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## OPTUS SIP TRUNK

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**Interoperability testing Optus Evolve SIP Trunk Service & Sonus SBC with msXfax Cloud Connector version 8**

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- Sonus is a trademark of Sonus Networks Inc.

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# SECTION 1 Product information and testing

## 1.1 Purpose

This document outlines successful interoperability testing which BNS Group has conducted with the Optus Evolve SIP Trunk service.

BNS has a permanent Optus SIP Trunk service installed in its test lab for the purposes of providing ongoing support for customers using the Evolve service.

## 1.2 msXfax version 8

BNS Group's msXfax Enterprise Cloud Connector (Fax Server) runs in a Windows 2012R2 virtual machine providing a powerful and flexible fax over IP solution supporting T.38 real time fax over IP and G.711 fax pass through.

The solution connects to Exchange Server on-premises (2007, 2010, 2013 or better), Office 365, Gmail for business or any other IMAP/SMTP compliant messaging system. msXfax manages outbound and inbound fax calls, delivering them efficiently to the correct destination.

msXfax is an ideal solution for businesses who understand the importance of maintaining 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 incorporates world leading Fax over IP protocol stack (SR140) from Dialogic Corporation.

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

## 1.2.1 Summary msXfax version 8

- Support for Windows 2012 R2
- Virtualisation of the fax server software
- Designed for compliance with ISM for: network separation, audit, data export controls and protective markings/DLMs.
- Support for Fax over IP to compliant equipment and SIP Trunk providers.
- No requirement for Microsoft Office or Acrobat on the fax server
- Robust Microsoft SQL Server/SQL Express support
- Scalable from 2 to 60 channels per fax server VM. Support for 120 channels per VM subject to customer design.
- Multiple fax server VMs supported on one SIP Trunk.
- Scalable to 1900 fax channels per Optus evolve IP service.
- Scalable across data centers using load balancers
- High availability and redundancy achieved using load balancers, DNS, SMTP Connectors, master slave SIP gateways (T.38/G.711).
- Report Generators for SQL Server offering comprehensive reporting, graphs and dashboards.

### **1.3 Optus Evolve SIP Trunk Service**

BNS Group implemented a SIP Trunk for the purposes of establishing a permanent test lab to test its products on the Optus Evolve network.

### **1.4 Session border controller (SBC)**

BNS Group selected Sonus Networks SBC to perform interoperability testing with the Optus SIP Trunk Service.

Sonus enables and secures real-time communications so the world's leading service providers and enterprises can embrace the next generation of SIP and 4G/LTE solutions including VoIP, video, instant messaging and online collaboration.

With customers in nearly 100 countries and nearly two decades of experience, Sonus offers a complete portfolio of hardware-based and virtualized Session Border Controllers (SBCs), Diameter Signaling Controllers (DSCs), policy/ routing servers and media and signaling gateways.

BNS Group acknowledges the support and co-operation from Sonus Networks Australia.

# SECTION 2 Testing Optus SIP Trunk with Sonus SBC

## 2.1 Test Lab



### 6 channel SIP Trunk Service BNS Test LAB

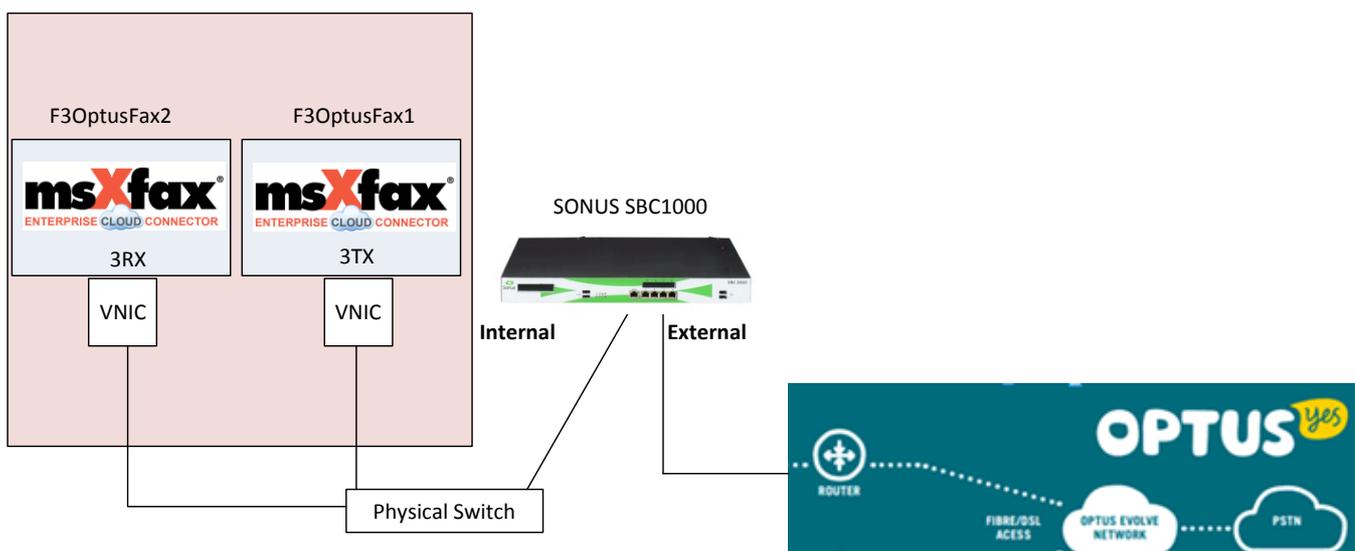


Figure 1 BNS Group Test Lab configuration

- SIP Trunk from Optus: fibre connected service from Optus into the BNS test lab. The service was commissioned on 26 June 2015.
- SBC Sonus 1000 software version 4.1.1
- msXfax version 8 build 20
- Windows 2012 R2 4GB ram
- Brooktrout Dialogic SR140/SDK 6.7.3
- Preemptive Consulting P/L - Protective Marking plugin version 2.1.8 was used on a Windows 7 client with Outlook 2010. This was used for testing protective marking checks by msXfax to reject classifications not allowed to the PSTN.
- Microsoft Exchange Server on-premises
- Office 365 cloud service

## 2.1 Test results

BNS confirms the following tests were performed.

- Connectivity testing using G.711 fax pass through at speeds of 28,800bps
- Sending to fax destinations on the PSTN domestic and international
- Receiving fax calls from the Optus SIP Trunk Service.
- Sonus SBC testing confirmed using G.711 28,800bps
- Classifications not allowed to the public network were blocked by msXfax.
- Email protective markings were created using Preemptive Consulting's Outlook plugin version 2.1.8.
- Exchange Server / Office 365 testing as part of the platform test.

## 2.2 Other platform tests performed in the GA release of msXfax included

- Exchange on-premises (All versions supported).
- Office 365 (Exchange online) (pure 365 not hybrid)
- SQL server 2012/2014. Other versions > 2005 supported.
- Office suite 2010/2013 (all versions of Office 2007 or better are supported)

## SECTION 3 Important information

### 3.1 Reasons why customers do not outsource fax

The following are some of the reasons why fax services are **not** outsourced to the cloud:

- Fax remains one of the few legally recognized forms of electronic document delivery today. Email is not an end to end guaranteed delivery. A fax cloud service provider usually offer SMTP email delivery to a customer. Therefore, if an important legal document is received at your cloud service provider and you fail to receive it via email, the other party would be in a strong position in a legal case.
- The *Privacy Amendment (Enhancing Privacy Protection) Act 2012* (Privacy Amendment Act) made many significant changes to the *Privacy Act 1988* (Privacy Act). These changes commenced on 12 March 2014.  
The *Privacy Regulation 2013*, made under the Privacy Act, also commenced on 12 March 2014. Information stored in fax images usually contains sensitive and confidential information which must be secure at all times.
- Some fax service providers only have a point of presence in Australia. The actual fax image is stored in overseas data centers which adds to the complexity and compliance to security. Refer to <http://www.oaic.gov.au/privacy/privacy-resources/privacy-fact-sheets/other/privacy-fact-sheet-17-australian-privacy-principles>
- The *Australian Privacy Principles* (APPs) regulate the handling of personal information by Australian government agencies and some private sector organisations.
- Government Departments and Agencies must follow the ISM and protect material according to its classification. A fax received at a service provider may upon reception be personal, staff-in-confidence, sensitive-legal, contain signatures, bank accounts and so on. Therefore, organisations who outsource store and forward fax must have measures in place with the fax service provider to provide the same level of security and network classifications as their own networks in addition to providing a guaranteed end to end delivery of the image.
- In Federal Government, outbound fax requests involving email transports must comply with the Email Protective Marking standards and secure the data in transit.

## 3.2 Government Security

BNS Group manufactures commercial FAX and SMS messaging software for Corporate and Government customers. msXfax and msXsms Enterprise SMS software focused on meeting the Australian Government Information Security Manual (ISM) requirements published at <http://www.dsd.gov.au/infosec/ism/>.

msXfax software complies with the Australian Government email protective marking (EPM) standards 2012.3. msXfax Enterprise Version 8 checks for 2012.3 compliance of the protective marking on email to fax transmissions. Dissemination Limiting Markers (DLMs) are also checked.

EPM standards defines the format of protective markings for Internet email message headers used for messages exchanged within and between Australian Government agencies. A protective marking conveys the protection requirements for information in a message, as defined within the *Australian Government Protective Security Policy Framework*. The protective marking may also contain additional information about the message that tells systems and system users how to appropriately disseminate the information contained in the message.

Many fax products today utilise email as a transport mechanism to send and receive faxes between the fax server and users of the system.

Any Government Department or agency using internal email systems to send faxes via a fax server which communicates to the public switched telephone network, must ensure that gateways and fax servers comply with ISM by implementing Email Protective Marking checking and other security requirements such as network separation, data export controls and audit.

msXfax inspects and checks the SMTP message headers and/or the subject for a compliant marking or DLMs introduced in the ISM 2012.