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MANJUSHREE INFOTECH:
Implementing Cisco's IPCC solution

Summary

The last decade has seen a growing advent of globalization across businesses and economies, requiring them to remain extremely competitive. The current downturn just adds to the pressure further and has seen businesses increasingly outsource their non core business processes. This in turn has created a whole new industry - IT Enabled Services which has provided India not only an unparalleled business opportunity worth $17 Billion by 2008 but also an opportunity to make its presence felt on the global map. **Manjushree Infotech,** a division of Manjushree Plantations Limited and a part of the prestigious US $ 1.2 billion **B K Birla Group of Companies** - is a 100% Export Oriented Unit, providing a complete spectrum of Software Solutions & Services. Manjushree Infotech recently set up a world class contact center in Kolkata to tap into the Indian ITES potential. And to this end they partnered with Cisco Systems, for its expertise and end to end solutions for contact centers.

Manjushree Infotech, a division of Manjushree Plantations Limited and a part of the prestigious US $ 1.2 billion **B K Birla Group of Companies** - is a 100% Export Oriented Unit, providing a complete spectrum of Software Solutions & Services. Powered by a team of software experts, Strategic Technology Centres have been set up at Kolkata and Bangalore. The company areas of core competence include comprehensive range of services right from developing user specific applications, legacy migrations, system integration, ERP solutions/Applications Implementations to IT enabled services recently.

In line with business expansion, Manjushree Infotech began specialization in real-time on-line transcription services as per AAMT recommendations for Hospitals and Insurance companies in the US, helping them meet the challenges of a changing healthcare documentation & insurance environment. This started to result in a budding contact centre opportunity.

Manjushree Infotech's Contact Centre plans…

Manjushree Infotech was looking at growing its presence in the IT enabled services (ITES) space by investing in a contact centre. It got a mandate from the Health Management Organization (HMO) to support the latter's contact centre in Tampa, Florida and thus began the journey.

Manjushree Infotech's plan was to set up a state of the art contact center in Kolkata that would mark its entry into the call center business. The contact center would initially support HMO's contact

centre in the US and then at a later stage look to support Manjushree Infotech's other US based clients. Manjushree Infotech also had plans to setup other contact centres in the future.

Manjushree Infotech's Kolkata contact center was to start small with 25 seats and then scale up to 100 seats in first year. Though voice would be the primary medium of communication Manjushree Infotech was also looking at developing newer innovative web collaboration services.

The Need…

Keeping in mind Manjushree Infotech's contact center plans and the fact that they had no prior infrastructure to support it or the experience in setting up a contact centre, the immediate need was to partner with someone who had the requisite experience/ expertise and solutions for setting up a world class contact centre to handle live, TDM voice user calls from a toll-free numbers in the US.

Apart from supporting the above basic functionality, the following challenges were to be addressed-

1. **Highly Scalable:** The solution should be able to support Manjushree Infotech's expansion plans.
2. **Integrated Single Infrastructure:** The solution should be able to exploit the convergence in data, voice and video being experienced. The benefit of this would be superior service to customers, end-users and a simple, manageable infrastructure for operations, which would reduce the total cost of ownership (TCO).
3. **Quality of Service (QoS):** Voice being the primary medium of communication in the contact centre it was imperative that the solution guaranteed QOS over the WAN.
4. **Multimedia Applications:** The solution was to leverage the benefits of convergence and deliver multiple modes of interaction to Manjushree Infotech's customers.

"We were looking for a technology platform and a contact centre solution that would not only be quick to deploy keeping in mind our customer's need but also address our expansion plans and need for convergence" said Mr. Amit Choudhury, Deputy General Manager, Manjushree Infotech.

The Evaluation Process….

Manjushree Infotech began discussions with multiple principal vendors with solutions from Lucent, Nortel and Cisco amongst others for architectural designs/directions for the Contact Center technology.

"Considering we had no prior experience in contact centres and the solutions available in the market to address our needs, we had an extensive evaluation process. All vendors presented their suggested technology direction for voice and video to our decision makers and technical consultants from our customer in the US," said Mr. Amit Choudhury, Deputy General Manager, Manjushree Infotech.

Cisco made numerous presentations on the technology direction in the voice and data sectors to decision-makers and engineers of Manjushree Infotech as well as its customer. The importance of building a converged, multi-service infrastructure based on IP and the fact that it would seamlessly interoperate with the legacy PBX based on TDM voice in the US was repeatedly stressed upon. The availability of a wide variety of applications on IP for voice, data and video were highlighted as key drivers for its adoption. However, voice being an extremely sensitive and critical application for Manjushree Infotech, it was imperative to convince them on the reliability of packetized voice.

Though various technologies for WAN voice packetization (ATM or Frame Relay) and voice telephony (TDM Analog & digital) were debated on, IP emerged as the preferred choice because of its scalability, lower total cost of ownership and QOS assurance.

"Cisco emerged as our preferred partner because of its end to end offerings and its focus on customer satisfaction, which is very important to Manjushree Infotech as we share the same commitment with our customers" said Mr. Amit Choudhury, Deputy General Manager, Manjushree Infotech.

He said, *"Cisco had the requisite experience and expertise in setting up new world contact centers and an award winning IPCC solution suite (IP based contact center solution)"*.

Seeking the Solution…

Cisco engaged with Manjushree Infotech to develop an end-to-end Contact Center architecture based on IP. The architecture outlined the implementation of Cisco's solution and how it would work keeping in mind Manjushree Infotech's call flow requirements and the need for converting TDM voice into IP for the Contact Centre in Kolkata.

"In extensive consultation with the Manjushree Infotech team, the Cisco team designed a customised end to end architecture to address all our needs," said Mr. Amit Choudhury, Deputy General Manager, Manjushree Infotech.

The architecture for Majushree Infotech's contact centre included Cisco IPCC solution suite, Cisco IP telephony and Cisco IP Data Network at Kolkata and Cisco IP Voice Gateway at the Tampa Florida contact centre.

Implementing the Solution…

Based on the contact centre architecture decided on jointly by Manjushree Infotech and Cisco, Cisco set out to deploy an end-to-end network.

Manjushree IP Contact Center
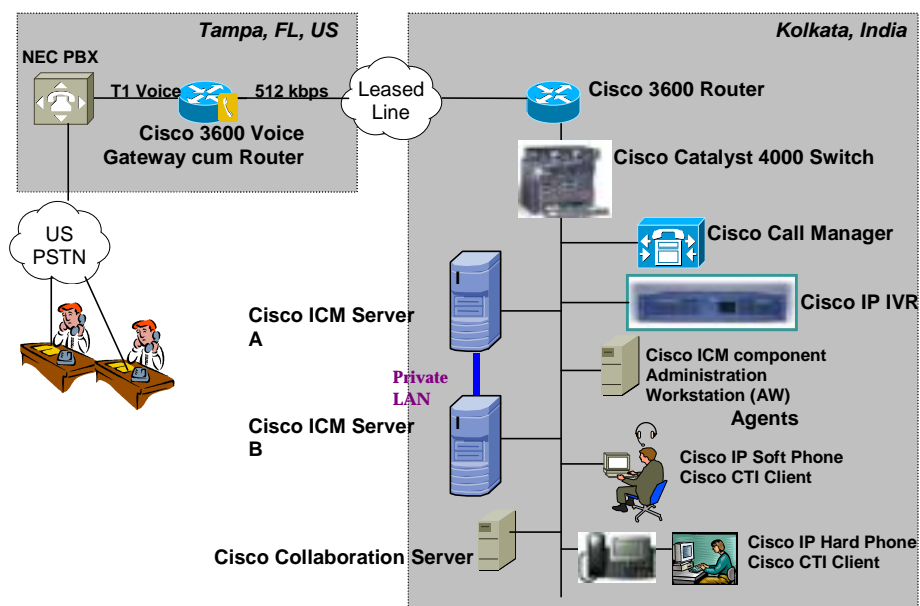
Manjushree Infotech started by setting up a WAN which connects its Kolkata contact centre to the Tampa Florida based contact centre on a 512 KBPS leased line link via satellite. The WAN inturn connected to the LAN at the Manjushree Contact Centre in Kolkata. This would allow Manjushree Infotech's contact centre agents to access HMO's US customers. For the WAN and LAN Manjushree Infotech deployed Cisco's IP Voice Gateway and Cisco's Data Network Technology which included the Cisco 3600 series routers and Cisco 4000 series switch. The IP Voice Gateway was linked with the NEC PBX (legacy) in the US and provided for TDM Voice Call termination in the US and conversion of calls to IP for transporting to India. The IP Data Network technology provided for connectivity of end user nodes in the LAN at Manjushree Infotech's contact centre and also connectivity of the LANs (currently LAN only) across the WAN.

Manjushree Infotech then deployed Cisco IPCC and Cisco IP Telephony solution on the LAN at the Kolkata contact centre.

Cisco's IPCC & IP Telephony solution comprised of:

● Cisco Intelligent Contact Management (ICM)

● Cisco IP IVR

● Cisco Computer Telephony Integration (CTI) Desktop

● Cisco Collaboration Server

● Cisco Call Manager

● Cisco IP Phones

Cisco's IPCC (IPCC) solution suite delivered network- to-desktop CTI and multimedia contact management to Manjushree Infotech's contact center agents in the Kolkata centre over an IP network. By combining software Automated Call Distribution (ACD) functionality with IP telephony in a unified solution, the IPCC solution would enable Manjushree Infotech to rapidly deploy a distributed contact center infrastructure to support its customers. Furthermore Manjushree Infotech can extend the same solution beyond the current contact centre in Kolkata to seamlessly connect other geographically distant contact centers that it might plan to open at a later stage. This would result in a single global virtual call center for Manjushree Infotech.

Cisco Intelligent Contact Management (ICM) software provides ACD functionality including monitoring and control of agent state, routing and queuing of contacts, CTI capabilities, real-time data for agents and supervisors, and historical reporting for Manjushree Infotech management.

Cisco IP Interactive Voice Response (IVR) unit performs self-service functions in addition to providing call treatment messages to queued callers. The call treatment message includes three predefined options which are Claims Customer Services, Members Services and OTC Services currently which is what Manjushree Infotech required. Based on the need the caller can choose one of the following options.

Cisco Computer Telephony Integration (CTI) Desktop delivers a uniquely rich set of customer specific information collected from the Internet, carrier networks, IVRs, databases, and other applications to the desktop of Manjushree Infotech's contact centre agent with every call- enabling the full utilization of data at the point of customer contact. It provides data-rich pop up screens to every agent enabling them to spend more time servicing customers and less time collecting information.

Cisco Collaboration Server enables Manjushree Infotech's customers to offer multiple communication such as email, web based chat amongst other things to their customers.

Cisco Call Manager software provides traditional PBX telephony features and functions (basic call processing, signaling, and connection services) to packet telephony devices such as Cisco IP phones deployed at the Manjushree Infotech's Kolkata centre and VoIP gateway deployed at the Tampa Florida contact centre.

Cisco IP Phones go beyond the traditional time division multiplexing (TDM) phones to bring advanced benefits available only with the integration of converged networks. They enable agents to make/ receive/ transfer calls with converged enterprise or legacy technology, collaboration integration, directory search, XML application integration and more.

Manjushree Infotech Call Flow Chart
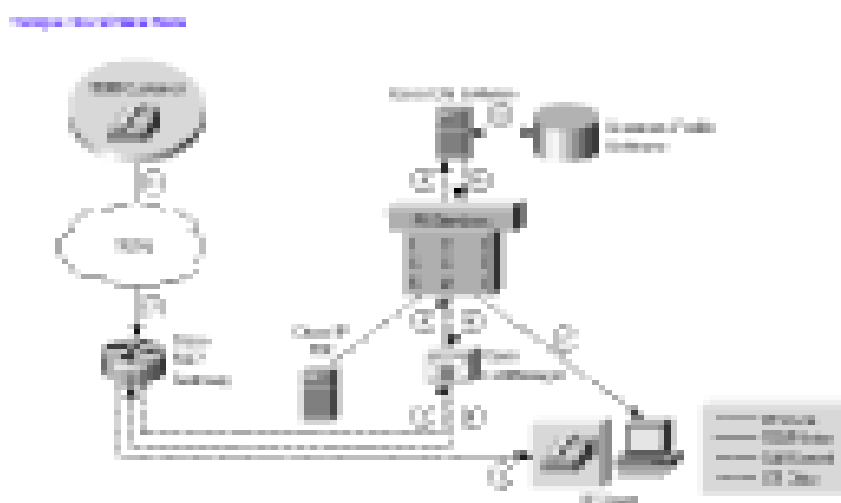
1) An HMO customer dials a toll free number in the US utilizing the PSTN. The NEC PBX in the Tampa Florida contact centre depending on the load there forwards the TDM call to the Cisco VoIP Gateway.

2) Cisco VoIP gateway converts the transmission from the TDM protocol to the IP protocol and transports it to the Cisco 3600 router at the Manjushree Infotech's contact centre in Kolkata which routes it to the Cisco Catalyst 4000 Switch.

3) The Switch sends a route request containing the dialed number (DN), CLID and CED to Cisco Call Manager.

4) Via the ICM PG, Cisco Call Manager forwards this route request to the ICM software.

5) ICM software looks up account information and passes information to determine routing.

6) ICM software invokes a customer defined routing script to select the most appropriate agent to receive the contact and forwards this route destination to the Cisco Call Manager via the PG.

6) The CTI server component of the PG sends customer profile data to the targeted agent's desktop in the form of a screen pop.

7) Cisco Call Manager instructs the Cisco VoIP gateway to connect the customer to the targeted agent.

8) The Cisco VoIP gateway establishes the voice connection.

Benefits to Manjushree Infotech…

Some apparent benefits of the end-to-end network based on Cisco's IPCC & IP telephony for Manjushree Infotech are:

● **Multiple Interaction Channels** - Manjushree Infotech contact centre based on Cisco's IPCC solution has the capability of integrating PSTN and Web-based communication channels for Manjushree Infotech. Through its Web collaboration and e-mail response management capabilities, it can provide HMO's customers the option to communicate with agents at the Manjushree Infotech through a communication channel of their choice. It enables Manjushree Infotech's contact centre to support a wide range of interactions including telephone calls, e-mail, and interactive Web sessions the benefits of which include greater customer satisfaction and loyalty and the opportunity to resolve a greater number service and support inquiries within a single transaction.

5. **Highly Scalable:** The solution begins small and scales up rapidly with incremental (not quantum) expansion. The benefit of this is a seamless addition of technology/products with minimal investments yielding a quicker ROI. Further the same solution can be extended beyond the current contact centre to geographically independent contact centers that Manjushree might plan in the future. This would be result in a global virtual contact centre for Manjushree Infotech, which is inline with its expansion plans.

6. **Open Architecture:** As the solution is on IP, it is based on open architecture whereby which it can seamlessly add third-party technology/products in the future.

7. **Integrated Single Infrastructure:** The solution integrates voice, video and data on a single infrastructure and delivers the benefits of convergence. The infrastructure caters to basic voice handling, text-chat and collaborative voice-web browsing with capabilities for automated email management. These result in Manjushree Infotech offering superior service to customers, end-users and a simple, manageable infrastructure for operations resulting in lower total cost of ownership.

8. **Comprehensive Reporting:** The solution provides multitude of reporting capabilities with various views of resource utilization. It enables Manjushree Infotech to track expenses and agent productivity and provide dynamic reporting to end-customers.

"When we embarked on our mission to make our contact centre dream a reality, we were sure that there wouldn't be any one vendor or any one solution/platform that would address all our needs. But Cisco proved us wrong and delivered on our dream," said Mr. Amit Choudhury, Deputy General Manager, Manjushree Infotech. He added, "W**We are pleased that we partnered with Cisco as we worked well together, they understood our apprehensions and consulted us through the entire setting up process. Proof of which is the fact that the call center was up and ready in a record time of under a month".**

To sum it up, Cisco's network and solution deployment at Manjushree Infotech's Kolkata contact centre delivered the benefits of convergence at economical costs. Thus making Manjushree Infotech competitive in the ITES opportunity and helping it set in motion its Contact Centre business dream.