Organisation:

Syniverse Technologies

Comments:

As the provider of the current UK Mobile Number Portability (MNP2) system, Syniverse welcomes the opportunity to respond to Ofcom's Consultation for review of the porting process. Syniverse Technologies is a global communications technology company specializing in innovative business and network engineering solutions that manage and interconnect voice and data systems in more than 140 countries worldwide.

1.1 SYNIVERSE PROFILE
Syniverse Technologies (NYSE:SVR) is a leading provider of mission-critical technology services to wireless telecommunications companies worldwide. Syniverse solutions simplify technology complexities by integrating disparate systems and networks in order to provide seamless global voice and data communications to mobile subscribers.
Operators depend on Syniverse's integrated suite of services to solve their most complex technology challenges and to facilitate the rapid deployment of next generation wireless services. Syniverse provides services to approximately 650 telecommunications carriers in more than 140 countries, including the ten largest U.S. wireless carriers and seven of the ten largest international mobile carriers.

Syniverse is fully ISO 9001:2000 certified. This certification demonstrates Syniverse's commitment to a focus on our customers, our leadership within the industry, and the involvement of our employees and management in continuous process improvement.

Headquartered in Tampa, Florida, U.S.A., with our European Operations Centre in the U.K., Syniverse has offices in major cities throughout North America, South America, the Netherlands, and a global sales force in China, France, Hong Kong, India, Italy, Japan, Luxembourg, Norway, Singapore, Slovakia and UAE. For more information, visit www.syniverse.com.

1.2 SYNIVERSE UK MNP EXPERIENCE
Syniverse have developed and managed the UK?s MNP2 solution since July 2001. This proven solution supports porting for more than 60 Operators and service providers and handles up to 200,000 number ports per month. The service contains all required central facilities, functions, protocols, procedures and mechanisms to provide Number Portability. The UK application was developed using a modern, standards-based three-tier architecture ensuring clear separation of presentation, business rules and data storage. The modular construction of the Syniverse Number Portability solution facilitates extension and selection of the optimum components to suit a country's unique requirements. Together these principles permit an ideal balance of flexibility, scalability and robustness meeting both the present and future needs of our customers. Following this we partnered with Accenture to design, develop and implement Number Portability in Finland. Based around the same core technologies as the UK system, the Finland solution facilitates recipient-led porting on a same-day basis, supporting a central database, direct-routing all call query model.

Syniverse's NP experience extends to a number of countries around the world. Most notably, Syniverse is involved in the USA, Singapore (which also had a donor initiated call-

forwarding routing scheme), Canada, and India. We also provide MNP experience from our MNP operations and Solutions in place in Hong Kong, Macau, and Taiwan.

1.3 SYNIVERSE GLOBAL MNP EXPERIENCE

1.3.1 USA

Syniverse's experience with Number Portability started in 1997 with the United States (US) deployment of fixed-line Number Portability where Syniverse provided Number Portability network call routing services to LECs. Syniverse expanded its US offering in November 2003 with the roll-out of wireless number portability where Syniverse became the leading service bureau and clearinghouse provider of LNP services. Syniverse currently supports over 90 percent of the US wireless market and over 100 US wireless carriers and Syniverse is continuing to grow its market share.

Syniverse was an integral part of the successful implementation of the top 100 markets on the Federal Communications Commission (FCC) mandated date of November 24, 2003 for wireless-to-wireless and intermodal porting. After extensive planning, development and testing a successful launch occurred as mandated by the FCC. Syniverse utilized almost 20 different Project Management Professional (PMP) certified Project Managers and Implementation Managers across its customer base to ensure the smooth launch. In addition, hundreds of other resources across the organization were involved from customer sales and marketing to requirements gathering, development, customer service, network engineering and billing. Phase 2 of NP in the United States happened on May 24, 2004, when the rest of the markets were required to begin porting. Syniverse implemented more than 80 such operators for Phase 2. Again, Syniverse was the key player for customer planning, testing and implementation.

1.3.2 HONG KONG

In Hong Kong, Syniverse (formerly ITHL) has provided to ALL the mobile and fixed operators a Central Ticketing System. We developed and hosted this system since 1999. It manages the daily volume of Number Portability orders processed among the operators and resolves capacity resource problems of the operators. This proves to be a very effective solution when Number Portability traffic has major jumps during peak periods. Syniverse helped the entire Hong Kong telecom industry to deliver Number Portability service to the public smoothly and reliably.
In Hong Kong, we also provided NP Query Response systems to a number of operators (both mobile and fixed). It supports a number of signalling protocols including ISUP, INAP, and TCP etc. We also implemented SMS eXchange for SMS routing solution for some operators in Hong Kong.

1.3.3 MACAU

In Macau, Syniverse's provided a Administrative Database Solution consisting of Service Order Activation System (SOA), Local Service Management System (LSMS) and Number Portability Database to 3 operators for handling their Number Portability Database, service order and data synchronization purposes. We also provided SMS eXchange for SMS routing solution for Macau operator.

1.3.4 SINGAPORE

The UK telecoms market and Ofcom may find Singapore to be of unusual interest in that Singapore was also one of the relatively few countries that adopted donor initiated porting

process along with a call-forwarding (indirect routing) scheme.

In June 2007, Singapore IDA appointed Syniverse Technologies as the new Centralized Database Administrator. The award specified that Syniverse provide recipient-initiated central database to enable direct routing to recipient operator networks. In less than a year following the award Syniverse facilitated the Singapore telecom industry's move to the new model including a migration of existing ported number data from each carrier's own proprietary database into the central database.
Under Singapore's Services-Based Operator (SBO) License, Syniverse provides Centralized Number Portability Database and Centralized Query Response System for the Singapore industry.
Services provided by Syniverse include:
- Centralized Number Portability Database (CNPDB) and Centralized Query Response System (QNPDB).
- Automated M2M API Interface and Manual H2M Web Interface.
- Sophisticated 24x7 Network Monitoring, Helpdesk and Tier 1/2/3 Support Service.
- Break-before-make implementation with outage time controlled to be within 2 hours normally.
- Mechanisms to ensure Full Data Synchronization between CNPDB and Operator Side BSS/OSS.
? - Message Buffering and Retry
? - Message Synchronization through M2M API even for operations over H2M interface
? - Routing Number Download Status Tracking
? - Ad-hoc Full / Partial Data Downloading
- Dual Sites as Production and Disaster Recovery with real-time data synchronization.
- Follow ISO27001:2005 standard in information security and management system.
- Adapt to SS507 standard on Business Continuity (Singapore is the first country in the world to introduce a Standard and Certification program for BC/DR service providers.) This ensures we can achieve stringent Recovery Time Objective, minimize business and data loss and enjoy uninterrupted services.

Prior to the migration, Syniverse supplied an SMS router solution which helped an operator to route their SMS messages to reach its correct ported destination subscribers.

1.3.5 TAIWAN

In Taiwan, Syniverse has implemented SOA and LSMS solutions in 2005 for a total of 8 telecommunication licensees (12 licensees in Taiwan total) for their Number Portability operation. We also supplied Query Response system to operator in Taiwan.

1.3.6 CANADA

In Canada, Syniverse provides the clearinghouse service of inter-operator exchange of port request and port response messages exchanged by operators to agree to the date and time of a port. Syniverse's services provides the inter-operator messaging between mobile operators as well as between mobile and fixed operators, and includes networking, message validation, protocol translation, and a rich reporting database for tracking both porting performance and market success. The service also provides a messaging interface between the mobile operators and the central administrative number portability database for Canada so that once a port is agreed to by both operators, the central database is updated and all operators are notified of the port.

1.3.7 INDIA
Earlier this year, Syniverse was awarded a license by TRAI to operate India's centralized number portability administrative database to be implemented in 2009.

1.4 SYNIVERSE MNP ADVANTAGES
In summary, Syniverse offers the most complete approach to meeting the new technological challenges associated with emerging services. As a leading industry provider, we are uniquely positioned to understand the complexities and challenges currently faced by a leader in the mobile space with our world-wide experience in providing number portability services.

To bring NP to market, we will leverage our current industry relationships and our core competencies in:
- Central Database Applications and Inter-operator Clearinghouses ? Syniverse has a long history in providing services to operators that allow them to inter-operate not only in porting, but other critical aspects such as intelligent network line information (LIDB) and calling name (CNAM) databases.
- Existing Central Number Portability Database and Experience ? Syniverse will leverage the central number portability database developed for the Finland market for the UK. This system supports a central database, recipient-initiated porting, and direct routing ? the exact model that the UK Ofcom appears to favour as the long term solution. The same team that developed efficient and effective number portability solutions in other countries will put its experience to work for both operators and Ofcom.
- Call Routing Database Facilities -- Syniverse supports one of the industries largest Local Service Management System (LSMS) and Number Portability Databases (NPDB).
- Fixed and Mobile Expertise ? many of our services, including number portability, are applicable to both fixed and mobile operators. Consequently we are well suited to understand the unique needs of both market segments ? especially as they pertain to number portability.
- World-Class Customer Care -- Syniverse has built and grown an organization that is truly focused on customer service and satisfaction. Our consistently high customer satisfaction ratings reflect Syniverse's ability to exceed customer expectations and demonstrate flexibility unmatched in the industry.
- Operator-Grade, High Availability Applications and Data Centres ? Syniverse has designed, operated and managed many of applications with the goal of meeting 99.999 percent up-time requirements for 20 years now. Our experience involves managing high-availability data centre operations for many of our services, so consequently we are very familiar with industry practices and processes designed to ensure reliable and continued service ? even in the midst of disasters.
- Call Processing Expertise -- Syniverse maintains call processing applications for the wireless industry in our service bureau environment, which typically handles 20 to 40 million transactions per day.
- C7/SS7/SIP Network Expertise --Syniverse owns and maintains an extensive call processing signalling network

Syniverse has the necessary knowledge and experience to support Ofcom's vision for number portability. We have the necessary experience in developing and delivering operator-grade solutions in a secure and reliable production environment. Syniverse has demonstrated our ability to process high-volume, high-value transactions associated with NP in a consistent and efficient manner while providing exceptional customer service to both fixed and mobile operators. Most importantly, we have experience in several countries around the world in addressing their unique requirements and the inherent complexities associated with the

porting of numbers.

In short, with Syniverse, operators gain a knowledgeable, experienced and professional technology partner to support number portability.

Question 3.1: Do you agree that the bulk porting process should not be included in this review and should be left to industry agreement?:

Most countries address ?bulk ports? (when permitted) as a special case for porting. While the same benefits of keeping their number(s) can be derived for users of bulk ports as for consumer ports, the end user purchaser usually has different priorities and able to assert considerable commercial pressure on operators and service providers to ensure ports are completed as planned. However, care should be taken to ensure that these ports do not become more complex than necessary to ensure that delays in porting these numbers are minimal compared to ?consumer ports? and any delay is related primarily to the need of the underlying purchaser.

Therefore, Syniverse agrees that bulk port customers generally have different priorities and it makes sense to keep them as separate processes but within the same general system.

However, we note that the limit of 25 is arbitrary, not commercial or technical in nature. While we conclude that 25 lines is a number that allows most small businesses and families to complete their port in a single request all at once, we do believe the exact definition of a bulk port ? and its specific timelines for completion ? should be configurable within the system to allow for operators to change various aspects of the bulk port process from time to time.

Question 4.1: Do you agree with Ofcom’s view that the evidence suggests consumers would prefer a faster porting process?:

In general, Syniverse believes this to be true. Indeed there have been several independent studies that show some correlation of porting volumes to porting interval, but the effect is not dramatic and certainly many other factors may also be at play. Our experience has shown that at least some end users will not port if the porting interval is considered long but this is a subjective assessment by the end user.

Indeed, the overwhelming global trend is toward reducing porting intervals. For example, in Singapore the porting interval went from five days to a single day during the conversion from a donor-initiated, onward routing scheme to a recipient-led, direct routing model.

Within the mobile sector, in many countries purchasers of mobile service have become accustomed to buying and activating a mobile account in minutes. Therefore purchasers are generally reluctant to have the process delayed or conditioned when a port of a number is involved. Given the choice between service ‘now’ with a new number and service ?later? (i.e. tomorrow or even later) with the same number a purchaser may feel compelled to abandon the benefits of retaining his or her former number.

However, we also note that the cost of a significantly faster process must be balanced against the incremental benefit. For example a single-day porting process (which would comply with the contemplated EU requirements) could be accomplished with a relatively minor

modification of the current UK MNP2 system and operator processes. Therefore this incremental improvement might cost significantly less than a system that accomplishes ports in a few hours.

A faster porting process and limiting ports requests to a single transaction can also help reduce costs for operators in the long run as the typical implementation of these processes tend to reduce errors as well as the average time to resolve these errors. In addition with each port processed as a single transaction this avoids errors affecting multiple customers who would otherwise port normally.

Finally, we would encourage that operator and consumer choice must be enabled by the operators and system. For example, in Canada where ports of mobile numbers must be completed in 2.5 hours many operators have implemented optional processes to port numbers in 10 to 15 minutes. In other cases, this time line is extended in the opposite direction when the consumer requires it. Although this not typical, some customers desire to port a number at a future date (for example they may purchase a new phone for a family member's birthday and want it ported in several days instead of several hours.

Question 4.2: Do you agree with Ofcom's view that the current process does not work well for all mobile consumers?:

Given the fact that only Singapore preceded the UK implementation of the UK MNP solution it is inevitable that process improvements will have emerged and thus there are opportunities for improving the current UK MNP process. In addition the knowledge and expectation of mobile consumers has developed greatly in this time.

As with any process, there is almost always a minority of consumers who experience difficulties and who are frustrated by the process in place and wonder why a different process can not be employed.

If we look to the rest of the world we can see that recipient led process is the typical model. Syniverse has experience with these solutions and we believe the benefits outweigh the issues. However based on our experience it is important to design the process and solution to ensure it is not too costly or complex, taking special care to consider the different technological situation of the new entrants to the incumbent operators.
An automated PAC process can be implemented to provide most of the benefits of a recipient led model (or at least remove some of the issues inherent in a donor led process). However, Syniverse notes that ?save activity? may still be present even an automated PAC process. In fact, even some countries with recipient led porting, such as Canada, have issued regulations forbidding ?save? activities by the donor network once the porting process has begun.

Of course the donor operator is free to employ ?win back? marketing efforts after the port is complete. However, at that point, the user is under no obligation to respond to the marketing efforts unless he or she feels the offer is compelling. This approach allows the port to proceed without undue delay by the donor network thereby eliminating inconvenience to the consumer. However, the consumer can still benefit from an improved offer from their former service provider.

Question 4.3: Are there any other areas of consumer harm that have not been identified? Do you have any evidence to demonstrate other areas of consumer harm?:

There are a number of issues which need to be considered:
? Port accuracy ? with a recipient led porting model the old provider will need to validate that a port request is for the correct subscriber. In most countries this is managed by specifying that the recipient operator must collect some personally identifying information such as the subscribers account number or password/PIN with the donor operator from the subscriber. This ensures that:
- The consumer has authorised the port since only the consumer and the donor provider should have access to this information
- That the port request is valid (the right number is being ported). This is done by matching the identifying information to the phone number. If these bits of information do not match the donor may return the request with a response indicating the port may be an error and the recipient operator is required to correct the request and resubmit it (or cancel it).
? Network Routing ? given the other Ofcom consultation on routing we would recommend that the porting solution be independent of routing technology. In addition there is a growing need for this routing information and we would suggest the UK operators consider whether and how to make this available to global providers in advance. This can benefit subscribers by allowing international calls and text messages to be correctly routed. And potentially defray the costs of porting implementations.
? Syniverse also notes that onward routing is reliant on the donor operator. When a routing issue occurs, the operators have to sort this out themselves without a single authoritative database that has the ultimate responsibility for determining routing (number ownership). A centralized DB integrated with the porting process may help resolve this.
? Initial Database Load ? In Singapore, Syniverse worked with operators to determine each operator's perceived list of ported numbers. When conflicts were discovered between operators's lists Syniverse helped arbitrate any conflicts prior to entry into the new master database.
? Tariff Visibility ? Syniverse believes that with increased porting the need for tariff visibility becomes greater. In some countries, the central database administrator has been required to offer SMS-based or web-based look up tools to allow those consumers who are interested to determine if a call to a new number is on-network or off-network. Alternatively, some audible signalling to the calling party can indicate that the call is off-net. These methods are designed to help consumers avoid the shock of seeing their telecom costs exceed their experiential-based expectations. However, UK consumers are already dealing with this and networks have provided tariff packages that minimize this impact so Syniverse does not believe this to be a major issue.
? Long Porting Window ? There is a chance that a consumer can be unswitched (ported out) before they are switched (ported in). The typical process in the UK is that the recipient connects early on. In Canada, we note that the recipient mobile operator establishes its connection to the subscriber before the donor operator breaks his connection. Thus the subscriber is never out of service. However many countries employ the break then make model therefore restricting porting to defined windows ? often in the very early morning ? to minimize impact to (most) subscribers.

Question 4.4: Do you agree that Ofcom should intervene to introduce changes to the current MNP process to address the harm indentified?:

Syniverse believes Ofcom, the mobile operators and the UK telecoms industry should strive to meet the needs of mobile services consumers. A free-market economy should be free to experiment with the particulars of meeting a specific target provided by the regulator. Leaving the details of how to meet the regulator's mandate to the operators shall help ensure the solution is cost efficient and not an undue burden on the operators.

To achieve this ideal, most countries exercising or planning to provide number portability have opted for shorter porting intervals in a recipient-lead porting model. This model enables a mobile services consumer to shop for the best deal without undue delay or inconvenience from their existing service provider.

We would note that there are however, many countries with recipient-lead porting models with porting rates less than the U.K. market. While this may be due to the complex interplay of many other factors we believe that the adoption of a recipient-lead should not dramatically increase churn or introduce chaos into the U.K. mobile market place. Indeed, Syniverse provided a highly organized transition between donor-lead to recipient-lead porting model within Singapore. The major beneficiary of this move was the mobile subscribers.

However we must also be conscious of the tough economic times and hence be conscious of the cost this will incur. So we would recommend that whatever changes are made offer operators the flexibility to meet these without requiring excessive investment while also allowing operators to reduce costs.

Question 5.1: Do you agree with Ofcom's view that the ?do nothing? option is unlikely to be appropriate in light of (i) evidence of consumer harm and (ii) noting the proposed one working day porting requirement under the New Telecoms Package? If not, please give reasons for your views.:

Yes especially in the light of the requirements that are likely to come from the EU.

However, the option of ?doing nothing? from a regulatory standpoint does not necessarily, by itself, eliminate the possibility of operators voluntarily improving the technical process. Indeed the operators may be convinced to improve the process if market conditions favour it. However, given the likelihood of the 1-day porting requirement of the EU new Telecoms package it may be expedient for Ofcom to require (via GC18) a move to a single day porting process (or less) but allow the operators to work out the methods to support this goal. Moving pre-emptively before the New Telecoms Package may provide the operators more time to define and adopt new processes which may enable a less intense (costly) implementation or at least spread the investment over a longer time horizon.

Question 5.2: Do you agree with the range of potential options Ofcom has set out?:

Yes.

Question 5.3: Do you consider that there are additional options that Ofcom should have considered? If yes, please explain what option(s) should have been considered and why.:

Syniverse would suggest including a recipient-led system but with an SMS-generated PAC. Extremely successful from day one, this model employed in the Channel Islands provides the ?safety? of a PAC without imposing the delay of a donor initiated process. The customer sends a SMS to 123456 containing the word PORT. The SMS is automatically forwarded by the donor to the central database where the SMS request is matched with the recipient's request. Although the donor carries the message, they are not involved in the port request, and as such, makes it a truly recipient-led system.

Question 5.4: Do you agree that a two hour timeframe in which to issue the PACs for Options B and D is appropriate? If not, please give reasons for your views.:

There is no technical reason why PACs could not be produced within this time frame. In addition given our experience we would recommend that this process be centralised through the MNP system and be available to either the mobile subscriber or recipient operator who has appropriate information to ensure the end user is requesting the PAC.

The adoption of a two-hour (or less) PAC process is technically feasible given some modifications of operator systems. In fact, we note that some operators provide PACs in near-real time today.
However our recommendation is to centralize the PAC-via-SMS process. Syniverse would also clarify that its system is capable today of assigning the PAC near-real time via either human-to-machine (secure web site) or via a machine-to-machine interface.

We also note however that the two-hour time frame is more or less arbitrary and Ofcom should remain open to operator suggestions in this regard. For instance some operators a two-hour PAC process may drive costs significantly above what a three- or four-hour PAC process would entail.

Question 5.5: Do you agree there should be a difference between how the recipient-led processes in Option A and C should work for single account versus multi-account porting requests? Do you consider that the proposed authentication process (described in paragraph 5.41) for multi-line accounts is sufficient? Please explain any other differences you would expect to see whilst ensuring that any differences are still consistent with the overall objectives the options are trying to achieve:

We believe that option C could be operated in the same way as option A. This would allow operators to confirm a port as soon as they felt was appropriate within the time allowed.

As mentioned in paragraph 5.28, one of the issues with authentication is defining the exact limits and data allowed to be verified by the donor operator. For example, in the first days of the US mobile porting, many operators chose to validate every data parameter possible including names, street addresses and other personal data such as government IDs. The result was a lot of inappropriate rejections of port requests because 1 data field out of 40 on a port request did not match exactly what was in the donor networks database. For example, if a port request included ?Main Street? but the donor's network stored the address as ?Main St.? the port might have been rejected back to the recipient for correction causing unnecessary delays and costs for both operators. Canada's mobile industry learned from the example of

the US and the operators cooperatively specified that only three data fields: donor account number, account password or PIN or ESN/MEID of the handset could be used to validate that the port request is an accurate match to what is in the donor network's customer database and only one of the fields had to be provided and match or that all three fields could be provided but that the port must be deemed accurate if only one of the three matched and the other two were incorrect. As a result the rate of initial port error rate for this cause was significantly lower than in the US.

It should also be noted that Canada forbid the use of any government issued identification numbers (drivers license or tax IDs) in port requests and that the US has followed suit by requiring only the last 4 digits of social security to be used. Also of note, the US mobile operators have now reduced the number of fields used for validation to a handful of numeric fields avoiding the issues of misspelling last names or street names.

It would be critical for either option A or C for Ofcom to allow the operators to define the specific requirements of what constitutes a valid port. Rules that are too restrictive lead to many false-negative rejections and costly port order correction processes. Port validation rules that are too loose can lead to inadvertent ports. It is the carriers that are best able to judge the real-world impacts of the porting validation rules. It should be noted that there were a very large number of consumer complaints to the FCC when porting began because the validation rules were too tight and port rejections of the normal porting process was rampant. Once the rules were relaxed the amount of port rejections and complaints to the FCC were significantly reduced.

One further important point remains however that Ofcom's proposed authentication process references Mobile Network Operators. In many cases, it is not the Mobile Network Operator that possesses the customer identifying data necessary for authentication but rather the Mobile Service provider (e.g. reseller) who possess this information. This is a critical distinction in that it expands the number of organizations that must be able to provide a rapid authentication of a port request by an approximate order of magnitude (i.e. from five MNOs to approximately 60 Service Providers). There are two options for addressing this: (1) the relatively few MNOs can build an automated interface to exchange port requests through a clearinghouse on behalf of their underlying service providers or (2) each service provider may be required to provide its own interface to the clearinghouse outside of the network provider.

Question 5.6: For each of the options set out, do you consider that Ofcom has captured all the appropriate categories of cost likely to be incurred? If not, explain what categories you disagree with / believe are missing.:

We would also highlight that when a new operator or service provider joins the service this currently has significant cost to the existing participants due to testing of the FTP file exchange process. We would recommend that whatever solution is implemented enables a new operator or service provider to be certified by the provider of the MNP system such that the time and cost is reduced as much as possible if not eliminated altogether.

One element that needs to be recognized is that all MNOs would need to modify their switch infrastructure to query all calls whether the dialled number is ported or not. This technical approach is necessary to provide near instant porting. This is because without this capability the donor operator will need to provision the ported number into a database of ported out

numbers that are queried when a call is originated within its network before disconnecting the number from its accounting system. In other words, the account termination process and network routing processes become tied together. With the all-call query model the network routing can begin whilst the billing and final account settlement process is completed independently of each other.

Question 5.7: Do you agree with Ofcom's analysis of costs for each cost category? If not, please explain why. Please also state whether you are able to provide Ofcom with a more accurate view of costs and if so, please submit your assessment, together with supporting evidence with your response to this consultation.:

The description of Ofcom's analysis in paragraph 5.52 through 5.102 identifies properly the proper significant cost elements.

The summary presented in table 9 shows that Option D as the least costly option in both capital and operational expenses by a very wide margin. Syniverse agrees with this assessment.

Question 5.8: In the case of new entrant MNOs, what additional costs are likely to be incurred internally within each of the networks for each of the options? Please submit your estimates in your response to Ofcom.:

In general adding a new entrant MNO requires the centralised porting application to make modifications to system configurations. A new entrant MNO may not drive significant costs for the other operators but this can very widely based on the MNP system in place at each of the operators. For example, in Canada a new MNP entrant is required to negotiate and sign a porting specification agreement with each operator which might require the existing operators to test with the new entrant. Whereas in the US no significant costs are incurred by existing operators when a new operators the MNP system unless that operator has built a pre-defined list of valid other operators into its point of sale system. In which case, the existing operator needs to modify its list of valid other operators.

For the most part, Syniverse believes these costs to be driven by internal operator preference not the porting model employed.

In addition the central database costs to add a new entrant are typically absorbed by the new entrant in the payment of a fee to the central database/MNP system vendor. However, in certain commercial models this may not always be the case.

Question 5.9: Do you agree with Ofcom's analysis of benefits for each option? If not, please explain why:

We agree there are arguments for both donor and recipient porting. From our experience it is important to ensure there is a clear process and that unnecessary or unintended ports do not occur, there is a careful balance to be struck. There are various models that can accomplish this that are already in place in many countries around the world.

One of the important arguments against donor-led is the save activity when the customer is

obtaining a PAC. Save activity can be prevented by regulating the time limit for issuing a PAC. The save activity can also be reduced by introducing a centralized PAC issuing system which would require the Donor Service Provider be identified and the SMS originate from the porting mobile handset or other safeguards to prevent PACs from being issued inadvertently. Some countries, such as Ireland and Canada, have a timer associated with the donor's response. If the donor does not object to the port within the timer's duration, the port will go forward as ?unopposed?.

Question 5.10: Please state whether you consider that Ofcom should take any additional benefits into account and explain how. To the extent possible, please provide any estimates of these benefits and the supporting evidence.:

In addition to the consumer benefits there are operational cost benefits which may apply to the operators. For instance in Singapore where Syniverse recently helped in the switch to a recipient led near instant porting process featuring all-call query, the operators were able to more efficiently route calls and provide SMS services to ported subscribers. This can lead to increased revenue and greater customer satisfaction. In the US, because porting caused mobile operators to modify their network, marketing, pricing and provisioning and customer service subscriber churn levels actually decreased. While this benefit required significant investments it did decrease operational costs in provisioning and de-provisioning.

Question 5.11: Please explain whether you agree with Ofcom's assessment of the pros and cons of each option and if not, why not.:

In general, Syniverse agrees with OfCom's assessment of the pros and cons. However one aspect unmentioned is that Option D might be implemented relatively quickly compared to the other options and at a significantly lower cost. This solution could also easily be modified to accommodate direct routing if needs be.

Question 5.12: Please state which option(s) you favour and why?:

There are benefits to both recipient led and donor led porting as we can see from other MNP implementations. As far as time-frame of the porting interval is concerned there are again pros and cons for both approaches. In general, allowing operators some flexibility in time-frame could work well to ensure the systems implemented are technology independent and accommodate operational issues which will occur from time to time.

Syniverse favours a system which can be rapidly implemented in a cost effective manner. We believe that the current system modified to allow a subscriber initiate a request to obtain a PAC via SMS or secure web site to meet these requirements. We believe this system enables a single-day port process a practical migration path to a central database to support direct routing and less impact to existing operator processes and systems. The subscriber would effectively obtain the PAC without the need to wait for the donor to provide the PAC. With the PAC in hand the subscriber can then approach the recipient operator of his or her choice and activate a port within a single day.

The current FTP process can be modified to be centralized with each operator receiving a copy of the file indicating a subscriber has ported from one operator to another. This, in theory, provides an operator with the ability to route calls from its network to the correct

recipient network if it so chooses. Over time, this system can be modified to become real-time.

Question 5.13: What do you consider a reasonable implementation period for each of the options and why?:

We believe the implementation of option D could be achieved very quickly, for instance three to six months. Option B could also be relatively quick all using existing infrastructure.

Recipient led porting will take longer to implement and based on examples from around the world we would suggest nine months. One strategy could be to implement option D in the short term then move to either option A or C later. MNP has been implemented in three months from vendor award to the first commercial port in Mexico. However, there were some operators there that realized considerable trouble in routing calls to ported numbers. Therefore we suggest a more reasonable period to be nine months.

It would then be possible to consider if a move to recipient led is required, ensure the routing process is clear and then plan accordingly.

Syniverse's suggested relative implementation time frame ranges for each option are summarized below:

Option A: nine to fifteen months.
Option B: six to nine months
Option C: nine to fifteen months
Option D: three to six months

Question 6.1: Do you agree that it is appropriate for Ofcom to appoint a qualified independent consultant(s) to work with industry to develop cost estimates for different implementation options? If not, please state why.:

This seems reasonable based on our experience. Many countries, such as Canada, Columbia and Nigeria to name a few, employed or are employing a regulator or operator-consortium consultant to organize operator involvement to devise guidelines for regulator review and approval. These consultants are then often used to manage the implementation process across operators to ensure that each aspect of the overall implementation process is managed effectively. For example, in Canada, the project manager created an overall implementation plan to establish guidelines, hire centralized porting clearinghouse vendors, organize testing, and provide status reports to the regulator and operator executives. The consultant there also managed many industry-calls at executive and working levels with each operator providing participation with technical, project management and business leads. A working structure was approved by the operators that allowed issues that could not be resolved at the sub-team working level to be escalated quickly and resolved at the appropriate level. As a result, Canada's mobile operators enjoyed a very efficient process to implement number portability and launched very successfully on the mandated date.

One typical requirement for an industry or regulator appointed consultant is that the consultant is not allowed to participate in any operational aspect of providing the centralized or operator porting systems and the consultant must be independent from any operator.

Together these limitations help ensure neutrality and that the consultant is properly focused on its specific task.

Question 6.2: Do you agree with the remit set out above for the consultant/expert? If not, please state why.:

This seems reasonable based on our experience.

Question 6.3: If you would like to recommend suitable experts / consultancies to Ofcom, please do so on a confidential basis.:

N/A. As mentioned above in our response to Q6.1 we believe the consultant should not be allowed to participate in providing the actual centralized or operator side MNP solutions or be associated with any one or more operators.

Question 6.4: Do you agree that three months is an appropriate period of time for this feasibility assessment to be undertaken? If not, please explain why and what you consider to be an appropriate timescale.:

This seems reasonable based on our experience.

Question 6.5: Do you agree that the criteria for making this process effective as outlined under paragraphs 6.14 to 6.16 is appropriate? What else is required to make this process constructive?:

Yes but just consider that operator staff may not be available over Christmas and New Year so may want to extend the time if it covers this period.

Question 6.6: Do you agree with Ofcom's proposed next steps following responses to this consultation? If not, how do you consider Ofcom should complete its cost-benefit analysis and proceed to an implementation of one of the four options?:

This seems reasonable based on our experience.

Question 6.7: Do you have any comments on the proposed timings for reaching a conclusion for this review?:

No. The timeline specified is consistent with other countries implementations.