IP Fax for Health Providers

Solving the Six Most Pressing Technology Challenges

cloudli

Despite impressive strides in medical technology over the past decade, and billions invested in expanding electronic health record usage, faxing remains the dominant method for transmitting patient data, prescriptions, test results and referrals. According to the Medical Group Management Association, 89 percent of healthcare offices in the United States still use fax machines, with about 75 percent of medical communications taking place by fax. In Canada, the picture is similar: two-thirds of doctors use fax as their primary means of communication, with medical clinics sending and receiving 24,000 pages of faxed information daily, according to The Globe and Mail.[1]

Faxing Remains Prevalent in Medical Offices

Despite the EHR and other medical technologies, faxing remains a primary form of communication for healthcare providers.

89%

U.S. healthcare offices using fax machines

75%

Medical communications done by fax

66%

Canadian doctors using fax as primary communications method

24,000

Number of pages faxed by Canadian medical clinics daily

Sources: Medical Group Management Association and The Globe and Mail

News reports[2, 3] have blamed legacy fax technologies for backlogs in information needed to battle the COVID-19 epidemic, ranging from test results to death reports. The legacy fax technology was simply unable to scale to meet the demand generated by the sudden increase in fax traffic volume.

However, **healthcare providers should know they are no longer limited to paper-fax technology** (also known as walk-up faxing) using legacy fax machines and phone lines. IP (Internet protocol) fax technologies can transmit data through fax servers and be integrated with back-office systems if necessary. Real-time IP fax lines are replacing aging, costly analog phone lines to provide a secure, scalable, efficient and cost-effective alternative.

Read on to learn why faxing remains popular among healthcare providers, and how real-time IP fax systems address those needs and challenges with affordable, secure, digital technology.

IP Fax
HTTPS VS T.38

HTTPS

HTTPS (Store-and-Forward) — This legacy method for Internet faxing met the need for customers moving from PSTN to IP faxing to be able to secure their traffic over IP when no encryption solution existed. It uses an HTTPS server as a gateway between the internet and telephony components. Fax data are held briefly during this process in the provider's HTTPS server.

T.38

T.38 (Real-Time) is the industry-standard method for fax transmission over IP. It uses only the Internet as a conduit, connecting the sending and the receiving fax servers or fax devices directly without using a "fax server" at the service provider. This means faxes transmit in "real time," so the sender knows immediately if each page of the fax reaches its destination. Also, fax data is not stored in an intermediary station, known as a "middleman." Eliminating this element means the data remain more secure, without the involvement of the service provider. Today, methods for efficiently encrypting T.38 traffic over IP are available and well established.

Why Faxing Remains Dominant in Healthcare

Electronic health records (EHRs) have made tremendous gains in the 21st century, especially in terms of in-office and intra-system record management. Yet clinicians and IT professionals alike contend faxing still has a place in meeting very real needs and requirements in the healthcare space.

Faxing supports HIPAA compliance.

Health Insurance Portability and Accountability Act (HIPAA) rules require healthcare organizations to implement security measures that help protect patient privacy. Healthcare providers must make patient health information available while ensuring it is not improperly used or disclosed, including while the information is shared with other healthcare providers.

Such stringency limits provider options for the exchange of information:

- **Email** is difficult to secure.
- **EHR systems** vary by vendor and healthcare organization, preventing interoperability that would allow them to exchange data.
- **Emerging technologies** for secure electronic document exchange are costly and difficult (sometimes impossible) to integrate within current workflows and processes.
- **Couriers** are expensive and inefficient.

That leaves fax!

Every fax machine or server, regardless of manufacturer, can interoperate with every other fax machine or server over secure fax lines. As a result, fax has been the obvious choice for healthcare organizations that need to exchange information while conforming to regulatory security requirements.

Faxing is reliable.

Healthcare organizations need to know their important, time-sensitive information gets to its destination successfully. They receive that assurance, especially when using IP to fax a document. Real-time IP fax technology provides immediate page-by-page confirmation to the sender from the receiver. In addition, encrypted IP fax rises to the level of almost flawless anti-tampering and exceptional protection against hackers and criminals. Many legal jurisdictions consider fax copies of signed documents legally binding, enforceable and acceptable. Faxing represents a time-tested communication method that users feel they can trust.

Faxing is interoperable.

Fax is a communications standard designed to enable fax systems to communicate seamlessly with one another. With IP fax solutions, specifically, data can be transferred digitally from any fax system to another. These systems can be integrated easily with the sender's and recipient's EHR systems.

IP fax also integrates smoothly into other data management solutions, meaning healthcare organizations can use the software that best suits their needs.

Faxing is time-tested.

Faxing has been the dominant technology in healthcare for several decades. For both clinicians and office staff, faxing is standard operating procedure, and those new to the office catch on to the systems quickly.

That ease of use factors heavily into the decision by clinics and medical offices to stick with the tried-and-true. Real-time IP fax allows them to maintain their time-tested processes and workflows while still realizing the benefits that digital communications enable.

Six Pain Points IP Fax Solves

Though faxing remains a necessary and established protocol in healthcare facilities, not all fax technologies are equal. Legacy fax machines hooked to aging phone lines can lead to aggravations like missed faxes, privacy lapses and mounting maintenance costs.

Store-and-forward solutions, while practical in some cases, are not suitable for many healthcare offices. They can lead to delivery delays and false-positive notifications to the sender and require specialized servers that add other failure points. They also can complicate HIPAA compliance due to "data-at-rest" risks and concerns resulting from the use of a "middleman" device operated by the service provider. As such, those systems require the negotiation of a business associates agreement (BAA) to ensure data privacy and preserve HIPAA compliance.

Meanwhile, real-time IP fax uses reliable and proven digital technology to address six common pain points healthcare offices experience.

Missed or delayed referrals

In the United States, more than 100 million specialty referrals are made each year. However, only half of those referrals are completed successfully, often due to process errors such as missing information and communication failures, according to a report by the Institute for Healthcare Improvement and the National Patient Safety Foundation.

A faxed referral on a legacy system can get missed if a false-positive confirmation makes the sender believe the fax went through when it never reached its destination. It also can get delayed or arrive incomplete due to transmission issues using aging lines or store-and-forward hardware.

That gap in communication could delay care, putting patients at risk. It also could cost your organization substantial lost revenue if patients get tired of waiting and choose another provider or decide to forego the treatment altogether. In one study of healthcare leaders, 40 percent said they are losing 10 percent or more of annual revenues due to "patient leakage" — patients choosing another provider outside their system. Another 19 percent said they are losing more than 20 percent of revenues annually.

Sending Specialty Referrals

Faxing remains the standard method for primary care doctors to use in referring their patients to a specialist. Yet legacy fax methods can lead to incomplete, delayed or missed referrals.

100 million
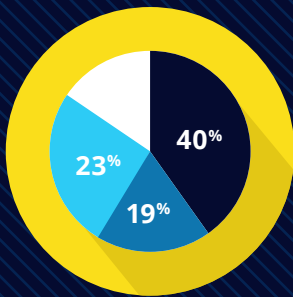specialty referrals made each year in the United States

50 million
approximate number of referrals never completed due to communication failures

Sources: BMC Family Practice, Institute for Healthcare Improvement, National Patient Safety Foundation

These repercussions become clearer when you break it down by procedure. For instance, take colonoscopy, a commonly referred outpatient procedure in the United States. Just one missed referral per week could cost the practice to lose tens of thousands in revenue per year.

Missed or Delayed Referrals Cause "Patient Leakage"

Communication breakdowns like missed or delayed referrals can cause patients to head to another provider or healthcare system. "Patient leakage" leads to substantial revenue loss for the practice, according to U.S. healthcare leaders:

40% **23%** **19%**

40% of healthcare leaders lost 10% or more in revenue

19% of healthcare leaders lost 19% or more in revenue

23% don't know how much they are losing

Source: Fibroblast.

In Canada, where the national health system requires patients to wait their turn for specialty procedures, a missed or delayed fax could cause the patient undue stress and delays in treatment, as well as require additional administrative work for physicians and their teams.

Real-time T.38 IP fax reduces the chance for missed referral and lost information because information is transmitted in real time, quickly and in its entirety. Data is never delayed, as can happen when it is stored and forwarded along the way like HTTPS fax technologies. It goes directly from sending server to receiving server, using what is known as a "digital handshake."

This "digital handshake" between sender and receiver also makes T.38 IP fax easier to track, since confirmation comes in real time. Store-and-forward solutions can incur long confirmation delays, or confirmation can get lost altogether due to network errors or other factors.

Real-time IP fax solutions can be designed to provide redundancy and high-availability deployments — meaning faxes can be sent or received via multiple platforms. This creates an added safety net to ensure the information gets to its destination even when unexpected problems occur.

Reliability

Real-time IP faxing means your faxes are much less likely to fail or get delayed. That's critical when dealing with patients' health. Consider that an estimated 80% of serious medical errors involve miscommunication between caregivers during the transfer of patients. In addition to causing patient harm, defective hand-offs can lead to delays in treatment, inappropriate treatment and increased length of stay in the hospital.[4]

Real-time IP fax provides confirmation immediately, so you'll know instantly if the transmission failed or succeeded. Also, T.38 protocol optimizes delivery success, maximizing successful transmissions while minimizing retry attempts. Fax machines are configured to automatically try re-sending a fixed number of times, so ensuring the fax succeeds in the least number of attempts reduces the chances that a fax fails, after exhausting all re-try attempts, without the sender immediately noticing.

IP fax transmits using T.38 SIP trunks (Internet connections), which allow traffic to move over networks specifically conditioned for fax. This enhances quality, reliability and speed. As an optional feature, all fax call traffic over the SIP trunk can be encrypted for higher-level security.

80% of **serious medical errors involve miscommunications** between caregivers during the transfer of patients, according to the Joint Commission.[4]

▶ Data security

When it comes to IP fax, data security is often a top concern for healthcare providers. Real-time IP fax transmits data directly and in real time, with no information passed through a "middleman," as compared to a store-and-forward IP fax solution. This offers a safer, faster transfer and page-by-page confirmation as the fax is transmitted. Certain store-and-forward solutions that make use of telephone adapters and HTTPS can result in "false-positives," which is a false confirmation that a fax was sent when it, in fact, never reached its destination. Real-time IP fax provides medical practices the assurance needed that the information was transmitted successfully.

Even better, with T.38 IP fax technology, it is possible to encrypt the fax information — not just the IP session signaling but the session media (image) as well. Since manufacturers have not provided technology supporting T.38 encryption, solution providers have resorted to using costly encryption methods that involve a large amount of IP traffic overhead, which can cause a real-time fax call to fail. Cloudli's real-time fax, in contrast, uses a lightweight encryption technology, such as AES, to encrypt T.38 traffic directly over the Internet. This ensures high-level security of your data to lower the susceptibility to hacking, while maintaining optimal delivery success rates.

Such security factors protect patient privacy and, therefore, make HIPAA compliance much simpler and smoother.

Cost

Migrating to IP fax from analog fax will require an analog telephone adapter, which may be included in the service provider's startup package. After that, the savings will start accumulating immediately. T.38 IP fax can cost 50 percent less than traditional analog systems: about $36 per month (with no long-distance charges across North America), compared with $35-$60 per month plus long-distance charges for analog fax plans.

If you've been using analog or PRI lines, you'll also save on maintenance and repair of connectivity hardware, like fax boards.

Additionally, IP fax can scale affordably as your healthcare practice or organization grows. Adding fax numbers is quick and inexpensive compared to expanding analog infrastructure, even with multiple office locations. In fact, real-time IP fax can support high-volume offices or networks at the most favorable price-point in the industry, without compromising functionality.

From a long-term perspective, IP fax integrates well with other technologies that improve efficiency through automation. This may lead to significant cost savings over the history of your practice.

**T.38 IP Fax Cuts Costs
Up to 50%**

T.38 IP FAX

$36
per month

ANALOG FAX

$35–60
per month *plus*
long-distance charges

Compatibility

T.38 real-time IP fax is standards-based and technology-agnostic. Unlike proprietary IP fax solutions that leverage protocols like HTTPS to secure fax traffic, T.38 is specifically designed for fax to optimize delivery while maintaining the highest level of security.

T.38 is an Institute of Electrical and Electronics Engineers (IEEE) standard adopted by the community at large. That means IP faxes sent using this protocol can be exchanged easily with other organizations without error, regardless of which EHR system they use.

Ease of use

Because real-time IP faxing is flexible and can be integrated with existing fax servers, devices and back-office systems, it is similar in process to traditional analog faxing. Healthcare office staff won't require any additional training and can maintain all standard operating procedures using the new system. The transition is seamless, fast and requires no downtime on the part of your office.

Additionally, no BAA is required of real-time IP fax providers, unlike store-and-forward IP fax services. That's because T.38 SIP trunk technology provides real-time transport of information, similar to a phone line, with no storage of data in transit. This allows IP fax providers to qualify for the HIPAA Conduit Exception and save healthcare providers the additional time and hassle of the BAA.

Finally, as already mentioned, IP fax can easily scale as the healthcare practice grows, moving from a single line for a small health clinic to hundreds of lines for large systems or applications.

Making the Move

Real-time IP fax is an obvious choice for healthcare practices, clinics and hospitals. Not only does it remove the stress of supporting HIPAA compliance, but it offers a more reliable and secure technology for transferring time-sensitive and privacy-sensitive patient information.

Legacy analog fax, meanwhile, is on a slow decline as large telephone companies drop PSTN capabilities. That makes IP fax a sensible, forward-thinking investment. Real-time T.38 IP fax preserves the ease-of-use of analog fax while offering the flexibility and cost-savings afforded by a digital solution.

Converting to real-time IP fax is a smooth and easy process, with no downtime or disruption to your office. To talk to someone about how real-time IP fax could benefit your medical setting, reach out to our Cloudli fax experts.

Get a free consultation & free trial

Cloudli will provide a free consultation and assessment of your needs, benefits and deployment at no charge. Cloudli also offers a free trial so you can try it for yourself and be assured you're making the right decision for your business. Visit our website at cloudli.com, or call us directly at 1-877-808-VOIP (8647).

About Cloudli

Cloudli Communications, Corp. (formerly babyTEL) delivers feature-rich communications solutions to businesses of all types and sizes, with a track record that spans decades. Today, our solutions include work-from-anywhere unified communications apps for SMBs, start-ups and entrepreneurs; VoIP connectivity solutions optimized for businesses of any size; and digital fax solutions that leverage new technologies without disrupting trusted and established workflows. Serving over 7,000 customers in the United States and Canada, Cloudli helps businesses across North America better communicate with their customers — how, where and when they want — without compromising security, reliability and efficiency. Find us on the web, LinkedIn, Twitter and Facebook.

Cloudli Communications Corp. is owned by CPS Capital, a Toronto-based private equity firm.

Sources

[1] Globe and Mail. *Why are fax machines still the norm in 21st-century health care?* 2018.

[2] New York Times. *Bottleneck for U.S. Coronavirus Response: The Fax Machine*, 2020.

[3] Globe and Mail. *Archaic paper records submitted by fax hold up real-time COVID-19 data*, 2020.

[4] Joint Commission. *Joint Commission Center for Transforming Healthcare Releases Targeted Solutions Tool for Hand-Off Communications*, 2012.