

Reduced operational costs and increased benefits with IP Telephony

Retail



Overview

When Tiny Computers calculated how much money it was spending on voice conferencing across its 140 stores it decided to make radical moves.

Aware of developments in the Voice over IP (VoIP) market it turned to Cisco and partner Energis for a solution.

As a technology supplier, Tiny knew that even when attempting something new, the key to a successful project was clear objectives and avoiding specification heavy documents.

What they received in return was a unique hardware based, simple to use IP telephony system which will pay for itself within ten months. Additionally, plans call for an IP Telephony system to be rolled out to every new Tiny store opened through an expansion programme, and to the company's suppliers and partners.

The Company

Tiny Computers is one of the UK's best-known brands in the IT sector.

As one of the UK's longest established and largest PC manufacturers since its establishment as Opus computers in 1981 the firm has sold PCs and peripherals to the public through a national chain of high street stores and direct to business through its fast expanding Tiny Professional Solutions division.

The firm employs 1,200 people, a number set to grow by 25%.

It is now the UK's biggest PC and notebook manufacturer, the largest supplier of IT systems to the public sector and is also the UK's largest supplier of PCs to universities. It has recently been awarded public sector purchasing contracts worth over £100 million per annum.

Last year, in 2000, Tiny increased sales by 15% against an overall market growth of 8% selling over 400,000 PCs in the UK compared to 350,000 in 1999.

Tiny's success has been achieved by applying a clear company strategy: 'We provide the products and supporting services of the highest quality and individually tailor them to meet each customer's particular needs.'

tiny

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The Challenge

Because its business is built on the quality and number of its outlets, Tiny found that one of its biggest challenges was keeping clear lines of communication with branch managers. This involved weekly conference calls between the branch and regional managers. 'It's very important that the showroom staff don't feel isolated and have easy access to headquarters. We wanted to create a virtual showroom where everybody, whether they worked in Aberdeen or Brighton, felt they were under the same roof,' says Barry Chandler, IT manager at Tiny.

The company's existing data traffic is handled by Energis' FrameConnect Solution (and end-to-end frame relay service) that runs out to each of its 140 stores but found that it was running up huge bills, nearly £200K a year, for weekly conference calls done on a BT Conference solution.

Having tracked the development of IP telephony over a number of years, the firm was aware that the technology had developed to a point where it could deliver the necessary quality of service at a price point which made it viable.

When looking for a solution, Tiny knew that Cisco had developed AVVID (Architecture for Voice, Video and Integrated Data), which defines a framework for building and evolving networks that support Internet business solutions. AVVID is the industry's only enterprise-wide, standards-based network architecture.

'We knew that we wanted to go for IP Telephony. But although we are a technology company, our users are not technicians, so we had to ensure that they would use the system. The way to do this was to make it easy to use,' says Chandler.

And as with all IP Telephony, but especially when using IP Telephony for conference calls, it was key that there was no interference between voice and data traffic.

Voice traffic is also very sensitive to time delays and the Cisco solution ensures that there are no time delays by prioritising the voice traffic across the network.

Tiny has 48kilobits of bandwidth for each store across the Energis Frame Relay network, 32 of which is dedicated data traffic for business applications. The solution had to use no more than 16kilobits of bandwidth for voice and in fact only uses 12kilobits leaving headroom to ensure that sufficient bandwidth is always available for voice traffic. This compares to the normal 64kilobits for a voice call across a traditional Public Switched Telephone Network (PSTN).

The Solution

Cisco was the obvious choice as it has the only IP Telephony solution with conferencing ability, and quality of service that would work on the Energis Frame Relay Network.

'We presented the problem to the suppliers. What we wanted was a solution which was simple, easy to use and if we got bells and whistles along with it, so be it. We didn't lay out a huge document and ask them to hit lots of criteria. That's why it worked,' says Chandler.

Tiny opted to run a trial across three showrooms. The challenge was that the system over restricted bandwidth as the firm did not wish to lose the gains made through having to pay for more bandwidth. Energis successfully demonstrated a working solutions at Tiny's Redhill, Worthing and Brighton locations.

The solution is hardware based with Cisco Catalyst Switches containing a card which is a dedicated conference call voice resource. This allows a greater number of conference calls to be handled.

Cisco IP Telephony accredited partner Energis, proposed and proved the viability of the Cisco solution using voice compression technology. Within five working days of proof of concept the order was signed.

In each store the existing Cisco 1601R router was upgraded to a Cisco 1720 router with the following interfaces:

- One WIC-1T serial interface module - card connected to the Energis Frame Relay service using the X.21 serial interface cables from the existing Cisco 1601R routers.

- One fixed 10/100BaseTX port - Ethernet interface used to connect to the store's existing Ethernet hub.
- One WIC-1ENET module - second Ethernet interface used to connect the Cisco 7910 IP phone. This is an Ethernet IP Telephone providing one 10/100BaseTX port for connection to the Cisco 1720 router. Each IP Telephone also has an AC power adapter and cord to provide local power to the phone.

The existing Cisco 7204 router that terminates the retail store Frame Relay links was connected to the Catalyst 6009 switch using its 10/100BaseTX port configured as a VLAN trunk. This allows the IP voice and IP data traffic to be presented to the Catalyst switch as two separate VLAN's using either Cisco's ISL or the IEEE802.1q trunking protocol.

Following the trial in August 2001, the system was successfully rolled out across the entire branch network in 28 days during September 2001 and now handles an average of 100 calls per hour. A key criteria laid down by Tiny was to have the entire network installed within 30 days - Energis exceeded the objective by completing the installation with 28 days not 30 days.

Energis adopted a "make it happen" attitude to ensure they achieved the installation with 30 days objective. A professional approach to Project Management was adopted throughout the installation phase.

The Rewards

The immediate reward was for Tiny's team of area managers, each of whom is responsible for 14 stores. For the weekly conference calls each manager sets up the call from a store into which the remainder of the stores can dial in and participate.

Additional benefits of the system are that as well as covering the voice conference calls, each branch has one number contact with any extension in the head office, giving it a totally integrated voice network and saving additional costs on communications between showrooms and head office.

So far over 140 showrooms have been connected.

'This project was totally about saving money and it is already doing this. We expect it to have paid for itself within 10 months,' says Chandler.

The Future

Tiny has also recently landed a deal to place showrooms in over 150 concessions at the out of town Powerhouse retail park chain and plans to bring these outlets onto the IP Telephony system in early 2002.

The company has committed to invest in Cisco IPCC (IP Contact Centre), an integral part of Cisco AVVID. Benefits will include intelligent call routing, network-to-desktop CTI, and multimedia contact management to contact centre agents over an IP network.

This will allow Tiny to develop call centre applications linking incoming calls to customer profiles.

'Any call centres we open will run on VoIP and we want to expand it out to our suppliers' networks,' says Chandler.

Internationally the company runs its communications systems over phone relay and it might be replaced with VoIP.

Conclusion

While the main driver was to save money, this innovative solution is also the first in the UK to have so many sites using IP Telephony for conferencing with a high number of conference calls happening every day, a first in IP telephony.

It is testament to Cisco's customer and partner relationships that such a solution has been configured and delivered by Cisco and its partner Energis within weeks and is already paying dividends for Tiny.

'It was a team effort. Together, Tiny, Energis and Cisco worked really well together. From the Cisco account manager to the Energis technical support teams, everyone was focused on the solution,' says Chandler.



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