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Porting in the UK

What is Number Portability

Number Portability provides a method that enables a customer of one operator to become a customer of another operator whilst retaining the same telephone number. The act of porting is something which occurs at a network level and most major networks will take responsibility for the process on behalf of their supply chain in most circumstances.

Communications Providers (CPs) are required to provide portability as set out in General Condition B3 (of the General Conditions of Entitlement). There are a number of criteria which are explained in the industry documents in more detail (see http://www.magrathea-telecom.co.uk/industry_porting/) but key things to note are:

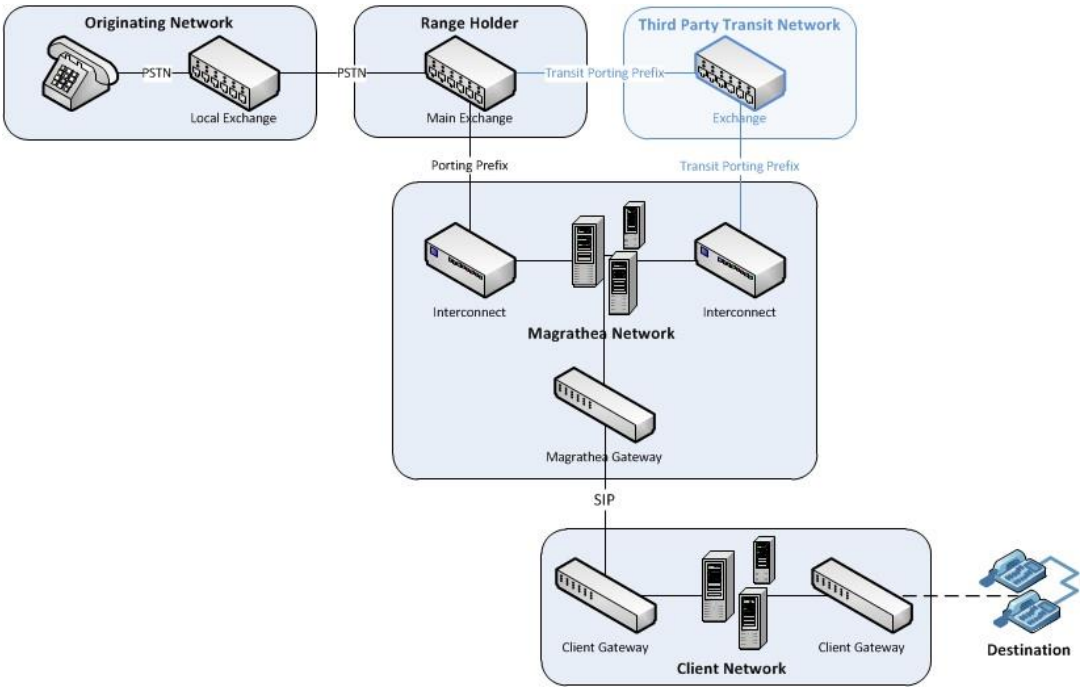
- A number must be in service in order to port;
- Only the number will port, any associated services (including broadband) will be ceased by the losing CP.

Technical Principles

Once a number has been ported to another network calls are routed via 'onward routing' principles. This means that calls made to a number still terminate on the Range Holder network (the original organisation that were assigned the number range by Ofcom) where they will then check for a prefix which indicates they should route the call onward to the Gaining CP.

Where both networks (the Range Holder and the Gaining CP) have a direct interconnect the call will be forwarded straight across for termination on the Gaining network. However if there is no interconnect the call will be transited via a third party network (normally BT). In this case the call will reach the Range Holder network who apply the appropriate transit prefix before onward routing to the transit network (e.g. BT) who in turn deliver the call to the Gaining CP via their interconnect.

It is vital to remember that calls still pass through the original network and potentially a transit network so any calling problems caused by any of those networks will remain even after the number has been ported to a new network.



Common Issues

Unfortunately the onward routing method of call handling does mean that there are a number of parties involved in the call path therefore any faults can take additional time to locate and fix. In addition there is no SLA with the Range Holder networks so we rely on our service teams working with them to push through fault investigations as fast as possible.

Below are some common problems and ways we can narrow down where the fault occurs.

Porting Prefix Removed

Problem: The Range Holder has had a data error and dropped the onward routing prefix from a number we have imported, thus causing calls to no longer be sent to us.

Investigation plan: If calls are failing or being received by a different called party this should be reported to Magrathea. Magrathea can check very easily if calls to this ported number are reaching our network (in the case of this fault we wouldn't get the calls at all as they have stayed routing within the Range Holder network).

Solution: Magrathea will report the fault to the Range Holder network, requesting that they restore the porting prefix immediately. In many cases this can be done within a day or two but in the event that the Range Holder has inadvertently assigned the number to a new customer this process can take a number of days or weeks to resolve. Magrathea may advise you to ask your customer to make a complaint to Ofcom in some extreme cases as this may help speed up resolution.

Range Holder Network Fault

Problem: The Range Holder network has an outage on part or all of their network causing calls to fail or have audio issues.

Investigation plan: Magrathea will require details of the call attempts that have had difficulty as this may not be affecting all callers and therefore could be difficult to replicate. Once we have date, time and caller id of call attempts we can check our records and try to identify which calls are failing. For example if all calls that fail come from a particular area code this

may demonstrate that there is a local exchange fault within the range holder network but if they are wide spread it may show a problem with calls generally to ported numbers.

Solution: These issues can be difficult to pin down but with plenty of examples we can normally find a pattern which will help us to prove it is a Range Holder fault and give them assistance on narrowing down where the fault occurs. Depending on the severity and frequency of the fault you can normally expect resolution within 1 to 5 working days however more intermittent or difficult to pin down faults can take considerably longer.

Magrathea Network Fault

Problem: A fault somewhere in the Magrathea network is causing intermittent faults such as one way audio.

Investigation plan: Magrathea will require details of the call attempts that have had difficulty and will check those calls have reached our network. Once we have viewed the call records we will try to establish a pattern. We are normally able to see that all 'bad' calls come through our network using one pathway so can quickly narrow our investigations to that path. Magrathea will then attempt to replicate using a test number so that we can do further testing without bothering the customer. We will use this number to remove each element of the call path in turn until we can identify the particular portion of the network or routing that introduces the problem.

Solution: Once identified, depending on where in our network the fault exists, we can normally re-route calls to clear the problem while the fault is fixed. However in some cases it is a specific link between Magrathea and the Range Holder that proves to be the problem and can require their assistance to clear the fault.

Client Network Fault

Problem: A fault within the customer network or the end user setup causing call failures or issues. Normally call rejects or breaking audio.

Investigation Plan: Magrathea will use call examples provided to confirm that calls are being delivered to our client network. Where calls are rejected we will extract traces to give further details of this. Where the fault is audio related Magrathea do not store RTP so will advise the client to trace this side to determine the cause. If there is any doubt over where the fault is introduced Magrathea can provide an alternative number (non-ported) setup in the same way to show that the fault continues to exist, and finally by terminating the ported number within our own network and removing the client or end user from the call path we can show that the fault clears thus narrowing down the cause to the client or end user.

Solution: Magrathea will provide a summary of our findings to enable the client to continue their investigation. Common causes of problems are firewalls, NAT handling and limited bandwidth.