



Remote Virtual Agent: Using non-Cisco Phones for Cisco UCCX Agents

Using Remote Virtual Agents with Cisco's Unified Contact Center Express(UCCX) and Cisco Unified Application Environment (CUAE)

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Executive Summary

Companies and organizations of various sizes are deploying Contact Centers as a means of offering customers and clients support, providing information and customer relationship management. The use of Contact Centers has grown mainly because competitive pressures have forced organizations to improve and increase customer contact. Contact Centers also provide an extremely cost effective way to maintain contact with customers and service their needs.

Deploying Contact Centers is not cheap. Businesses and organizations are looking for ways to cut costs, while maintaining the level of contact their customers have become accustomed to; or that the competition has. One of the ways to reduce cost is to expand the pool of available customer service agents, without the need to add more on-site agent stations to house them. The best way to do this is to take the contact center to the agent's house, using the agents PSTN phone as the contact center phone. This capability is already available in the Enterprise Edition of Cisco's Contact Center, but is lacking in the less costly Express edition. This is very unfortunate as it is usually the smaller cost centers (less than 300 agents) that need to squeeze as much cost savings as possible.

In addition, there are Contact Centers that have a mix of PBXs. Perhaps they have a legacy PBX that is still being used while they migrate to Cisco. These customers often would like to use the non-Cisco PBX phones as Agent phones. Once again, the Enterprise version of Cisco's Contact Center supports this configuration, while the Express does not. VocalMash provides a solution to the challenge of getting Cisco's Contact Center Express to utilize non-Cisco phones as agent phones, be they enterprise PBX or external PSTN lines. This technology solution is called *Remote Virtual Agent* and it utilized a combination of Cisco's Unified Application Environment and VocalMash integration software.

Cisco UCCX/CUAE Remote Virtual Agent

What Is Remote Virtual Agent?

Cisco's Unified Contact Center Express can only use agents who have telephony devices that are registered as SCCP devices on the attached Communication Manager. This means that calls to the Contact Center can only be routed to these agents. Remote Virtual Agents are agents that take calls from the contact center queues, but do not have Cisco IP phones. These agents may have phones on other non-Cisco PBX, PSTN lines or indeed on other Cisco clusters. UCCX cannot use these phones as a means of communicating with the agents, since it cannot exercise control over the phones or get phone status information. Since UCCX as delivered by Cisco cannot route calls to agents that have non-Cisco phones, or Cisco phones in a different cluster, a way must be devised to "fool" UCCX into using a phone that is not a physical Cisco IP phone. A combination of Cisco CTI application and the creation of a "virtual" phone accomplishes this feat.

From the perspective of the Cisco Unified Contact Center Express, the remote agent's phone is not the target PSTN, non-Cisco or remote cluster phone. It is the virtual phone. This means that the agent is assigned the remote phone when configuring UCCX.

Another way to affect a remote agent would be to set up a bank of Cisco IP phones that are set to forward all calls to the remote PSTN or non-Cisco phone. This option is not acceptable or flexible in that it requires that a set of phones be permanently set up on a phone-to-one basis to "service" each remote agent.

How Does Remote Virtual Agent Work?

In general *Remote Virtual Agent* uses a combination of Cisco Unified Communications Manager JTAPI APIs, AXL SOAP and the telephony components of the Cisco Unified Application Environment to manage the Agent phone. Calls from the Contact Center that are destined for the agent are initially sent to a configured virtual device. Depending on where the call is coming from, it can be routed to either a static final destination or in some cases, a dynamically determined telephone number. For example, the final destination can be set to a specific phone number (PSTN or otherwise). Another option could be to route the call to different destinations depending on the time of day. In this

way, more than one remote agent can “share” the same virtual phone. VocalMash *Remote Virtual Agent* keeps a record of the destination numbers and the duration of each call. So, in addition to the standard report from UCCX, additional reporting can be culled from the *Remote Virtual Agent* application and combined with the report from UCCX.

There are two main flavors of Remote Agent. The basic functionality and features of each are described below.

Remote Virtual Agent Type I

With this type of RVA, the user has access to a broadband connection back to the UCCX server and is able to log in using Cisco Agent Desktop. However, the agent phone is non-Cisco or is not in the same cluster as the UCCX. Figure 1 below illustrates the setup of this type of *Remote Virtual Agent*.

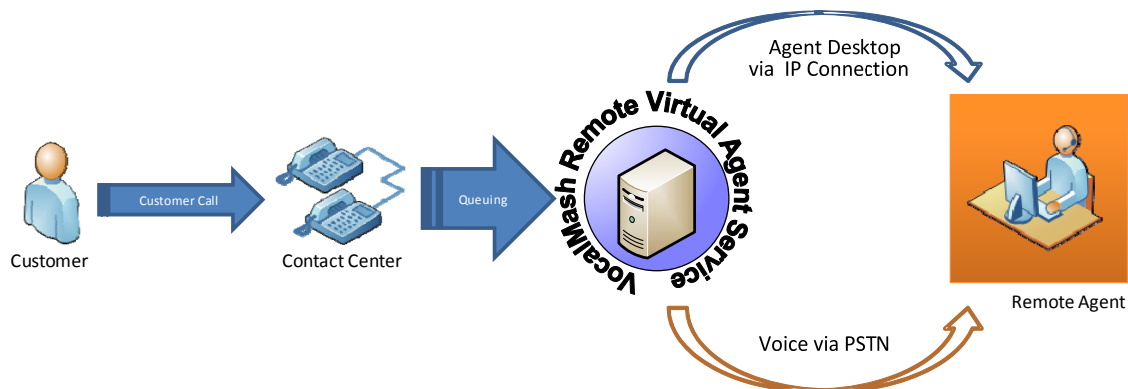


Figure 1: Remote Virtual Agent Type I

Remote Virtual Agent Type I: Standard RVA (Static)

As calls come to the agent, they answer on the non-Cisco phone. All other interaction with the UCCX server is done via the CAD. As far as the UCCX knows, the agent’s phone is the virtual one hosted by the CUA. All reports will reference that number. The RVA service on the CUA will maintain a log of all calls that are sent to the remote agent phone, the start time of the call and the duration. If available, the caller ID of the call is also captured.

Remote Virtual Agent Type I: Standard RVA (Dynamic)

Another variation of the standard RVA will host a web site on the RVA server. This web site will permit remote users to log into the service and set the destination remote phone number. In this manner, users can dynamically set the remote phone number. The RVA

service will check the value of the destination number for each call and if the value changes, sends the call to the new destination. As with the “static” version of the Standard RVA, all interaction with the UCCX server by the agent is done via the CAD. Once again, detailed call information is maintained and can be combined with the information derived from UCCX to produce a detailed and specific report.

Remote Virtual Agent type I: Standard RVA (Scheduled)

A third variation of the standard RVA is one in which the destination remote phone is “semi-static”. The value of the destination number is determined by the time of day. The administrator sets the numbers and the time interval during which they are valid. As calls come in, they are routed to the correct destination remote phone that is valid at that time.

Remote Virtual Agent Type II

This type of Remote Virtual Agent is employed in the extreme case where there is no broadband connection from the remote agent to the Contact Center facility. In this case, all communications between the agent and the Contact Center server has to be proxied through the *Remote Virtual Agent Service*. The only way the agent can communicate the status of a call is via an IVR hosted on the RVA server.

All the sub-types available in Type I (“Static”, “Dynamic” and “Scheduled”) are also available with this type of *Remote Virtual Agent*.

Since the CAD is not available to the agent, logging in/out, setting state, etc., must be done via a call back to the Service. The Service uses the Caller ID to associate the agent with the last call and as such can correctly send the state.

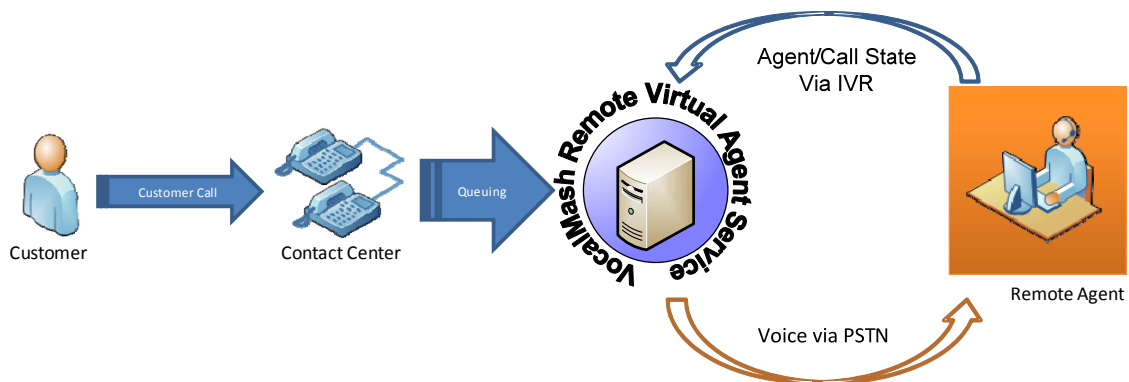


Figure 2: Remote Virtual Agent Type II

Remote Virtual Agent Deployment Considerations

There is no standard way to deploy *Remote Virtual Agent*. Each organization's requirement is different. The main components are very similar and can be re-used easily. Depending on the culture and requirements of the customer, the deployment can be configured accordingly. Features can be added or removed. Therefore, *Remote Virtual Agent* is a custom application. **Type I** comes closest to being an off-the-shelf product. The three sub-types are the only variations. **Type II**, on the other hand, is very specific to how an organization does business.

Conclusion

Remote Virtual Agent offers users of Cisco's UCCX the ability to employ remote agents without having to migrate to the more expensive (and harder to manage) Enterprise version of the Contact Center. The potential cost savings that can be realized from utilizing agents that do not have to be housed in contact centers and provided with Cisco IP phones can be enormous. In addition to being more cost effective, using PSTN lines for remote agents has the further advantage of voice clarity over internet IP telephony.