Use of Oracle Spatial Network Data Model at British Telecom.

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agenda

• Introduction
• Piper Data Generation - Problem
• Piper Data Generation - Solution
• Summary
BT is one of Europe's leading providers of telecommunications services. Its principal activities include local, national and international telecommunications services, higher-value broadband and internet products and services, and IT solutions.

In the UK, BT serves over 20 million business and residential customers with more than 29 million exchange lines, as well as providing network services to other licensed operators.
BT Exact

One of the World’s largest Comms R&D Organisations
8,500 people
10,000 patents - networks, mobility and wireless, etc
Currently work on around 10,000 projects
Design, develop and deploy some of the largest and most complex IT and comms networks in the world
BT GIS Team
Delivering GIS solutions for all parts of BT, JVs and Customers

• GIS Development
• Consultancy
• GIS Support
• Data Provisioning
Oracle Spatial - a core technology for BT

- UK 999 (911) system
- Automatic Network Fault Location System
- Field Force Data Management
- Spatial Data Hub
- UK Address Space
Used Paper Records
What is Piper

PIPeR (Physical Inventory, Planning and eRecords) is a system supporting the end-to-end planning process for the provisioning and repair of BT’s network.

PIPeR will manage all BT’s physical inventory.

This entails converting raster network records for 60m network assets, 74m copper cables and 400k fibres into an ‘intelligent’ vector format.
The business problem

- BT is currently digitising the raster diagrams for 6000 Exchanges
- It has 26 million customers with records in its CRM systems
- How to merge the 2 sets of data into a new Network Planning tool?
BT Data Transformation

CSS CRM

Digitised Network Data

Data Transformation Process

Telcordia Network Engineer
Innovation - a key principle

Allan Hagan
A Telco Network
GIS Works but is unmanageable and costly

- We had been able to develop spatial code to join the data on standalone GIS as a prototype
- But this was unmanageable as a production process
- The logistics of data input and output needed to be controlled and managed
- We needed a scalable manageable process
Oracle as a repository

• Oracle 9i allowed us to centralise the processing from a logistic point of view – it could store the data
• Complex spatial processing could not be carried out on the Database due to its effect on the processor load
• We could manage the logistics in terms of data but not in terms of processing
Why Choose Network Manager

• We already had some expertise in LRS but the processing load would be too much for the database
• Management of the Exchanges would be complex
• Large numbers of Network traversals would be required
• Network Manager simplified our approach as it provided the network traversal libraries that we needed.
• Network Manager moved the processing load off the database.
Oracle 10g – Network Manager

- The introduction of Network Manager functionality allowed us to design a linearly scalable process
- We introduced the concept of a processing unit
  - For each Exchange to be processed a schema is created
  - An external processing resource is allocated dedicated to that exchange
- Multiple exchanges are processed in parallel
Typical Configuration
A solution

- Oracle 10g and the ability to move the workload of complex spatial processing off the database and still keep it closely coupled. It gives us the ability to manage a highly complex process and scale to match the size of the problem.
Oracle Spatial - a Core Technology for BT
Thank You

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