminate the need for PSTN phone jacks to fax servers and can send faxes to multiple recipients simultaneously by FoIP.
- Free cost routing
  Sending faxes and receiving faxes between FAX.on.net will be totally free.
- Long distance cost saving
  Faxes sent via the IP network avoid the PSTN and therefore cut down large long distance call charges.
- Integrates with VoIP Networks
  Enable end users to implement IP fax into VoIP networks, helping customers to capture the benefits of convergence. Lower total IP equipment maintenance costs.
- Security and Reliability Real-time IP Fax
  T.38 FoIP enables point-to-point, secure fax transmission in real time. FAX.on.net FoIP network fax server leverages VoIP gateway capabilities and related security to connect to the public network, just like the IP telephony system, protecting the network from security breaches.
**FAX.on.net Network Fax Server**

The FAX.on.net Network Fax Server is a complete, highly economical, easy-to-use network fax server. It was designed to meet the needs of small to mid-sized businesses or workgroups, and comes with all the necessary hardware and software to allow network users to send and receive faxes from the desktop or browser.

FAX.on.net is a turnkey solution that connects to PSTN fax lines. It provides both software and web management interface, and allows you to receive faxes wherever you are as e-mails and send faxes from any application that can print. The system provides distributed faxing capabilities, over a WAN, from a corporate office to small remote offices as well as to field sales people. By S series FAX.on.net V.34 Network Fax Server, it offers V.34/33.6K Super G3 fax and JBIG fax compression, reduces fax transmission time by more than half when compared to traditional fax modems. The result is faster fax transmissions and significant cost savings over time.

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