Response

to

Ofcom Consultation

Review of General Condition 18 - Number Portability

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PROPRIETARY

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INTRODUCTION

As the supplier of the current Mobile Number Portability (MNP2) system, Syniverse welcomes the opportunity to respond to Ofcom regarding the future of Number Portability in the UK.

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 50 countries throughout North America, Europe, the Middle East, Central and Latin America and Asia Pacific.

Syniverse has existed since 1987, serving the inter-carrier communication needs of the wireless industry. This longevity is market evidence of Syniverse's long-term commitment to neutrality in our dealings with wireless operators.

Syniverse is a publicly owned corporation (NYSE:SVR) headquartered in Tampa, Fla., U.S.A., with offices in major cities throughout the United States and international offices in London, Paris, Rome, Bratislava, Utrecht, Luxembourg, Beijing, Hong Kong, New Delhi, Bela Horizonte, and Rio de Janeiro. For more information, visit www.syniverse.com.

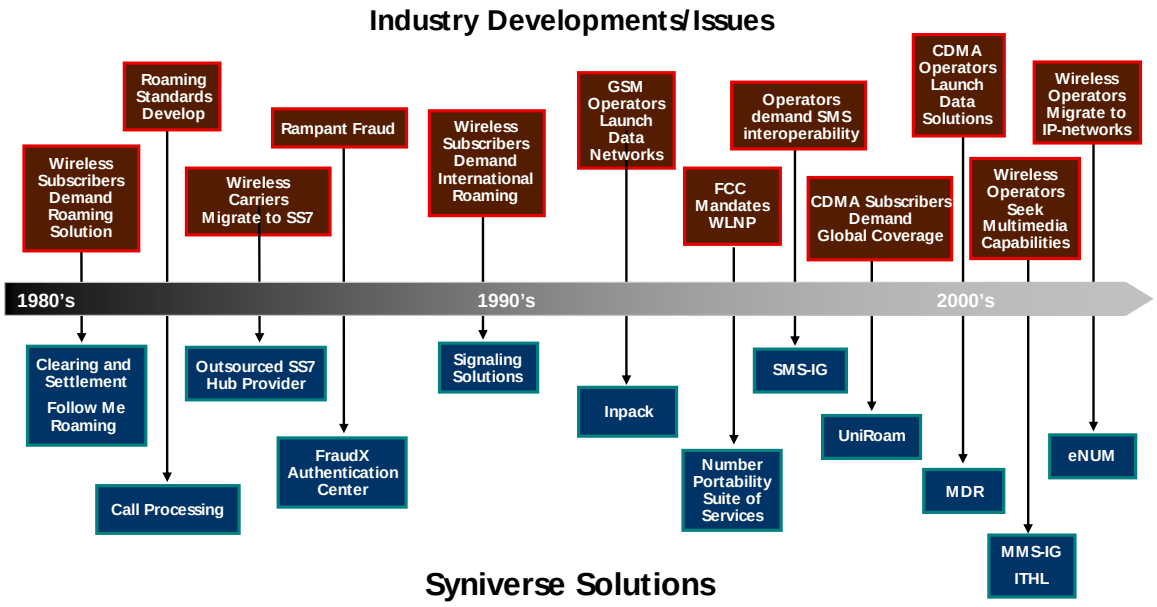
With 20 years experience in the telecommunications industry, we have evolved as a leader in this rapidly expanding industry by developing numerous solutions to address our customers' needs in mission critical areas such as network, roaming, fraud and revenue enhancement issues.

The diagram on the following page shows a timeline of Syniverse's milestones in the marketplace.

Syniverse understands the importance of ingenuity. Highly respected within the industry for our leadership and technical expertise, Syniverse helps to shape current and future technologies within this fast paced and ever-evolving industry.

We have been first to market with services that address:

a. Clearinghouse and settlement services
b. Call delivery
c. Global roaming
d. Fraud detection and prevention
e. Network and industry database services
f. E911
g. Number portability



Syniverse is synonymous with "first to market"

Syniverse provides technology interoperability, network services and call processing to more than 350 customers representing mobile operators, wireline carriers and emerging telecom market entrants. Products include SS7 intelligent network solutions, clearing and settlement services, voice and data roaming facilitation, IP mobile roaming, mobile marketing enablement, C7/SS7 Interoperability, MMS Interoperability gateway services, fraud management, revenue enhancement solutions, content aggregation, peer to peer domestic and international messaging (SMS) solutions and more than 25 other integrated services.

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 wireless space.

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.

World-Wide Experience Providing Number Portability Services

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 local service management, number portability database, intercarrier communications and service order activation services. Syniverse currently supports over 90% of the US wireless market and over 100 US wireless carriers and Syniverse is continuing to grow its market share.

Our experience has also extended to the development and ongoing support of the United Kingdom MNP system. We developed and have managed this solution since July 2001. This proven solution supports porting for more than 60 Operators and Service Providers, and currently handles up to 200,000 ported numbers per month. The UK application was initially developed using a modern standards-based three-tier architecture for 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 customer's unique requirements. Together these principles allow for maximum flexibility (and thus scalability and robustness) in the current deployment and future needs of our customers. Following this we partnered with Accenture to design, develop and implement Number Portability in Finland, where the service contains all required central facilities, functions, protocols, procedures and mechanisms to provide Number Portability.

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.

Syniverse was also instrumental in developing and implementing complementary services such as Fallout Manager – a tool which allows operators to more quickly and efficiently correct ports that "fall out" of the normal process due to incorrect information submitted in the original request. For overall fall out among our customers, Syniverse was instrumental in helping to reduce fallout from a rate of 40% at launch to less than 5% wireless to wireless ports and from 80% to less than 10% for intermodal. Through the use of this service, operators have significantly reduced their time and costs to resolve fallout, therefore completing ports in a more timely manner.

Syniverse also formed a separate customer service organization to support intermodal ports and ports that are completed via the manual fax process for its customers. Additionally, we developed a solution to handle interfaces with operator billing systems and pre-port validation of port eligibility. These

solutions were developed in response to customer requests in a compressed time frame (from requirements to production in approximately six months). Development of comprehensive reporting tools has been another critical part of the overall offering.

Syniverse's United States number portability solution provides an end-to-end solution including application development (provided directly by Syniverse or a Syniverse technology partner), as well as application hosting, disaster recovery and professional services.

Syniverse was a contributing editor to the Cellular Telecommunications Internet Association (CTIA) Wireless NP Report (TR45.2) to modify the IS-41 request to accommodate the need for troubleshooting and customer service.

Syniverse is an active participant in number portability working groups and standards bodies including:

- The Local Number Portability Administration Working Group (LNPA WG), including the following subcommittees:
  - Wireless Testing Subcommittee – working to coordinate operator-to-operator testing and developing the WLNP test plan
  - The Wireless Number Portability Operations team (WNPO) that worked planning and operational issues specific to wireless number portability
  - Fallout Reduction Task Force (FORT) – working with wireless operators to develop industry methods, procedures and standards to help reduce fallout rates and resolve fallout faster. Syniverse is a co-chair of the FORT.

  Note: the latter two committees have since been integrated into LNPA WG
- The ATIS Operations and Billing Forum (OBF) where number portability standards are developed including the following committees and subcommittees:
  1. The Wireless committee which has developed the Wireless Intercarrier Carrier Interface Specifications for wireless-to-wireless porting
  2. The Local Service Ordering and Provisioning (LSOP) committee that developed the standards for porting fixed-line numbers
  3. The Intermodal Sub-committee which works and resolves intermodal porting issues
  4. The Data Interchange End-to-End Taskforce
  5. The VoIP Sub-team

Syniverse also played a key role in several other industry subcommittees that successfully completed their missions.

Syniverse is a member of CIBERNET subcommittees dealing with the intercarrier communication process for exchange of customer porting information. In addition, the Syniverse Users' Group has a subcommittee dedicated to NP and related issues.

Syniverse was a party to a recent Ex Parte Petition to the FCC regarding intermodal porting timeframes. This was accomplished by working with customers and the CTIA on these critical number portability issues.

This document is Syniverse's response to the 'Review of General Condition 18 – Number Portability' paper issued by Ofcom on 16th November 2006, including answers to Ofcom's questions concerning an ACQ/CDB solution.

Question 1: Do you agree that an ACQ/CDB solution is required to achieve independence of Donor Networks?

Syniverse Response:

Yes, Syniverse agrees with section 1.7 and believes that an ACQ/CDB solution is required to achieve independence of Donor Networks.

In the current model, the donor is a critical part of the routing of a call. Even after the subscriber has moved to a new network they are still dependent on the infrastructure of the donor. Subscriber dependency on the donor for a ported number includes information technology dependencies such

as uptime of relevant systems as well as business dependencies such as the solvency of the donor network as an operating business. A further issue of the current process is that compatibility issues between Networks may prevent on-ward routed calls completing correctly. Moving to an all ACQ/CDB solution resolves both of these dependencies.

Question 2: Do you agree that an ACQ/CDB solution common to both fixed and mobile networks is the preferred option?

Syniverse Response:

Yes, Syniverse agrees with sections 3.56 and 3.57 which propose a phased transition to a common ACQ/CDB solution for both fixed networks in the course of their transition to NGN technology and for mobile networks as the preferred approach.

The common ACQ/CDB approach has many benefits. A common routing process, no matter how the calls are originated or terminated, provides a simple and consistent mechanism. In addition this approach provides independence of the routing of calls to ported numbers from Donor Networks. Furthermore this approach addresses issues of donor conveyance costs in the mobile industry.

Given the envisaged timeline it is clear that this should evolve from the initial CDB for mobile. However, given that fixed-mobile porting is not permitted it is entirely feasible for the system to support different porting processes whilst utilizing the same CDB.

Question 3: Do you agree that any transition to ACQ/CDB should occur in the course of migration of fixed networks to NGN architectures?

Syniverse Response:

Yes, Syniverse agrees.

Reviewing Sagentia's findings, Syniverse understands that the best cost benefit ratio can be obtained during the implementation of migration of fixed networks to NGN architectures. Syniverse supports a transition to ACQ/CDB in the course of migration of fixed networks to NGN architectures.

While Syniverse supports this approach, we also believe that a Syniverse CDB solution for mobile operators could be deployed considerably sooner than the proposed timelines. This earlier deployment would allow mobile operators to obtain the benefits of a transition to an ACQ/CDB for mobile to mobile calls solution earlier.

Syniverse would also like to recommend that an ENUM integrated NP solution be considered in view of the fixed networks' migration to NGN architecture as well as the mobile networks' evolution to an All-IP Network (AIPN) architecture as specified in 3GPP Release-7, which envisages a common IP-based network. ENUM will play a very key role in both these architecture evolution approaches and will be an essential element to facilitate inter-operator inter-working (in national as well as international domains). Some of the mobile operators are already in the process of evaluating or rolling-out new IP-based services e.g. IM, PoC, Video Share, which essentially require Tel-URI/SIP-URI support on ENUM. It has been rightly pointed out in section 2.18 that the TISPAN-NGNs are based on IP. Syniverse would therefore support an implementation approach wherein the Number Portability solution is integrated with the ENUM solution so that both legacy as well as next-generation IP-based services can be supported with number portability correction applied on the fly before any routing. Syniverse would like to highlight that it already supports such an integrated solution and also both types of ENUM approaches viz. Central-root as well as No-root models. A further differentiation of our solution is that the response to an ENUM query is also agreement-sensitive such that it depends on the type of agreement an Operator has for a particular service.

Question 4: Do you agree that it would be beneficial to require the mobile industry to complete its transition to an ACQ/CDB solution by September 2009?

Syniverse Response:

Syniverse believes a transition to an ACQ/CDB solution by September 2009 would be beneficial. However, assuming that any necessary process changes can be defined, the number portability infrastructure operated by Syniverse could be enhanced to support an ACQ/CDB solution well in

advance of this date. Subject to the approach being agreed or mandated in a timely manner, Syniverse could implement and support the voluntary CDB solution in 2007.

Dependencies on Donor Networks impose risks on Subscriber's service levels. These donor network dependencies include information technology dependencies such as uptime of relevant systems as well as business dependencies such as the solvency of the donor network as an operating business. Moving to an all ACQ/CDB solution resolves both of these dependencies and subscriber risks.

In addition to potential impacts to subscribers, Donor Network dependencies can also affect mobile operators including the deployment of new technologies to ported numbers. If the donor network does not support a newly deployed technology, the routing of a call based on this new technology may not function correctly.

The trend in porting over the last few years has been one of consistent increase. Both the number of ports and the rate of porting have been rising year after year and hence the process of assembling a CDB will become increasingly harder over time as there will be larger volumes and also more ONO datasets to synchronize. The current situation where due to termination charges, donor networks can benefit from calls to ported-out customers is clearly anti-competitive. Removal of this barrier at the earliest feasible opportunity is essential.

Question 5: Ofcom would welcome respondents' analyses of the costs and benefits of a comprehensive transition of the mobile industry to direct routing using NICC Service Description 8 or other suitable standard by the end of 2007, ahead of a further transition to ACQ/CDB.

Syniverse Response:

Syniverse is not in a position to accurately predict the costs and benefits operators would incur by implementing NICC Service Description 8 or other suitable standard by the end of 2007. It is hoped that efforts in this area would not impact the implementation of a common ACQ/CDB solution for both fixed networks and mobile networks proposed by Ofcom.

In the 2004 consultation, Ofcom's view was that "investment in current [legacy] network infrastructure now risks assets being stranded and made obsolete in only a few years." If ACQ is the real objective then any investment in direct routing which was not compatible with the long-term solution has to run the same risk.

Question 6: Ofcom welcomes views from stakeholders as to the appropriate approach to be adopted in achieving the implementation of ACQ/CDB whilst ensuring that such co-operation is limited to technical matters directly related to the ACQ/CDB solution.

Syniverse Response:

As there is currently no central database containing a record of each MS and which MNO they are currently served by, a new database will need to be created and populated with this information. This database will be modified as ports take place. Updates to this database will then need to be propagated to operators and other parties of interest. In addition, since porting has been ongoing, historical data will need to be collected to seed this database.

Syniverse's Central Reference Database (CRDB) technology will provide a natural migration path from the current Mobile Number Portability architecture to a centralised approach that will support the ACQ/CDB scenario described. Syniverse proposes a two phase approach to move from today's MNP system to a system capable of supporting ACQ/CDB. Complete details of this approach are available confidentially to Ofcom in Annex A of this consultation.

Question 7: Do you have any comments on the transition milestones and their corresponding dates? Could the dates be achieved earlier? Alternatively, could any of the dates be at known significant risk of being missed?

Syniverse Response:

Syniverse believes that the milestones identified in section 1.9 and 1.10 are feasible and achievable. In addition, based on industry requirements, a Syniverse CDB solution for mobile operators could be deployed much sooner than the proposed timelines. This earlier deployment

would allow mobile operators to obtain the benefits of a transition to an ACQ/CDB solution for mobile to mobile calls at an earlier time.

Question 8: Do you agree that Ofcom should require port lead times to be reduced to less than one working day? If you do not agree, please provide evidence that shows otherwise.

Syniverse Response:

Syniverse agrees that Ofcom should ultimately require port lead times to be reduced to less than one working day. It is known that long lead times are a hindrance to porting. Shortening port lead times to one day eases the hindrance to porting ultimately facilitating competition and consumer benefit.

Syniverse believes that shortening port lead times can be done in isolation to an ACQ/CDB solution. In addition, Syniverse believes that a reduction to the mobile to mobile port lead times can be implemented rapidly and cost effectively. A confidential Port Lead Time Reduction Study is provided in Annex B of this response.

Question 9: Alternatively, do you agree that Ofcom should require port lead times to be reduced to three working days?

Syniverse Response:

While Syniverse believes that Ofcom should require port lead times to be reduced to less than one working day we do recognize that the implementation of a three working day porting process might be a beneficial incremental step for consumers and the communications industry.

Syniverse believes that shortening port lead times can be done in isolation to an ACQ/CDB solution. In addition, Syniverse believes that a reduction to the mobile to mobile port lead times can be implemented rapidly and cost effectively.

Question 10: What is a reasonable timeframe for the implementation of a one working day process?

Syniverse Response:

Syniverse considers that the timeframe is highly dependent upon the approach taken. If the existing process is merely compressed, this would allow a significantly shorter timescale than if a new process is required.

Step	Activity	Performed by	Estimated Timeframe
1	Compress existing process to fit one working day	OSG/ORG	unknown
2	Scope and design software changes as required	Syniverse, Existing API users	2 month
3	Implement code changes	Syniverse, Existing API users	4 months*
4	Testing	Syniverse, Operators & Service Providers	1 month*
5	Review/revise procedures and documentation, staff training	Operators and Service Providers	2 months*

* these can be undertaken in parallel, making the total duration an estimated 7 months.

Step	Activity	Performed by	Estimated Timeframe
1	Define new process to fit one working day	OSG/ORG	unknown
2	Scope and design software changes as required	Syniverse, Existing API users	2.5 months
3	Implement code changes	Syniverse, Existing API users	5.5 months*
4	Testing	Syniverse, Operators &	2 months*

Step	Activity	Performed by	Estimated Timeframe
		Service Providers	
5	Review/revise procedures and documentation, staff training	Operators and Service Providers	3 months*

* these can be undertaken in parallel, making the total duration an estimated 10 months.

The second set of values are extremely approximate and should be considered as effective minimums, due to being highly dependent upon the new process. In this best-case scenario a new process could be operational in 10 months. If we are planning significant changes then it is probably more realistic to allow 12-18 months.

These timeframes are our estimated 'times from the definition being agreed of the new process" in both instances, and assume that any change request or tender process is completed in a maximum of two weeks.

Question 11: Do you consider that a three working days port lead time process could be implemented within 6 months?

Syniverse Response:

Syniverse believes that a three working days port lead time process could be implemented within six months. We believe the Syniverse component of this change could be live within one month of the authorisation of the change.