
Sonus SBC 5XX0 5.1R0 IOT Microsoft Skype Desktop Sharing

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Document Overview

This document provides a configuration guide for the Sonus SBC (Session Border Controller) 5XX0Series when connecting to Microsoft Skype for Business Desktop Sharing.

- For additional information on Microsoft, visit <http://microsoft.com>.
- For additional information on Sonus SBC, visit <http://sonus.net>.

Introduction

The interoperability compliance testing verifies inbound and outbound call flows between Sonus SBC 5XX0 and Microsoft Skype for Business Desktop Sharing.

Document History

Date	Name	Comment
2016-09-13	Arun Muthusamy	Initial Draft

Audience

This technical document is to help telecommunications engineers configure both the Sonus SBC and the third-party product. There are steps that require navigating the third-party document and the Sonus SBC Command Line Interface (CLI). It is necessary to understand the basic concepts of TCP/UDP, IP/Routing, and SIP/RTP in order to complete the configuration and for troubleshooting.

Requirements

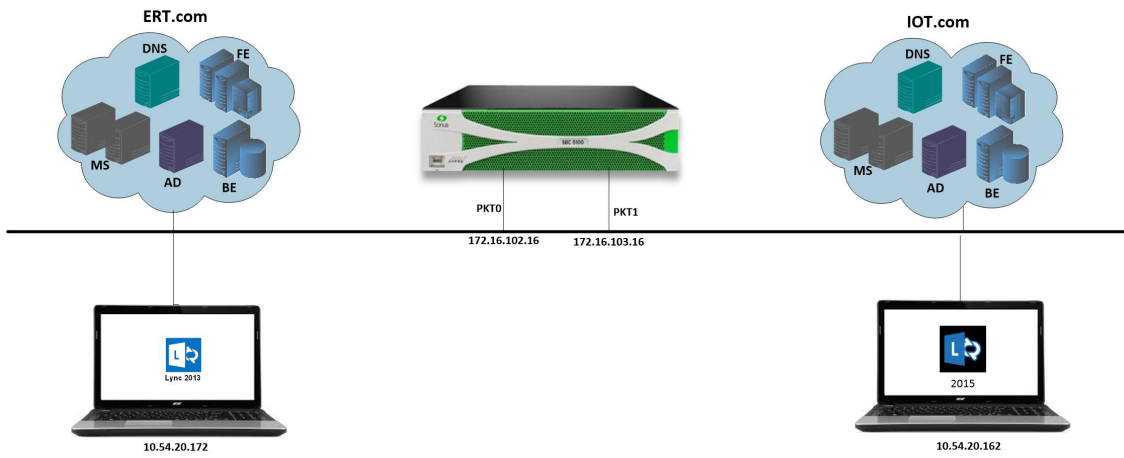
The provided sample configuration uses the following equipment and software:

	Equipment	Software Version
Sonus Networks	Sonus SBC 5200	V05.01.00-R000
	BMC	V02.15.00
	BIOS	V02.06.00
	ConnexIP OS	V03.01.00-R000
	SonusDB	V05.01.00-R000
	EMA	V05.01.00-R000
	SBX	V05.01.00-R000
Third-party Equipment	Microsoft	Skype for Business Desktop Sharing

Reference Configuration

The following reference configuration shows connectivity between the third-party and the Sonus SBC 5XX0.

Microsoft Lync Desktop Share



Support

For any questions regarding this document or the content herein, contact your maintenance and support provider.

Configuration - SBC Configuration

This section provides a “snapshot” of the Sonus SBC 5200 configuration that is used during compliance testing. Sonus Networks typically configures the Sonus SBC 5200 for customers. The screen shots and partial configuration shown below, which Sonus Networks supplies, are only for reference. Other configurations are possible.

1. Global Configuration

The below section provides the configuration needed at the global level.

1.1 Codec Entry

Create a Codec Entry with the supported codec on the network.

```
set profiles media codecEntry G711-default dtmf relay rfc2833
set profiles media codecEntry G711-default packetSize 20
commit
```

1.2 RTCP

Configure the RTCP interval.

```
set system media mediaRtcpControl senderReportInterval 5
commit
```

1.3 SIP Domain

Specify the global SIP Domain name.

```
set global sipDomain iot.com
set global sipDomain ert.com
commit
```

1.4 Transparency Profile (TP)

Create a Transparency Profile (TP) for the Lync domain. The TP is specified within the SIP Trunk Group configuration.

This profile is configured to make all of the headers transparent, and exceptions will be added for the headers that will not be transparent.

```
set profiles services transparencyProfile TRANSPARENCY_prof state enabled
set profiles services transparencyProfile TRANSPARENCY_prof sipHeader To
set profiles services transparencyProfile TRANSPARENCY_prof sipHeader From
set profiles services transparencyProfile TRANSPARENCY_prof sipHeader Request-uri
commit
```

1.5 Bandwidth for non RTP Media

Configure the percentage of RTP bandwidth that is allocated for desktop share calls.

```
set system media dedicatedBWForNonRTPMedia 25
commit
```

2. Lync Domain 1 configuration

This section provides configuration needed for first Lync domain.

2.1 Packet Service Profile (PSP)

Create a Packet Service Profile (PSP) for Lync Domain 1. The PSP is specified within the SIP Trunk Group configuration.

```
set profiles media packetServiceProfile LYNCERT_PSP
set profiles media packetServiceProfile LYNCERT_PSP codec codecEntry1 G711-DEFAULT
set profiles media packetServiceProfile LYNCERT_PSP rtcpOptions rtcp enable terminationForPassthrough
enable
set profiles media packetServiceProfile LYNCERT_PSP preferredRtpPayloadTypeForDtmfRelay 128
set profiles media packetServiceProfile LYNCERT_PSP silenceInsertionDescriptor g711SidRtpPayloadType 13
heartbeat enable
set profiles media packetServiceProfile LYNCERT_PSP rtcpOptions terminationForPassthrough disable
set profiles media packetServiceProfile LYNCERT_PSP secureRtpRtcp flags allowFallback enable
set profiles media packetServiceProfile LYNCERT_PSP secureRtpRtcp flags enableSrtp enable
set profiles media packetServiceProfile LYNCERT_PSP secureRtpRtcp flags allowPassthru enable
set profiles media packetServiceProfile LYNCERT_PSP videoCalls maxVideoBandwidth 8000
set profiles media packetServiceProfile LYNCERT_PSP videoCalls videoBandwidthReductionFactor 50
commit
```

2.2 IP Signaling Profile (IPSP)

Create an IP Signaling Profile (IPSP) for Lync Domain 1. The IPSP is specified within the SIP Trunk Group configuration.

```
set profiles signaling ipSignalingProfile LYNCERT_IPSP
set profiles signaling ipSignalingProfile LYNCERT_IPSP commonIpAttributes flags includeReasonHeader
disable
set profiles signaling ipSignalingProfile LYNCERT_IPSP commonIpAttributes flags sendPtimeInSdp disable
set profiles signaling ipSignalingProfile LYNCERT_IPSP commonIpAttributes flags sendRtcpPortInSdp
enable
set profiles signaling ipSignalingProfile LYNCERT_IPSP commonIpAttributes optionTagInRequireHeader
suppressReplaceTag disable
set profiles signaling ipSignalingProfile LYNCERT_IPSP commonIpAttributes flags routeUsingRecvdFqdn
disable
set profiles signaling ipSignalingProfile LYNCERT_IPSP egressIpAttributes numberGlobalizationProfile
DEFAULT_IP
set profiles signaling ipSignalingProfile LYNCERT_IPSP egressIpAttributes domainName
useZoneLevelDomainNameInContact disable
set profiles signaling ipSignalingProfile LYNCERT_IPSP egressIpAttributes transport type1 tcp
set profiles signaling ipSignalingProfile LYNCERT_IPSP ingressIpAttributes flags
sendSdpIn2000kIf18xReliable enable
set profiles signaling ipSignalingProfile LYNCERT_IPSP commonIpAttributes flags disableHostTranslation
enable
set profiles signaling ipSignalingProfile LYNCERT_IPSP egressIpAttributes domainName
useSipDomainNameInRequestUri disable
set profiles signaling ipSignalingProfile LYNCERT_IPSP egressIpAttributes privacy flags includePrivacy
disable
commit
```

2.3 IP Interface Group

The following configuration is for a Sonus 52x0 system that uses a single port for Internal connectivity.

```
set addressContext default ipInterfaceGroup LIF1 ipInterface PKT0_V4 ceName IOTSBX1 portName pkt0
ipAddress 172.16.102.16 prefix 24
set addressContext default ipInterfaceGroup LIF1 ipInterface PKT0_V4 mode inService state enabled
commit
```

2.4 Zone

This Zone groups the set of objects that is used for communication with Lync Domain 1. Configure the domain name.

```
set addressContext default zone LYNCERT_ZONE id 3
set addressContext default zone LYNCERT_ZONE domainName IOTSBX1.ERT.com
commit
```

2.5 SIP Signaling Port

A SIP Signaling port is a logical address that permanently binds to a specific zone, and it sends and receives SIP call signaling packets.

```
set addressContext default zone LYNCERT_ZONE id 3 sipSigPort 2 ipInterfaceGroupName LIF1 ipAddressV4
172.16.102.16 portNumber 5060 transportProtocolsAllowed sip-tcp,sip-udp
set addressContext default zone LYNCERT_ZONE id 3 sipSigPort 2 mode inService state enabled
commit
```

2.6 DNS Group

DNS Groups set DNS objects that can be used for DNS resolution within a particular Zone.

```
set addressContext default dnsGroup ERT_DNS
set addressContext default dnsGroup ERT_DNS type mgmt server DNS1 ipAddress 10.54.18.160 state enabled

set addressContext default zone LYNCERT_ZONE dnsGroup ERT_DNS
commit
```

2.7 SIP Trunk Group

Create a SIP Trunk Group towards for Lync Domain 1 and assign the Profiles configured above.

```

set addressContext default zone LYNCERT_ZONE sipTrunkGroup LYNCERT_TG media mediaIpInterfaceGroupName
LIF1
set addressContext default zone LYNCERT_ZONE sipTrunkGroup LYNCERT_TG policy media packetServiceProfile
LYNCERT_PSP
set addressContext default zone LYNCERT_ZONE sipTrunkGroup LYNCERT_TG policy signaling
ipSignalingProfile LYNCERT_IPSP
set addressContext default zone LYNCERT_ZONE sipTrunkGroup LYNCERT_TG signaling transportPreference
preferencel tcp
set addressContext default zone LYNCERT_ZONE sipTrunkGroup LYNCERT_TG signaling transportPreference
preference2 udp
set addressContext default zone LYNCERT_ZONE sipTrunkGroup LYNCERT_TG downstreamForkingSupport enabled
set addressContext default zone LYNCERT_ZONE sipTrunkGroup LYNCERT_TG signaling rel100Support disabled
set addressContext default zone LYNCERT_ZONE sipTrunkGroup LYNCERT_TG services dnsSupportType a-only
set addressContext default zone LYNCERT_ZONE sipTrunkGroup LYNCERT_TG services transparencyProfile
TRANSPARENCY_prof
set addressContext default zone LYNCERT_ZONE sipTrunkGroup LYNCERT_TG ingressIpPrefix 10.54.20.172 32
set addressContext default zone LYNCERT_ZONE sipTrunkGroup LYNCERT_TG mode inService state enabled
set addressContext default zone LYNCERT_ZONE sipTrunkGroup LYNCERT_TG services natTraversal iceSupport
iceLync
set addressContext default zone LYNCERT_ZONE sipTrunkGroup LYNCERT_TG media lyncShare enabled
commit
set addressContext default zone LYNCERT_ZONE sipTrunkGroup LYNCERT_TG services natTraversal iceTcpRole
passive
commit

```

2.8 IP Static Route

Create a default route to the subnet's IP nexthop for the interface and IP Interface Group.

```

set addressContext default staticRoute 10.54.20.172 32 172.16.102.1 LIF1 PKT0_V4 preference 100
commit

```

2.9 IP Peer

Create an IP Peer with the Fully-Qualified Domain Name (FQDN) of the end points and assign it to the Lync Domain 1 Zone.

```

set addressContext default zone LYNCERT_ZONE ipPeer LYNCERT_IPP
set addressContext default zone LYNCERT_ZONE ipPeer LYNCERT_IPP policy sip fqdn FE.ERT.COM fqdnPort
5060
commit

```

3. Lync Domain 2 Configuration

This section provides configuration needed for second Lync domain.

3.1 Packet Service Profile (PSP)

Create a Packet Service Profile (PSP) for Lync Domain 2. The PSP is specified within the SIP Trunk Group configuration.

```

set profiles media packetServiceProfile LYNCIOT_PSP
set profiles media packetServiceProfile LYNCIOT_PSP codec codecEntry1 G711-DEFAULT
set profiles media packetServiceProfile LYNCIOT_PSP rtcpOptions rtcp enable terminationForPassthrough
enable
set profiles media packetServiceProfile LYNCIOT_PSP preferredRtpPayloadTypeForDtmfRelay 128
set profiles media packetServiceProfile LYNCIOT_PSP silenceInsertionDescriptor g711SidRtpPayloadType 13
heartbeat enable
set profiles media packetServiceProfile LYNCIOT_PSP rtcpOptions terminationForPassthrough disable
set profiles media packetServiceProfile LYNCIOT_PSP secureRtpRtcp flags allowFallback enable
set profiles media packetServiceProfile LYNCIOT_PSP secureRtpRtcp flags enableSrtp enable
set profiles media packetServiceProfile LYNCIOT_PSP secureRtpRtcp flags allowPassthru enable
set profiles media packetServiceProfile LYNCIOT_PSP videoCalls maxVideoBandwidth 8000
set profiles media packetServiceProfile LYNCIOT_PSP videoCalls videoBandwidthReductionFactor 50
commit

```

3.2 IP Signaling Profile (IPSP)

Create an IP Signaling Profile (IPSP) for Lync Domain 2. The IPSP is specified within the SIP Trunk Group configuration.

```

set profiles signaling ipSignalingProfile LYNCIOT_IPSP
set profiles signaling ipSignalingProfile LYNCIOT_IPSP commonIpAttributes flags includeReasonHeader
disable
set profiles signaling ipSignalingProfile LYNCIOT_IPSP commonIpAttributes flags sendPtimeInSdp disable
set profiles signaling ipSignalingProfile LYNCIOT_IPSP commonIpAttributes flags sendRtcpPortInSdp
enable
set profiles signaling ipSignalingProfile LYNCIOT_IPSP commonIpAttributes optionTagInRequireHeader
suppressReplaceTag disable
set profiles signaling ipSignalingProfile LYNCIOT_IPSP commonIpAttributes flags routeUsingRecvdFqdn
disable
set profiles signaling ipSignalingProfile LYNCIOT_IPSP egressIpAttributes numberGlobalizationProfile
DEFAULT_IP
set profiles signaling ipSignalingProfile LYNCIOT_IPSP egressIpAttributes domainName
useZoneLevelDomainNameInContact disable
set profiles signaling ipSignalingProfile LYNCIOT_IPSP egressIpAttributes transport typel tcp
set profiles signaling ipSignalingProfile LYNCIOT_IPSP ingressIpAttributes flags
sendSdpIn200OkIf18xReliable enable
set profiles signaling ipSignalingProfile LYNCIOT_IPSP commonIpAttributes flags disableHostTranslation
enable
set profiles signaling ipSignalingProfile LYNCIOT_IPSP egressIpAttributes domainName
useSipDomainNameInRequestUri disable
set profiles signaling ipSignalingProfile LYNCIOT_IPSP egressIpAttributes privacy flags includePrivacy
disable
commit

```

3.3 IP Interface Group

The following configuration is for a Sonus 52x0 system that uses a single port for Internal connectivity.

```

set addressContext default ipInterfaceGroup LIF2 ipInterface PKT3_V4 ceName IOTSBX1 portName pkt3
ipAddress 172.16.103.16 prefix 24
set addressContext default ipInterfaceGroup LIF2 ipInterface PKT3_V4 mode inService state enabled
commit

```

3.4 Zone

This Zone groups the set of objects that communicate to Lync Domain 2. Configure the domain name and assign a DNS server to the zone.


```
set addressContext default zone LYNCIOT_ZONE id 2
set addressContext default zone LYNCIOT_ZONE domainName IOTSBX1.IOT.COM
commit
```

3.5 SIP Signaling Port

A SIP Signaling port is a logical address that permanently binds to a specific zone, and it sends and receives SIP call signaling packets.

```
set addressContext default zone LYNCIOT_ZONE id 2 sipSigPort 1 ipInterfaceGroupName LIF2 ipAddressV4
172.16.103.16 portNumber 5060 transportProtocolsAllowed sip-tcp,sip-udp
set addressContext default zone LYNCIOT_ZONE id 2 sipSigPort 1 state enabled mode inService
commit
```

3.6 DNS Group

DNS Groups set DNS objects that can be used for a DNS resolution within a particular Zone.

```
set addressContext default dnsGroup IOT_DNS type mgmt server DNS1 state enabled ipAddress
172.16.101.138
set addressContext default zone LYNCIOT_ZONE dnsGroup IOT_DNS
commit
```

3.7 SIP Trunk Group

Create a SIP Trunk Group towards Lync Domain 2 and assign the Profiles configured above.

```
set addressContext default zone LYNCIOT_ZONE sipTrunkGroup LYNCIOT_TG media mediaIpInterfaceGroupName
LIF2
set addressContext default zone LYNCIOT_ZONE sipTrunkGroup LYNCIOT_TG policy media packetServiceProfile
LYNCIOT_PSP
set addressContext default zone LYNCIOT_ZONE sipTrunkGroup LYNCIOT_TG policy signaling
ipSignalingProfile LYNCIOT_IPSP
set addressContext default zone LYNCIOT_ZONE sipTrunkGroup LYNCIOT_TG signaling transportPreference
preferencel tcp
set addressContext default zone LYNCIOT_ZONE sipTrunkGroup LYNCIOT_TG signaling transportPreference
preference2 udp
set addressContext default zone LYNCIOT_ZONE sipTrunkGroup LYNCIOT_TG downstreamForkingSupport enabled
set addressContext default zone LYNCIOT_ZONE sipTrunkGroup LYNCIOT_TG signaling rel100Support disabled
set addressContext default zone LYNCIOT_ZONE sipTrunkGroup LYNCIOT_TG services dnsSupportType a-only
set addressContext default zone LYNCIOT_ZONE sipTrunkGroup LYNCIOT_TG services transparencyProfile
TRANSPARENCY_prof
set addressContext default zone LYNCIOT_ZONE sipTrunkGroup LYNCIOT_TG ingressIpPrefix 10.54.20.162 32
set addressContext default zone LYNCIOT_ZONE sipTrunkGroup LYNCIOT_TG mode inService state enabled
set addressContext default zone LYNCIOT_ZONE sipTrunkGroup LYNCIOT_TG services natTraversal iceSupport
iceLync
set addressContext default zone LYNCIOT_ZONE sipTrunkGroup LYNCIOT_TG media lyncShare enabled
commit
set addressContext default zone LYNCIOT_ZONE sipTrunkGroup LYNCIOT_TG services natTraversal iceTcpRole
passive
commit
```

3.8 IP Peer

Create an IP Peer with the Fully-Qualified Domain Name (FQDN) of the end points and assign it to the Lync Domain 2 Zone.

```

set addressContext default zone LYNCIOT_ZONE ipPeer LYNCIOT_IPP policy sip fqdn FrontE.IOT.COM fqdnPort
5060
commit

```

3.9 IP Static Route

Create a default route to the subnet's IP nextthop for the interface and IP Interface Group.

```

set addressContext default staticRoute 10.54.20.162 32 172.16.103.1 LIF2 PKT3_V4 preference 100
commit

```

3.10 Routing Label

Create a Routing Label with a single Routing Label Route that is between both Lync domains.

```

set global callRouting routingLabel LYNCERT_RL routingLabelRoute 1 trunkGroup LYNCERT_TG ipPeer
LYNCERT_IPP inService inService
set global callRouting routingLabel LYNCIOT_RL routingLabelRoute 1 trunkGroup LYNCIOT_TG ipPeer
LYNCIOT_IPP inService inService
commit

```

3.11 Routing

Routing must be put in place to send calls to the correct destination. This scenario uses trunk group routing, but additional routing options can be used.

The configuration of both standard and username routes ensures that no matter which way the called party is addressed (a number or username) the SBC routes the message to the Core.

For the standard trunk group routing, create route entries that have matching criteria and a Routing Label destination.

```

set global callRouting route none Sonus_NULL Sonus_NULL username Sonus_NULL Sonus_NULL all all ALL none
ERT.COM routingLabel LYNCERT_RL
set global callRouting route none Sonus_NULL Sonus_NULL username Sonus_NULL Sonus_NULL all all ALL none
iot.com routingLabel LYNCIOT_RL
commit

```

Test Results

S.No	Procedure	Observation	Result	Comment

Conclusion

These Application Notes describe the configuration steps that the Sonus SBC 5XX0 requires to successfully interoperate with [Microsoft Skype for Business Desktop Sharing](#). All feature and serviceability test cases were completed and passed with the exceptions/observations noted in [Test](#)

Results.

Appendix A

```
set addressContext default zone LYNCERT_ZONE sipTrunkGroup LYNCERT_TG services transparencyProfile TRANSPARENCY_prof
```