

The Value of Nectar's UCD in Cisco Contact Center Environments

Unified Communications Diagnostics Module

Advanced Monitoring, Management, Reporting, and Diagnostics

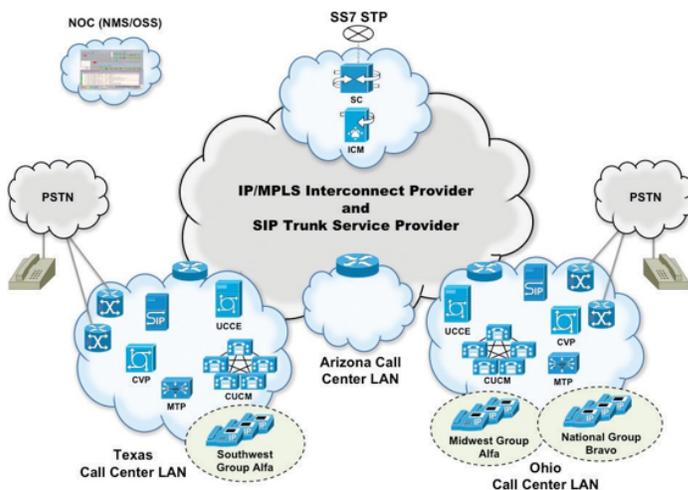
As organizations face new and complex operational challenges within the ever-evolving Unified Communications (UC) landscape, Nectar Services Corp. is poised to deliver unparalleled business value with its Unified Communications Diagnostics (UCD) module. The UCD module helps enterprise businesses and service providers like you manage multi-vendor network complexity, maximize existing technology investments, and achieve a lower Total Cost of Ownership (TCO) by providing complete IP network information correlation and comprehensive insight into cross-platform UC issues – offering faster resolution of UC problems and a superior end-user experience.

Background

An enterprise customer uses a nationally distributed Cisco® IP contact center to route inbound subscriber calls to an agent in an appropriate skills group. The subscriber's original call is initially queued on an inbound voice portal to acquire subscriber data. When an agent is available in the appropriate agent skills pool, the call is automatically transferred to that agent. The universe of call flows after this initial call is very sophisticated, including subsequent transfer of the subscriber's call to an agent in a skills pool in a physically separate location. To facilitate future reductions in capital and operational expenses, the enterprise's CIO has a long-term plan to migrate the existing distributed, site-based contact center architecture to a hosted architecture.

The Problem

This customer's call center architecture is based on Cisco infrastructure, as shown in the figure below.



Because call flows beyond that of the original subscriber's call require sophisticated media handling, the call center solution requires that the original media stream be "nailed up" to a conference bridge resource known as a media termination point (MTP). Media streams of subsequent call transfer legs to secondary agents or back to the voice portal queue are set up between a reserved port on the MTP and the transfer target.

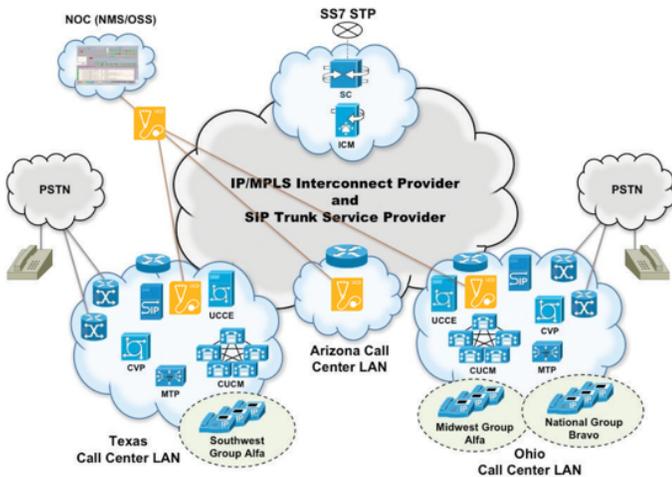
This MTP-based, distributed solution provides a more efficient utilization of call center network resources. However, the insertion of this media bridge complicates the diagnostics and troubleshooting effort by an order of magnitude. In order to troubleshoot a call with degraded audio quality, the help desk technician today must manually acquire call and network data for as many as five different call legs. If a degraded call included a subsequent transfer to a different agent or back to the voice portal queue, the number of call legs increases accordingly. Also, the call

transfer may be to an off-site agent, requiring separate acquisition and manual correlation of logged data for the off-site network. Current manual troubleshooting and correlation tools make the root cause isolation effort practically impossible.

The Nectar Solution

Nectar’s Unified Communication Diagnostics (UCD) module delivers immediate insight into cloud networks, providing complete end- to-end service visibility. It enables network managers to anticipate, isolate, and remediate IP service issues before they become end-user problems. Nectar’s UCD automatically provides a comprehensive, single-screen view of content, session, and IP network topology on a hop-by-hop basis. UCD captures and correlates network behavior in real time on any size network and across multiple vendors’ products to provide visibility into contact center communications services.

The figure below shows the deployment locations of Nectar UCD selected by this customer.



As soon as the UCD appliances had been commissioned, the system began monitoring and archiving automatically correlated analytics for all legs on all calls. UCD technology is specifically designed to analyze and interpret Cisco’s Skinny Client Control Protocol (SCCP) or Cisco SIP Signaling between the Cisco Unified Communications Manager (CUCM) and associated MTPs. Further,

deployment of UCD components in other contact center locations allowed automated correlation of calls and rapid root cause isolation even when the calls were transferred to remote-site agents.

The enterprise’s operations team was able to view the performance of each call in terms of its session, content, and IP network topology information. Key performance indicators (KPIs) of audio quality, signaling issues, and IP topology events helped determine the source of any degradation immediately. Further, UCD proactively alerted the operations teams of negative trends, which allowed for preemptive action to avoid larger-scale impacts. Query functions built into UCD’s dashboard allowed the operations team to quickly find impacted sessions, both current and historical, and to easily view the details of these sessions to localize the fault condition. In addition, for those historical sessions that had experienced issues, the Nectar UCD had captured session information, which the operations team could view using publicly available software such as Wireshark, without having to wait for the problem to recur.

This functionality reduced the normal MTTI/MTTR transaction from hours or days to a couple of mouse clicks!

Calls with Low MOS Scores

The call center operations team received an alert that UCD’s key performance indicator alerts related to low mean opinion score (MOS) were increasing in frequency, indicating that more calls were experiencing poor voice quality. The operations team queried the UCD dashboard to find all the calls experiencing that condition.

The session details showed that the impacted calls had significant packet loss and jitter issues. Forensic data from UCD was collected across all media legs of the call. The media leg in which the audio was degraded was identified between two call center media server elements. This data was used to identify the likely root cause for these events.

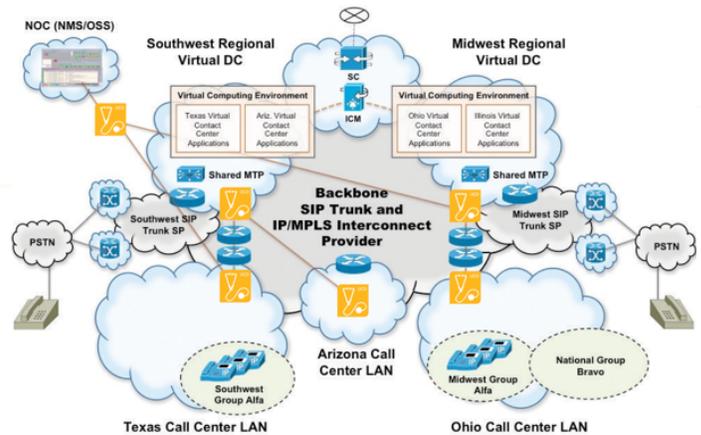
The situation was corrected in less than 10 minutes by adjusting the call center component QoS settings to accommodate sudden increases in traffic. Prior to deploying the Nectar solution, there was no way to correlate multiple media legs and signaling legs for an end-to-end call. The presence of UCD allowed operators to quickly isolate and repair an issue that would have been ignored as unreproducible before UCD's installation.

Bracketing and SLA Monitoring

Agent sites and their UCD components are distributed across a national IP/MPLS interconnect/SIP trunk network. Subscriber calls are frequently transferred between sites as these calls are escalated. Communications problems arising from site contact center or network components are quickly isolated and corrected. If service degradations arise within the trunk/interconnect provider's network, help desk technicians rapidly assimilate UCD's forensic data for any calls between any agent sites. This forensic data and UCD's historical KPIs are used to reliably demonstrate to the provider that the root cause is external to the enterprise's managed networks. This diagnostics "bracketing" capability is essential for enforcement of provider SLAs.

Service Assurance Support for Hosted Contact Center Architecture

The capital and operational costs of highly distributed and therefore duplicated components in the existing contact center architecture are not sustainable for this enterprise's business model. Migration to a more cost-effective, cloud-based architecture is planned. All the troubleshooting, diagnostics, trend analysis, and reporting capabilities provided in the distributed enterprise model are also provided in the hosted contact center architecture.



Almost all the currently site-deployed contact center components are to be hosted in regional data centers. The only remaining site-deployed contact center components are agent IP phones and computers. The figure above shows the cloud-hosted architecture along with recommended deployment of UCD components. The new architecture also allows greater flexibility for the addition of new contact center agent sites. Also, contact center network components such as the MTPs may be more efficiently shared among multiple agent sites.

The demands of responsive service assurance – rapid fault isolation, anticipation of issues through historical reports and trend analysis, and rapid remediation of the root cause with enhanced forensic data - do not change with the cloud architecture. UCD delivers the same service assurance capabilities as with the distributed-site model.

Summary

Since deployment at the first site, this enterprise is working to extend the use of the Nectar UCD across its national contact center service delivery and operations system. Knowing that UCD will provide consistent service assurance ROI as the organization migrates operations to the cloud lessens business risk for the CIO.

The beauty of the Cisco IP contact center infrastructure is its ability to present a complex, distributed call routing network as an efficient call center for its customers and provide a seamless interface into a nationwide bank of agents. However, it is that complex network infrastructure with its numerous “call legs” that makes it difficult for help desk personnel to identify and correct call quality issues.

Nectar’s UCD was able to cut through the complexity and bring clarity and insight to Cisco IP contact center infrastructure service issues. UCD’s unprecedented visibility into every call leg within the network and its ability to correlate content, session and topology data with the actual end user call experience were key to reducing the level of complexity and time required to resolve end user call quality problems.

UCD’s technology was able to analyze and interpret Cisco’s SCCP or Cisco SIP Signaling between the CUCM and associated MTPs and to identify the source of any degradation immediately, including sending preemptively alerts to the operations team so they could avoid larger-scale impacts. This capability and additional UCD functionality resulted in the enterprise’s MTTI/MTTR processes being reduced to just a couple of mouse clicks rather than taking days or weeks! UCD helped the enterprise lower its service assurance TCO by enabling the operations personnel to proactively anticipate, identify and remediate issues before they became customer problems.

Nectar’s UCD enables higher service quality through proactive trend identification and the accurate localization and elimination of issues. It speeds problem resolution and empowers support to resolve issues in real time. And UCD lowers support costs by leveraging existing infrastructure and removing the need for manual probes everywhere. Nectar UCD ensures a quality cloud experience for your users!

About Nectar Services Corp.

Nectar is a global market leader. The company provides the most comprehensive monitoring and diagnostics software solutions for Unified Communication services, enabling IT and operation organizations to proactively ensure the end-user experience. Nectar’s flagship Unified Communications Management Platform (UCMP) improves visibility and service delivery across integrated voice, video, and data application solutions by providing unique and critical performance information. Nectar provides monitoring and diagnostics for millions of enterprise endpoints to more than 2,100 enterprises in over 86 countries — including the largest global banking, search engine, healthcare, and manufacturing organizations in the world. Visit www.nectarcorp.com for more information.

Nectar is a Preferred Solution Partner and Solutions Plus Partner.

Cisco certification indicates proven capabilities in providing services and a strong commitment to customer success. Nectar also participates in the Cisco Developer Network as a Registered Developer within the Cisco Unified Communications – Enterprise technology category.



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