



Making Improvements in Fax Communications

A Case Study with a
Private Healthcare Organization

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Introduction



About **Cloudli Communications**

Cloudli Communications is a business communications solution provider where customers come first and partners thrive. We deliver cloud communications, IP Fax, Alerts and other business communications solutions to customers across the U.S. and Canada.

Cloudli Communications has a large network of partners including ISPs, network integrators, distributors, cable companies, and technology providers.



About **Our Client**

Our client is one of Canada's oldest and largest private healthcare organizations. For 110 years, our client has been delivering in-home care through dedicated Healthcare Professionals.

Our client leverages information technology at the enterprise level to assist with service delivery. With a large distributed workforce and high costs of providing services, this private healthcare organization is always interested in improving efficiencies and reducing costs while increasing fault tolerance and disaster recovery capabilities. When health is at stake, disruptions in technology can be devastating.

Fax Communications at our Customer's Private Healthcare Facility

As with many healthcare organizations, fax plays a large role at our customer's private facility. Inbound and outbound fax are critical to the deployment, tracking and billing of the organization's healthcare professionals.

Until recently, the organization's fax infrastructure was comprised of a hybrid deployment of IP and analog elements. Both inbound and outbound faxes were delivered via email using XM Fax from OpenText as the fax server and fax telecommunications were transmitted via standard PRI circuits from a major telecommunications provider. The original configuration is depicted below in Figure 1.

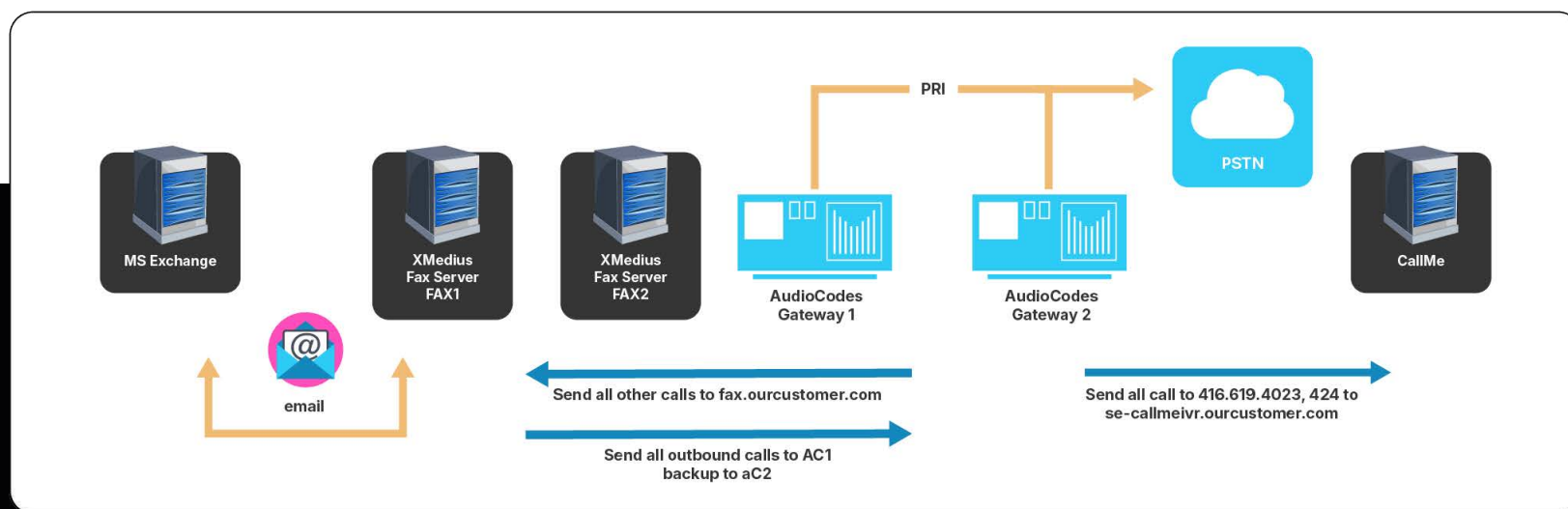


Figure 1 - Original Telecom Configuration

Fax Communications at our Customer's Private Healthcare Facility

While the solution met the needs of this large private healthcare organization for many years, it suffered from a number of limitations and issues:

■ Fault Tolerance

Failover was a manual process that required human intervention. Additionally, the fax servers were deployed with a primary/backup configuration, which could cause synchronization issues on return to normal operations.

■ Capacity

Like most traditional telecom projects, the organization was significantly overbuilt in terms of their PSTN circuits. To achieve fault tolerance, two full PRI circuits were in place for a total of 46 available channels. Volume calculations showed that approximately 16-20 channels would be more than enough to handle all the voice and fax traffic on the circuits.

■ Complexity

To handle multiple voice applications on the PRI circuits, two physical Session Border Controller (SBC) gateways routed inbound and outbound voice and fax traffic. While essentially acting as multiplexers, these gateways added another layer of complexity to the design.

■ Cost

Largely due to the telecom over-provisioning and expensive SBCs, the organization's fax system incurred significant use and support costs.



To address these issues, the organization decided to investigate T.38 Session Initiation Protocol (SIP) trunks from Cloudli Communications as a replacement for their expensive PRI circuits. T.38 is the ITU-recommended standard for real-time transmission of fax over IP networks (FoIP), and offers significant advantages for healthcare organizations that must maintain strict security over private patient health information.

Tailored Customer Solution with Partner Expertise

After a short pilot phase which included exhaustive performance testing, the private healthcare organization adopted Cloudli's SIP Trunking design shown below in Figure 2. The new solution offers the following benefits:

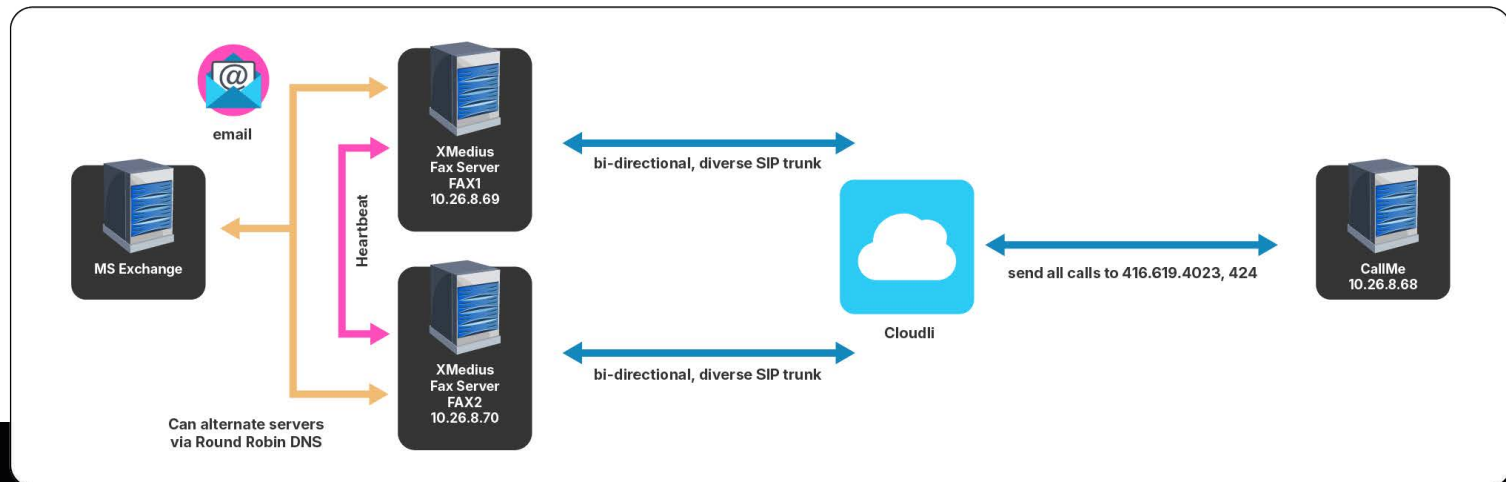


Figure 2 – Cloudli's SIP Trunking Configuration

Elimination of Legacy Analog PRI Lines

In the original design, the fax server would send and receive faxes using PRI lines, via an SBC gateway. Now, faxes are sent and received over Cloudli's T.38 SIP trunks, which is natively supported by the XM Fax Server. This has allowed the organization to eliminate the legacy analog PRI lines previously used for fax transmission.

Decommissioning of the SBCs

Because Cloudli's T.38 SIP trunking solution eliminates the need for PSTN circuits and connects directly to the fax server, the organization was able to decommission its SBCs, saving time and money on infrastructure management and maintenance.

Implementation of High Availability

SIP trunks can support Active-Active connections, whereas PSTN circuits cannot. Upon implementation of Cloudli's solution, the organization was able to move from a Primary/Standby configuration to high-availability Active/Active mode.

Benefits



Cloudli's real-time T.38 SIP trunking solution allows organizations to harness the many benefits of virtualization. By implementing Cloudli's T.38 SIP trunks, our customer eliminated its physical server equipment and all the associated costs and complexities related to hardware maintenance and management. As well, the flexibility of the software-based architecture offers greater solution resilience and reliability, an essential characteristic for mission-critical fax service.

Cloudli's T.38 SIP trunks addressed the four main problems with the organization's original solution design:

■ Fault Tolerance

Our customer was able to move from a manual Primary/Backup configuration to a complete high availability design with automated failover and built-in load balancing. These features were enabled with simple license key and configuration changes.

■ Complexity

The elimination of two SBCs and two PSTN circuits not only removed design complexity but also eliminated two vendors from the support matrix required to manage the system.

■ Capacity

The organization is no longer constrained by the requirements imposed by physical PSTN circuits. SIP trunk channels can be increased or decreased as needed and precisely sized to the needs of the business.

■ Cost

Cloudli's solution allowed for a significant reduction of our customer's hard costs, which was one of the main drivers of this project. The private healthcare organization estimates that telecom costs were reduced by at least 50% while support costs were reduced by about 33%. Additional savings from reduced complexity (lower in-house support), long distance charges and improved fault tolerance were also present but not calculated.

Summary

Our customer's fax migration from standard PSTN circuits to SIP trunks clearly demonstrates the benefits of leveraging software to improve features while reducing costs.

Unlike proprietary systems or point-to-point circuits, Cloudli's solution uses standard Internet protocols and connections to provide a highly reliable and secure system.

Flexible IP Fax Architectures



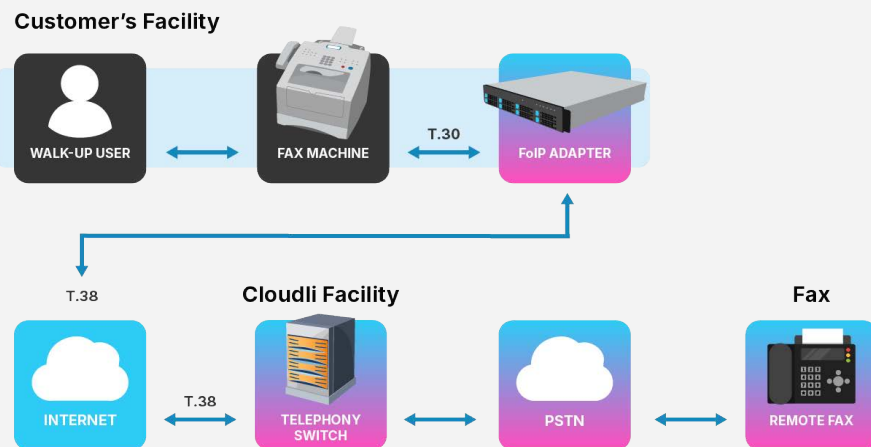
At Cloudli, we understand that businesses have unique needs when it comes to secure, reliable fax communications. That's why we offer multiple IP Fax solutions architectures, ensuring that organizations of all sizes and industries can find the right fit.

Whether you need a fully cloud-based deployment, a hybrid approach that integrates with existing infrastructure, or an on-premises solution with cloud resilience, Cloudli delivers seamless, scalable options to keep your business connected.

Real-time T.38 Fax Architecture



Fax ATA Architecture





About Cloudli Communications

Cloudli Communications is a business communications solution provider where customers come first and partners thrive. We deliver cloud communications, IP Fax, Alerts and other business communications solutions to customers across the U.S. and Canada. With a rich legacy that spans decades, our success is built on four key pillars: simple, flexible, reliable, and hands-on. Customers of all types, industries and sizes can benefit from Cloudli's solutions through its North American partner network. To learn more about Cloudli, visit www.cloudli.com, or find us on LinkedIn, Twitter, Facebook and Instagram.

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

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