

Consulting and Implementation Services

Fax Needs Assessment



Prepared for . . .



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1. Executive Overview

A group of departments at the City of Columbus are working together on a collaborative IT project titled CHRIS. The CHRIS project involves a variety of business process improvements that primarily address the employee management functions of the organization. Document Management is a significant component of this solution. As fax is a common method of communication within these departments, a method of gathering these faxes into the Document Management solution has become a priority for the CHRIS project.

The City of Columbus currently employs the use of many fax solutions throughout the organization. Various departments have procured solutions for their own department's use for specific purposes. While focusing on the immediate need for a fax solution to function with CHRIS, the Department of IT would like to identify whether a fax platform can be chosen to meet the current and future needs of other departments and projects within the City.

Methodology

The assessment process involved in-person interviews with key stakeholders within several departments. A functional review was held with individuals from the Human Resources and Civil Services departments. A technical interview was held with individuals representing various areas of the Department of Information Technologies. Several follow up telephone conversations were made to collect additional information regarding the requirements and decision factors.

After completing the requirements gathering, research was performed to identify the qualifications of the vendors solutions, as it relates to the requirements identified. LOGOS either contacted the vendors directly, or a subject matter expert intimately familiar with the specific product.

After completing the research component of the project, this document was prepared to present the findings. The following pages detail the information gathered and the analysis.

Recommendation

LOGOS recommends procuring a Sagemcom XMediusFAX or OpenText Fax Server, RightFax Edition. Both solutions will meet the current and future needs of the City. The XMediusFAX solution is the preferred solution based upon a few factors identified in the analysis section of this report.

2. Current Fax Solutions

Through discussions, the following fax solutions have been identified as installed systems currently residing within the City of Columbus network.

FaxFinder

The Risk Management department of the Human Resources department has been using a fax server since 2006. Initially deployed with RightFax, it is currently using a Multitech FaxFinder hardware appliance. This appliance is a low-cost hardware-based solution that connects to analog phone lines and delivers the inbound faxes to the Intellivue document management solution. The particular device has 4 phone lines directly from AT&T that interface for the reception of faxes.

Interactive Intelligence

The Department of IT and Department of Public Utilities employ the use of an Interactive Intelligence IP PBX system. The system, primarily utilized for its contact center capabilities, has the capability to provide inbound and outbound fax messaging. Currently several phone numbers are configured to receive faxes and deliver the messages to a person's email inbox. This solution utilizes PRI digital phone lines to connect to the Public Switched Telephone Network that are distributed amongst both of the City's data centers. Similarly, the Interactive Intelligence solution has redundant components that are housed in both data centers to assure maximum uptime.

RightFax

The Auditor's Office operates a RightFax server to support the business applications of the department. The fax solution integrates to the Cogsdale Performance Series software to provide outbound notifications via fax. The server is also used for desktop faxing for any fax messages that are sent to the connected phone numbers. These faxes are delivered to a shared email box that two people within the department access.

This solution is a software-based package that runs on a standard Windows operating system and associated server hardware. These are coupled with a Brooktrout fax board, which is a card installed in the server that interfaces 2 analog connections to the Public Switched Telephone Network. The solution is currently running an older version of RightFax and is not deployed in a highly available fashion.

3. Functional Requirements

This section describes the functionality required from the users' and department stakeholders' perspective.

Intellivue Connectivity

The primary function for a fax solution coupled with CHRIS is to provide a conduit for faxes to enter the document management solution. This function is relatively basic, as the Intellivue solution captures a fax delivered as a TIFF file to a network file share. The function of the fax solution is to receive the fax from the caller and place the TIFF file on a file share. The remainder of the workflows are handled by the Intellivue document management solution.

High Availability

The stakeholders interviewed indicated that the fax server solution is perceived to be a higher criticality than Internet access and higher criticality than telephone service. The importance lies in the ability to receive the inbound faxes from those sending the faxes.

Logging

Many of the faxes received through the CHRIS project are considered to be time-sensitive. The ability for the solution to capture the details about the fax traffic for reference in the event of a dispute is a requirement.

Integration to other line of business applications

The City employs the use of many different line-of-business applications, including other document management solutions. The fax solution should have the capability to integrate to these applications without the necessity for costly add-ons.

Security

The fax documents sent and received by the City can be confidential in nature. Specific to the CHRIS project, there is a high degree of sensitivity to the documents that are being transmitted. The stakeholders have indicated that any archive of these documents should be considered as similar to the handling of email through the organization.

Volume

The fax system should have the capability to handle the volume of faxes demanded by CHRIS and future projects without callers receiving busy signals. The specific volume is difficult to quantify based upon the information available. However, the solution is initially replacing the volume of faxes currently handled by 10 machines / fax lines.

Outbound Faxing

Outbound faxing is not an immediate requirement of CHRIS, however, there is a desire to provide outbound faxing capabilities in the future. This may manifest itself in the use of desktop clients to streamline the transmission of faxes and reduce the amount of paper used. Or, it may mean that the fax solution can be used to interface with the MFP machines and allow for the server to log and archive all of the outbound faxes. The group indicated that a mechanism to automatically capture outbound faxes and port them into the document management solution would streamline processes and make employees more efficient.

In regards to the outbound faxing, there are some documents that the City transmits to other organizations that are time bound and penalties can be enacted if the documents aren't sent in the appropriate time frame. Having the ability to track these documents, including the archive of the actual document sent could help assure that the City and its employees don't receive any negative action due to another organization's misplacement or mishandling of a document.

4. Technical Requirements

This section describes the functionality required from the technical perspective of the Department of Information Technology team members.

Leverage IP Infrastructure

The solution should leverage the IP infrastructure. This should include the existing Voice over IP network and the PSTN (Public Switched Telephone Network) connectivity provided through IP. The PSTN connections are redundantly available at both CoC data centers and the fax solution should have the capability to take advantage of this environment.

Desktop Applications

From the desktop fax application perspective, the City prefers solutions that integrate fax messages into users' email inboxes. This preference is rooted in the inclination to look towards solutions that require less training and minimize the software required to install on the workstations. If integration to a client email box is not available a web-based client is preferred over a desktop (Windows) application.

Administration

A City-Wide fax solution would require a role-based administrative interface. Individual access must be granted to those who have the capability to administer the system. This access should permit administrators to only view a subset of users / departments within the system and/or only permit certain actions to be taken.

Directory Synchronization

The City of Columbus uses an Active Directory environment, along with an Active Directory in Application Mode (ADAM) environment for managing user accounts. The fax solution should leverage these directories for centralized authentication. The solution should also have the capability to define "internal" users that are not synchronized from the directory.

The directory synchronization mechanism shouldn't require any Active Directory schema extensions.

Logging and Archiving

Beyond the logging requirements for the CHRIS project, the system should have the capability to archive details of each fax for a specified period of time. This duration may vary based upon the department configured for the solution. Therefore, the system should allow for a granular method of configuring the logging and archiving of faxes sent or received through the system. Preferably, the system would be able to be configured to log and archive with separate retention policies.

Redundancy

From the technical perspective, the redundancy capabilities of the solution should be compatible with the City of Columbus's high availability strategy. This strategy currently involves two data centers connected by fiber optic connections. VMWare ESX 4.0 with a replicated fiber channel SAN can be leveraged with Site Recovery Manager as an option.

Multi-Function Machine Integration

The City of Columbus has a variety of MFP machines throughout the city. This includes Ricoh, OCE, HP, Sharp, and Xerox. The fax solution should have the capability to integrate some of these machines, although a separate initiative of the City may be to standardize on a MFP vendor in the future.

Security of Transmission

The fax solution should have the capability to secure transmission of the faxes across the IP infrastructure. This includes the ability to encrypt the data as it traverses the PSTN gateways to the Fax server. It should also have the capability to encrypt the fax as it leaves the fax server towards its destination.

5. Comparison of Solutions

The following analysis considers the three solutions currently utilized by the City of Columbus. In addition, the XMediusFAX solution from Sagemcom is analyzed. This option has been added, as it is a strong leader in the enterprise Fax over IP space.

	Fax Finder	Interactive Intelligence	RightFax	XMediusFAX
Functional				
Intellivue Connectivity	Yes	Yes	Yes	Yes
High Availability	No	Yes	Yes	Yes
Logging	Yes – Limited	No	Yes	Yes
Integration to Line of Business Apps	Yes – Limited	No	Yes	Yes
Security	Yes	Yes	Yes	Yes
Volume	Yes – With Multiple	Yes	Yes	Yes
Outbound Faxing	Yes – Very Limited	Yes – Limited	Yes	Yes
Technical				
IP Infrastructure	No	Yes	Yes	Yes
Desktop Applications	No	No	Yes	Yes
Administration	No	No	Yes	Yes
Directory Synchronization	No	No	Yes	Yes
Logging and Archiving	No	No	Yes – Limited	Yes
Redundancy	No	Yes	Yes ¹	Yes ²
MFP Integration	No	No	Yes	Yes
Security of Transmission	No	No	No	Yes - Partial

¹ The recommended solution for an initial implementation of RightFax or XMediusFAX would leverage VMWare and the City’s SAN to provide a redundant deployment. Both of these solutions have the capability to have another server node that can also provide redundancy.

² Same as above

6. Solution Analysis

Not Recommended

Interactive Intelligence

Although this solution would require the least amount of additional infrastructure, it's not well suited to meet the needs of CHRIS and future needs of additional applications throughout the City. The product has a strong capability to provide desktop faxing, but doesn't include built-in features to provide integration to other applications. Although custom scripting can add this functionality, many of the other key requirements cannot be met with this application. This solution is not recommended.

FaxFinder

The FaxFinder appliance will meet the very basic needs of the CHRIS project, but not be able to provide future growth. This option should be considered if the scope of the solution is only intended to be for CHRIS. The limitations of the project make it such that it only uses analog lines, therefore it's unable to leverage the Voice over IP infrastructure. Similarly, it cannot provide any high-availability options. Because of its low cost, a spare can be kept on hand, but geographic redundancy and/or the capability to protect against a carrier outage or data center outage is not available. This solution is not recommended.

Recommended

RightFax

RightFax is a notable fax server solution. Its capabilities appear to meet the requirements identified.

The solution has a few limitations that should be considered:

- *Logging and Archiving:* The solution doesn't have the capability to set different durations by department or group. All settings are global. The ability to disable archiving can be controlled more granularly, however.
- *Security of Transmission:* Secure connections to the PSTN gateways and email servers are not supported in the current release.
- A proprietary connector must be installed on the Exchange servers to support email integration

The RightFax solution includes the following notable benefits:

- Some of the City of Columbus IT staff is already familiar with RightFax. The learning curve to support the solution will be shorter.
- An existing deployment is in place at the City. This will help defray the cost of implementing this solution.
- RightFax is compatible with the Cisco Unity Connection Voicemail system. The City would have the opportunity to use the voicemail system to store and deliver faxes to the end users as an alternative to using the Exchange environment.

XMediusFAX

XmediusFAX will meet all of the listed requirements.

The solution has a few limitations that should be considered:

- The existing deployment with the Auditor's office leverages a proprietary connection between RightFax and the Performance Series software. This can likely be re-integrated to XMediusFAX, but would require additional work effort and coordination from the software vendors. LOGOS attempted to contact Cogsdale (the software manufacturer) to verify support, but was unsuccessful.
- **Security of Transmission:** Transmission from the PSTN gateways to the Fax server do not currently support encrypted payloads. The signaling, however, can be encrypted.

The XMediusFAX solution includes the following notable benefits:

- The XMediusFAX solution is designed to handle multiple "sites". Each site can be configured as a separate department to provide a level of demarcation for administrative and reporting purposes. These features would become very helpful in providing access for departments to access reports, make any necessary administrative changes, and still maintain the security necessary to fix multiple departments on a single solution.
- The redundancy strategy is a bit stronger with the XMediusFAX platform. If a solution requiring active-active redundancy of more than one node is required in the future, XMediusFAX presents a more cost-effective solution.
- *Security of Transmission:* Email integrations are standards-based using SMTP and can be configured to support TLS.
- *Cost:* The initial cost of both solutions is very similar for an 8 port solution. Similarly, the difference in maintenance costs is negligible. Adding additional ports, adding redundancy, and adding integrations to other applications and MFP machines will be less expensive on the XMediusFAX solution.

- *Application Architecture:* The XMediusFAX application is administered through an MMC plug-in using the same interface as Active Directory and other Microsoft management applications. This contrasts the thick-client system employed by RightFax. The XMediusFAX interface is considered to be more modern.

Summary

Based upon the analysis above, LOGOS recommends both the Sagemcom XMediusFAX solution and the OpenText Fax Server, RightFax Edition solution. Either system would meet the needs of the City for the immediate needs of CHRIS and the future needs of other fax projects. XMediusFAX is the preferred solution, however, as it will meet and exceed many of the requirements gathered throughout this assessment process.

Specifically, the XMediusFAX solution is preferred for the following reasons:

- The XMediusFAX solution is designed to handle multiple “sites”. Each site can be configured as a separate department to provide a level of demarcation for administrative and reporting purposes. These features would become very helpful in providing access for departments to access reports, make any necessary administrative changes, and still maintain the security necessary to fix multiple departments on a single solution.
- The architecture allows “sites” to be leveraged to apply different configuration criteria. Similarly, “profiles” can be applied in a rules-based fashion (based upon LDAP parameters or other rules) to apply specific settings to users.
- The redundancy strategy is a bit stronger with the XMediusFAX platform. If a solution requiring active-active redundancy of more than one node is required in the future, XMediusFAX presents a more cost-effective solution.
- *Security of Transmission:* Email integrations are standards-based using SMTP and can be configured to support TLS.
- *Cost:* The initial cost of both solutions is very similar for an 8 port solution. Similarly, the difference in maintenance costs is negligible. Adding additional ports, adding redundancy, and adding integrations to other applications and MFP machines will be less expensive on the XMediusFAX solution.
- *Application Architecture:* The XMediusFAX application is administered through an MMC plug-in using the same interface as Active Directory and other Microsoft management applications. This contrasts the thick-client system employed by RightFax. The XMediusFAX interface is considered to be more modern.

Appendix A. Fax over IP Architecture

The following depicts a standard Fax Server architecture. This is a simplified drawing that shows the basic flow of a fax. This drawing does not include redundant components.

