

Intelligent Network Information

Telecoms World Plc

Unit 3, Kingfisher House, New Mill Road, Orpington, Kent BR5 3QG

Tel. 0844 567 1234 Fax. 0844 567 9876

Network Information

This section is intended to give the reader an insight as to the network architecture and the processes in place to ensure that it provides our clients with a carrier class resilient platform. The diagrams contained within the document are designed to show the network architecture at a base level.

Core Network Overview

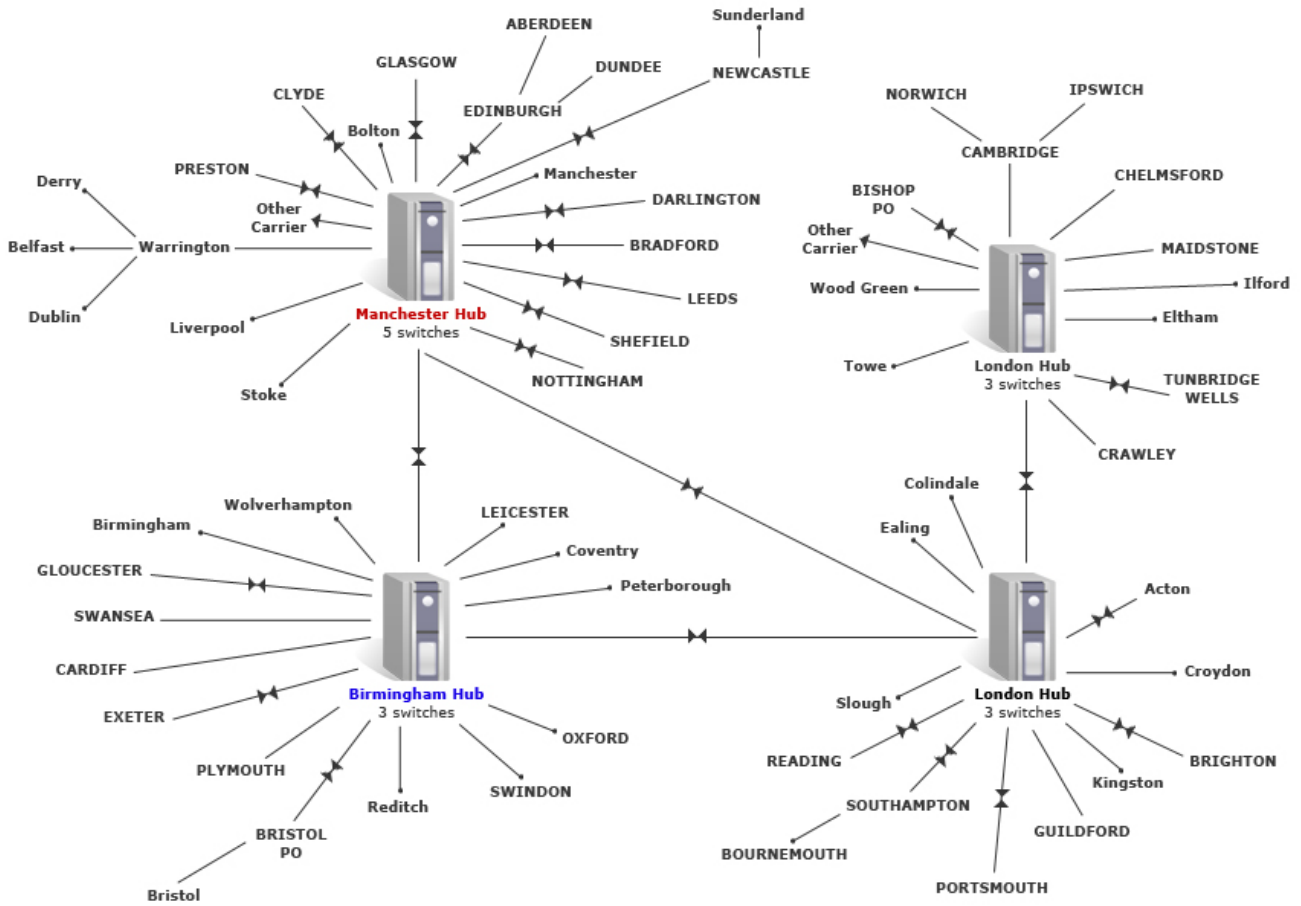
Switching Platform

The inbound platform is located within three switching centres located in Manchester, Birmingham and Brentford. The network is deployed using C7 interconnects to over a thousand BT Points of presence. The interconnect also span over 27 Other Licensed operators (OLO's) including the Central London carrier ring (London's own telephone network) This represents one of the largest interconnect infrastructures with the UK. The network consists of 14 carrier class Nokia DX220 exchanges provided and maintained by Nokia UK. Each running the latest general UK software release from Nokia and are capable of handling 1.2 million BHCA (busy hour call attempts). This gives a current network switching capacity of circa 16 million call requests within an hour. The network currently switches over three billion minutes per month at a usual 60 – 75% capacity. This gives minimum 25% headroom which is constantly monitored by capacity planning teams through each of the network elements.

The IVR network provides full audio capability for inbound and outbound services requiring audio capability for services such as inbound and outbound call recording. It also provides full DTMF capability for services such as auto attendants and data captures services. The IVR platform boasts in excess 25,000 ports which makes it the largest independent IVR provider, giving a massive capacity in the event of mass dialing events. The IVR platform currently switches over 90 million minutes of IVR and call recording per month. It is likely that many of the services required by Clients will run across both these networks depending upon the services required. Clients can rest assured that the pedigree and management of the network is truly world class.

Connected to the core TDM platform is the Core IP switch network. This IP switching is the core of the Next Generation Network (NGN) which spans some 1800+ unbundled local exchanges as part of the Networks massive Local Loop Unbundling (LLU) project. The IP Switching core consists of five Sonos IP Next Generation telephone exchanges across three UK sites, providing dial tone and class 5 services to some 2.5M + households in the UK, along with Broadband connectivity of to 24Meg. These five IP exchanges are fully interconnected to the core UK TDM switching platform via ultra resilient C7 circuits.

Network Diagram



Value Added Service Intelligent Network

In addition to the core switching infrastructure and IVR platform the networks Value Added Services platform operates a fully integrated overlay Intelligent Network platform provided by Telsis.

The Value Added Services platform (VAS) operates a full complement of Telsis Ocean Release 4 products which consist of dual sited Service Control Points. (SCP's) (each site having its own SCP, to ensure no site dependency), the network operates six Service Switching Points (SSP's) throughout both sites. These are 64 x E1 line intelligent carrier grade telephone exchanges that have full DTMF & Play Audio capability available all the time on every channel. There are multiple Intelligent Peripherals (IP's) per switch site. These allow for complex and audio intensive services, conference & recording functionalities to be deployed, whilst still under the control of the SCP environments. The Telsis original software has been significantly enhanced to allow greater control of the call environment, in turn allowing service call routing logic to be designed to fulfil exact customer requirements.

Network Information

Mirrored Network & Backup Systems

All Customer information (complex or not) is deployed to multiple sites, as a matter of course due to the design of the network. (Fully Mirrored sites) Routing databases for all customer services are data filled at both exchange locations so no service relies on a single site. This design has been proven so that if a major incident occurs, and services are affected, only a partial loss to our customer's service occurs whilst re routing can take place to recover full service.

Both switch sites are within extremely secure environments in their respective buildings. They are located within state of the art, multi-million pound data centre's that run one of the UK largest ISP's. Sites are equipped climate control systems, fire suppression, Ups systems, which are intern backed up with diesel generators on automatic standby. The backup power systems are "load tested" every month to ensure that they come online when required.

Both the Nokia & Telsis switching environments are fully approved for connection at C7 (SS7) connectivity to the PSTN network, thus allowing transparency of CLI & all routing information. The network has now been deployed + operational for over 10 years, and is highly respected within the Telco community for its resilience & functionality. The network received acclamation from independent strategic business / telecommunications consultants Masons, regarding the resilient design of the network.

The network resilience is monitored from the Network Operating Centre (NOC) in Birmingham. Automated network management systems monitor the network 24-hours per day, 365 days a year. These systems ensure the VAS platform engineers are continuously informed as to network performance and current status ensuring the network meets its target service availability of 99.999%.

Each switching centre has links to multiple interconnect points to allow ingress and egress to the UK Public Switched Telephone Network (PSTN).

The Nokia Switches are used as the interface between the IP network and the PSTN. The network has literally hundreds of major interconnect points within BT's Network within their ultra resilient transit layer. All Inbound calls that either transit on the core network or pass on the to the IVR or Value Added Services (VAS) platform via the IP transit are all collected via the Nokia TDM network and equally distributed via the Sonos IP network to each of the two VAS switching sites. Thus facilitates automatic load balancing. The NOC constantly monitors this process and the routing plan has also allows automatic over flow and fail over between the sites in the event of failure of one of the interconnect routes.

Network Capacity and Capacity Planning

The network has been designed with none blocking in mind; we can currently support a BHCA (busy hour call attempt) surge of over 16 million call attempts, without any degradation in functionality. The current operating head room of our network is kept to a minimum of 25%. Network Operations Centre (NOC) operators work in tandem with the sales community and partners to forecast new traffic demands up to 3 to 6 months in advance to enable further interconnect capacity within the appropriate area to be provisioned. This enables the network to provide immediate additional capacity to its customers and react quickly to the occasional unplanned request.