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Oracle SBC Configuration Template Outline
for Zoom with Twilio Elastic SIP Trunking

Technical Application Note

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1 Intended Audience

This document is intended for use by Oracle Systems Engineers, third party Systems Integrators, Oracle Enterprise customers, partners and end users of the Oracle Enterprise Session Border Controller (SBC).

Please note, applying a configuration to the SBC via the Configuration Assistant will overwrite any existing configuration currently applied to the SBC. **We highly recommend this only be used for initial setup of the SBC. This feature is not recommended to be used to make changes to existing configurations.**

2 Introduction

When you first log on to the E-SBC, the system requires you to set the configuration parameters necessary for basic operation. To help you set the initial configuration with minimal effort, the E-SBC provides the Configuration Assistant. The Configuration Assistant, which you can run from the Web GUI or the Acme Command Line Interface (ACLI), asks you questions and uses your answers to set parameters for managing and securing call traffic. You can use the Configuration Assistant for the initial set up to make to the basic configuration. See "Configuration Assistant Operations" in the [Web GUI User Guide](#) and "Configuration Assistant Workflow and Checklist" in the [ACLI Configuration Guide](#)

3 Revision History

Date	Document Version	Template Version	Comments
21-05-2021	1.0	1.0	Initial Revision

4 Document Overview

This Oracle document describes how to use our Configuration Assistance feature as a quick and simple way to configure the Oracle SBC for integration with Zoom and Twilio Elastic SIP Trunking. These software releases with the configuration listed below can run on any of the following products:

- AP 1100
- AP 3900
- AP 4600
- AP 6350
- AP 6300
- VME

5 Requirements

- SBC running release SCZ840p5A or later
- TLS certificate for the SBC preferably in PKCS format, or access to Twilio supported CA to sign certificate once CSR is generated by the SBC. A list of supported CA's can be found [here](#).
- The template can be downloaded from our app note link given below
<https://www.oracle.com/technical-resources/documentation/acme-packet.html>

The template designed for Zoom Twilio can be found under “Configuration Assistant Templates” section of the app note page.

6 Zoom Twilio Trunk Configuration Assistance Template

The following outline assumes you have established initial access to the SBC via console and completed the following steps:

- Configured boot parameters for management access
- Setup Product
- Set Entitlements
- Configured HTTP-Server to establish access to SBC GUI

For more information on how to complete the above, please refer to Section 7 of the [Oracle SBC integration with Zoom Phone Premise Peering \(BYOC\) and Twilio Elastic Sip Trunking](#)

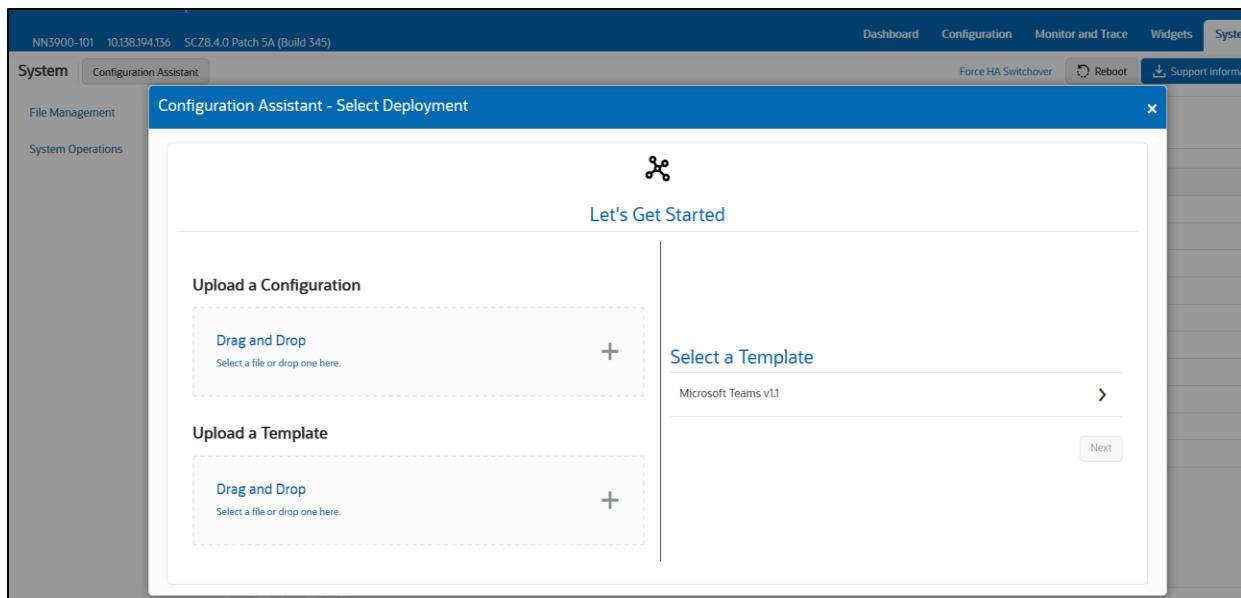
6.1 Initial GUI Access

The Oracle SBC WebGui can be accessed by entering the following in your web browser:

[http\(s\)://<SBC Management IP>](http://<SBC Management IP>).

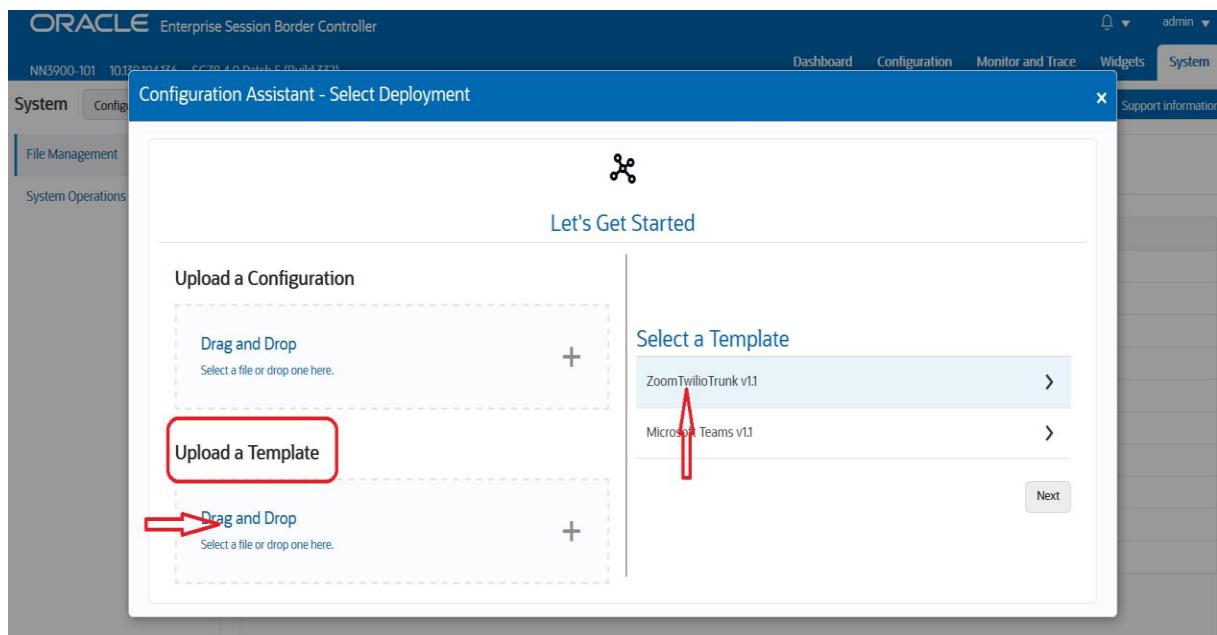
The username and password are the same as that of the CLI.

If there is no configuration on the SBC, the configuration assistant will show immediately upon login to the SBC GUI:

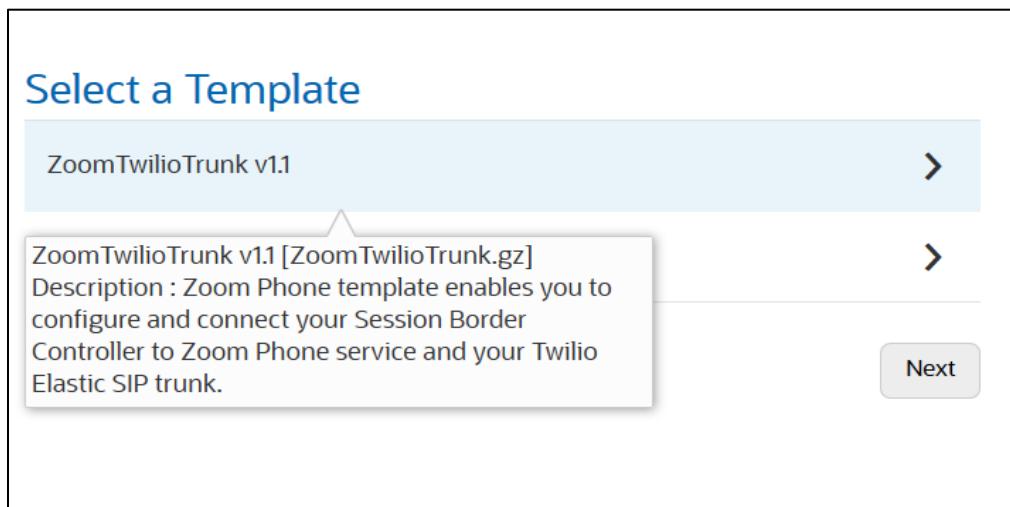


As you can see in the screen shot above, on the right side, Microsoft Teams is already listed under "Select a Template" which is the default template along with this patch. Please select "Upload a Template" tab on left hand side and select the ZoomTwilio template downloaded from the app note site to upload that to the SBC. **The template downloaded from the app note site will be in .gz(zipped) format.**

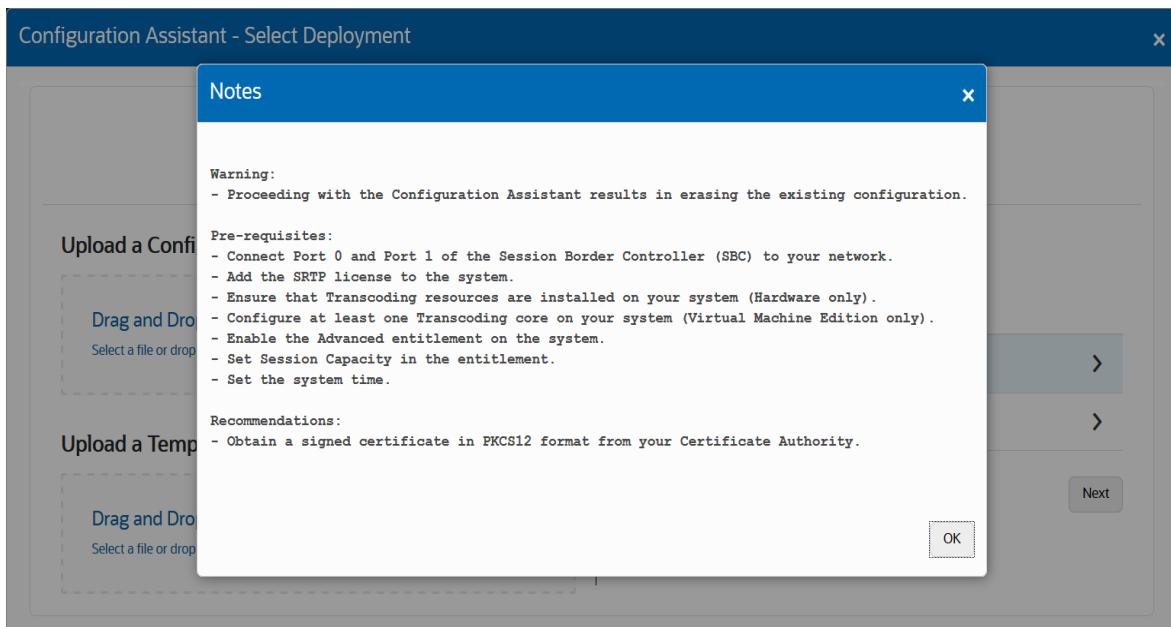
As an alternate, the template file downloaded from the site can also be loaded to /code/configAssistant/templates folder of the SBC using WinSCP or any file transfer software. Once done, the template shows up under Select Template tab as shown below.



Once you highlight “ZoomTwilioTrunkv1.1” template, you will see a pop up with the filename and description of the templates purpose:



Click **Next**: The following “Notes” will be displayed.

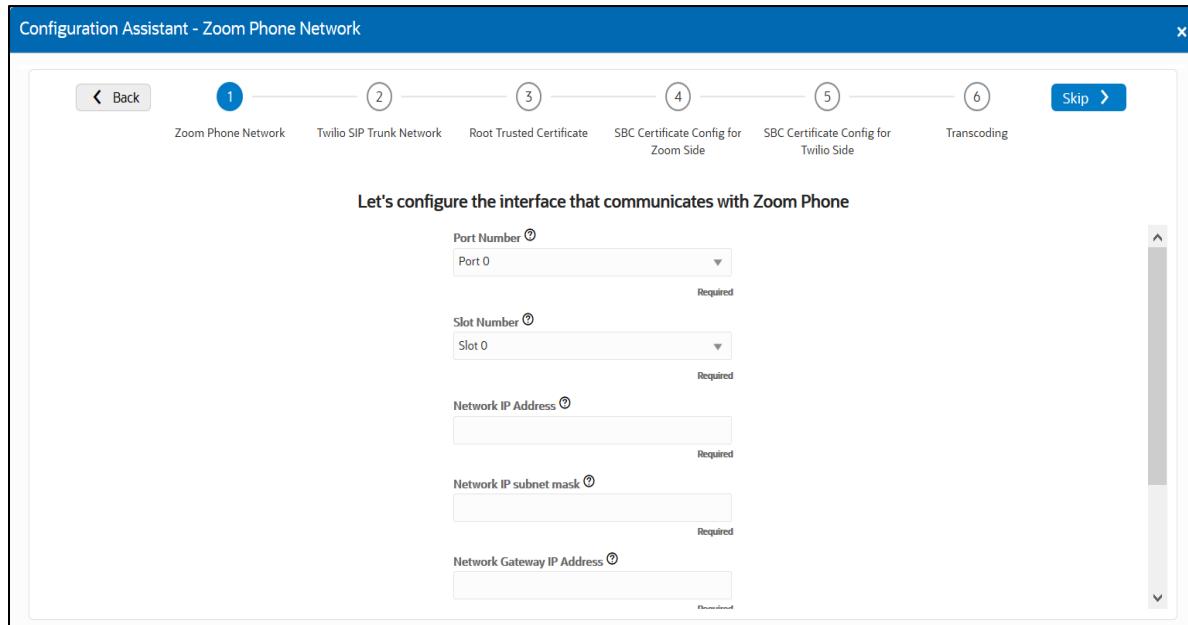


Click OK at the bottom.

6.2 Networking

6.2.1 Page 1-Zoom Phone Network

Page 1 of the template is where you will configure the network information that connects to Zoom Cloud Voice



Next to each field is a help icon. If you hover over the icon, you will be provided with a description or definition of each field. Also, pay close attention to which fields are listed as “required”.

6.2.2 Page 2-Twilio Elastic SIP Trunk Network

Page 2 of the template is where you will configure the network that connects to Twilio Elastic SIP trunking.

The top entry box on this page, “Twilio Session Agent IP/hostname”, in this field is where you will enter the next hop IP address/hostname for sip signaling to and from your Twilio Elastic SIP trunk.

Configuration Assistant - Twilio SIP Trunk Network

1 Back 2 3 4 5 6 Skip >

Zoom Phone Network Twilio SIP Trunk Network Root Trusted Certificate SBC Certificate Config for Zoom Side SBC Certificate Config for Twilio Side Transcoding

Let's configure the Session-Agent and the Network-Interface that communicates with the Twilio Elastic SIP Trunk

Twilio Session Agent IP/hostname ⓘ

Required

Twilio Session Agent Port ⓘ

Required

Port Number ⓘ

Port 1

Required

Slot Number ⓘ

Slot 0

Required

Network IP address ⓘ

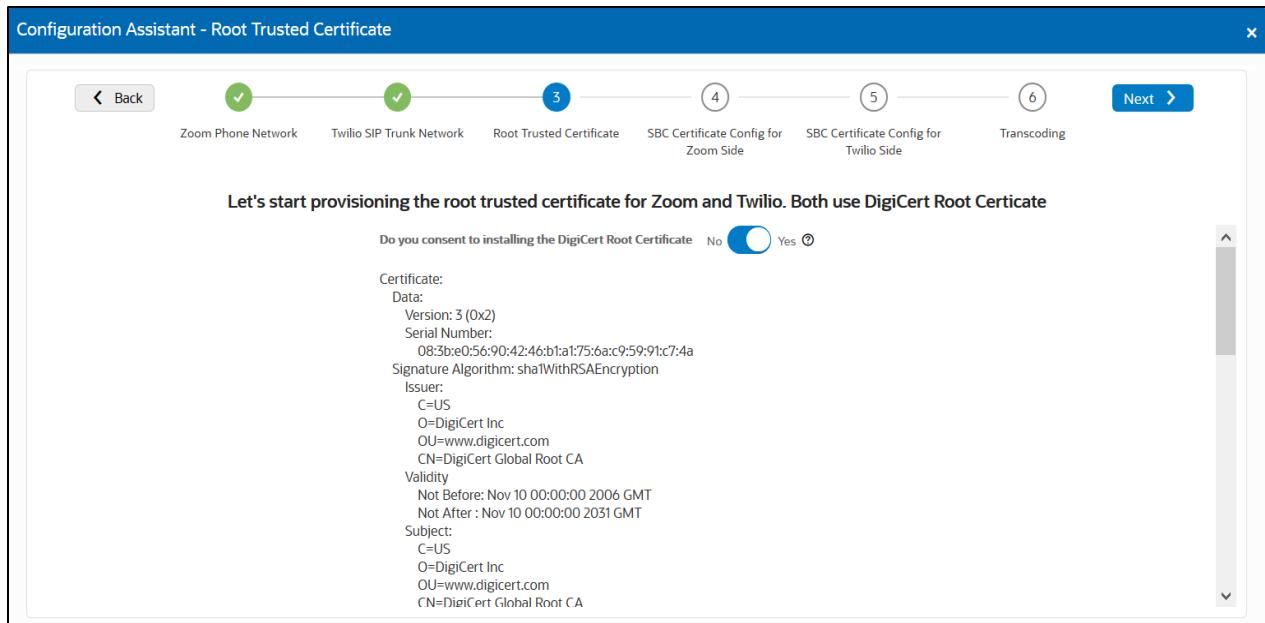
Optional

Once all required boxes are populated on each page, Top Right, *Skip* becomes *Next*. Click *Next* to proceed to the next page of the template.

6.3 Security

6.3.1 Page 3-Import DigiCert Root Trusted CA Certificate

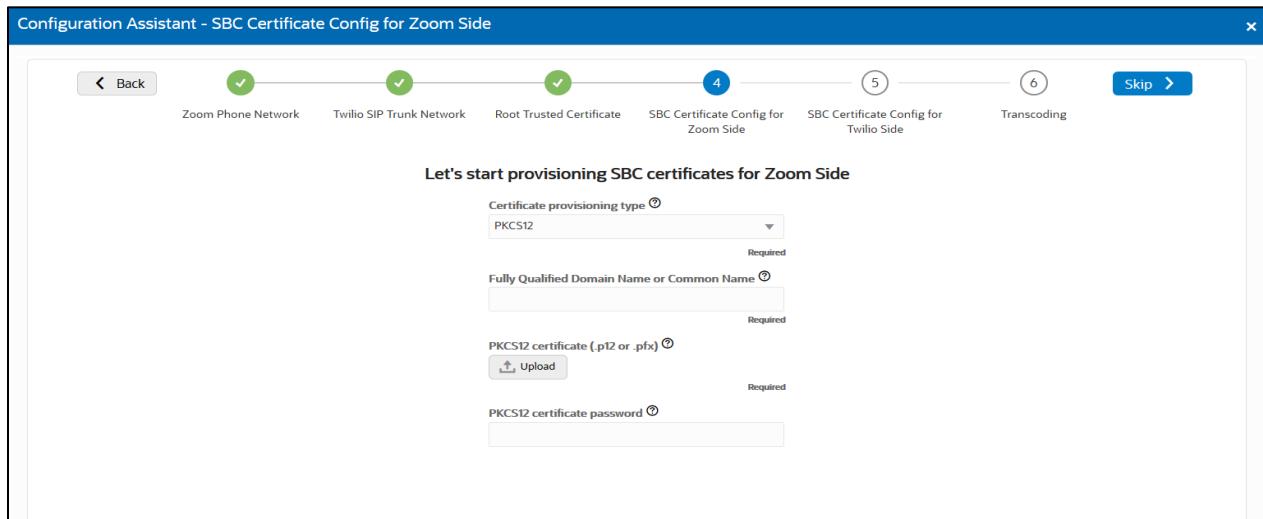
Page 3 of this template is where the SBC will import the DigiCert Root CA certificate, which both Zoom and Twilio use to sign the certs it presents to the SBC during the TLS handshake.



Importing the DigiCert Root CA certs is enabled by default.

6.3.2 Page 4 and 5 -SBC Certificates for Zoom and Twilio side.

Page 4 and 5 of this template is where you will either import or create a tls certificate for the SBC. (SBC certs for Zoom cloud voice and SBC certs for Twilio trunk), the procedure for the both pages looks identical as below.



6.3.2.1 PKCS12 Import

By default, the SBC is set to import a certificate in PKCS 12 format. This is the simplest and recommended way to add a certificate to the Oracle SBC. Using this method, you will add the SBC's hostname under "FQDN or Common Name" field, upload a certificate from Twilio or Zoom supported CA, and enter the certificates password.

6.3.2.2 Certificate Signing Request (CSR)

The alternative to importing a PKCS12 certificate to the SBC is to configure a certificate and generate a certificate signing request that you will have signed by Twilio or Zoom supported CA.

Configuration Assistant - SBC Certificate Config for Zoom Side

Let's start provisioning SBC certificates for Zoom Side

Certificate provisioning type ?
CSR Required

Fully Qualified Domain Name or Common Name ?

Country ?

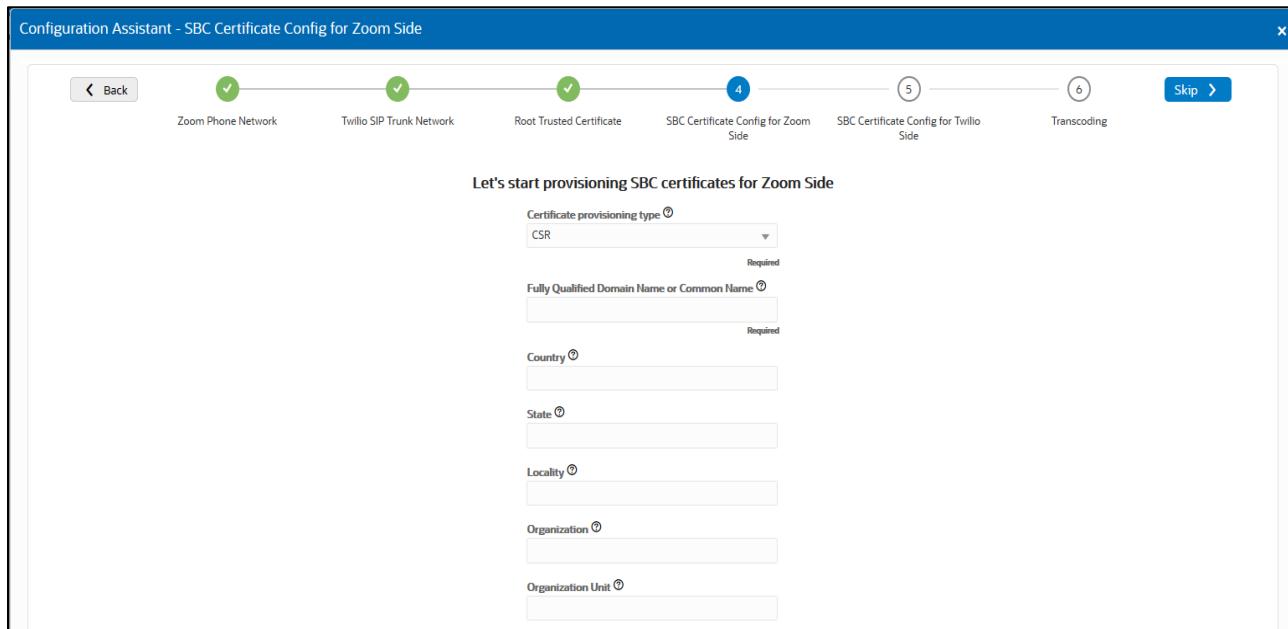
State ?

Locality ?

Organization ?

Organization Unit ?

Back ✓ Zoom Phone Network ✓ Twilio SIP Trunk Network ✓ Root Trusted Certificate 4 SBC Certificate Config for Zoom Side 5 SBC Certificate Config for Twilio Side 6 Transcoding Skip >



Same as PKCS12, you will enter the SBC's hostname under "FQDN or Common Name" field (required) and answer the remaining question presented on this page (optional).

The screen shot of page 5 of this template is given below for reference.

Configuration Assistant - SBC Certificate Config for Twilio Side

Let's start provisioning SBC certificates for Twilio.

Certificate provisioning type ?
PKCS12 Required

Fully Qualified Domain Name or Common Name ?

PKCS12 certificate (.p12 or .pfx) ?
 Upload Required

PKCS12 certificate password ?

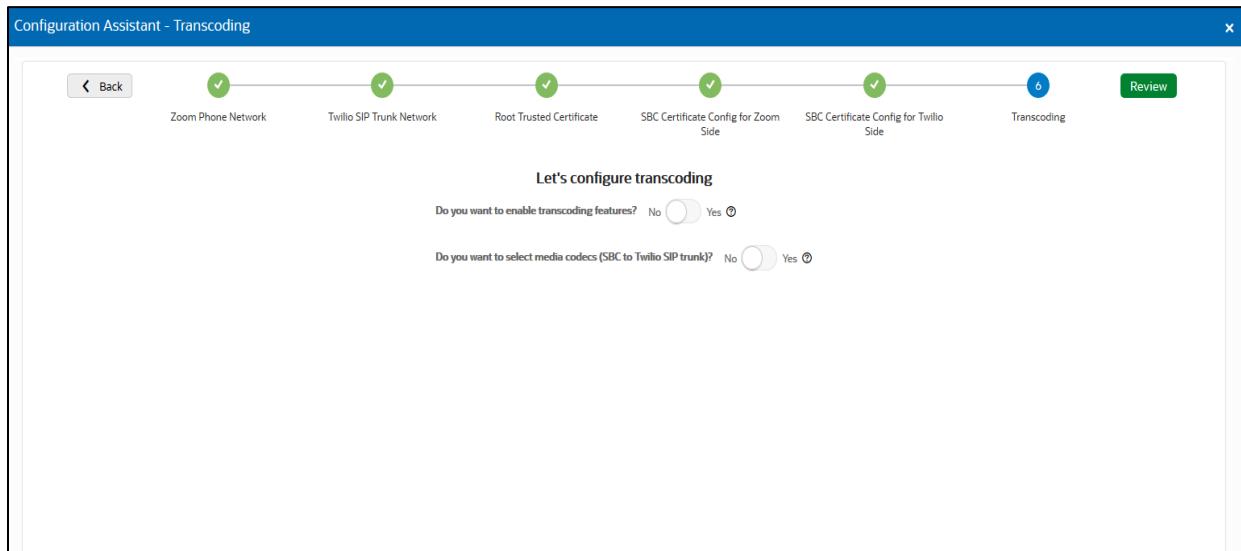
Back ✓ Zoom Phone Network ✓ Twilio SIP Trunk Network ✓ Root Trusted Certificate ✓ SBC Certificate Config for Zoom Side 5 SBC Certificate Config for Twilio Side 6 Transcoding Skip >



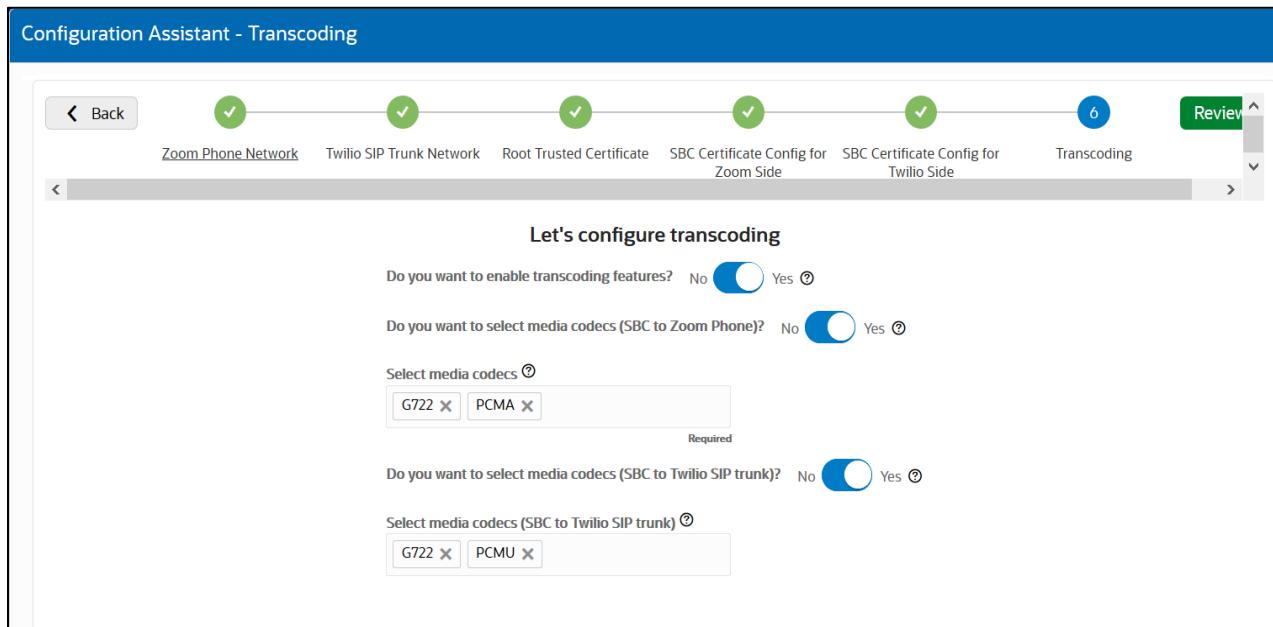
6.4 Transcoding

6.4.1 Page 6-Transcoding

Page 6 is where you will be able to configure transcoding between the SBC and Zoom side, and/or between your Twilio Elastic SIP trunk and Zoom Side.

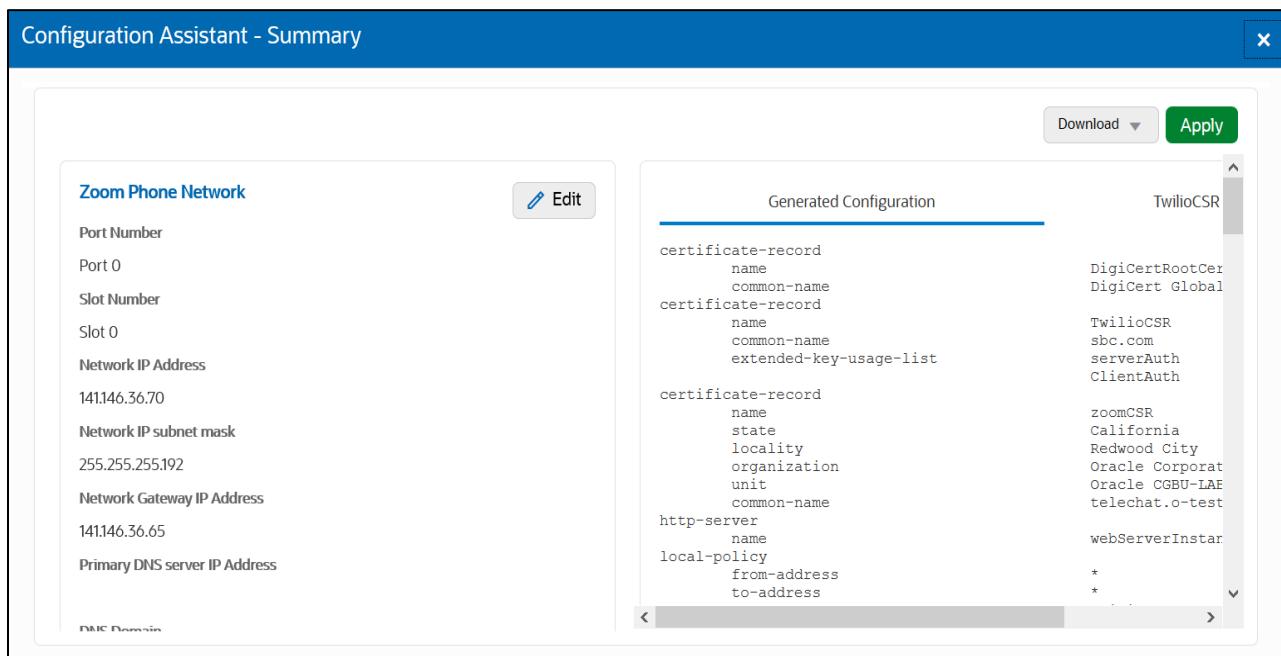


If you select yes to either question regarding media codecs, you will be presented with a required drop down. You can select as many codecs from the list presented as you would like for each side.



6.5 Review

At the end of the template, you will notice in the top right, a “*Review*” tab. If all 6 pages presented across the top are showing green, indicating there are no errors with the information entered, click on the “Review” tab:



The screenshot shows the Configuration Assistant - Summary page. On the left, under the "Zoom Phone Network" section, there are fields for Port Number (Port 0), Slot Number (Slot 0), Network IP Address (141.146.36.70), Network IP subnet mask (255.255.255.192), Network Gateway IP Address (141.146.36.65), and Primary DNS server IP Address. Each field has an "Edit" button to its right. On the right, under the "Generated Configuration" tab, is a table of configuration parameters and their values. The table includes:

Parameter	Value
certificate-record name	DigiCertRootCer
certificate-record common-name	DigiCert Global
certificate-record name	TwilioCSR
certificate-record common-name	sbc.com
extended-key-usage-list	serverAuth
certificate-record name	ClientAuth
certificate-record state	California
certificate-record locality	Redwood City
certificate-record organization	Oracle Corporat
certificate-record unit	Oracle CGBU-LAF
certificate-record common-name	telechat.o-test
http-server name	webServerInstar
local-policy from-address	*
local-policy to-address	*

Below the configuration table is a "TwilioCSR" tab, which is currently inactive. At the top right of the page are "Download" and "Apply" buttons.

On the left side of the review contains the entries for each page. Each page has an “*Edit*” tab that can be used to make changes to the information entered on that specific page without having to go through the entire template again.

On the right side of the review page, under the “*Generated Config*” tab is the ACLI output from the SBC. This is the complete configuration of the SBC based on the information entered throughout the template.

Also on the right side of the review page you may see another tab, “*TwilioCSR CSR*”.

On Page 4 or page 5 of the template, if you chose CSR from the drop down menu instead of PKCS, the SBC configures a certificate record and generates a certificate signing request for you. Also, if you choose CSR on both pages (pages 4 and 5), there will be two CSR's on the review page.

Configuration Assistant - Summary

Zoom Phone Network

Port Number: Port 0

Slot Number: Slot 0

Network IP Address: 141.146.36.70

Network IP subnet mask: 255.255.255.192

Network Gateway IP Address: 141.146.36.65

Primary DNS server IP Address: 141.146.36.65

Generated Configuration

TwilioCSR CSR

```
-----BEGIN CERTIFICATE REQUEST-----
MIICujCCAAiCAQjAwvzELMAkGA1UEBhNCVVMxCzAJBgNVBAgTAk1BMRMxEQ2QQH
EwpCdXJsaW5ndG9uMwEqYDvQQKEwtFbmdpbmV1cm1uZzEQMA4GA1UEAXNhC2Jj
ImNvbTCCAS1wDQYJKoZIhvNAQEBQADggEFADCCAQoCggEBAMWZdrn9uh7OCNrk
MPbwjgvNT1iTQdI09cX2dXpMjUsEZHa26AuB0zeL0LBz0507rg1hFYMBE02dvGi
sOYnkode74wv92Ycc5DrGCNzN8v+qAFYcrv1Dhc/u71kb1EqNz41Sc3ONmd4rTB
kJKSjj8bo3YIPUeA4qOT6odD7avnGWAAsUjDOMghNkbNAaRZT+Iffdh+m0Ysmbjh
8+9Jn1awFUulv2CbtidhTr7Abd70+1q19GOLB31Iq3c3a5f/MC67CsqcgeqxFFa
UCFOvozjDfz+xwJGdVNECa6sx3LeelQ2Nas2GxbngsZGgLf3VBF4Jr4HxKb2q4gC
Q4Y1GvsCAwEAAAeNBwGCSqGSIB3DQEJDjEPMA0wCvYDVR0PBAQDagWgMA0GCSqG
S1b3DQEBCwUAA41BAQcYzfA5cVTGrex2gPNb1Awk+ms8RKOXBWyyx2VpkEX6GH13
ihZP+c4TZdEn4bQFEAhaRhyh8AJgtu9Hho2XjOor1IaXo519UIdcFOSxxZt7duq
ijOGjsSwfhnz2Q7J1jLW28wVz1R81WUDLUzW3SlhRCV6B4wNFFyoj26b4K7xz27n
P7yBN2avEjz6KoadeZAdPt9ZQX2+mjXgRDozbRchCNWHCwvBcnit1ivDqKuh8e/E/
1FvExxvk4MVAkqoUMEYc5GjfwEp8UAN2flnFooSq15BiZ++AguljFTpfswnWYffM
xP4s8+iz5WRILpQJ7RWSJ2AtVJ7Etkv2jWroQMe
-----END CERTIFICATE REQUEST-----
```

Click the copy button under the CSR, and paste the output into a text file. Next, provide the txt file to your CA for signature. Once the certificate is signed by Twilio or Zoom supported CA, you will need to import that certificate into the SBC manually, either via ACLI or through the GUI.

Note: if you chose to import a certificate in PKCS12 format, the CSR tab will not be present under review.

6.6 Download and/or Apply

Now that the entries provided throughout the template have been reviewed, and the CSR has been copied into a text file (optional), the template provides you with the ability to “Download” the config by clicking the “**Download**” tab on the top right. Next, click the “**Apply**” button on the top right, and you will see the following pop up box appear:

Apply Confirmation

Are you sure you want to apply the configuration?

Perform the following actions when the system comes up to complete the ZoomTwilioTrunk deployment ::

Security:

- If you opted to generate a CSR during the SBC certificate provisioning step, please make sure to import the signed certificate after the reboot.

If you proceed, the system erases the existing configuration and reboots.

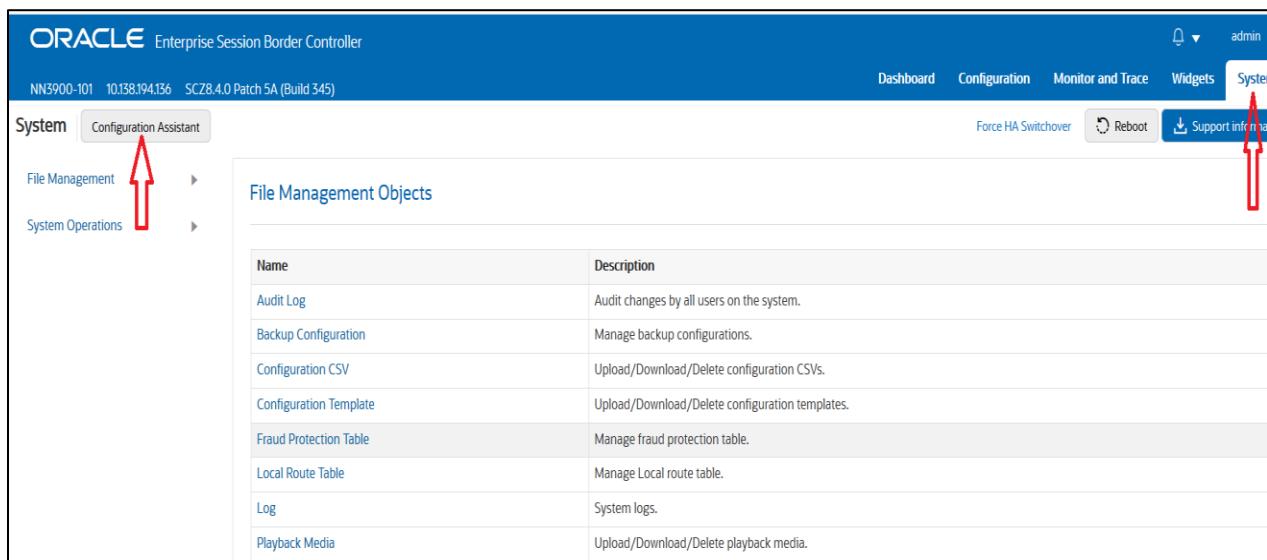
Confirm

Now you can click “**Confirm**” to confirm you want to apply the configuration to the SBC. The SBC will reboot. When it comes back up, the SBC will have a basic configuration in place for Zoom and Twilio.

7 Configuration Assistant Access

Upon initial login, if the Configuration Assistant Template does not immediately appear on the screen, you can access by clicking on the “**SYSTEM**” tab, top right of your screen.

Next, click on the “*Configuration Assistant*” tab, top left.



The screenshot shows the Oracle Enterprise Session Border Controller (SBC) GUI. At the top, there is a blue header bar with the Oracle logo, the text "Enterprise Session Border Controller", and the system information "NN5900-101 10.138.194.156 SCZ8.4.0 Patch 5A (Build 345)". To the right of the header are user authentication details ("admin") and several navigation tabs: "Dashboard", "Configuration", "Monitor and Trace", "Widgets", "System", "Reboot", and "Support information". Below the header, the main content area has a left sidebar with "System" selected, showing "File Management" and "System Operations" as sub-options. The main panel is titled "File Management Objects" and contains a table with the following data:

Name	Description
Audit Log	Audit changes by all users on the system.
Backup Configuration	Manage backup configurations.
Configuration CSV	Upload/Download/Delete configuration CSVs.
Configuration Template	Upload/Download/Delete configuration templates.
Fraud Protection Table	Manage fraud protection table.
Local Route Table	Manage Local route table.
Log	System logs.
Playback Media	Upload/Download/Delete playback media.

This allows end users to access the Configuration Assistance at any time through the SBC GUI.



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Integrated Cloud Applications & Platform Services

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