Cisco IPCC Express: Troubleshooting Calls Stuck In Queue

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Introduction

This document discusses why a Cisco IP Integrated Contact Distribution (ICD) agent randomly goes into **Reserved** state and is not able to get out of the state unless the agent logs out and logs in again in a Cisco IP Contact Center (IPCC) environment. This document also describes the procedure to troubleshoot this problem.

Note: The problem described in this document occurs in Cisco IPCC Express version 3.0(2). For details, refer to Cisco bug ID CSCeb36950 (registered customers only) : Documentation on Select Resource Step.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Cisco CallManager
- Cisco IPCC Express

Components Used

The information in this document is based on these software and hardware versions:

- Cisco IPCC Express version 3.0(2)
- Cisco CallManager 3.2(3) or 3.3(3)

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Problem

If the script uses **Connect** to perform a consult transfer to a Cisco ICD agent, the call proceeds to time out and goes into **Failed** state due to ring−no−answer. If there is a **Goto** step that jumps to **Queued** in **Select Resource**, unavailable agent resources are not verified. The caller remains in the ICD script loop and does not connect to an agent, even if one becomes available. The agent is left in **Reserved** if the call is queued then routed to an agent (before it disappears from queue).

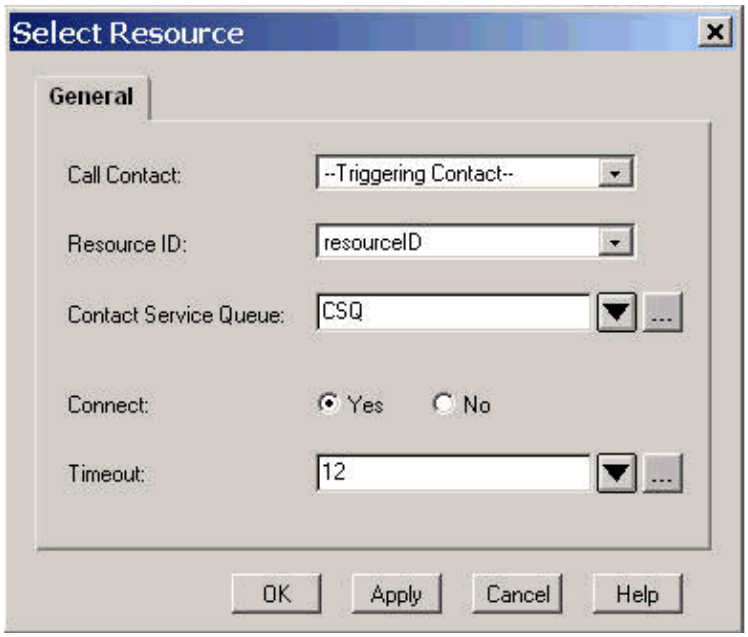
When you troubleshoot this problem, it is important to understand the exact callflow and collect the related information, as shown in Cisco IPCC Express Support Checklist.

Logic

Agent selection and call delivery is performed by the **Select Resource** step in the script. This step examines agents (resources) who are members of the Contact Service Queue (CSQ) in a **Ready** state. This step then selects the agent based on the CSQ resource selection criteria, and performs a Consult (supervised) Transfer between the calling customer and the CTI port, to the calling customer and the agent's directory number.

The **Select Resource** step has several properties, as shown in Figure 1:

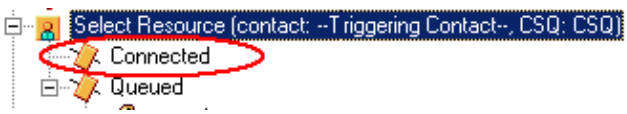
Figure 1: Select Resource



The **Timeout** property represents the length of time, in seconds, before the contact is retrieved into the queue. The default timeout is 10 seconds. This value must be lower than the Call Forward No Answer timeout in Cisco CallManager.

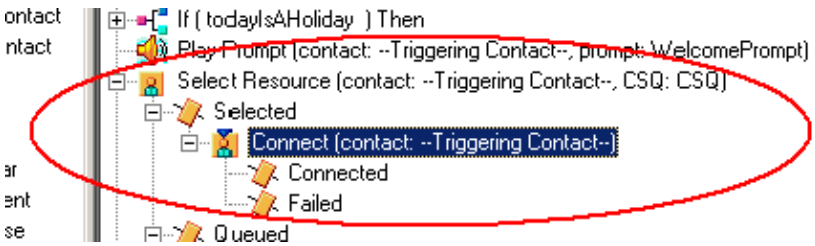
The **Connect** property controls whether the call is delivered immediately to the agent. When set to **Yes**, the **True** branch result is **Connected** (Figure 2), and the call is automatically connected to the available agent.

Figure 2: Select Resource − Connected



When set to **No**, the **True** branch result is **Selected** (Figure 3). This allows the call to have additional call treatment prior to the attempt to connect the call, and requires an additional **Connect** step to send the call to the agent.

Figure 3: Select Resource − Connect (contact: Triggering Contact)



Explanation

Select Resource properties have an impact on operations. When **Connect** is set to **Yes**, logic is similar to `DO_WHILE`. For example, when the agent is ring−no−answer, **Select Resource** runs repeatedly until there is no agent available. If no agent is available, the control branches to **Queued**.

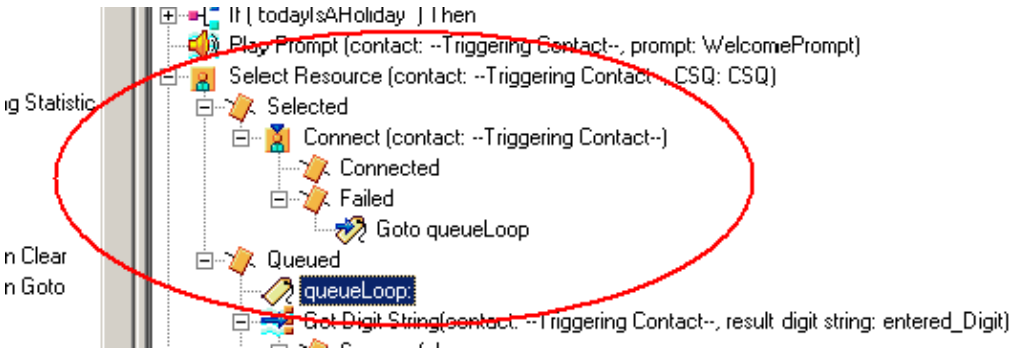
When **Connect** is set to **No**, logic is nested with **Connect**. For example, if the **Connect** step returns **True**, the call is connected and the **Connected** branch is taken. If the **Connect** step returns **False**, the result is the **Failed** branch, and the logic needs to return to the outside loop.

It is commonly misunderstood that if the **Connect** step exits on **Failed**, there are no additional agents available. Some scripts are written with a **Goto** step to a label inside the **Queued** branch of **Select Resource**.

Note: You cannot remove a call from the **Connect** step.

This logic is invalid if there is more than one agent available when the **Select Resource** step is executed. Because the design of **Connect** is based on DECISION logic (Figure 4), use a **Goto** step to bypass **Select Resource** and test for another available agent on **Connect Failed** breaks ring−no−answer.

Figure 4: Queued



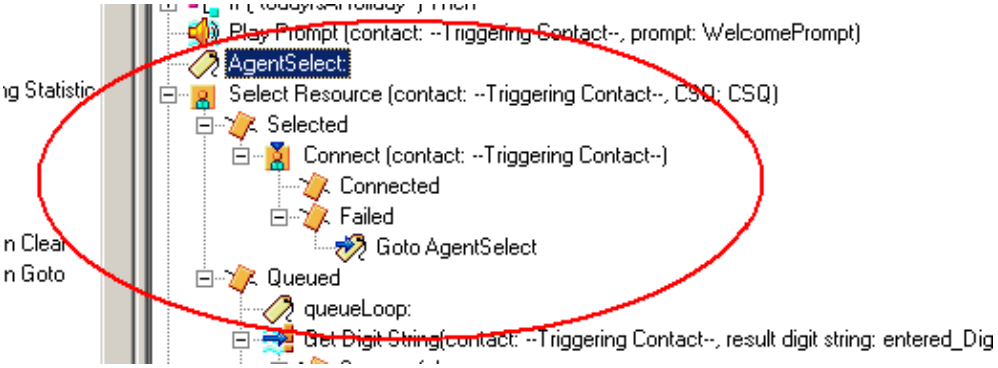
The symptom appears to be the result of an agent stuck in **Reserved** state, and other agent(s) can be left in the **Not Ready** state for a period of time. The real time report for **Contacts** might see a call left in queue, **stuck in queue**.

Solution

A label such as AgentSelect must be placed before **Select Resource**, as shown in Figure 5. On the **Failed** branch of **Connect**, add a **Goto** step to AgentSelect. The logic of the **Select Resource**, when agents=0,

branches to the **Queued**.

Figure 5: Label − AgentSelect



Note: In order to clear the calls stucks in queue, restart the `CRS Engine` and CRS Node Manager services from **System** > **Control Center** in the CRS AppAdmin.

Related Information

- **Cisco IPCC Express Support Checklist**
- **Technical Support & Documentation − Cisco Systems**

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