

# Ribbon QSBC R9.4.2 Interop with NICE Engage Platform : Interoperability Guide

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# Interoperable Vendors

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## Document Overview

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This document outlines the configuration best practices for the Ribbon QSBC (Q20 and Q21) when deployed with SIP-RECORDING with NICE Recording SERVER. The Ribbon QSBC offers a choice of recording only ingress/egress leg or simultaneous recording of both ingress and egress legs. Customers can choose the recording option on the Ribbon QSBC-based deployment requirements. For the NICE recording server, it is recommended to record both ingress and egress leg simultaneously.

### Section-A : About Ribbon QSBC

- Ribbon QSBC is a network element deployed to protect SIP-based Voice over Internet Protocol (VoIP) networks. Early deployments of SBCs were focused on the borders between two service provider networks in a peering environment. This role has now expanded to include significant deployments between a service provider's access network and a backbone network to provide service to residential and/or enterprise customers.

### Section-B : About NICE Engage platform

- The NICE Engage Platform provides comprehensive Omnichannel interaction recording to help organizations provide customers a coherent experience by providing a single place to define and implement compliance and quality practices across all channels.

## Scope/ Non-Goals

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It is not the goal of this guide to provide detailed configurations that will meet the requirements of every customer deployment.

Use this guide as a starting point and build the Ribbon QSBC configurations in consultation with network design and deployment engineers.

## Audience

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This is a technical document intended for telecommunications engineers with the purpose of configuring Ribbon QSBC with NICE Engage platform SIPREC server.

Steps will require navigating the third-party Product Guide, the Operations Guide and Ribbon product using graphical user interface (GUI) or command line interface (CLI). A basic understanding of the concepts of TCP/UDP, IP/Routing, and SIP/RTP is needed to complete the configuration and any necessary troubleshooting.

This configuration guide is offered as a convenience to Ribbon customers. The specifications and information regarding the product in this guide are subject to change without notice. All statements, information, and recommendations in this guide are believed to be accurate, but are presented without warranty of any kind, expressed or implied, and are provided “AS IS”. Users must take full responsibility for the application of the specifications and information in this guide.

## Prerequisites

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The following aspects are required before proceeding with the Ribbon QSBC and the NICE Engage Platform.

- Ribbon QSBC License

- This interop requires the acquisition and application of MaxRecordingSessions (License count based on the simultaneous recording sessions is required) and basic Ribbon QSBC licenses for media calls.
- NICE Engage Platform
  - The NICE Engage platform SIPREC server is running using 4.1 version or above.
  - Licenses are installed as per the number of recording sessions required, and also NICE Dispatch Integration Services are running on the SIPREC server.

## Product and Device Details

The sample configuration uses the following equipment and software:

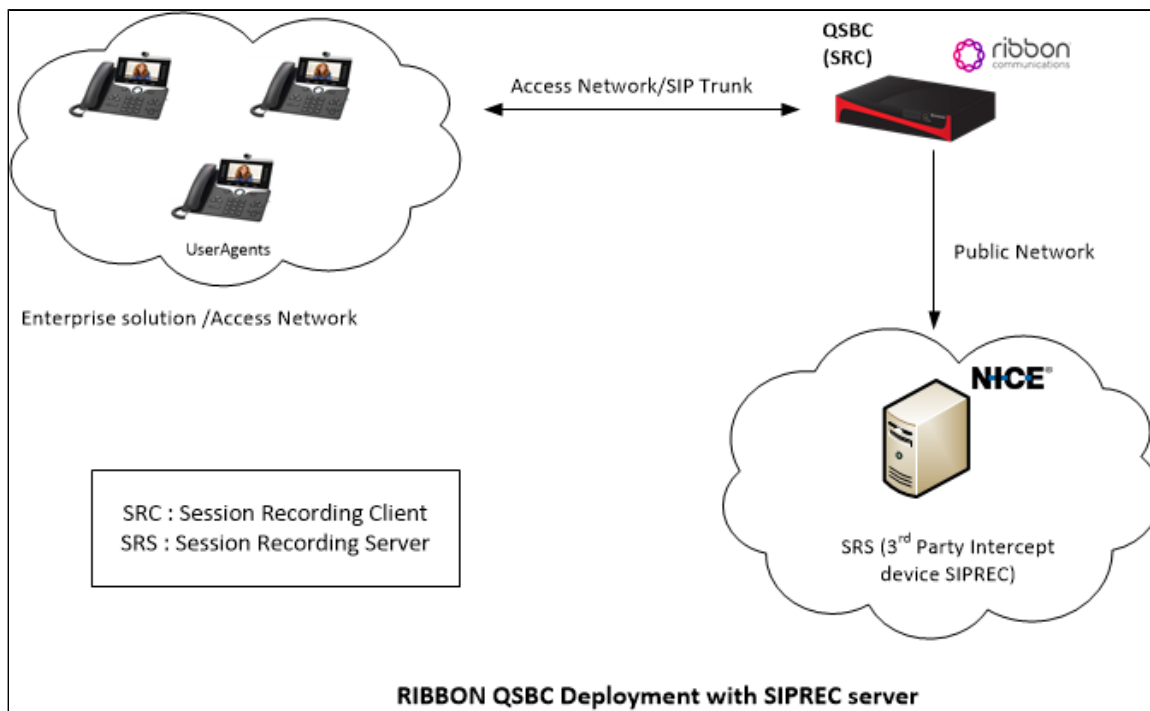
**Table :** Requirements

Product	Equipment	Software Version
Ribbon Networks	Ribbon QSBC	v9.4.2.0d4
Third-party Equipment	NICE Engage Platform	4.1
Administration and Debugging Tools	Wireshark	2.4.4

## Network Topology Diagram

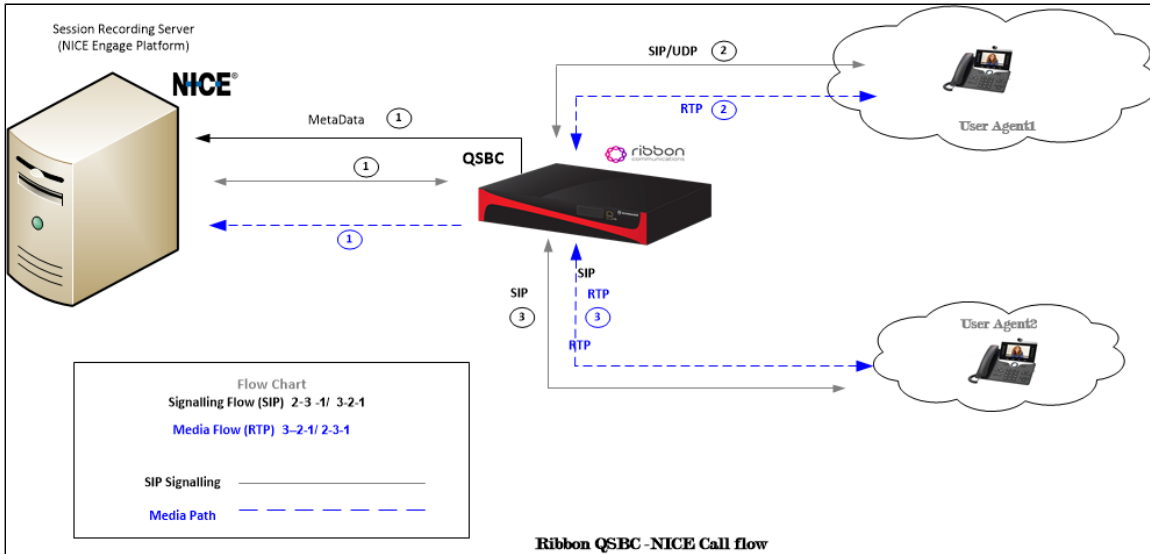
### Deployment Topology

The deployment topology diagram is depicted below



### Interoperability Test Lab Topology and Call Flow Diagram

IOT high level architecture covering call flows & overall topology is depicted below



## Section-A : Ribbon QSBC Basic Call Configurations

The following Ribbon QSBC configurations are included in this section:

Configurations towards Endpoints :

### Virtual Network Creation for each interface

```
cli vnet add v1
cli vnet edit v1 gateway z.z.z.z ifname eth2

cli vnet add v2
cli vnet edit v2 gateway a.a.a.a ifname eth3
```

**i** Replace "z.z.z.z" with the QSBC's Ethernet interface (eth) Gateway IP address (example eth2 IP) and "a.a.a.a" with the QSBC's Ethernet interface(eth) Gateway IP address (example eth3 IP).

### Realm creation

```
cli realm add priv
cli realm edit priv rsa x.x.x.x mask y.y.y.y vnet v1 emr alwayson imr alwayson medpool 1

cli realm add pub
cli realm edit pub rsa c.c.c.c mask y.y.y.y vnet v2 emr alwayson imr alwayson medpool 2
```

**i** Replace "x.x.x.x" with the SBC's Ethernet interface (eth) IP address (example eth2 IP), and "y.y.y.y" with its netmask. Provide mediapool id configured in mdevices.xml (example medpool 1). Replace "c.c.c.c" with the SBC's Ethernet interface (eth) IP address (example eth3 IP), and "y.y.y.y" with its netmask. Provide mediapool id configured in mdevices.xml (example medpool 2).

### Route Creation

```
cli cp add A_cp1
cli cr add A_cr1
cli cr edit A_cr1 dest 9876543210 prefix 9876543210 calltype dest
cli cp add A_cp1 A_cr1

cli cp add B_cp1
cli cr add B_cr1
cli cr edit B_cr1 dest 9876543211 prefix 9876543211 calltype dest
cli cp add B_cp1 B_cr1
```

**Note :**

Replace 9876543210 with the Phone1 Endpoint Phone number and 9876543211 with the Phone2 Endpoint Phone number.

## Attaching routes to EP

```
cli iedge add ep0 0
cli iedge edit ep0 0 realm priv static n.n.n.n sip enable type sipgw contact n.n.n.n:y cp A_cp1

cli iedge add ep1 0
cli iedge edit ep1 0 realm pub static m.m.m.m sip enable type sipgw contact m.m.m.m:p cp B_cp1
```

**Note :**

Replace "n.n.n.n" with the phone1 IP address and "y" with its Port number. Replace "m.m.m.m" with the phone2 IP address and "p" with its Port number.

## Section-B : Ribbon QSBC Configurations for SIPREC Provisioning



Ribbon QSBC does not support recording of only ingressLeg or only egressLeg. Thus, set the "rec\_stream" in the SIPREC profile on the QSBC to "both".

## Creating a realm towards SIPRec server

```
cli realm add publ
cli realm edit publ rsa k.k.k.k mask m.m.m.m vnet v2 emr alwayson imr alwayson medpool 2
```

**Note :**

Replace "k.k.k.k" with the SBC's Ethernet interface (eth) IP address (example eth3 IP), and "m.m.m.m" with its netmask. Provide mediapool id configured in mdevices.xml (example medpool 2).

## Creation of SIPREC profile

```
cli siprec-profile add CallRecord
cli siprec-profile edit CallRecord rec_stream both pri_srs sip-rec-egress-gw-primary 0 sec_srs sip-rec-egress-gw-secondary 0 ha_mode active_standby continue_with_call yes src 9876543210 dest 9876543211
```

**Note :**

Replace "9876543210" with the Phone1 Endpoint Phone number and "9876543211" with Phone2 Endpoint Phone number. The call is recorded when the call is made from "9876543210" to "9876543211" endpoint.

## Creation of SIP gateway towards SIPREC server

### Primary SRS configuration

```
cli iedge add sip-rec-egress-gw-primary 0
cli iedge edit sip-rec-egress-gw-primary 0 type sipgw static p.p.p.p realm publ sip enable contact p.p.p.p:n
```

**Note :**

Replace "p.p.p.p" with SIPREC server IP address and "n" with its port.

### Secondary SRS Configuration

```
cli iedge add sip-rec-egress-gw-secondary 0
cli iedge edit sip-rec-egress-gw-secondary 0 type sipgw static i.i.i.i realm publ sip enable contact i.i.i.i:k
```

**Note :**  
Replace "i.i.i.i" with SIPREC server IP address and "k" with its port.

## Attaching the SIPREC profile to endpoints

```
cli iedge edit ep0 0 realm priv static n.n.n.n sip enable type sipgw contact n.n.n.n:y cp A_cpl siprec-profile
CallRecord
cli iedge edit ep1 0 realm pub static m.m.m.m sip enable type sipgw contact m.m.m.m:p cp B_cpl siprec-profile
CallRecord
```

**Note :**  
Here, the endpoints shown are previously created endpoints under Section A : Common SBC Configurations.

## Section-C : Ribbon QSBC Log level configurations

To increase SIP stack size as Recording request is more than default value (3000) pdustack size:

```
nxconfig.pl -e sipmaxmsgsize -v 5000
```

To increase the max-transport-mtu-size size:

```
nxconfig.pl -e max-transport-mtu-size -v 5000
```

**Note :**  
The QSBC, by default, processes the SIP packet over TCP transport if the SIP packet is greater than max-transport-mtu-size,

## Section-D : NICE platform configuration

1. Nice Integrations Dispatch service should be running on the NICE server.
2. There is no Ribbon QSBC specific configurations required on NICE server.

## Supplementary Services & Features Coverage

The following checklist depicts the set of services/features covered through the configuration defined in this Interop Guide.

Sr. No.	Features/Services	Supported
1	Basic Calls	✓
2	Call hold	✓
3	Direct Media	✓
4	SIPREC Forking	✓
5	Call Forward	✓
6	Call Conference	✓
7	Session Keep Alive on Recording Session	✓

8	SRS redundancy	X
9	QSBC redundancy	✓
10	RTCP call	✓
11	RFC2833 DTMF digits Recording	✓
12	DTMF Interworking	X
13	Call modification on Communication Session	X
14	Blind Transfer	X
15	Attended Transfer	X
16	Session Refresh	✓
17	Quad Recording	X
18	Transcode Call	X

#### Legend

Supported	✓
Not Supported	X

## Caveats

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The following items should be noted in relation to this Interop - these are either limitations, untested elements or useful information pertaining to the Interoperability.

Currently, the Ribbon QSBC does not support SRS redundancy, Quad recording, Call modification on the communication session and TLS/SRTP towards SIPREC.

## Support

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For any support related queries about this guide, please contact your local Ribbon representative, or use the details below:

- Sales and Support: 1-833-742-2661
- Other Queries: 1-877-412-8867
- Website: <https://ribboncommunications.com/about-us>

## References

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For detailed information about Ribbon products & solutions, please visit:

<https://ribboncommunications.com/products>

For detailed information about NICE engage platform, please visit:

<https://www.nice.com/>

## Conclusion

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This Interoperability Guide describes successful configuration for NICE interop involving Ribbon QSBC & NICE Engage platform SIPREC server.

All features and capabilities tested are detailed within this document - any limitations, notes or observations are also recorded in order to provide the reader with an accurate understanding of what has been covered, and what has not.

Configuration guidance is provided to enable the reader to replicate the same base setup - there maybe additional configuration changes required to suit the exact deployment environment.

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