

Oracle® Intelligent Communications Orchestration Network

Configuring Twilio SIP Trunk with Oracle ICON

Application Note

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1 Revision History

Document Version	Description	Revision Date
1.0	Initial release	10-11-2026

2 Intended Audience

This document explains how to build an Oracle ICON connection to a Twilio Elastic SIP Trunk. It starts with the ICON Carrier Service, then creates and associates the customer-facing Generic SIP Service and finally configures the corresponding Twilio trunk. The On Prem IP-PBX Generic SIP Service is an example endpoint. This paper is intended for end users, IT professionals, and telephony professionals.

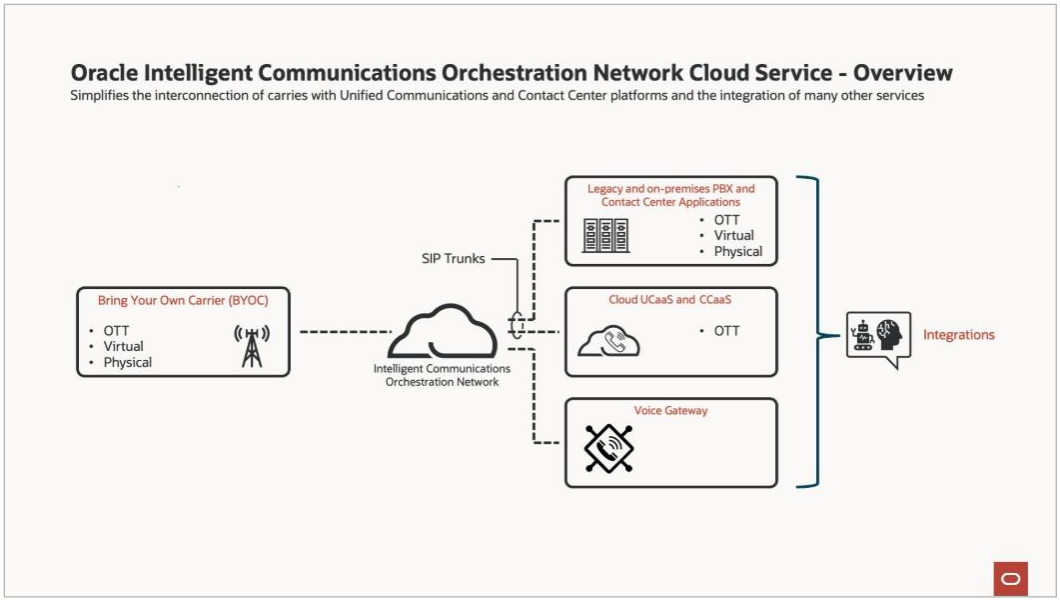
Note: To zoom in on screenshots of Web GUI configuration examples, press Ctrl and +.

3 Introduction

3.1 Oracle® Intelligent Communication Orchestration Network Overview

The Oracle® Intelligent Communication Orchestration Network enables enterprises and Managed Service Providers to connect Unified Communications (UC) and Contact Centers (CC), supporting both on-premises and SaaS-based UC and CC solutions. The Oracle® Intelligent Communication Orchestration Network brings voice communications services together in one place, reducing the need to manage carrier-service compatibility issues.

This document focuses on the ICON objects and parameters that associate the Twilio SIP trunk with a service. The Generic SIP Service is included only to demonstrate the endpoint side of that association.



3.2 Software Version

All testing is performed on ICON Product Version Oracle Intelligent Communications Orchestration Network (ICON) 26.3.0.0.2

4 Related Documentation

4.1 Oracle Intelligent Communications Orchestration Network

1. Configuration Process
2. Add Sites
3. Add Number Blocks Manually
4. Connect Services

5 Oracle ICON Configuration

Create the provider-facing Twilio Carrier Service in Oracle ICON before creating or associating a PBX or UC service. The completed Solutionslab-beta-Twilio service shown later is an example only.

Its name, region, access controls, SIP settings, and generated URI must be verified for the actual deployment.

5.1 Access the Customer Account

Sign in to the Oracle ICON portal and open Services. Select Add Service in the upper right of the Services page to begin creating the Twilio carrier connection.

5.2 Create the Twilio Carrier Service

Follow these screens in order to create the provider-facing Twilio Carrier Service from scratch. Solutionslab-beta-Twilio is only an example name. It is not a required ICON or Twilio value.

Solutionslab-beta-Twilio is an example Carrier Service name. Use a name appropriate for the deployment. On Prem IP-PBX is an example Generic SIP Service. This procedure creates the Carrier Service, aligns its SIP peer and access controls with Twilio, and prepares it for association with the PBX-side service.

1. On Services, select Add Service. Any carrier service already displayed on the page is an existing example. Use the button to start a new service.

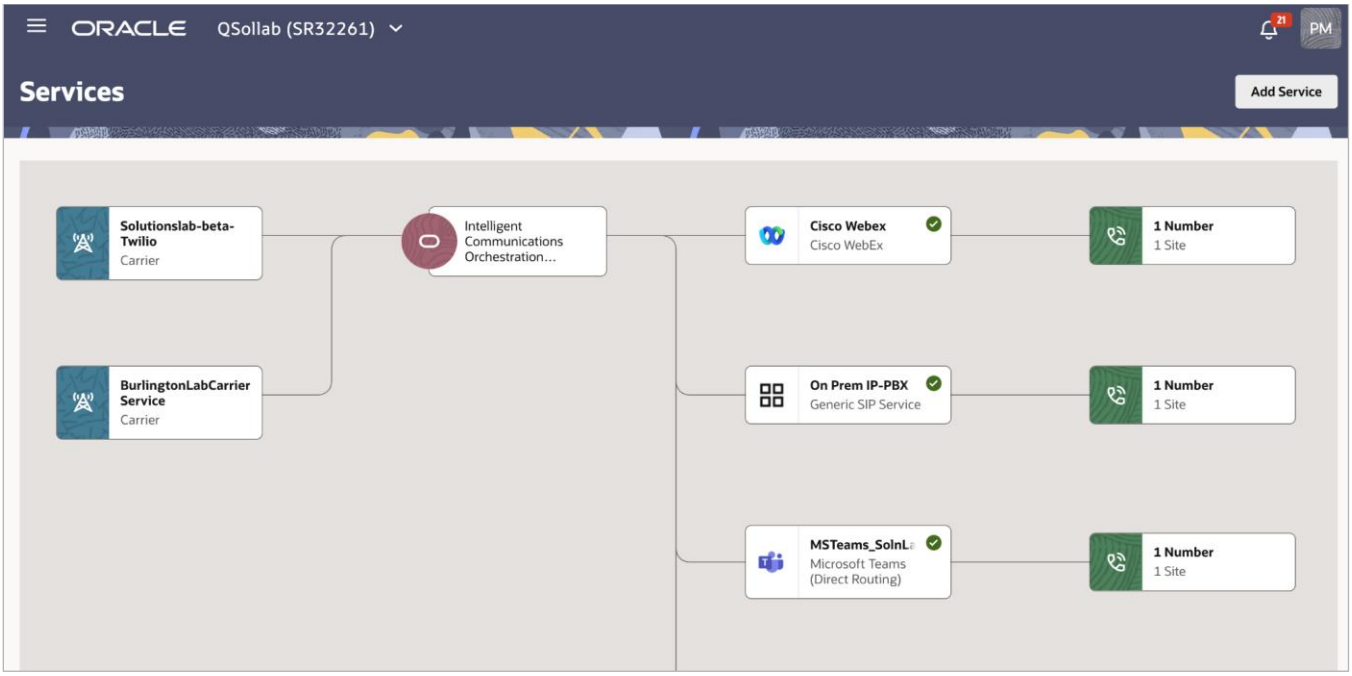


Figure 1: Services page. Select Add Service to start a new carrier service.

2. On Select service profile, select the Carrier Service card.

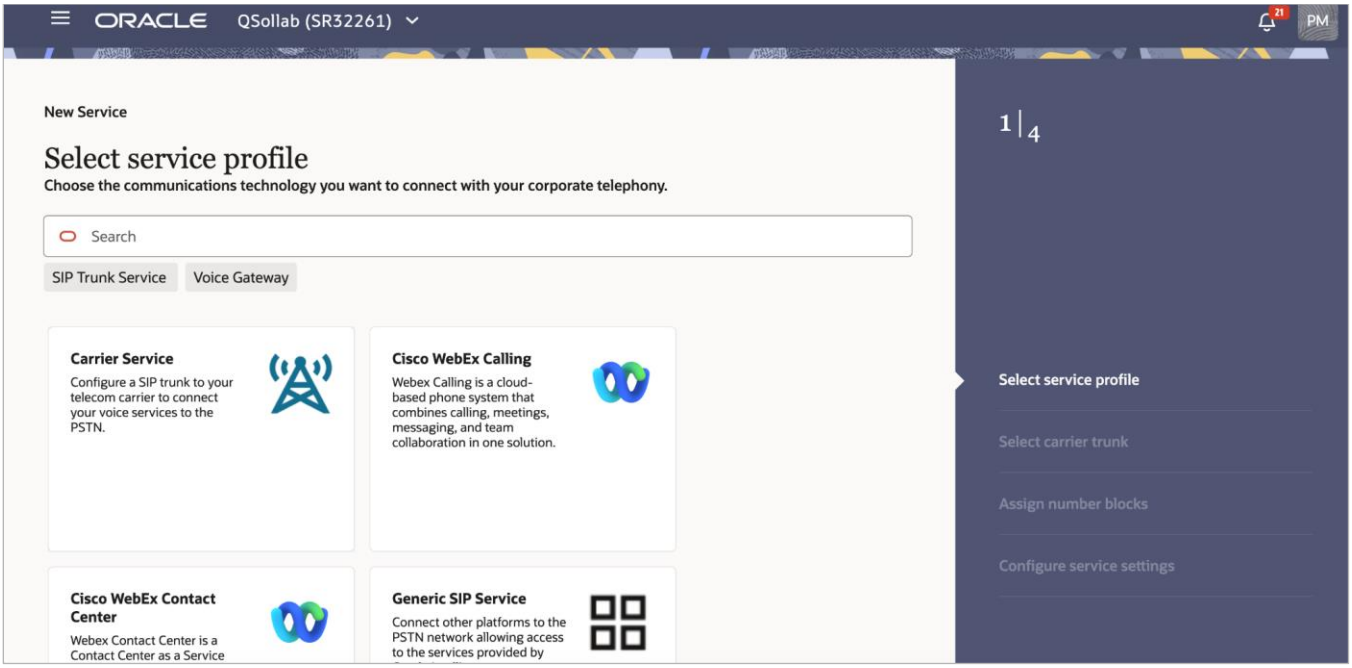


Figure 2: Select Carrier Service as the new service profile.

3. Scroll to the bottom of the profile selection page and select Continue.

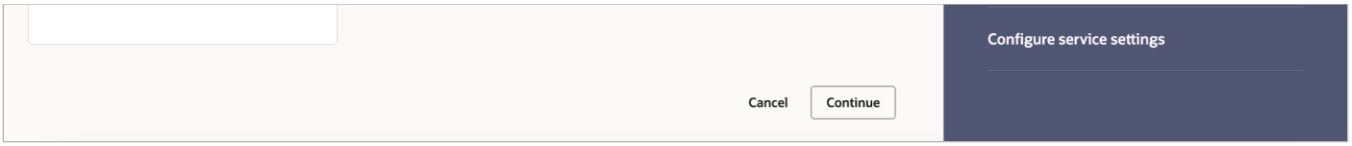


Figure 3: Continue button at the bottom of the Carrier Service profile page.

4. On Configure service settings, enter the following values for the Twilio Carrier Service. The values shown are from the example configuration. Use the corresponding values from the Twilio trunk and the selected ICON region in each deployment:

1. Service Name: Solutionslab-beta-Twilio in this example. Choose a distinct name for your own carrier profile. The name does not have to match the Twilio trunk Friendly Name.
2. Service Region: US1 (Ashburn, United States) in the example. Select the ICON region serving this connection. Use US1 only when it is the approved ICON and Twilio processing design. For another Twilio Region, create and configure the trunk resources, authentication resources, and number routing in that target Region. Do not treat an edge location as a processing Region.
3. SIP Signaling Transport Method: UDP in the completed example. Select the transport used by the Twilio trunk and allow it signaling port on the network path. The blank creation form displays TCP as a default.
4. SIP Termination Method: FQDN in the completed example, because the Twilio Termination SIP URI is a domain name. The blank form displays IP as a default.
5. ICON inbound ACLs / IP Address: The captured example lists 168.86.128.0/18 and 54.172.60.0/32, 54.172.60.1/32, 54.172.60.2/32, and 54.172.60.3/32. Allow only the verified Twilio SIP signaling sources for the selected edge and failover paths in the ICON signaling ACL. The four /32 addresses represent the North America Virginia 54.172.60.0/30 range. Twilio documents 168.86.128.0/18 as a secure-media range, so apply it to the media firewall policy only when it is required.

6. Inbound Server/URI: solutionslabbetatwilio.pstn.twilio.com in the example. Enter the Termination SIP URI created on the Twilio trunk. This is the only SIP peer URI you enter in the ICON carrier creation form.
7. Number of Channels: 32 in the example. Set the concurrent-call limit to the approved capacity for this trunk.
8. Maximum Calls Accepted Per Second (CAPS): 5 in the example. Set the approved call-attempt limit for this trunk.

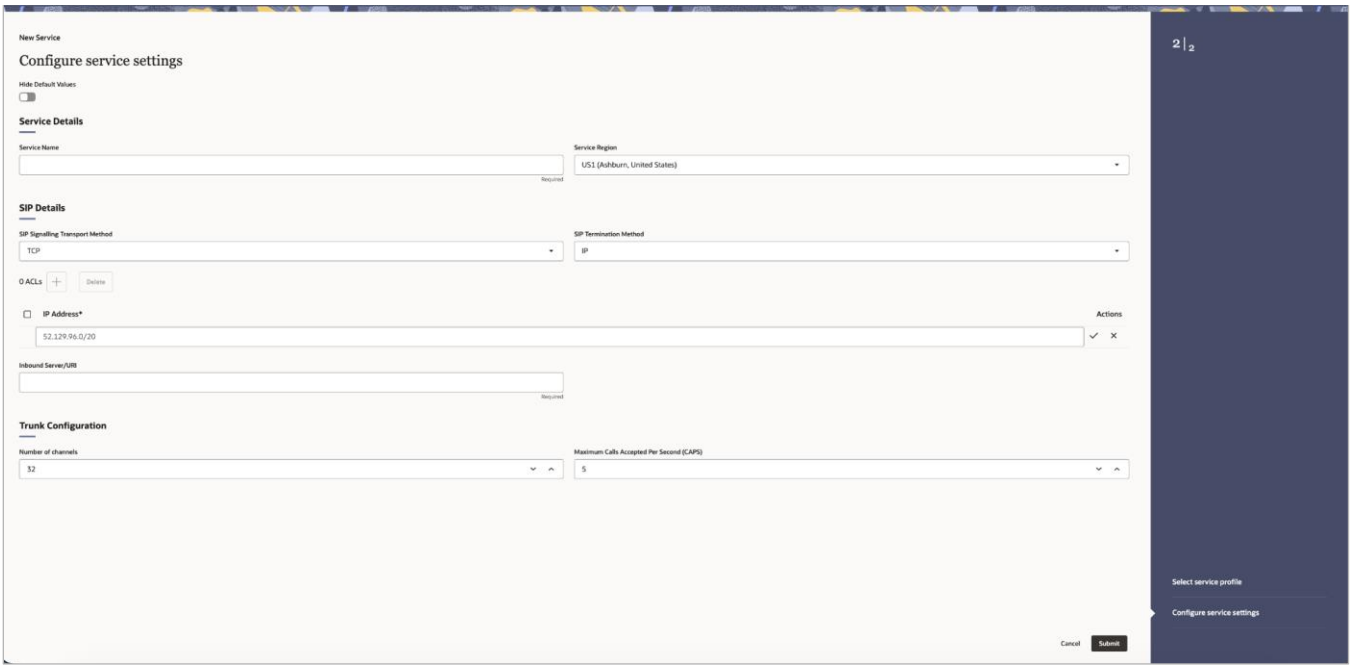


Figure 4: Carrier Service settings form before entry. The visible TCP, IP, and sample IP address are form defaults or placeholders, not the Twilio example settings.

Review the entered values and select **Submit**.

ICON creates the Carrier Service and automatically assigns the Outbound Server/URI. From Services, open the new service and select View Configuration to record the generated URI.

Resolve it to the approved public ICON signaling addresses, allowlist those source addresses in the Twilio Termination IP ACL, and configure the generated URI as the Twilio Origination destination. DNS propagation after provisioning can take time.

Figure 5 shows a completed carrier example after submission. Verify the generated URI and all settings on your own service before attaching another service to this trunk.

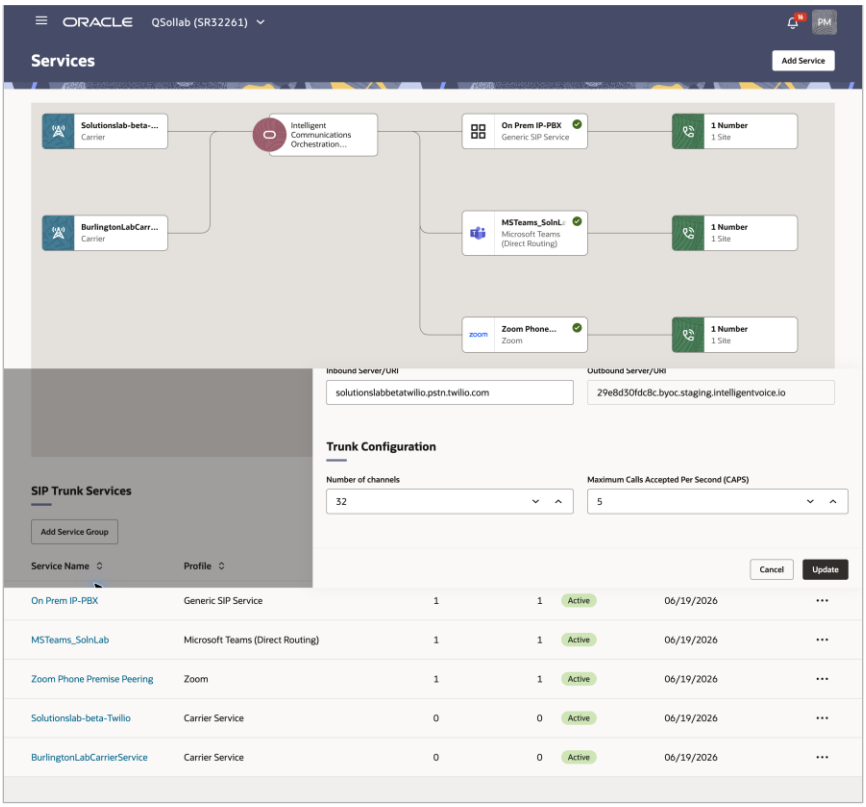


Figure 5: Example completed Carrier Service configuration in Oracle ICON, including the configured Twilio inbound peer and automatically generated ICON outbound peer.

5.2.1 Region Selection and Carrier Service Details

Select the deployment region before accepting the completed Carrier Service values. The example uses an ICON service in US1. For a different Twilio Region, build the matching regional trunk and recreate its associated IP ACLs, Credential Lists, and number routing there. A trunk can use the same friendly name and Termination URI in multiple Regions, but only one Region is active for a Termination URI. The creation-step bullets above show the values entered on the form. The Outbound Server/URI appears only after ICON creates the service.

Service Name: Solutionslab-beta-Twilio in this example. Any clear, deployment-specific carrier-service name can be used.
Profile: Carrier Service. This identifies the object as the external carrier side of the connection.
Service Region: US1 (Ashburn, United States). This is the ICON region in which the carrier service is configured.

5.2.2 SIP Settings and ICON ACL Directionality

Check the example configuration against the selected Twilio trunk and the currently published regional signaling addresses. ICON and Twilio use separate allowlist for opposite call directions. ICON inbound ACLs and firewall rules admit Twilio signaling and media. The Twilio Termination IP ACL admits the public ICON signaling source addresses that send calls to Twilio.

SIP Signaling Transport Method: For the purpose of this application note we chose UDP as transport, however the transport can be UDP, TCP or TLS based on the required connectivity method.
SIP Termination Method: FQDN in the completed example. Select the method appropriate to the Twilio termination URI. The blank creation screen shows IP by default.

ICON inbound ACLs: the screenshot includes four Twilio North America Virginia signaling addresses and 168.86.128.0/18. Use current Twilio signaling addresses for the selected Region and failover paths in the ICON signaling ACL.
Inbound Server URI: Enter the termination FQDN configured on the Twilio Elastic SIP Trunk here. ICON sends carrier-bound SIP traffic to it.
Outbound Server URI: ICON automatically generates this URI. Resolve the generated URI for the ICON environment and add its applicable public signaling IP addresses to the Twilio termination IP ACL. Configure the generated URI as the Twilio origination target for calls toward ICON.

5.2.3 Twilio Trunk Capacity

Number of channels: 32. This is the concurrent-channel limit configured for the Twilio carrier service.
Maximum Calls Accepted Per Second (CAPS): 5. This is the configured call-setup rate limit for the Twilio carrier service.

5.3 Associate the Twilio Elastic Sip trunk to your service.

After creating and validating the Carrier Service, create the customer-facing SIP Service that represents the PBX or SBC. This could be the available SIP profiles for your respective service for e.g. Microsoft Teams, Zoom Phone etc. For the purpose of this Application Note we have chosen Generic SIP profile in the examples.

Under Carriage Details, select the newly created Twilio Carrier Service. The On Prem IP-PBX service below is an example of the completed association.

The completed example relationship is Solutionslab-beta-Twilio Carrier Service to Oracle ICON to the On Prem IP-PBX Generic SIP Service. The next chapter documents the corresponding Twilio Console configuration, including termination, origination, authentication, number procurement, and number-to-trunk association.

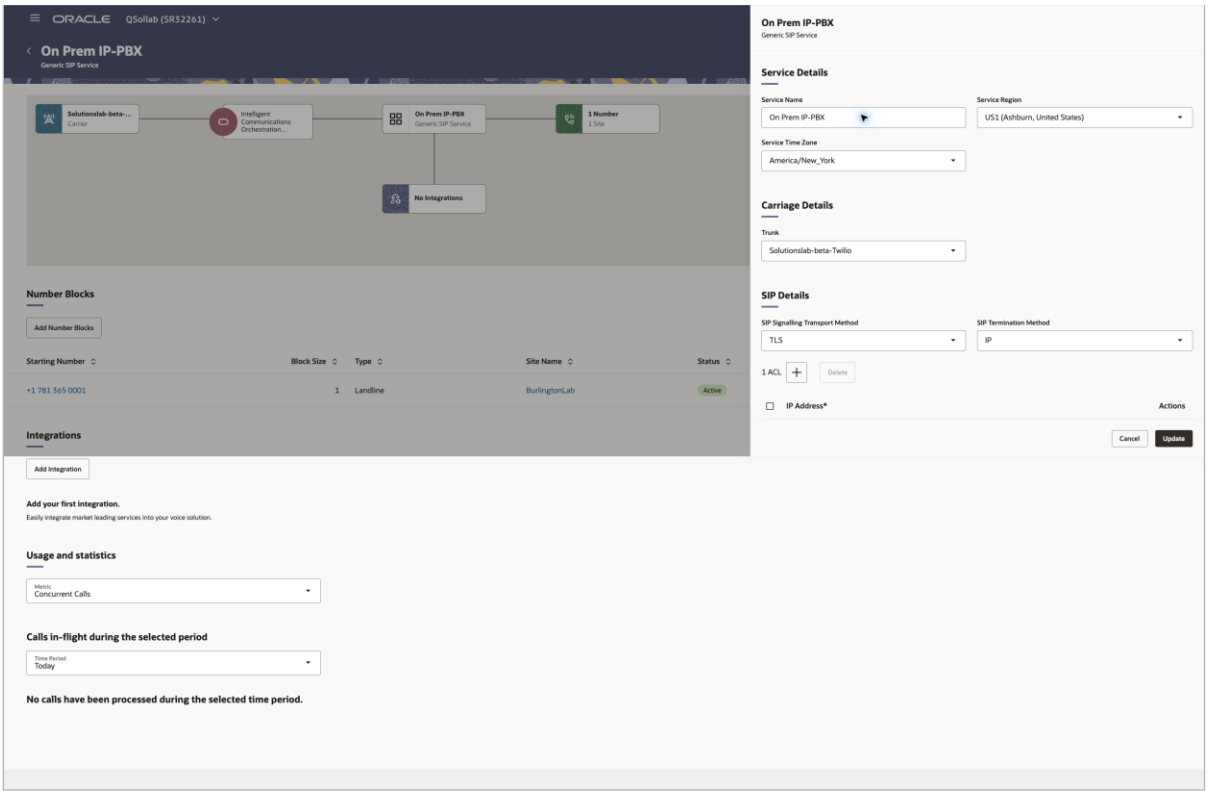


Figure 6: Example Generic SIP Service with Solutionslab-beta-Twilio selected as the Twilio trunk in Carriage Details.

6 Twilio Console Configuration

This section configures the Twilio Elastic SIP Trunk after the ICON Carrier Service has generated its Outbound Server/URI. It uses the existing trunk iconbetatrunk as an example. Create or select the trunk in the intended Twilio Region. Its Termination SIP URI is entered in ICON as Inbound Server/URI. ICON then generates the Outbound Server/URI that becomes the Twilio Origination destination. The Twilio Termination IP ACL must contain the public ICON signaling source addresses associated with that generated URI.

6.1 Create an Elastic SIP Trunk

In the Twilio Console, go to Elastic SIP Trunking > Trunks and select Create new SIP Trunk. Enter the deployment-specific Friendly Name (iconbetatrunk in the example) and select Create. The Friendly Name is a Twilio label. It does not have to match the ICON Carrier Service name. Use the equivalent navigation if your Console layout differs.

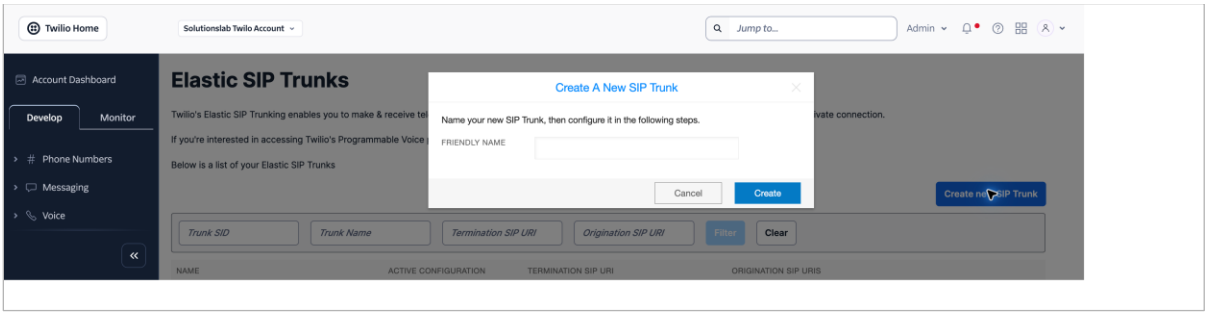


Figure 8: Twilio Console Create a New SIP Trunk dialog. Enter a deployment-specific Friendly Name before creating a new Elastic SIP Trunk.

6.2 Configure Termination Routing and the Twilio IP ACL

Termination handles calls from ICON to the PSTN through Twilio. Enter a Termination SIP URI and configure at least one approved authentication scheme. The example uses the URI below and active US1 regional routing. In US1, confirm the trunk, IP ACL, and assigned numbers are configured in US1. For another Region, recreate the regional trunk resources and route the numbers to that Region before testing. Choose an edge location separately, only when the network design requires it.

Termination SIP URI: solutionslabbetatwilio.pstn.twilio.com in the example. Enter this same domain in ICON's Inbound Server/URI field. It is the peer to which ICON sends calls toward Twilio.
Routing: Regional, with United States (US1) active in the example. Confirm the correct Twilio Region for the deployed trunk, IP ACL, and associated numbers. The selected edge influences network ingress or egress.
Termination authentication: attach an IP Access Control List containing the verified public ICON signaling IP addresses associated with the automatically generated Outbound Server/URI.

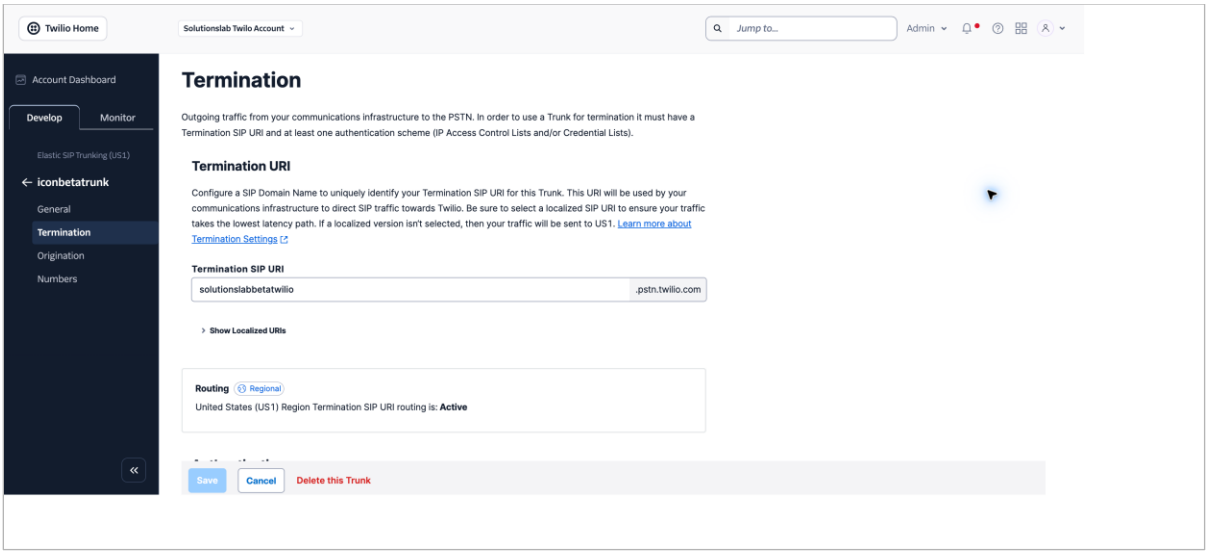


Figure 9: Twilio Console Termination configuration for iconbetatrunk, showing the termination FQDN and active US1 regional routing.

Resolve the generated ICON Outbound Server/URI for this service and verify the public signaling source addresses with the ICON deployment team before adding them to the Twilio Termination IP ACL. This Twilio ACL permits ICON-originated SIP INVITEs to the Twilio Termination SIP URI. In the opposite direction, the ICON inbound ACL permits verified Twilio signaling sources to reach ICON. Configure and validate both directions independently.

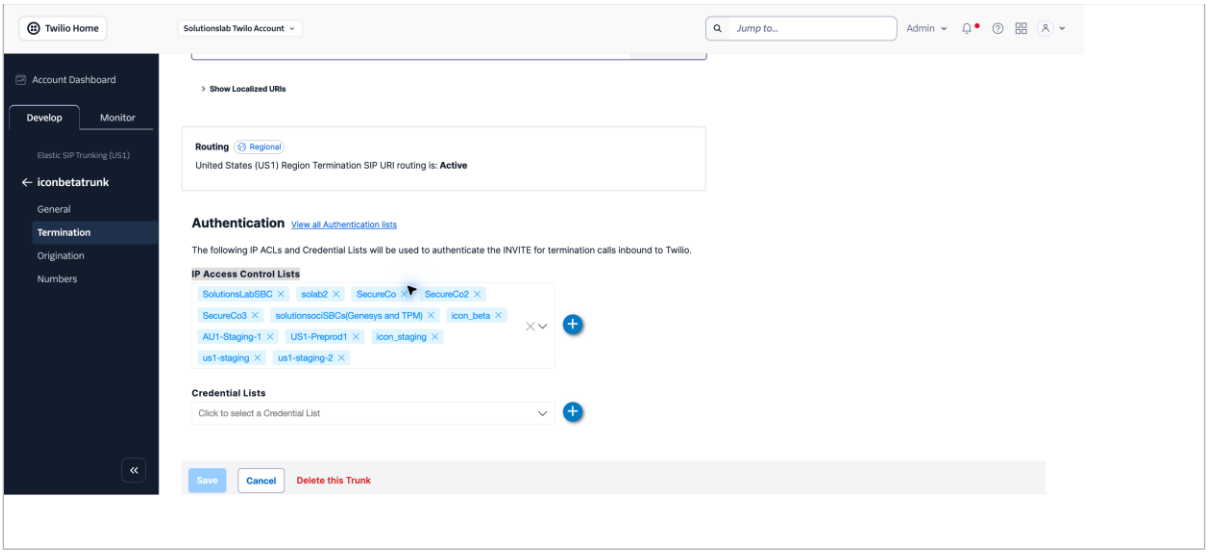


Figure 10: Twilio Console Authentication section for iconbetatrunk, showing the attached IP Access Control Lists and the optional Credential Lists selector.

6.3 Configure Origination to the ICON Carrier Service

Origination delivers calls from Twilio numbers to ICON. Add an Origination SIP URI using the generated ICON Outbound Server/URI for the same Carrier Service and Region, with the SIP transport and reachable signaling port appropriate to the deployment. Enable the entry only after checking DNS resolution, ACLs, and connectivity. A Twilio number must be associated with this trunk for PSTN inbound calls.

Origination SIP URI: use sip:<generated ICON Outbound Server/URI>.
Priority: 10. Twilio uses priority when more than one origination URI is configured.
Weight: 10. Twilio uses weight to distribute calls between origination URIs with the same priority.
Enabled: selected. Confirm that the required origination target is enabled after the endpoint and reachability have been verified.

The screenshot URIs are from different example snapshots. For a working configuration, use the generated Outbound Server/URI of the ICON Carrier Service connected to this Twilio trunk. Confirm that the Twilio Termination IP ACL allows the applicable ICON public signaling source addresses, that the Twilio Termination SIP URI matches the ICON Inbound Server/URI, and that both sides use compatible signaling transport.

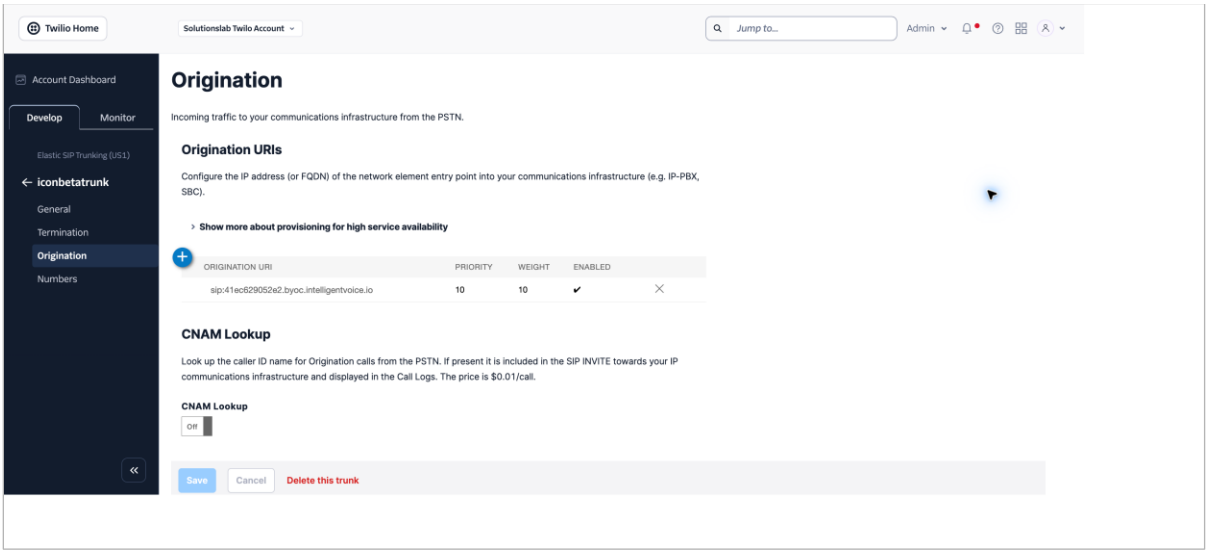


Figure 11: Twilio Console Origination configuration for iconbetatrunk, showing the origination URI, priority, weight, and enabled state.

6.4 Procure a Twilio Number

From the required trunk, open Numbers and select Add a number > Buy a Number. This opens the Twilio number search from the context of the selected trunk. Choose the country, required capabilities, and search criteria, then select Search to review available numbers.

Select the country and only the capabilities required for the service, such as Voice. Availability, capabilities, regulatory requirements, and monthly pricing vary by country and number type.
Select an available result and review the purchase details. The final Buy action provisions a chargeable Twilio number and must be completed only with the required account and financial authorization.
After the number is provisioned from this trunk workflow, confirm that it appears in the trunk Numbers table before testing incoming calls.

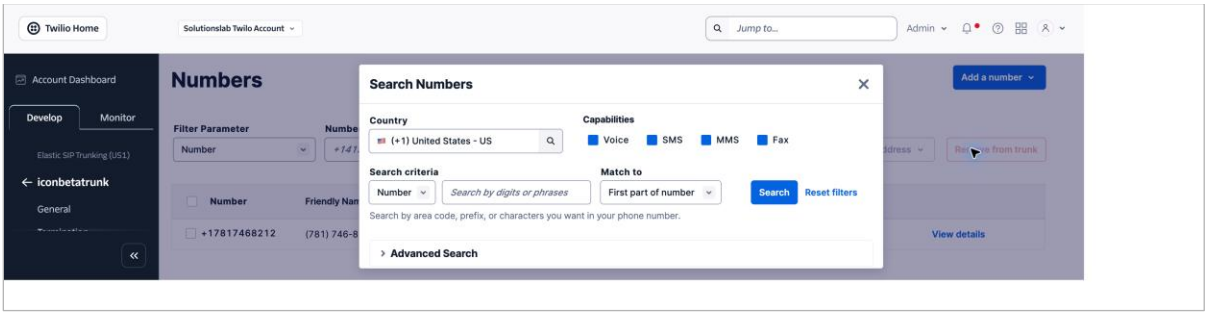


Figure 12: Twilio Console Search Numbers dialog opened from the iconbetatrunk Numbers page. This screen is used to select country, capabilities, and search criteria before purchasing a number.

6.5 Assign a Number to the Trunk

Use the trunk Numbers page to associate a number with the particular Elastic SIP Trunk. The Add a number menu provides separate paths for a new purchase and an existing number already owned by the Twilio account.

For a newly procured number, select Add a number > Buy a Number, complete the authorized purchase, and verify that the number is listed on this trunk.
For an existing Twilio number, select Add a number > Add an Existing Number, choose the intended number, and complete the association. Bulk Add Existing Number is available only when multiple existing numbers are deliberately being moved to the same trunk.

Verify the result in the Numbers table. The iconbetatrunk example shows one assigned United States number, its Friendly Name, Emergency Address Status, and View details control.
Associating, moving, or removing a number of changes live inbound call routing. Confirm the target trunk, number ownership, emergency-address requirements, and implementation window before completing the change.

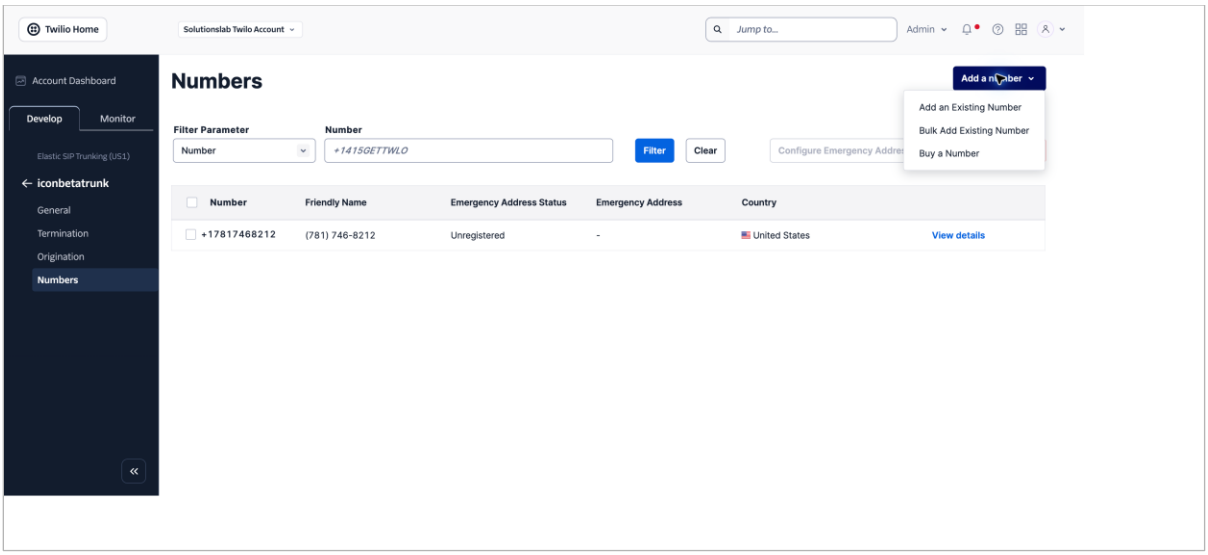


Figure 13: Twilio Console Numbers page for iconbetatrunk, showing the assigned-number table and the Add a number menu with Add an Existing Number, Bulk Add Existing Number, and Buy a Number.

7. Appendix A Oracle ICON Source Addresses by Region

For the current Oracle ICON source addresses by region, review the Oracle Intelligent Communications Orchestration Network Security Guide. For SIP signaling source addresses, refer to Table 2-2, SIP Addresses, and use the Generic SIP Trunk SIP Addresses row for the applicable Oracle ICON region. For media source addresses, refer to Table 2-1, RTP Addresses, and select the addresses for the Oracle ICON region used by the deployment.

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