GENESYS™

SIP Server Deployment Guide

Enabling office-based agents to work from home

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Contents

Enabling office-based agents to work from home

> **Important**
>
> The purpose of this article is to provide recommendations to our customers for moving office-based agents to their remote home-based locations.
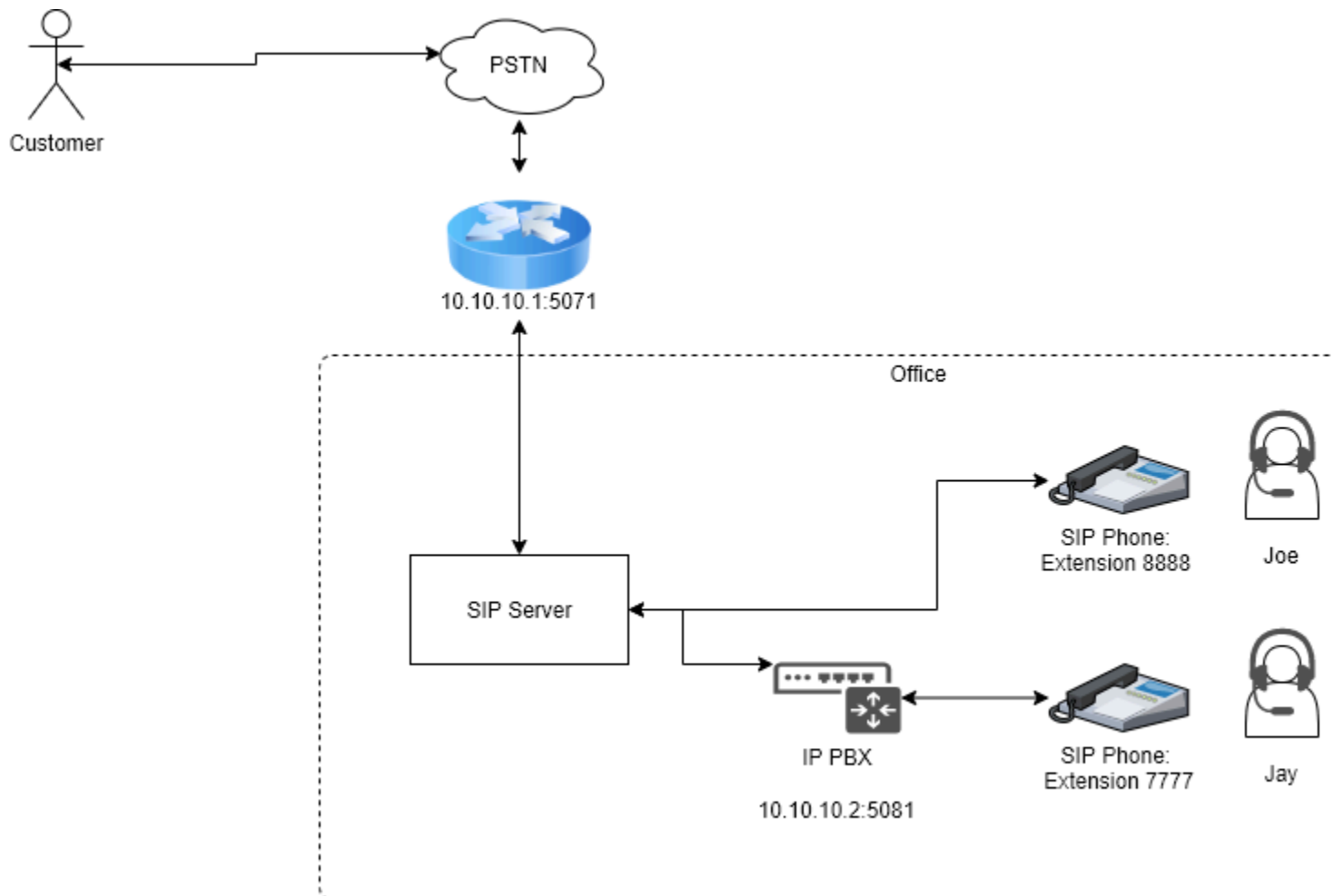
Sample configuration of office-based agents

Figure 1: Reference configuration of office-based agents (click to expand)

In the sample configuration of office-based agents:

- Agent Joe has a SIP Phone (Extension 8888) that is directly registered on the SIP Server.
- Agent Jay has a SIP Phone (Extension 7777) that is located behind the office IP PBX.

Extension 8888 is a SIP Phone that is SIP-registered on the SIP Server and must have the following configuration of the **contact** option (other options are excluded):

Agent: Joe
Extension DN: 8888
[TServer] contact = *

Extension 7777 is a SIP Phone that is located behind the softswitch (IP PBX) and must have the following configuration objects representing the softswitch and SIP Phone:

VOIP Service DN: Softswitch **(some reference configuration)**	**Agent: Jay** **Extension DN: 7777**
[TServer] contact = 10.10.10.2:5081 service-type = softswitch prefix = 77 dual-dialog-enabled = false make-call-rfc3725-flow = 1 oos-check = 10 oos-force = 2	[TServer] <there must be no "contact" configured for the DN>

Sample configuration of home-based agents

There are several possibilities for moving office-based agents to their home locations:

- Remote agents located behind the softswitch
- Remote agents with nailed-up connections located behind the softswitch
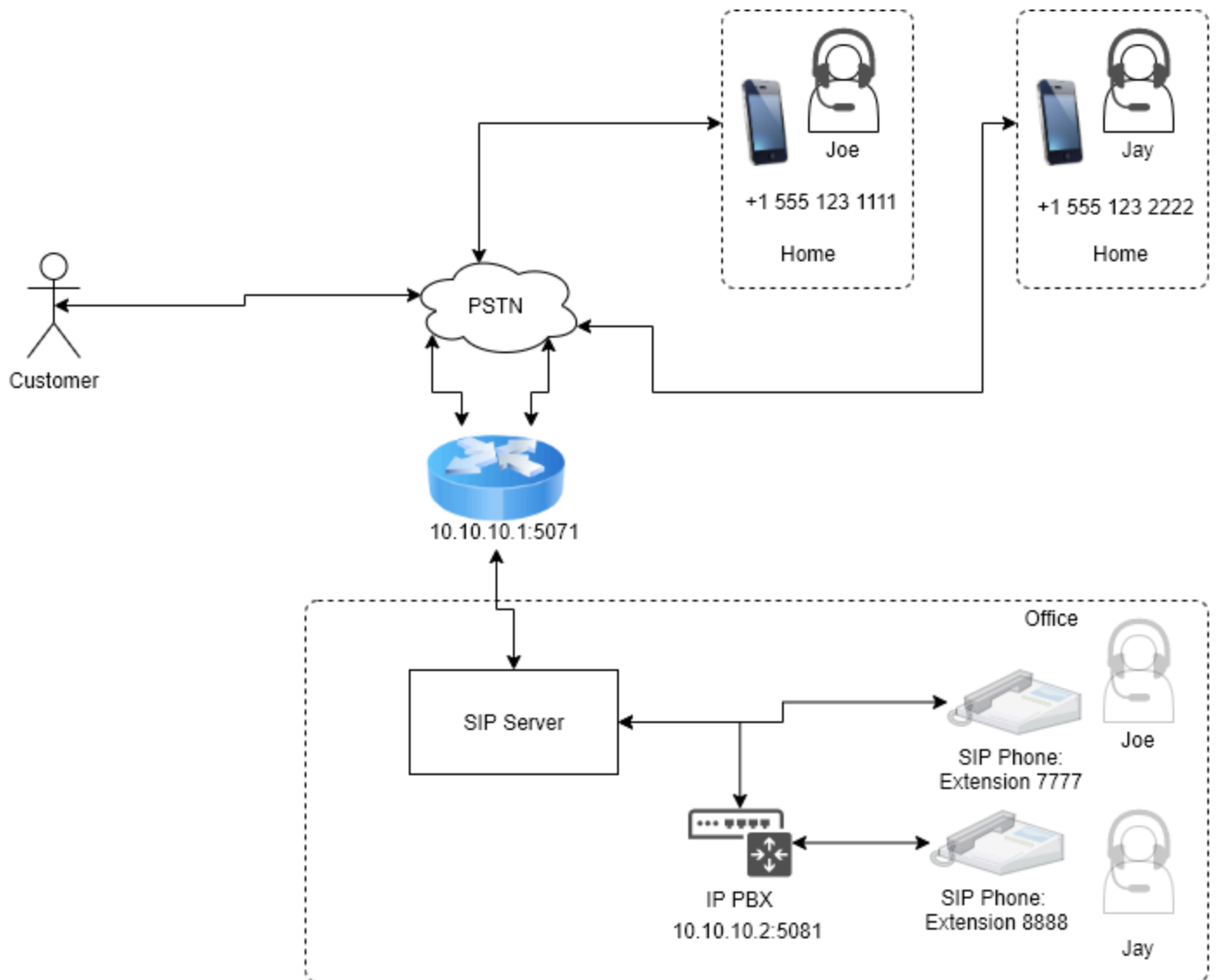- Remote agents with non-provisioned phone numbers

Figure 2: Reference configuration of home-based agents (click to expand)

Remote agents behind the softswitch

In this sample configuration:

- Agent Joe has a phone +1 555 123 1111 that is reachable over the PSTN.
- Agent Jay has a phone +1 555 123 2222 that is reachable over the PSTN.

To reconfigure agents to their home locations:

1. Configure the new or existing softswitch representing a trunk to the SBC: 10.10.10.1.5071
2. Configure the new Extension for Joe: +1 555 123 1111

3. Configure the new Extension for Jay: +1 555 123 2222

VOIP Service DN: Softswitch (some reference configuration)	Agent: Joe Extension: +1 555 123 1111	Agent: Jay Extension: +1 555 123 2222
[TServer] contact = 10.10.10.1:5071 service-type = softswitch prefix = +1 dual-dialog-enabled = false make-call-rfc3725-flow = 1 oos-check = 10 oos-force = 2	[TServer] <there must be no "contact" configured for the DN>	[TServer] <there must be no "contact" configured for the DN>

When a call is routed to Joe's new extension +1 555 123 1111, SIP Server locates the Softswitch configuration by prefix +1 and sends an INVITE message through the SBC 10.10.10.1.5071 to DN +1 555 123 1111.

Remote agents with nailed-up connections behind the softswitch

To configure remote agents with nailed-up connections behind the softswitch, use the same configuration procedure as described in the Remote agents behind the softswitch section. In addition, the agent Extensions are configured with option **line-type** = 1.

Note: Configuration with **line-type** = 1 on the Extension behind the softswitch was introduced in SIP Server version 8.1.102.93. If you run a SIP Server version prior to 8.1.102.93, use the workaround solution for configuring the Extension DN with the **contact** pointing to the SBC (see Remote agents with nailed-up connections behind a trunk prior to SIP Server version 8.1.102.93).

VOIP Service DN: Softswitch (some reference configuration)	Agent: Joe Extension: +1 555 123 1111	Agent: Jay Extension: +1 555 123 2222
[TServer] contact = 10.10.10.1:5071 service-type = softswitch prefix = +1 dual-dialog-enabled = false make-call-rfc3725-flow = 1 oos-check = 10 oos-force = 2	[TServer] line-type = 1 <there must be no "contact" configured for the DN>	[TServer] line-type = 1 <there must be no "contact" configured for the DN>

Remote agents with nailed-up connections behind a trunk prior to SIP Server version 8.1.102.93

Agent: Joe Extension: +1 555 123 1111	Agent: Jay Extension: +1 555 123 2222
[TServer]	[TServer]

contact = 10.10.10.1:5071 line-type = 1 reject-call-notready = true dual-dialog-enabled = false make-call-rfc3725-flow = 1	contact = 10.10.10.1:5071 line-type = 1 reject-call-notready = true dual-dialog-enabled = false make-call-rfc3725-flow = 1

See detailed steps describing configuration and functionality of nailed-up connections in Nailed-Up Connections for Agents.

Remote agents with non-provisioned phone numbers

For Agent Jay with the DN configured behind the softswitch, a configuration described in this section could be used only if a deployment meets the following prerequisites:

- Agent desktop is Workspace Web Edition (WWE) version 8.5.201.95 or later

- SIP Server version 8.1.102.93 or later

Such configuration does **not** require provisioning of a new Extension DN +1 555 123 2222 for Agent Jay. Agent Jay continues to use Extension DN 8888 through the WWE desktop; however, voice calls are directed to the PSTN number +1 555 123 2222.

A special configuration must be enabled in WWE, which enables WWE to prompt an agent for the remote DN during login. The entered remote DN, +1 555 123 2222 in this case, is passed to the SIP Server in the **agent-phone** key-value pair of AttributeExtensions of RequestAgentLogin.

When an inbound call is routed to an agent logged in on DN 8888, SIP Server uses the provided remote DN to reach that agent.

For SIP Server to be able to reach an agent at the remote DN +1 555 123 2222, the softswitch VOIP Service DN must be created with the **contact** pointing to the SBC gateway.

VOIP Service DN: Softswitch

(some reference configuration)

```
[TServer]

contact = 10.10.10.2:5081
service-type = softswitch
prefix = +1
dual-dialog-enabled = false
make-call-rfc3725-flow = 1
oos-check = 10
oos-force = 2
```

SIP Server resolves the softswitch by the prefix (in this example, +1) and sends INVITE to +1 555 123 2222 towards the SBC 10.10.10.2:5081.

For more information about this feature, see Remote agents with non-provisioned phone numbers.

System performance warning

For large-scale systems ranging 2000+ agents per SIP Server switch, bulk Extension DN re-configuration can adversely impact performance for Configuration Server and SIP Server. Bulk configuration changes generate high rate of configuration update notifications and associated load on the components processing configuration changes.

Observe the following guidelines should to prevent significant service degradation:

- Plan to do large-scale configuration changes during off-peak hours, when production traffic is the lowest.

- Monitor CPU consumption of Configuration Server, SIP Server, and other components deemed to be critical during the implementation.

- Throttle configuration changes using a staggered approach, dividing changes to the smaller batches of acceptable size.

- Start with a small conservative batch, for example 50-100 DNs, and observe increased CPU load.

- Validate successful reconfiguration of the initial batch.

- Estimate excess system capacity, and increase the batch size based on the estimated excess capacity.