



Symphony Services built a next generation voice & video recording and call-monitoring application around Cisco technologies for a leading ISV specializing in IP-based business communication software to enable strategic market release through accelerated product development.

The Client

The client is a US-based Cisco reseller, developer of third-party applications for Cisco environments and a dominant force in the unified communications market. They focus on building and supporting IP-based business communication solutions – CTI, Contact Center applications - to help companies propel their organizations forward.

The Challenges

The client looked to cater to the market need and capitalize on opportunity with the strategic market release of IP based business communication software integrating Cisco technologies.

They preferred not to invest in building in-house development teams and instead focused on serving their customers effectively. The expectation from co-development partner was to cater to the current and future product development, maintenance and support needs.

Further, considering the customer's bad experience – missed delivery schedules with quality issues- from a previous outsourcing engagement, on-time market release was top priority.

The Solution

Symphony set up a Global Operations Centre (GOC) with a 17-member experienced team. A steering committee comprising of Development Manager (Customer), and Delivery Manager (Symphony) provided management oversight, reviews, control and guidance.

Product Development and Integration

Platform

.NET, CISCO

Industry / Domain

BPO

Engagement Key Points

- Project duration – started in 2006 spanning two years
- Ramp Up Time from SOW sign off – Immediate
- Team Composition: Delivery Manager, Lead, Software Developer, Build Engineer, Web Developer, Technical Writer
- SDLC: Agile
- Release Cycle - iterative cycle with sprint release every fortnight and continuous integration with daily builds

Technology and Tools Used

- .NET3.0
- Communication Protocols:
 - TCP / IP, TAPI (C++), UDP, SSL encryption, SMTP, CISCO AXL
 - Signaling: SIP / Skinny
 - Transport: RTP
- Packet Sniffer: Captures RTP/SCCP using WinPcap in promiscuous mode
- CODEC Conversion: G711 a-law/u-law,G729, h.263
- Database: SQL Server 2005
- Messaging: SIMPLE

Major Product Features

- Scalable and comprehensive voice & video recording and call monitoring solution for BPO industry
- Integrates with multiple systems- Avaya - and platforms viz., salesforce.com, Siebel, Goldmine
- Tight integration using Microsoft technology and Cisco technologies



The solution to the client included designing an extensible architecture to build two products - CTI server integrated to a call recording and monitoring server – as a comprehensive IP based communication solution. The architecture accommodates voice activated calling with Cisco IP phones from MS CRM application with a software based comprehensive PBX console for Cisco Call manager.

The first part consists of a product to capture and manage voice, video, chat and desktop activity in a central repository in real-time. This supports distributed recording with central administration over web. Configurable file formats at group and user level allow easy integration with other applications. The monitoring services uses signaling protocol Skinny and communication protocol RTP. The manager service controls local and remote monitoring services. A remote engine controls monitoring service and Config DB. Both the recording engine and recording manager extensively use Windows services with seamless integration with Cisco IP Telephony user directory and services.

The second part consists of a CTI server that enables access to vital customer information in real-time by integrating multiple system and platforms with Cisco IP telephony infrastructure. The server uses multithreaded Windows services written in .NET and centrally administered over web with policy management. A WinForms-based Smart Client written in ASP.Net interacts with IP Phones using Push XML popup and with end-user using agent service. The system also provides voice activated dialing from MS CRM applications through IP Phone interface.

A MS Outlook dialer integrates Microsoft Outlook with Cisco IP Phones and software based operator console facilitates as comprehensive PBX for CISCO Call Manager. The system also provides call log with file status.

The Benefits

Symphony's technical leadership-driven product development achieved the following benefits for the client:

- Accelerated product development with enhanced delivery confidence
- Successful delivery against an aggressive timeline
- Complete engagement transparency and clear visibility of project status at all times by active communication and extensive collaboration