



Number Range Migration

The BT TDM-IP Range Migration Timetable
Summary of Feedback from Industry

March 2022

Summary Date: 28th March 2022

Contents

Recap of Consultation Timeline and Objectives	2
Summary of Responses from Industry	3
1. The Timetable Structure, Content and Publication	3
2. Charging where IP is the FTR POC	4
3. The Virtual Interconnect (VIC) product	4
4. The Dual FTR period	4
5. Traffic delivered to DLEs where the DLE is not the FTR POC	4
6. Number Portability	5
7. Issues Out of Scope	6
Next Steps	7
Acronyms, abbreviations, and definitions	8

Recap of Consultation Timeline and Objectives

BT published its Number Range Migration consultation on 6th December 2021, with responses requested from industry stakeholders by 7th February. The objectives of the consultation were to consult with industry and seek input on the proposed migration file structure and publication principles. BT also provided transparency on the interaction between the migration timetable and billing. We also touched on the treatment of ported traffic, specifically regards billing for calls to numbers imported to BT.

The consultation provided visibility of BTs proposals to facilitate a collaborative process, with BT seeking views from stakeholders on the migration timetable, to ensure the information provided gives other telecoms providers sufficient certainty and notice to plan their own migrations to IP.

BT highlighted in our consultation that we are unable to revisit matters already considered under Ofcom's Wholesale Voice Market Review (WVMR).

Summary of Responses from Industry

BT received 6 responses to the condoc, and we are grateful for the substantial and helpful input that respondents have provided. We have also had bilateral discussions with individual Communications Providers (CPs) prior to the closure date of the consultation and we continue to support such requests. In fact, BT sees such bilateral exchanges as key, and we encourage CPs to discuss their equivalent plans with us.

Key themes to emerge from this consultation are as follows:

1. The Timetable Structure, Content and Publication

A few respondents confirmed that file content was acceptable and some requested additional information to be added to the migration file contents. With the exception of the removal of DLE number ranges from BT network (e.g., move to another CP) which would trigger an update to the migration timetable, BT does not intend to update the migration timetable unless there are unexpected or exceptional circumstances. For this reason:

- DLE 1141 codes are not included in the timetable file. The planned reparenting of concentrators has been built into the timetable and BT does not want such changes to force an update to the timetable, which would be necessary if it contained 1141 codes. If CPs wish to identify the DLE associated with a number range (or for those CPs using the VIC product the associated NGS) at any point in time the CP can easily clash the number range against the TDM EBC matrix and determine the exchanges where the LES charge band (520) or VIC LES charge band (580) is shown.
- BT will not be including a “data change” flag; this would be meaningless if entries in the timetable are removed (so there is nothing to set the flag against), which is the only planned reason to update the timetable. We have considered the request to apply full date stamps as an alternative, yet we see this as an unnecessary overhead for BT, when a CP can simply compare a new timetable with the previous one. We can confirm that both new and previous files will be made available on btwholesale.com. The latest version of the file will be up to date and published in full.
- BT will not be publishing a schedule for updates to the timetable; as explained above, other than the removal of ranges (which cannot be predicted in meaningful timescales) updates are not planned. Should an update occur, there will be an industry briefing alerting CPs to the fact.

BT were asked to consider CP-specific migration timetables to avoid bottlenecks and congestion in the BT network. Our position is the same timetable will apply to all CPs. Making timetables CP-specific cannot be supported by BT billing systems in addition BT wants to guarantee that all CPs are treated equally during the migration and none is being discriminated or given access to different information. Moreover, BT can reassure CPs that the impacts of migration on the BT network have been planned and internal changes made to accommodate.

Questions were raised about the granularity of ranges. We confirm that all number ranges on a DLE will migrate at the same time and ranges will be no more granular than is currently used for charging.

As a result of the responses from CPs, DLE number portability prefixes will be included in the number strings column of the migration timetable. BT is not currently planning on introducing any new prefixes associated with the BT IP platforms.

2. Charging where IP is the FTR POC

Calls sent to BT at IP where IP is the FTR POC for the number range will be charged as today. There are no current plans to introduce “EBC variance” for such calls. CPs should ensure they have sufficient IP interconnect capacity to carry all the volume they wish to route to BT over IP.

3. The Virtual Interconnect (VIC) product

A few respondents sought clarification in relation to the VIC product. BT would expect a CP with egress (CP to BT) VIC to cancel that egress VIC capacity when the associated ranges have IP as the FTR POC. If this is not done the CP will continue to pay VIC rental, but as the ranges no longer have the DLE as the FTR POC and consequently the traffic does not use VIC, VIC conveyance and overflow charging will not apply, and the calls (if still presented to TDM network) will be charged using the NGS as the entry POC (single tandem to IP ranges where the rate from NGS to the DLE was single tandem).

BT has a similar expectation regards physical (not virtual) egress circuits at DLEs, in that CPs will seek to reduce and/or cancel capacity once the BT FTR POC changes.

4. The Dual FTR period

A few respondents raised the length of the dual FTR period in their responses. The period where FTR is available at both a DLE and IP will be one calendar month, which OfCom has said is sufficient (2021 WVMR 7.153 *“we consider that the timetable obligations provide telecoms providers with sufficient notice of BT’s plans and do not require an extension to the period of simultaneous availability. Consequently [...] the only change we have made to the length of this period is to revise it to 1 calendar month”*).

As explained in BT’s WVMR response, any period longer than one calendar month would require significant development of BT billing systems; this cannot be justified and is not possible in the timescales.

5. Traffic delivered to DLEs where the DLE is not the FTR POC

After the end of the dual FTR period, BT has freedom to set the rate for calls delivered to the DLE and as advised in the consultation this will be the double tandem long rate. This is due to the DLE acting as a tandem exchange to onward route the call to the tandem NGS from which it is onward routed via TDM/IP interworking to BT’s IP platform as such we believe the rates are reasonable, incentivise a timely migration to IP and we note that contractually the DLE should not be used for tandem traffic. For simplicity BT is using an existing charge band to charge for this service. As has been previously mentioned, OfCom is of the view that the migration timetable provides CPs with ample notice to plan and implement routeing changes to move call routeings to IP during the one calendar month dual FTR period.

When a BT range migrates to IP, if for a temporary period or reason a CP does not want to route calls to BT via an IP interconnect; a single tandem rate may be achieved if the traffic is delivered to BT at an NGS (this will be reflected in the TDM EBC reference data).

6. Number Portability

Import to BT

As outlined in the consultation document, if an imported BT end-user migrates to IP, then BT will employ the post port prefix change process, adhering to the industry standard processes¹, lead times and the supporting commercials apply. Some respondents (as Range Holder networks) requested BT Wholesale share a forecast for when imported numbers will migrate to IP. However, BT Wholesale cannot predict when end users will choose to migrate to BT IP services, nor are we privy to the intentions of the Wholesale Line Rental (WLR) CPs serving an end-user with an imported number.

We would encourage industry parties to engage with Openreach on expected number portability migration volumes away from WLR should indications be required to assist with business operational planning. In our view this is independent of the FTR POC migrating to IP for BT number ranges or interconnect billing treatment for BT GNP prefixes.

At some point BT expects the GNP prefixes associated with TDM will be withdrawn once all numbers imported to BT have migrated or ceased.

Export from BT

The consultation sought views on the migration of the FTR POC from TDM to IP for BT geographic number ranges. This is a billing change and is not tied to any changes in the BT network operation, architecture, or the closure of the BT TDM network (which BT was not required to consult on). BT received queries about number portability export-from-BT.

A gaining CP identifies where export-from-BT traffic is delivered to that gaining CP, and BT understands that CPs will want traffic delivered to them in a way that minimises BT's incremental conveyance costs and hence the regulated APCC that the gaining CP must pay BT for exported calls.

BT makes the following general observations and will happily support further discussion on a bilateral basis.

- APCCs recover the actual (LRIC) cost associated with incremental conveyance associated with onward routeing from the donor platform and are not tied to the location of the FTR POC for a number range.
- BT has no plans to increase the APCC rates for exported traffic delivered to the gaining CP over TDM to recover the additional conveyance to carry and convert calls from the IP platform to the TDM exit POC.
- If a gaining CP requests that all export-from-BT traffic is delivered over IP, then the APCC rate may initially increase (as a result of onward routeing traffic delivered to BT at TDM) then reduce as a growing proportion of the traffic only needs onward routeing via IP. BT does not include in APCC rates any DLE-tromboning costs for calls delivered to, and leaving from, IP.
- For CPs interconnecting with BT at both TDM and IP, split routeing is available for export-from-BT traffic; traffic delivered over TDM will maintain the current TDM APCC, but traffic routed over IP have a reduced APCC for onward routeing via IP. Note that BT will only implement split routeing for export-

¹ Post Port Prefix Change (PXC) order type and process as detailed in Number Port Provisioning Core Processes document on the OTA website http://www.offta.org.uk/__data/assets/pdf_file/0016/212650/Number-Port-Provisioning-Core-Processes.pdf

from-BT traffic if the gaining CP charges FTR on receipt of this traffic regardless of whether the call is handed over at IP or TDM points of connect.

Number Portability Service Establishment Documentation

Comments were received regards service establishment records. BT note that industry number portability service establishment documentation has not been reviewed for a considerable period, yet this does not preclude parties from working together on an alternative solution. BT is open to discussing changes to documentation and finding a solution with industry for an 'All IP' world. For the foreseeable the TDM nodes will continue to exist and associated NAC coverage as per the fast-track process.

7. Issues Out of Scope

Several issues were raised in responses, that we believe are out of scope of the consultation that specifically covered the migration of the FTR POC for BT ranges migrating from TDM to IP. Our comments on the out-of-scope issues are outlined below.

BT-originated traffic to Non-Geographic Call Services (NGCS)

BT can confirm that split routing will continue to be available whereby for a dual connected CP (TDM & IP) is using this service: if the DLE is the originating platform, calls will route out at TDM and be charged using the associated TDM exit POC (e.g. no AERO if the exit POC is the originating DLE); if the originating platform is IP, calls will route out at IP and be charged using an IP exit POC (i.e. no AERO).

BT Transit services

BT Transit services are not affected by the migration of the FTR POC from DLEs to IP.

CP range migration to IP

BT would encourage CPs to work with BT to create the timetable for migration of their ranges (and porting prefixes) to IP interconnect and agree updates to their routing plans (including booking DMA timeslots) to reflect when the CP would like BT to route the CP's traffic over IP.

Clarity on commercial arrangements

BT held a teach in style session on the IP reference offer and charging model on the 28th of February with interested parties and we continue to support requests for clarifications.

Next Steps

We would like to thank all respondents for their input, and we will work with industry on items for clarification that are beyond the remit of the range migration consultation, over the coming months. Where there is an item that we believe would be useful for all CPs to have access to the same information at the same time we will make such available to all parties using briefings.

BT plans to publish the first version of the migration timetable on the BT Wholesale website at <https://www.btwholesale.com/help-and-support/regulatory.html#bt-tdm-ip-range-migration-timetable> before the 1st June. When published, BT will also send an interconnect briefing, CPs are encouraged to check they are subscribed to the interconnect briefings distribution list.

We invite CPs to contact us on btmigrationcondocg@bt.com or commercial.interface@bt.com or via your Account Manager with any follow-up queries, including any requests for bilateral discussion of this topic, wider migration considerations or your own IP migration plans.

Acronyms, abbreviations, and definitions

AERO	Additional Exchange Routing from Origin (NGCS call origination other than from DLE)
APCC	Average Porting Conveyance Charges
CBN (charge band)	Charge Band. Represents the network use for BT to terminate a geographic call, associated with a point of connect and dialled number in the EBC matrix. 520 Local Exchange Segment (priced at FTR) 521 Single Tandem (one switching stage used to carry the call to the FTR POC) 523 Double Tandem Short (two switching stages used to carry the call to the FTR POC <100km between switching stages) 524 Double Tandem Medium (two switching stages used to carry the call to the FTR POC 100-200km between switching stages) 525 Double Tandem Long (two switching stages used to carry the call to the FTR POC, >300km between switching stages) 546 IP-terminating (priced at FTR for IP points of connect and single tandem for NGS points of connect) 580 Virtual Interconnect Local Exchange Segment (priced at FTR)
DLE	Digital Local Exchange, a TDM exchange hosting BT end-users
DLE 1141	Identification code for a DLE
DMA	Data Management Amendment
EBC	Element Based Conveyance, the methodology used to charge BT-terminating geographic calls based on the shortest theoretical path through the BT network
FTR	The regulated fixed termination rate
FTR POC	The point of connect where number ranges are delivered to receive the FTR
GNP	Geographic Number Portability
IP EBC Matrix	The reference data identifying the EBC charge band associated with a IP POC and dialled number, used for charging IP-connected CPs
IP POC	An IP point of connect
LRIC	Long Run Incremental Cost
NAC	Numbering Area Code (such as 020 for London)
NGCS	Non-Geographic Call Services
NGS	Next Generation Switch, a TDM tandem exchange type
Non-Parent NGS	A NGS not directly connected to the DLE terminating the call
Parent NGS	An NGS directly connected to the DLE terminating the call
POC	Point of Connect, where a CP interconnects to BT
TDM	Time division multiplexing, refers to the legacy network
TDM EBC Matrix	The reference data identifying the EBC charge band associated with a TDM POC and dialled number, used for charging TDM-connected CPs
TDM POC	A TDM point of connect
VIC	Virtual Interconnect Circuit