Malaysian Communications and Multimedia Commission
MCMC Tower 1
Jalan Impact, Cyber 6
63000 Cyberjaya
Selangor Darul Ehsan
Malaysia

28 February 2021

For the attention of the Numbering and Electronic Addressing Management Department

Dear Sir/ Madam

Cenerva Limited response to the MCMC Public Consultation Paper Implementation of Fixed Number Portability (FNP) in Malaysia

Thank you for inviting comments on the MCMC Public Consultation Paper Implementation of Fixed Number Portability (FNP) in Malaysia.

Firstly, I would like to introduce Cenerva Limited to you and the Malaysian Communications and Multimedia Commission (MCMC).

Cenerva Limited is the world leader in Number Portability consultancy. Over the past 13 years, we have helped regulators and operators in over 40 countries across five continents assess, implement and operate efficient consumer centric Fixed and Mobile Number Portability services. This includes virtually every implementation in the world over the past 13 years. No other consultancy even comes close to matching our Number Portability experience.

Our consultants have delivered Number Portability feasibility studies, readiness assessments and implementation projects for regulators and operators in Nepal, Russia, Kazakhstan, Sri Lanka, Papua New Guinea, Tanzania, Rwanda, Gambia, Nigeria, Ghana, Burundi, Zimbabwe, Morocco, Egypt, Benin, Kenya, Namibia, Seychelles, Haiti, Jamaica, Trinidad & Tobago, Qatar, Iraq, UK etc. We understand the broader Asian market context, their telecoms legal and regulatory frameworks and market landscapes.

We are pleased to have been able to review the MCMC Public Consultation Paper Implementation of Fixed Number Portability (FNP) in Malaysia and provide our comments in the template format specified by MCMC.

Please note that no part of our response is considered confidential and we consent to our response being published in full by the MCMC without any redaction.

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We would like to commend the MCMC for a comprehensive and well drafted Fixed Number Portability consultation document.

Having advised regulators and governments across the world on Number Portability initiatives for the past 13 years, we are pleased to note that the MCMC is proposing a Fixed Number Portability service which is consumer focused, efficient and aligned with accepted global best practices, ie Recipient Led porting, Simple porting process, Real Time porting driven by a central Number Portability Clearinghouse (NPC) and mandated ACQ direct traffic routing.

We trust that our response to the MCMC Public Consultation Paper Implementation of Fixed Number Portability (FNP) in Malaysia meets with the MCMC's full approval.

Since Cenerva Limited Is widely recognised **as the global GoTo Number Portability expert consultants**, we will be pleased to share our extensive experience of successfully implementing and operating Fixed Number Portability services across the world with the MCMC.

Cenerva Limited looks forward to hearing from the MCMC in due course . Please do not hesitate to contact the undersigned if you have any questions or areas for further clarification.

Yours sincerely

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Question	Cenerva Limited Comments/ Responses
1	We concur with much of the benchmarking and background analysis provided in the MCMC consultation document. From our experience, different markets see differing consumer demands for fixed and mobile number portability services. Different NP services tend to benefit different consumer types. Mobile NP tends to enhance choice for retail subscribers. However, evidence from a range of countries shows that Fixed NP typically generates strong demand from the corporate sector. In Brazil, for instance, Fixed NP porting rates are 4.4%, largely driven by enterprise use. This compares to only 3.6% for Mobile NP in Brazil. Similar MNP/FNP profiles are often seen in European markets as shown in the consultation report's benchmark countries. We conclude that importance of Fixed NP to enhancing Malaysia market competition should not be underestimated. By making it easier to switch providers, NP is not just an enabler of consumer choice, it is also a key driver of competition. This is not necessarily a function of the porting rate achieved; international experience suggests 2-4% of subscribers typically port in well-designed systems. From the mobile porting figures provided in the consultation reports, we note that around 4.4% of the Malaysian mobile subscriber base attempted to port over the past 12 months; however, we are disappointed to note that between 55% and 57% of porting requests were rejected during the porting process. Thus, the actual underlying successful porting rate is much lower at 1.33%. Overall, the current Malaysian mobile porting demand is actually quite low compared with for instance India, where the reporting rate is much higher at 6.45% over the past 12 months. We must conclude that the high level of rejection and the relatively low consumer demand for mobile porting is acting as a significant disincentive for Malaysian mobile users to consider porting their number to an alternative service provider. On this basis, if fixed number portability is to be successful in Malaysia, the process must be efficient consumer friendly reporting requests progressing to conclusion with minimal scope for unfair rejection.

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	But the mere threat of losing customers through NP forces operators to compete harder, through pricing, quality and innovation, in order to retain existing customers and win new customers from other providers. A properly constructed and well-implemented fixed and/or mobile NP process therefore has the capacity to enhance competitive dynamics, as well as benefitting retail and wholesale customers, and those in enterprises, corporations, and government. This level of activity can act as a major boost to economic activity, as providers invest in, for example, 5G mobile and full-fibre fixed networks, in order to gain competitive advantage. **Cenerva concludes that fixed Number Portability could bring positive competitive benefits to the Malaysian fixed telecommunications sector but the MCMC and the NP stakeholders should consider best practises from other markets to ensure that the Malaysian fixed NP service is efficient, fair, robust and attractive to all types of consumers. Cenerva also believes that the potential implementation of fixed Number Portability provides the opportunity for MCMC to radically overhaul and improve the current mobile Number Portability service for the benefit of consumers and sector competition.**
2	Cenerva believes the Malaysian fixed telecommunications sector meets all of the test requirements to introduce number portability, for instance, a) sufficient scale to generate consumer demand for porting; b) established and robust competition; c) regulator and industry desire to proceed with introducing fixed Number Portability; d) established interconnection between existing providers; e) clear service requirements and mandate defined by the regulator; and f) stable numbering plan. We also identify that Malaysian consumers are aware and familiar with the ability to move their mobile number to the service provider that best meets their needs, the key players in the Malaysian fixed telecom sector are already involved in operating the mobile Number Portability system and the prevalence of next generation networks means that most providers will already have core network and business systems with inbuilt Number Portability functionality. Normally, we would estimate that the cost of implementing Number Portability functionality and supporting the number portability service would cost operators with similar profiles to Malaysian operators, between $15 million and $25 million per network. However, in view that most of the Malaysian industry stakeholders are either already supporting mobile Number Portability or have Number Portability compliant

	next generation networks, then the set-up capital investment burden on individual operators should be much reduced. Similarly, we concur with the MCMC view that expanding the scope of the current Malaysian mobile NPC to operate the fixed number portability service will reduce the NPC development and operator integration costs as well as fast track the development, implementation and launch of a fixed number portability service. However, based on the porting demand data provided in the consultation report, it is evident that the current Malaysian mobile number portability service is sub optimal since the high level of rejections will have probably impacted consumer demand and perceptions of number porting and thus we recommend that MCMC uses this initiative to take the opportunity to review and lead the enhancement of the Malaysian mobile number portability service to align to global best practises in terms of efficiency and customer experience. **Cenerva supports the MCMC view that fixed Number Portability should be considered for implementation in Malaysia for the benefits of consumers and to drive market competition. From our Experience across the world, we would point out that the potential consumer beneficiaries from fixed number portability unlikely should be different from those currently using the mobile number portability service, since demand for fixed number portability is likely to be driven by enterprise and corporate customers.**
3	Service provider portability, i.e. the ability to port a number from a fixed to mobile service or vice versa, is only available in the United States and Canada, Mexico and South Africa. However, service portability has only been launched and operated in the United States and Canada largely due to the different charging model whereby the called party pays for the call. The rest of the world follows the calling party pays charging regime and thus when considering number portability, the caller's visibility of the charging to called numbers, especially where the calling charges differ between fixed and mobile numbers, is a key consideration for determining the type of number portability to be introduced into a national market. On this basis, most regulators have decided to restricting the portability Service to service provider portability and have excluded service portability between different types of fixed and mobile service. Where operators provide fixed services through their cellular or mobile networks, regulators need to determine whether these services are truly fixed or mobile. Where

	the regulator determines that fixed wireless or WLL services to be considered as fixed services then it is important that the regulator allocates specific number ranges which help the look and feel of existing fixed services and ensure that the operator's charging and tariffing approach is aligned to equivalent fixed wireline services. **Cenerva concurs and agrees with the MCMC proposal that service portability should not be adopted in the Malaysian market since it operates the calling party pays charging approach and that number portability should be restricted to mobile to mobile and fixed to fixed services only.**
4	Historically, early number portability implementations were driven by the need to enhance market competition following the liberalisation of telecommunications markets and erosion of the incumbent monopoly on fixed telephony services. In these markets, with the advent of competition, the consumer tariffing and charging approaches were largely determined in the market by the network topology of the incumbent operator, for instance, charging by area code, single or double tandem, and nationwide/ long distance charging. Over recent years, the introduction of next generation networks by incumbent operators resulting in the consolidation and collapsing of traditional complex wireline networks and the growth of new entrant competitors with simplified nationwide core networks has caused regulators to challenge conventional area or tandem based charging and correspondently question the legacy view that fixed number portability should be restricted to porting numbers within specific area code driven regions or districts. **Cenerva understands the rationale being proposed by MCMC to allow location portability of wireline or fixed services within state boundaries but would suggest that MCMC assesses the views of all industry stakeholders to derive the most appropriate consensus view on how location portability is defined across Malaysia. Cenerva does agree with the statement in the consultation report that customers who move into a new region will be required to advise their contacts of their new address and thus the consumer benefits of location based fixed number portability are reduced.**
5	Direct All Call Query (ACQ) routing is widely considered to be routing best practice and has been adopted in almost all NP implementations across the world over the past ten years. This includes other Asian jurisdictions such as India, Iran, Kazakhstan, Russia and

	Singapore, as well as the routing approach being adopted in the Philippines and Vietnam. Advantages of direct routing / ACQ: • Direct routing eliminates reliance on the donor/ recipient network, thereby maintaining the ability to route traffic to ported numbers in the event that the donor/ block network fails; • Traffic routing and network utilisation are optimised since 'tromboning' of traffic between networks is eliminated; • Traffic to ported and non-ported numbers is treated equally; • No additional set-up time is required for traffic to ported numbers; • Does not require networks to maintain specific resources to route traffic for numbers that have ported out; and • Potential for network congestion or disruption caused by the range holder network is eliminated. Disadvantages of direct routing / ACQ: • All operators are required to invest in establishing and maintaining their own local copy of the Centralised Number Portability Database (NPDB) within their local routing databases; • Significant configuration and infrastructure changes are required within all operators' core networks and associated systems to support ACQ direct routing. Implementing these changes can be complex and risky; • Additional core network processing capacity may be required to support the query activity for traffic to the local copy of the CDB; and • Set-up time for traffic may be increased due to the additional ACQ processing activities. Therefore, Cenerva concurs with the MCMC recommendation that all fixed and mobile traffic to ported and non-ported numbers *originated and terminated in Malaysia* should be directly routed by the originating network to the terminating network using ACQ. However, *international* incoming voice and SMS traffic must be *indirectly* routed. This is because the international originating operator cannot access the Malaysia NPDB, and so

	can only route the call to the known range holder, which must then onward route the call to the current operator hosting the called number. Centralised Number Portability Clearinghouses (NPC) offer several advantages which make them attractive to regulators: • They can be operated by third parties with specialised tried and tested infrastructure. • They are easily adaptable to different types of services, so that fixed, mobile, and potentially other types of service can be accommodated. • They offer a consistent consumer porting experience, irrespective of the operators involved. • Whilst the set-up costs for peer-to-peer/de-centralised solutions are lower than those for CDBs, they do not offer a consistent or efficient porting experience for consumers, and in the longer term they may require increased network capacity investment and greater maintenance and operating costs. **Cenerva concurs with the MCMC recommendation that the Fixed NP service should be managed and operated across Malaysia using a centralised system to track all numbers, manage the porting process between recipient and donor operators, and provide ancillary administration functionality. This enables a standardised porting process to be operated across all providers in Malaysia in line with the current management and delivery of the Malaysia Mobile NP service.**
6	**Cenerva concurs with the MCMC proposal to consider upgrading and adapting the current Malaysian NPC to support both fixed and mobile number portability services since a) the Malaysian operators already inter-work with the current NPC which minimises core network and business system development and integration activities, b) provides scope to enhance, optimise and harmonise the fixed and mobile Number Portability processes and functions; c) offers the opportunity to implement and operate shared NPC customer validation and communication functions and d) since the Malaysian operators have established working relationships with the current Malaysian MPC provider then implementation and launch of a combined and improved fixed and mobile Number Portability service could be fast tracked.**

	However, we do note that in some markets fixed and mobile NPC services are provided by different suppliers but this tends to have been a function of evolution rather than considered design by either regulators or the NP stakeholders. Since Cenerva has been involved in over 40 number portability implementations across the world, we have noted that the cost of setting up and operating NPC services and platforms has reduced dramatically over the past 10 years. On this basis, it may be appropriate for MCMC to consider retendering for the entire combined fixed and mobile NPC service to optimise value and costs for Malaysian operators and stakeholders.
7	Across most markets globally, it is generally assumed that establishment/set-up costs for the Malaysian operators and Fixed NP stakeholders should be broadly similar. Our experience of recovering these costs in other jurisdictions suggests that it is appropriate that each operator and Fixed NP stakeholder should be responsible for their own establishment/set-up costs, and that such costs should not be recoverable from other stakeholders or the consumer. **Cenerva concurs with the MCMC consultation statement "MCMC is of the view that the non-shared costs of implementation** **(i.e. those incurred by each service provider to perform the necessary network upgrades) should be borne directly by that service provider.** We estimate the cost of expanding the scope of the existing Malaysian mobile NPC service to include managing the fixed number portability service will be incrementally between $400,000 and $550,000 per annum plus one-off set-up costs of around $100,000. Based on an estimated fixed porting rate of 4% per annum, considering the 2019 fixed line parc of 6,474,000 lines/ subscribers would result in 258,960 ports per annum, or NPC operating costs of between $1.54 to $2.12 per port. Our experience shows that number portability markets across the world follow a variety of NPC cost recovery models, including: • Recipient charged for successful ports. Benefits net recipients but places risk on the NPC provider since actual demand is not certain; or

	• Monthly service charges split equally across all operators. All operators incur equal NPC service charges irrespective of whether they are net recipients or donors; or • NPC charges allocated by market share. Penalizes dominant operators who may also be net donors; or • NPC charges allocated by number range. Penalizes dominant operators who may also be net donors; or • Hybrid per port and monthly service charging. Reduces the cost burden on net donors by focusing the NPC costs to net recipients. All five of these mechanisms are reasonable and fair, but a key consideration is the "Practicality" associated with each cost methodology, i.e. the complexity and cost of calculating and apportioning the fixed costs to each operator on a monthly or quarterly basis. **Cenerva believes since the hybrid NPC per porting and monthly service cost recovery approach is used successfully in other markets, i.e., mobile NP service in Ghana, and thus we concur with the MCMC view that a hybrid NPC per porting and monthly service cost recovery approach could be appropriate for the Malaysian fixed NP service, but this should be assessed against the current NPC cost recovery for mobile NP porting activity. However, we also believe that the potential consumer demand from a well-designed and delivered customer focused fixed NP service could generate sufficient consumer porting demand to support a per port charging model, but it is critical that porting rejections are minimised to maintain public credibility.** **Our experience from other NP implementations indicates that service providers may incur ongoing call conveyancing costs attributable to additional call processing, signalling, call-set-up and routing for calls to ported numbers. However, in most markets, existing commercial or regulated interconnection arrangements between service providers require the in-country transit routing of incoming international traffic from a service provider's international gateway to numbers hosted by competitor networks and thus any incremental NP related routing costs are expected to be minimal if the recommended national ACQ and incoming international onward routing solution is applied.**
8	Studies of NP implementations from around the world clearly show the strong relationship between consumer demand and the charges levied to consumers for using porting services.

	We believe it may be appropriate to allow recipient operators to decide whether to charge consumers for porting their services, but such charges should be determined in accordance with the principles of "relevant costs", "cost minimisation" and "practicality". By allowing recipient operators to determine whether to charge consumers for porting or not, we believe market, competitive forces could minimise or eliminate consumer fixed NP charging. However, we recommend the MCMC retains the right to review consumer fixed NP charging and, where appropriate, set a maximum limit. **In line with best practice from other NP implementations, we recommend that the MCMC does not allow donor operators to levy fixed NP-related charges to consumers who leave their network or services since this is effectively seen by consumer as a cost failure.** We recognise recipient operators may be allowed to charge consumers for porting their numbers but this may impact consumer demand, unless such charging is reasonable. The MCMC should reserve the right to set a maximum limit to consumer porting charges. Donor operators should not be permitted to charge consumers for porting out numbers from their network. We recognise that donor operators could incur additional incremental costs directly related to the processing of porting requests for consumers wishing to leave their network or service. It may therefore be appropriate for donor operators to recover from recipient operators, reasonable and directly attributable costs incurred in efficient processing of porting. We believe donor operators could be permitted to charge Recipient Operators for reasonable costs which are directly attributable to the actual efficient processing of porting requests where manual processing of fixed porting requests is permitted by the MCMC since such manual processing requires significant manual/ people driven resources. The MCMC should reserve the right to set a maximum limit to donor porting charges which should be assessed and determined by consultation on efficient operator principles. However, in many markets regulators and NP stakeholders have collectively decided to drop donor charging to recipient operators since porting transactions are balanced between networks and the costs of reconciling donor charges outweigh the economic benefits.

	There is still the question of how numbers are charged by regulators on an annual basis. In some markets, regulators charge a fixed fee for each allocated and thus active number and thus donor operators tend to challenge the transfer of annual regulated fees to recipient operators who are the beneficiaries of porting transactions. Where this matter becomes an issue, the regulator establishes processes by which the NPC provider issues quarterly reports showing the volumes of ports that have been completed between the different networks, for which the corresponding regulated numbering fees are then reconciled via existing interconnect agreements. We would suggest that the MCMC considers the existing numbering charging approach in Malaysia in relation to potential reconciliation between operators due to number portability consumer movements. **Cenerva concurs it is reasonable that MCMC considers donor operator fixed NP related charges, but where appropriate the MCMC judgement should be set and assessed based on the cost recovery principles of "Effective competition", "Cost minimisation", "Cost causation", "Relevant costs", "Reciprocity" and "Practicality". MCMC should reserve the right to review and assess donor charges, and where appropriate set a maximum limit.**
9	The early implementations of NP were designed around a donor process where the consumer was required to contact the current or donor operator to request permission to port. The consumer then coordinated the porting transaction between the donor and recipient operators. However, this approach delivers a poor consumer porting experience since the consumer is required to drive the transactions, porting timeframes are often extended, and donor operators try to dissuade consumers from porting or just frustrate the porting process. Most recent NP implementations have adopted the recipient led porting approach in which the consumer agrees a limited power of attorney with the new or recipient operator authorising them to close the consumer's account with the donor operator and to arrange the porting or transfer of their number to the new recipient network. Recipient led porting is viewed as being much more consumer friendly and efficient, since the recipient as a beneficiary in the porting process, is incentivised to drive the smooth transfer of number to their network.

	Cenerva concurs with the MCMC recommendation that the Fixed NP service should be Recipient Led.
10	Best practice NP implementations have reduced mobile number porting times down to a couple of hours or even in some markets to a few minutes (i.e. New Zealand, Ghana, the Bahamas etc). Furthermore, the European Union, introduced Directive 2002/22/EC on 07 March 2002, termed the Universal Service Directive. The Universal Service Directive ensures that consumers can change, in 1 working day, their fixed or mobile operator while keeping their old phone number. Article 30 of the Universal Service Directive requires operators to: • Set a maximum time limit of one working day from the moment of concluding an operator change agreement to the moment when the number is activated with another operator; • Not exceed one working day's loss of service during the process of changing operator; • Carry out the overall process within the shortest time possible. As MCMC has noted in the consultation document, a number of EU countries do not meet the 1 day porting requirement, for instance the porting of a fixed landline number in Germany could take upto 21 days. Our experience shows that for fixed porting, the service transfer is more complicated and requires longer timeframes. For instance, a fixed port may require the recipient operator to initiate a “truck roll” to complete connectivity at the customer premises or may involve engineering intervention at the local exchange or street cabinet. Quite often recipient operators may be delayed in completing the activation of the new service once the donor operator has approved the request because the customer is not able to provide access to the premises in a timely manner, thus missing the one-day porting timeframe. From fixed NP services we have helped develop and implement successfully work with a porting timeframe of a maximum five (5) days from the point of validation of port request by the NPC and handover to the donor operator for approval to port completion. The definition of the starting point of the port process is critical since many

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	fixed providers operate extended service activation lead times. By defining the porting process start as being "point of validation of port request by the NPC and handover to the donor operator for approval" allows the recipient operator to complete their basic fixed service set-up and provisioning before the porting process is initiated thereby minimising the time to complete the activities to complete the port or switch. **Cenerva recommends that fixed porting timeframe should be a maximum of five (5) days from the point of validation of port request by the NPC and handover to the donor operator for approval to port completion.**
11	Across the world, number portability services use one of two different porting process approaches, namely a) "Make Before Break" or b) "Break Before Make". Whichever approach is used will significantly influence the loss of service that customers experience during the porting process. Article 30 of the EU Universal Service Directive requires operators to "*not exceed one working day's loss of service during the process of changing operator*". Our experience shows that losing service for up to one working day is completely unacceptable to customers and best practise number portability services achieve loss of service restricted to a few seconds (mobile ports) and a few minutes (fixed ports). "Make Before Break" services function by the recipient operator activating the ported number on their network before the donor operator deactivates the number and account. "Make Before Break" porting approaches tend to be used in more recent number portability service implementations which have understand the Importance of minimalizing customer disruption during porting process. "Break Before Make" services function by the donor operator deactivating the ported number on its network before the recipient operator is able to activate the number and service. Such approaches tend to be used in early implementations of number portability where it was not uncommon for customers to lose service for more than a day. The loss of customer service during "Break Before Make" porting process relies on the speed or time the donor operator takes to deactivate the customers number on its network and thus the experience is driven by the performance of the donor operator. A criticism sometimes levelled by operators on the "Make Before Break" porting process is the risk of a number being active on two networks simultaneously causing potential network and customer disruption. Our experience shows that these risks are negligible since the routing of traffic to numbers is determined by the routing status of

	each number as maintained by each network's local routing number database (real time copies of the NPDB). The critical activity within the porting process is when the NPC sends the routing broadcast updates message to each of the local routing databases maintained by each connected network. Before the NPC routing broadcast message is sent out all traffic is sent to the donor or range holder network for termination to the customer, irrespective of the provisioned state of the number with the recipient operator. Once the NPC routing broadcast message is sent out and updated on each network's local routing database, all traffic is now sent to the port of number on the recipient network irrespective of whether the donor or range holder network has deactivated the number. On this basis, using the "Make Before Break" means that the loss of customer service is minimised to the time it takes each network to update its local routing database in real time on receipt of the NPC routine broadcast message. We would recommend that MCMC considers mandating all Malaysian networks to automatically update their local routing databases on receipt of each NPC routing broadcast update message i.e. within a maximum of 20 seconds. We would also recommend that MCMC considers establishing a function whereby the NPC notifies the customer by SMS or email when their number has been ported, i.e. at the same time the routing broadcast update message is sent out to all networks local routing databases. Our experience shows that using the NPC to centrally communicate with the porting customer at key points in the porting process significantly enhances the customer porting experience and optimises the efficiency and speed of the porting process. Cenerva believes adopting the "Make Before Break" approach can allow the loss of service during the fixed number porting process to be minimised to a few minutes which is a significant improvement over the EU Universal Service Directive recommendations. We would also suggest MCMC considers applying the "Make Before Break" to the existing Mobile Number Portability service. **Cenerva recommends that MCMC regulates the implementation of "Make Before Break" Process for both fixed and mobile Number Portability requiring all operators to update their local routing databases within 20 seconds of receipt of the NPC porting broadcast messages. On this basis, MCMC would regulate the loss of**

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	customer service during the porting process is limited to a maximum of a few minutes.
12	Cenerva is surprised and disappointed to note that the current Malaysian mobile number portability service rejects between 55% and 57% of porting transactions each year. Our experience of advising and supporting efficient number portability services around the world shows that donor reject rates should be no greater than 10% of porting requests submitted and best practise number portability services actually achieve much lower donor reject rates of around 5%. It is evident that the Malaysian mobile number portability service has been designed to allow donor operators significant and excessive opportunities to unfairly reject porting requests, probably driven by billing/ debt issues, non-matching or validation of customer personal data etc. Key challenges for all number portability services are: a) verifying the requesting person's ownership/ entitlement to port a number; and b) ensuring the number portability service is not abused by customers trying to escape their payments and debt obligations to their current provider. Consequently, many number portability services are predicated on the need for the donor to validate the customer identification through the exchange of customer information and to verify that their credit/ debt status does not prevent the porting request being progressed. For fixed number portability, the absolute need to validate the customer's credentials and that status is potentially less important than for mobile number portability, since fixed numbers are linked to a specific physical address or location and thus the risk of slamming or fraud is reduced. In best practise number portability implementations, minimal rejection rates are achieved by limiting the need to match customer personal data and to eliminate or reduce billing or debt restrictions. The use of customer validation by SMS or IVR reduces or removes the need to exchange customer personal data between the donor and recipient operators during the porting process thereby improving the efficiency and enhancing security and giving the consumer ultimate control of their porting transaction.

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	In many markets, regulators take the view that debt is not a reason for donor operators to reject porting requests since the debt collection process should be outside of the porting service. From our experience, efficient and fast porting services rely on robust customer engagement and validation processes and focus the responsibility on the recipient operator's sales agents to accurately verify the identity of the person requesting porting, confirming that ownership of the number to be reported and explaining the implications and obligations involved in porting their number or service. The use of a clear and consistent porting form to manage the sales engagement with the customer as well as creating a limited power of attorney to authorise the recipient operator to close the customer's account with the donor operator are critical. Simply, the porting process should include safeguards to verify that the recipient operator has completed the sales process correctly and should require the recipient operator to rapidly provide porting and customer identification documentation should either the donor operator or MCMC question the validity of individual porting transactions. It is also important that the NPC is able to perform the majority of base checks before a porting transaction is handed across to the donor operator for approval, thereby speeding up the process and reducing the opportunity for unfair or inappropriate rejections of porting transactions. Consequently, the NPC should be able to verify that the requested donor operator is correct, whether the number being ported is fixed or mobile and to confirm whether the number is eligible to port based on previous porting history or outstanding onward porting restrictions. Exchanging extensive customer information between the recipient and donor operators results in additional checking activities, potential for increased unfair rejections, i.e. caused by spelling errors or differences in identification documents, increases the porting time frame and poses potential data protection and security issues. By allowing the customer to validate their own porting request by either SMS (mobile ports) and SMS or IVR (fixed ports), reduces the need to exchange detailed customer information. For mobile porting, if the customer is required to send an SMS to the NPC from the number they wish to port this can be used to validate that the person requesting porting is in possession of the number in question. A similar approach could

	be used for fixed porting but in some markets the use of unique porting codes generated by the NPC and sent to the customer which the customer then validates using IVR platforms it seemed to be efficient and secure. **Based on maximising NPC initial checking of porting requests and customer self-validation, then the scope for donor checks and hence rejections is reduced dramatically to a) debt or contract status if permitted as a reason for stopping porting, b) whether the number has been reported stolen or lost (mobile only), c) validating that the recipient operator has correctly completed the sales process , i.e. checking whether the number/ service to reported is prepaid or postpaid (mobile only), is bundled or being separated (voice vs broadband vs ancillary services – fixed only) and d) the number to be ported is subject to security service/ police scrutiny.** **Thus, the scope for harmonising donor checking and rejection between fixed and mobile number portability is limited, unless debt or service contract status are reasons for rejecting porting requests and we would recommend that MCMC ensures that the rejection frameworks for each service are reviewed to remove unnecessary rejection reasons and only permit legitimate and reasonable donor checking and rejection.**
13	Winback is defined as contact initiated by the donor operator to the consumer, with the purpose of either dissuading the consumer from porting out their number or encouraging them to return to the donor operator's network. Our experience from multiple markets shows that winback activities are not in the interest of efficient porting and aggravate/ frustrate customers who wish to port their number and service. Having made the decision to leave their current provider and port their number/ service to a new provider our experience in research shows that customers find it intrusive and become annoyed at last ditch attempts by their current provider to try and retain their business. Our advice to service providers is to ensure that the leaving experience is positive since customers who leave their provider positively are more likely to return to that provider in future. We recognise that it may be appropriate and necessary for the donor operator to engage the consumer after the porting process is completed to discuss the settlement of outstanding debts and charges. We do not advocate prohibiting donor operators from making winback contact to consumers over an extended or prolonged period. We believe that former/donor

	operators should be allowed to contact former consumers in the future with the intention of encouraging them to return to their network. However, there should be a reasonable winback prohibition period to enable the consumer to form a relationship with their new recipient operator first. **Cenerva recommends that winback is prohibited from the point that the donor operator is made aware of the customer's intention to port their number for a period of 90 days after the porting transaction is completed. Cenerva suggests that the donor operator is permitted to contact the customer once supporting transaction has been completed for the sole purpose of discussing and collecting outstanding debt.** **Cenerva also recommends that the winback prohibition period is aligned to the onward porting restriction and is managed by the NPC. On this basis, the donor operator is treated in the same way as other operators in the market and winback activity is pointless since the NPC will not permit further porting of a number until the onward porting restriction period i.e. 90 days, has been completed.**

14	As the guardian of public/consumer interests in Malaysia the MCMC is the key stakeholder in ensuring that fixed NP is introduced and operated in an effective, appropriate and efficient manner.
	
	We believe that the MCMC should:
	
	• Set the agenda, lead and drive the fixed NP implementation and launch process, and be responsible for all key fixed NP decisions;
	• Develop an appropriate and comprehensive fixed NP framework for Malaysia;
	• Set a clear and achievable implementation schedule; and
	• Establish an effective management forum for engaging with Malaysia fixed NP stakeholders, comprising:
	  ○ A Working Group, comprising the MCMC and the key Malaysia fixed NP stakeholders, responsible for making recommendations to the MCMC on detailed fixed NP operational and launch matters, and implementing the MCMC's final final NP determinations.
	  ○ A Steering Committee, comprising senior sponsors from each stakeholder, to support implementation progress and act as an escalation point for contentious and challenging issues.

	Cenerva recommends that the fixed NP service implementation and launch should be managed by cross-stakeholder working and steering groups reporting to the MCMC, with the MCMC retaining responsibility for making key fixed NP service decisions, setting the key process functional details and implementation timeframe.

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