



Developers Guide

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Microsoft Partner
Silver Application Development

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1 Introduction

1.1 Overview

BNS Group's msXfax Enterprise Cloud Connector virtual machine (VM) software is a powerful and flexible fax over IP solution supporting T.38 real time fax over IP and G.711 fax pass through.

msXfax runs as a VM in the customer's Datacentre or extended Datacentre (eg: Azure or AWS).

msXfax uses SIP to communicate with qualified telephony infrastructure such as: Sonus Session Border Controllers, Cisco Call Manager networks etc.

msXfax connects to:

- Exchange Server on-premises (2007 or better)
- Office 365 natively
- Gmail for business
- or any other IMAP/SMTP compliant messaging system.

In summary msXfax provides the following:

- Conversion of the main Microsoft Office documents such as Word and Excel to Fax format.
- Conversion of PDF and TIF to Fax Format
- Presentation of inbound faxes as PDF or TIF to UNC paths and/or email accounts.
- Outbound faxing
- Inbound fax processing and routing
- Audit record creation
- Reporting

It is an ideal solution for large enterprise customers or even small sized businesses who understand the importance of maintaining security and privacy in fax communications with their customers and trading partners.

The connector conforms to the Australian Information Security Manual for network separation and Email Protective Marking checks, audit and compliance.



msXfax supports Windows Server 2012 R2 64bit running as a virtual machine on any hypervisor platform such as VMWare, Hyper-V, Azure or AWS.

1.2 Applications and Devices

Devices such as Multi-function devices typically have application software on the device which connects to backend systems and authentication services. The Application on the device itself may send the SMTP request to msXfax or on-premises SMTP servers such as Exchange.

Throughout this document, the term “Application” means the applications which support those devices or simply a business process within the customer’s application environment which needs to send a fax

1.3 Open standards

BNS adopts open\industry standards where possible. msXfax leverages SMTP for all input and output.

This means that any Application which can send an SMTP (Email) message with the sender’s email address as the SMTP Sender, can queue Fax requests to msXfax.

Using SMTP also has the benefits of:

- Leverages the customer’s email routing systems
- Least cost routing at an email level
- Mobility for end users – send a fax from any device anywhere
- Mobility for end users – receive a fax in their inbox
- Centralization of Fax Services using SIP based infrastructure

1.4 SMTP Smart Host within msXfax

msXfax is a set of services on Windows Server 2012 R2.

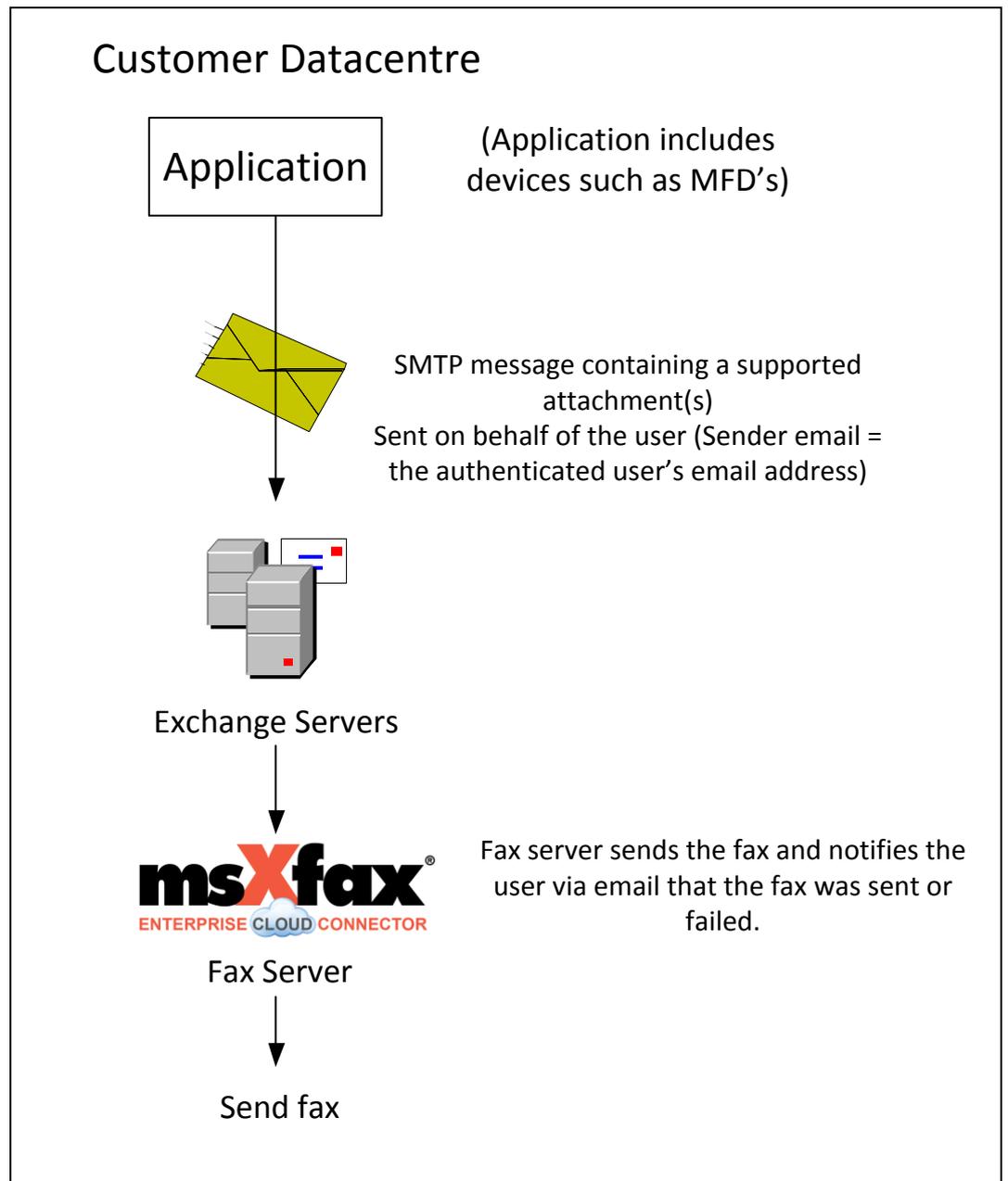
One of the services is a SMTP Server service called “msXfax TX INT from SMTP”. Applications or other SMTP Servers can communicate with this service to submit fax requests.

The service listens on port 25. A white list of IP addresses can be defined to only allow specific systems to submit fax requests to the server.

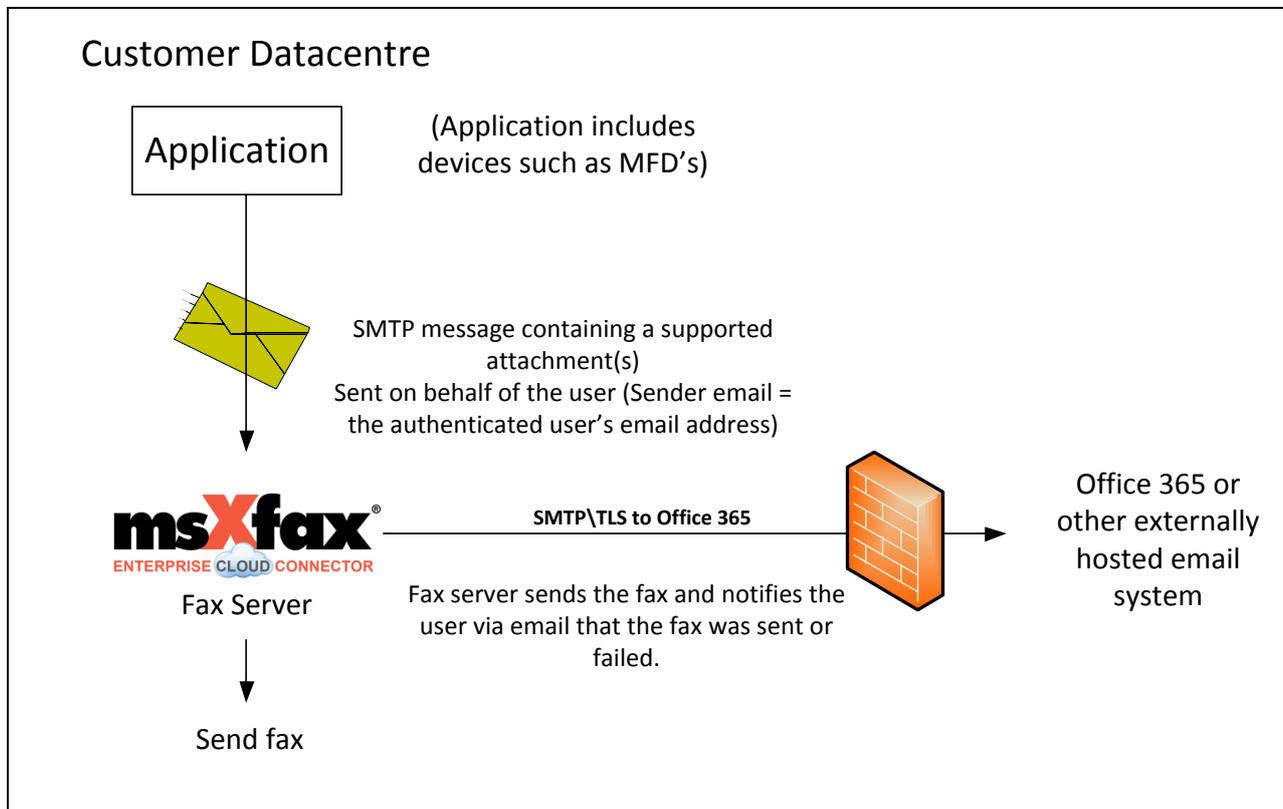


2 Customer scenarios

2.1 Customer with a major Exchange Server infrastructure



2.2 Customer with no onsite email at all and no onsite SMTP servers



In this example, the Application sends directly to msXfax's SMTP smart host on port 25.

msXfax sends the fax and sends a confirmation to the sender's email address. The sender's email address would typically be the person who authenticated at the device in the case of MFD.

An Application could have its own mailbox of course and send as itself. The Application could process its mailbox and update its database by matching a unique subject for example. This of course can be done in any scenario including the Exchange Server example on the previous page.

3 SMTP specifications to send faxes

3.1 General

The Application must send SMTP requests to msXfax using the end user's email address.

For example with a MFD:

- an MFD based system requests the user to authenticate themselves using a Prox card.
- MFD application then obtains the user's email address from the directory service
- MFD would scan the document to TIF or PDF and request the fax number to send to. PDF is preferred. Resolution preferred = 300x300 DPI.
- MFD then constructs an SMTP send function with an attachment, specifies the SMTP To address and sets the sender email to be the user who authenticated.
- MFD application then sends to msXfax directly or via SMTP Servers within the customer's datacentre

3.2 TO: Addressing Options

3.2.1 .FAX domain

.FAX domain names are recommended. There is no specific requirement for the to address to end in .FAX.

.FAX address space is simply meaningful to end users and administrators alike.

Domain.fax is a variable which can be discussed with each customer. As a default in your setup, you may decide on a domain space with your brand.

For example Ricoh may decide to use Ricoh.fax as its default domain space. Always allow this to be changed in a customer deployment. Reason: in a large network, routing may require a national routing system eg: MFDSydney.FAX, MFDMelbourne.FAX etc. MFD fax traffic can then be routed if required based on a domain space appropriate for that customer deployment.

3.2.2 Option 1

TO: [Number@Domain.fax](#)

e.g. TO: [02997212345@abc.fax](#)

TO" [+447123456789@xyz.fax](#)

3.2.3 Option 2

TO: [Name|Number@Domain.fax](#)

e.g. TO: [James_Smith|02997212345@abc.fax; John_Black|037651234@abc.fax](#)

Note: email addresses can't contain spaces. Recommend using underscore characters.

3.2.4 Option 3 (via a mailbox)

TO: msXfax assigned mailbox accessed via IMAP

e.g. TO: [msxfax@abc.com](#)

Note: An Exchange Send Connector or similar will be required in the Mail Server for Options 1 & 2 to route to the msXfax smart host at a specific IP address. With Option 3 msXfax will be configured to access the mail server via IMAP and access the specified mailbox.

3.3 SUBJECT

Any subject can be used.

Note: a classification may be necessary in some networks e.g. SUBJECT: Sales Invoice 1234 [SEC=UNCLASSIFIED]

Note: msXfax supports the Email protective marking standard and when activated will check the SMTP header and subject for a valid allowed classification.

MFD software should keep it simple and use the subject field to insert any supported Security classifications or Dissemination Limiting Markers. For more information on protective markings contact BNS Group.

3.4 ATTACHMENTS

Attach Word, Excel, Powerpoint, PDF, Text, TIF or other supported attachments.

.ADR files can also be sent for broadcasting.

Note :Special msXfax Address file support allows for a broadcast. The file is a plain text file with an .adr extension containing multiple fax recipients. The format is as follows:

James_Smith FAX=02997212345

John_Black FAX=037651234

3.5 Email Body

Any body text supported, graphic auto-signatures are dropped.

Supported Keywords in body as follows :

CS#coversheet e.g. CS#sales looks for a coversheet template called sales.docx in the msXfax coversheet directory. Requires configuration change to activate.

[bypasscover] this keyword will prevent any coversheet being rendered

faxsender#name e.g. faxsender#Accounts will change the sender name in the coversheet

[custom1-10=value] e.g [Custom1= A/C 12345678]

Note: Custom values can be applied to fax requests which will be recorded in the msXfax sql database. Upto 10 custom values can be recorded and then reported on with the msXfax Reporting module.

/S-SenderKeyword=value

/R-ReceiverKeyword=value

msXfax supports user specified coversheet keyword/value pairs. This gives full flexibility to the administrator. Coversheets can be designed to include user specified merge fields. The merge field keyword and value is specified in the body text of a fax request. When a coversheet is selected during rendering, keywords are searched for as merge fields and the corresponding value replaced. See manual for further explanation.



4 Technical support & resources

4.1 Partner support

Web support: follow the support tab at www.bnsgroup.com.au

Direct URL = <http://www.bnsgroup.com.au/bns-group/Support.aspx?a=30&s=50&c=58>

R&D contact Clive Pereira pereirac@bnsgroup.com.au

4.2 Main installers guide & architecture diagram

This is available from the BNS web site

<http://www.bnsgroup.com.au/bns-group/Products.aspx?a=27&s=47&c=994>

4.3 Sales datasheets

msXfax cloud connector datasheets <http://www.bnsgroup.com.au/bns-group/Products.aspx?a=27&s=47&c=1000>

4.4 Software downloads

msXfax cloud connector download <http://www.bnsgroup.com.au/bns-group/Products.aspx?a=27&s=47&c=993>

