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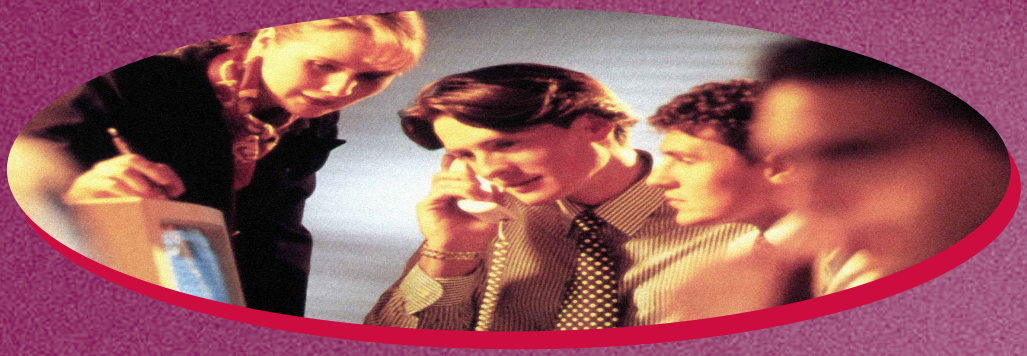


VOICE & DATA INTEGRATION

DXE IP Telephony

Telephony Over Data networks

Maximising the Use of Your LAN

Nitsuko DXE

Can I use my IP data network to carry my telephony traffic?

Today the focus in telecoms is how to use the LAN or WAN to carry both data and telephony calls.

Very simply the answer is yes, the data network can be used to carry both voice and data calls. This opens up the possibility of free calls over existing data networks. NEC Infrontia have been successfully implementing these solutions for a number of years.

However as with any technology driven application the issues are more complex than the hype suggests. What is a successful solution for one business may not be appropriate for yours. Putting telephony calls over the LAN depends on two pieces of leading edge technology:

Voice Over IP – **Using the LAN/WAN to carry voice calls over the same wiring**

IP Telephony – **Connecting special IP phones to the LAN instead of having separate wiring for the phone system**

Both can offer substantial savings in communications infrastructure and cost of calls. However as so often in business there is a trade off. Telephony over a data network requires for its successful implementation, spare bandwidth on your LAN/WAN to carry the additional voice traffic. Without sufficient bandwidth voice quality will be poor and calls be cut off.

This leads us to the main issue related to voice over data networks. Reliability. Telephony is realtime. You pick up your phone and immediately hear dial tone. You dial your number and are connected. Data networks are not realtime. There are delays in data transfer and what about when the network goes down? No voice or data! So voice over data requires thorough planning.

Benefits of Voice Over Data Networks

NEC Infrontia believes the time is right for the small to medium sizerd business to consider IP telephony. What makes this technology attractive today rather than say two years ago is the increasing availability of ADSL or digital cable modems from a wide variety of carriers. Whereas leased lines such as Kilostream are still expensive for many businesses, ADSL can offer high bandwidth with unmetered data calls at far lower cost.

A successful design and implementation of a converged voice and data network can lead to significant savings in both network hardware costs and cost of calls. There are thousands of data networks connecting two sites or more. These tend to be used solely for data traffic. Yet for a small upgrade cost can also be used to carry voice calls. The opportunities for cost savings from a converged data and voice networks are huge.

DXE IP Telephony/Voice Over IP Solutions

NEC Infrontia has been in the forefront of IP telephony since it s inception. Our parent company is a leading supplier of IP solutions for international carriers.

The DXE communication server is the foundation for a converged voice and data network. There is no need to throw away your investment in DXE or other communication systems to secure the benefits of DXE IP Telephony. This marks a fundamental difference in the design approach of NEC Infrontia and that of data orientated suppliers.

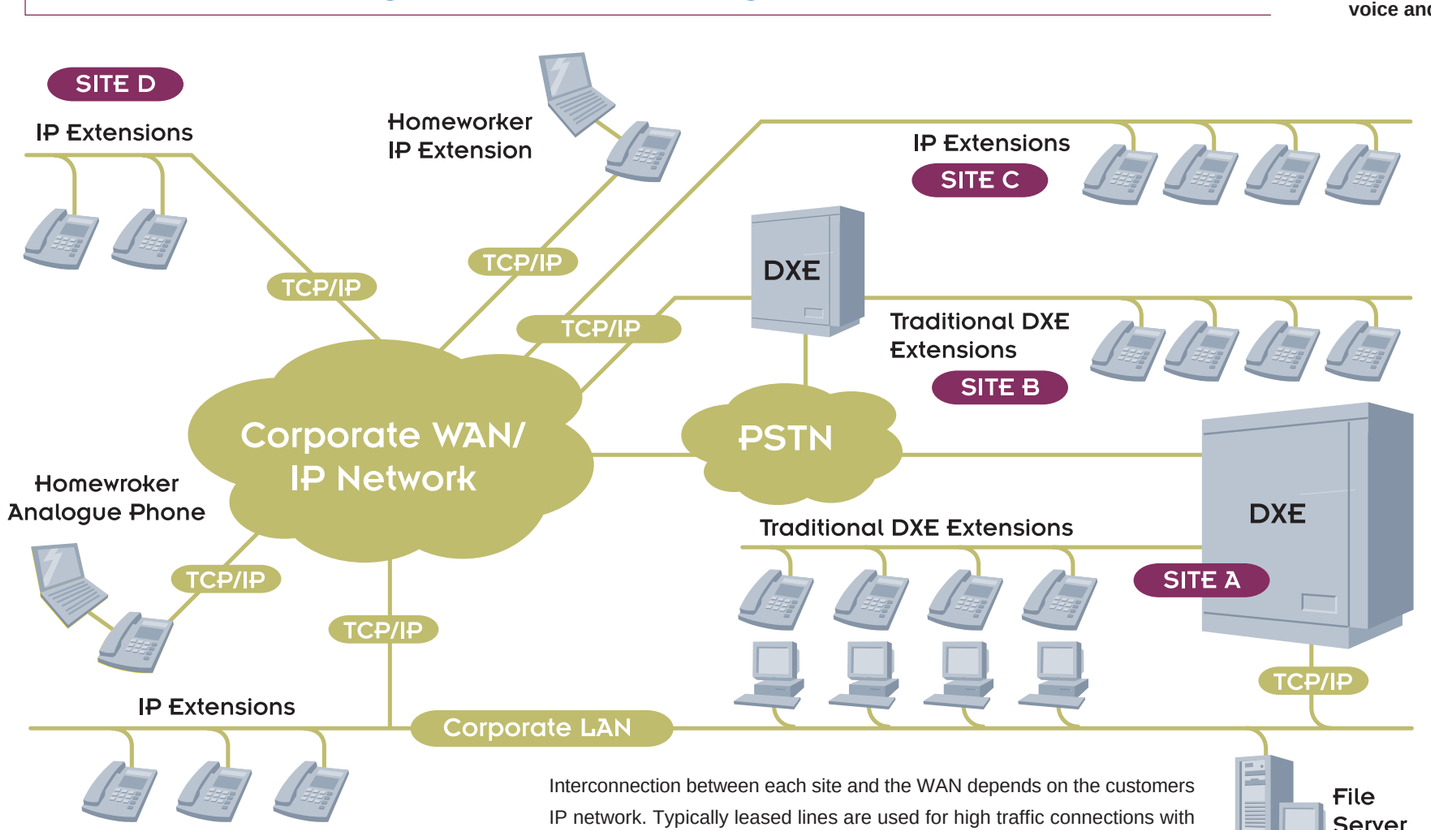
Using open standards DXE IP telephony builds on your existing investment in legacy phone systems, allowing you to retain the reliability and features of your existing DXE systems whilst still being able to secure the enormous benefits offered by IP telephony.

The DXE's modular approach allows you to implement the appropriate IP telephony solution that you require at any point in time without having to commit to equipment that you may not immediately require.

DXE IP solutions fall into four main categories:

1. **Home Worker/Telecommuting applications –Solutions starting at around £500 that allow staff working at home to be extensions of the host DXE system.**
2. **IP Inter-PBX networking connecting DXE's on different sites, making use of the existing corporate WAN, providing feature transparency between the systems. Solutions start at £2200 per site.**
3. **Corporate WAN covering many small sites. Too expensive to have a DXE on every site? Then install IP phones directly onto the LAN/WAN, connected via IP back to the host DXE.**
4. **International Toll Bypass – DXE IP telephony can also use the internet for free or low cost international calls. Where cost savings are the main criteria IP telephony over the internet provides a cost effective solution for both voice and fax calls.**

IP Telephony Solutions for your Business



Interconnection between each site and the WAN depends on the customers IP network. Typically leased lines are used for high traffic connections with ADSL now being available for sites with a small number of users.

The diagram left shows the varied IP telephony solutions available to your business. Ultimately the precise implementation depends on your business needs.

NEC Fact File

A global force in business communications

- NEC Infrontia is part of the global NEC Group, and is a merger of the NEC and Nitsuko CPE and point of sale businesses
- NEC total sales are over £28B making us the 51st largest company in the World
- NEC employs 150,000 staff worldwide
- NEC is the World's third largest patent producer
- NEC is unique in being in the top five suppliers of:
  - Computers
  - Semiconductors
  - Communications
- NEC is Japan's leading supplier of communication solutions
- NEC is the third largest PBX supplier in the US
- NEC manufactures semiconductors in the UK and Ireland

NEC

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NEC Infrontia has its headquarters in Tokyo with its design laboratories located in Kawasaki, a major industrial centre bordering Tokyo and Yokohama. NEC Infrontia manufactures its products both in Japan and offshore in Thailand. All plants are ISO9000 approved.