
PBX Installation

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1. Introduction

Concordiax was asked to quote and build a PBX system for a company that was moving offices.

The initial requirement was for 25 extensions, however, the company was in a period of rapid growth, and it was envisaged that more extensions would need to be added as time went on.

2. Installation

Although the building was flood wired with Cat5, it had not been terminated to a patch panel, so each individual connection had to be made, and correctly labelled to ease fault finding and connecting new equipment.

Servers were installed in their own room, and BT was employed to install 6 analogue telephone lines, and two broadband ADSL2 lines, one dedicated for VoIP.

Ensuring that the network was robust enough to carry telephony was the largest cost of the job.

2.1. Phones

The phones that were chosen were the Aastra 9133i phone, which was recommended as a good mid range handset for the majority of staff. This has proved to be the case.

Aastra 480i's were installed for the receptionist and the upper management.

A Polycom IP4000 phone was installed in the boardroom for conference calling.

Siemens Dect phones were used for roaming staff.

2.2. Server

A Dell server was chosen with redundant hard drives using Raid 1, and was quite highly specified, as future expansion was expected. It was fitted with a TDM800 card for connection to the PSTN

2.3. Expansion

Over the course of the 12 months that the system has been installed, the head count has doubled. New phones have been

quickly added to the system, often remotely, with only a small labour charge required to add the new extension.

2.4. Flexible Working

Due to the expansion of the company, and congestion on local roads, particularly on Fridays, the company has been able to introduce flexible working, and working from home for key members of staff.

In order to keep them in touch with the office, Siemens Gigaset IP phones have been given to key staff to install on their home broadband. This has proved to be a popular and successful move. This was made possible by investment in good ADSL links with a number of public IP addresses, so that the Concordiax PBX could be put on a Public IP address.

3. Dial Plan and Features

3.1. Inbound calls

Calls coming into the company were brought straight into an introductory message, prompts the caller to dial the extension number direct, and then if no number is entered, the call is passed through to the sales team.

Professional recordings were used to give the best possible impression.

Traditionally, on their previous telephone system, a receptionist was required to direct calls, however, this practice was rapidly abandoned with the new telephone system, as repeat callers could get through to the person they wanted to speak to quickly, and the new callers would be put through to the sales team, which in most cases, is where they wanted to go anyway.

Thus, the cost of the telephone system can be offset against the staff saving of a receptionist, who, incidentally, has now been promoted into the sales team.

3.2. Direct DID

A number of key staff have been given their own DDI (Direct Dial numbers) which arrive via Voice over IP at relatively low cost, and no per minute charges. When staff dial out from their extensions, we are able to deliver their DDI number to the called party.

3.3. Voicemail

Voicemail is delivered by a number of methods: -

- 1) By phone – either from their own handset, or externally via a DISA (Direct Inwards System Access) system
- 2) Via a public website hosted on the PBX.
- 3) Via email – all voicemails are wrapped up into an email and attached as a wav file. This means that messages can be received by their blackberry devices when away from the office at relatively low cost.

There have been a number of other spin off benefits to using voicemail. Calls can be transferred direct to voicemail, so rather than leaving a note on the desk, which gets covered up or blown away, when the windows are open, messages are sent straight to the phone.

Additionally, messages can be forwarded from one mail box to any other mailbox.

3.4. Call Conferencing

With any sales based organisation, and especially with remote staff, a conferencing system is an absolute necessity. Callers can dial into a DDI which is directed straight to the conference, while internal callers can dial direct or even transfer callers into the conference.

3.5. Outbound calls

Outbound calls are diverted through VoIP supplier. Despite some initial concerns about the voice quality using voice over the internet, the company is now converted to using VoIP, to such an extent that they are cancelling some of their BT telephone lines, as they hardly get used.

There is a fairly major cost saving on calls world wide by using a VoIP carrier, however, the VoIP carrier was chosen with care for its quality rather than price.

4. Further Expansion

A branch office was set up some considerable distance away, and it was felt that the best solution for them was for them to have their own PBX system.

The PBX, including training was built, installed and configured over the course of 1.5 days, including training the staff on how to use the system

The PBX was linked into the main PBX via a VoIP link using the IAX2 protocol. The dial plan was set up in such a way that extensions on either PBX could be dialled directly, saving money on intra-company dialling, and fostering a closer relationship between the branches.

5. Conclusion

The PBX install has been a resounding success, and has done everything asked of it. Having both analogue and ADSL lines has meant that there is redundancy in making and receiving calls.

The cost of adding new extensions and expanding the business is limited only by the space available.