

CTI Integration for Asterisk:

Integrating CTI into your Application for enabling Call Center ACD

There is a lot of excitement in the telecommunications world regarding Asterisk, the leading hybrid telephony switching platform, and many businesses are viewing Asterisk as a potential game changer. We've all heard the talk of how Asterisk on standard server hardware, delivers full PBX functionality, does Voice over IP (VoIP), and can interoperate with standards-based telephony equipment. These are all great features to note and appreciate, but none of them explain what makes Asterisk uniquely beneficial as a telephony switch, or more importantly, why Asterisk should be considered by call centers utilizing mature business applications to service their clients.

One unique benefit of Asterisk is that it provides a real cost effective migration path to IP telephony for many organizations. While comparing Asterisk to other telephony switching platforms, it is imperative to note that the underlying telephony switch is usually a large portion of the initial cost when buying a packaged proprietary ACD (Automatic Call Distributor) solution. Asterisk is unique as a switching platform in that it delivers a proven, open source, next-generation switch that has been tested and implemented by millions of users worldwide and is extremely cost effective. Therefore, any contact center software that is capable of delivering next-generation ACD functionality and utilizes Asterisk as its telephony switching platform is positioned to deliver immediate cost savings to its users.

Business applications and CRM (Customer Relationship Management) systems are domain specific and evolve over time. Interaction to provide timely, important and actionable information to customers is an essential part of doing any business let alone over the phone. Business systems and CRM should control the telephony interaction with customers. Computer Telephony Interface (CTI) allows integration of ACD and call control

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into business systems. This is a sure way to ensure that business systems and CRM drive the telephony interaction with customers and not the other way round.

Although CTI is nothing new, the need to implement CTI for Asterisk is in high demand. This paper will explore CTI for Asterisk and introduce Q-Suite, a full-featured call center ACD for Asterisk that delivers

next-generation contact center functionality to its users. It will discuss how Q-Suite's CTI library allows you to incorporate Asterisk into your operations while establishing a next-generation platform for your business application, thereby positioning you for success in a competitive market.



Background on CTI for Asterisk

In the legacy world, all telephone switches were proprietary and CTI was governed by sets of Application Program Interface (API). However, the introduction of VoIP has created a paradigm shift in telecommunications where reliance upon one mature and reliable protocol (TDM) is being replaced with VoIP, which enables the unification of voice and data over a single network. Asterisk as a hybrid telephone switch allows seamless interoperability of TDM and VoIP impacting everything from the choice of telephony switch to the way CTI integration and call control are implemented. The drastic alterations to the economics of telephone technology can be directly attributed to the success of the IP centric design of Asterisk, with equal support for TDM. The end result is that for the first time, different business domain applications have an extremely cost-effective migration path to an IP telephony platform.

A good telephony platform requires functionally rich ACD and the ability to scale with growth. Contact centers demand enormous flexibility and, as a result, ACD capability has significantly expanded since the inception of the first ACD nearly thirty years ago. Therefore, any CTI interface library for the ACD should provide an API that allows session management as well as call flow and control over the entire set of telephony functions. Session management decides which agent gets which call, as well as monitors agent states at any given time. Call control and flow relate to how a call can be managed once it is delivered to the agent with functions like hold and transfer. A good contact center ACD will be equipped with features like skills based routing and predictive dialing to cover both inbound and outbound capabilities.

Q-Suite ACD

Q-Suite is a top of the line call center ACD for Asterisk, delivering a feature-rich, scalable, out-of-the-box software that comes with a powerful ACD and a dialer. Q-Suite delivers full functionality with ready availability of industry standard features comparable to any of the high-end proprietary peers in the contact center technology domain. It has detailed reporting capabilities and is bound to satisfy the functional requirements of most advanced call centers. With Q-Suite, you can switch to Asterisk and migrate seamlessly to IP telephony. Q-Suite offers reliability through its High Availability option, with the ability to ensure that calls are not dropped due to any single failure.

Computer Telephony Integration (API) with Q-Suite

Q-Suite provides a uniform interface for CTI integration in the form of well-published API in both .NET and Socket library. This enables Q-Suite ACD to work under the hood, enabling vertical businesses to integrate CTI into any existing or new business application. This approach allows ease of integration and efficient applications development, creating an opportunity for business systems with legacy telephony to incorporate CTI, embed Q-Suite ACD and move to IP telephony using Asterisk.

Q-Suite API with its uniform interface for CTI integration, presents a unique opportunity for deploying Asterisk as your IP telephony platform. Benefits of an Asterisk telephony platform include seamless VoIP and TDM interface, rich PBX functionality and a superior telephone switch at a fraction of the cost of comparable proprietary systems. The CTI library for Q-Suite ACD on Asterisk is available in two flavors (.NET and Socket) to make it easy for use in client applications under different platforms. The XML library allows client applications to log agent activity and tie it with telephony for ease of reporting.

CTI Interface

- Socket and .NET API library
- XML library for Database
- Session Management
- Call Flow and Call Control
- Monitoring and Status

Managing your CTI integration with Q-Suite API

Q-Suite comes with a well developed ACD and Dialer. Q-Suite API provides a uniform interface to manage session, call flow and control as well as status monitoring. This interface allows access to the rich functions of Q-Suite ACD working on Asterisk telephony; from handling calls distributed through ACD queues to using the dialer in predictive, progressive or preview mode.

Uniform Interface

This uniform API interface is an essential abstraction of both the ACD and the underlying telephone switch to make application development simple and straightforward. It allows the application builder to concentrate on the CTI interactions without involving with the complexities of the underlying ACD and telephony layers.

A Uniform API Interface for managing session, call control and live status is essential for ease of development and presents the best option for migrating to Asterisk and IP telephony.

Session Management

Session management deals with the State of the Agent. It handles everything from login to the various states during a session. The sessions include the availability of the agent to handle calls and the states within the calls. Availability to take calls is governed by rules dictated by both inbound skills based routing and outbound dialing modes like preview, predictive and progressive modes.

Call Flow and Call Control

Call Flow and call control deal with all aspects of control over the voice part of the call. It includes capabilities like hold, transfers, re-dial and hang-up. The transfer ability include blind, consultative and conference.

Agent Mobility

Voice and data are essential for an agent-customer interaction. The API should allow flexibility for the agents to be seated anywhere within the office as well as outside remote locations. It should allow hot-desking and virtual extensions.

Status monitoring and Presence

Status monitoring is essential for applications requiring the agent to have a good view of the rest of the operations. As such, the API should be able to provide a good level of detail on the overall activity and Agent Presence so that your application developer can filter and present all the essential monitoring data for real-time status.

Conclusion

These are exciting times for IP telephony. Asterisk offers incredible value for a fraction of the cost of ownership compared to proprietary telephone technologies. In Q-Suite, Asterisk has a superior call center ACD that can provide proven advantages. A uniform interface for CTI integration presents the best option for migrating to Asterisk and IP telephony.

A Final Word

The paradigm shift in technology has opened an unprecedented opportunity to enhance your call center platform, lower your cost and provide much more functionality. There has been never such an opportunity to compete and grow with industry leaders. In order to take full advantage of what cutting edge technology can deliver, a close analysis of Asterisk and Q-Suite should remain central to your search for a next-generation contact center technology platform.

There are a number of resources to help you learn about the benefits of Asterisk. In addition to the reference materials available at www.indosoft.com, you can find valuable information here:

Asterisk Website
www.asterisk.org

Commercial Asterisk Support
www.digium.com

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About Indosoft

Indosoft is a global provider of call center software for Asterisk. It has been providing call center solutions to medium and large contact centers around the world for over nine years. It also licenses its ACD for Asterisk with .NET and socket library to enterprises utilizing Asterisk in their product line. Indosoft has been making available Q-Suite ACD for private label contact center technology solutions.

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