

**Aircel Group Response to**  
**Pre-Consultation Paper on**  
**Full Mobile Number Portability**  
**(Pan-India Number Portability)**

# Issues-wise Response

**Q1: Inputs / comments of the stakeholders on the most optimum method for implementing the Inter-Service area porting out of the three approaches discussed in this paper are requested.**

## Aircel Response

### a) Approach 1: Recipient Operator forwards the porting request to the MNP service provider of his zone

We support this approach as this can easily mesh with the current routing and porting process without many changes and also without creating complexity.

- Presently, under intra-service area MNP, Aircel has been maintaining Pan-India MNP database (MNPDB) and Number Portability Gateway (NPG), which caters to the requirement of Pan-India circles.
  - The NPG is connected to both MNPO's and request of porting for respective circles are being sent to relative MNPOs.
  - In this intra-circle porting recipient operator, donor operator & number range holder are within same circle and connected to same MNPO.
  - The activation & deactivation is owned by single MNPO and is given, ensured and monitored by respective single MNPO only.
  
- For Full MNP, the trigger of a porting request starts when customer provides CEF/supporting documents to Recipient operator who can be of other service area or MNPO than the donor operator or number range holder.
  - Under this approach of porting process, there will neither be any change in the porting request being raised by Recipient operator nor with the validation to be done by Donor operator.
  - Therefore, preliminary deliberations have put forth that there would not be any major technical requirements for telecom operators for catering to inter-service area porting requests, both as Recipient as well as Donor operator.
  - Under this, the only requirement would be connectivity in between MNPO's and a common database.
  - Further, the connectivity in between MNPOs would become mandatory since, the activation/deactivation window has to be jointly given, ensured & monitored by both MNPOs. Thus, it is crucial that Recipient operator send the porting request to his circle MNPO for further processing.

#### **Additional Issues to be dealt:**

- For porting request to be dealt in between MNPO's, an SLA should be defined for keeping customer experience intact.
- Database synchronization in between MNPO's to be addressed.

**b) Approach 2: Recipient Operator forwards the porting request to the MNP service provider of the zone to which Donor Operator belongs**

This would be a difficult approach since, it would add upto the processing time of a request and various new complex scenarios would have to be built into.

- In this case, operators would have to build intelligence into the system to analyze the MNPO based on the Donor operator.
- Would involve significant cost and increase in processing time.
- Would lead to complex routing scenarios as well as changes in operator’s back-end systems to understand the entire sequence of process.

**c) Approach 3: Recipient Operator forwards the porting request to the MNP service provider of the zone to which number range holder of the number belongs.**

**Aircel Response:** This would be the most challenging approach and we do not support this approach due to reasons as follows:-

- This would require major changes in the entire porting process, IT systems, NPG & MNPDB.
- Would lead to many additional unwarranted steps in porting process. Presently even, there is no role of number range holder in the Porting process. We feel there is no need to bring in additional stakeholder within the Porting process instead, number range holder should get notified through updation in MNPDB.
- In any case, the MNP regulation does not specify role, obligations, rights of number range holder and in absence of any specific activity to be done by number range holder, it would only lead to an extra processing leg, adding complexity of the MNP systems.

This approach should not be followed at all, as would lead to major changes into systems, increase in processing time etc.

**Impact Analysis Matrix on 3-Approaches**

Considering views on above, please find enclosed matrix on the impact analysis of all 3 approaches on Aircel as telecom operator.

SI No	Area	Approach 1	Approach 2	Approach 3
1	Complexity of changes required	Minor	Medium	Major
2	Changes in IT Systems along with integration	Minor	Medium	Major
3	Testing Efforts with respect to changes	Minor	Medium	Major
4	Stabilization time with respect to changes	Minor	Medium	Major
5	Documentation Changes	Minor	Medium	Medium
6	Hardware Augmentation	Based on additional Load		
7	Maintenance efforts	Minor	Medium	Major

8	User / Operation training efforts with respect to required changes	Minor	Medium	Major
9	Post deployment, Efforts required to keep configuration updated & meeting the spirits of regulation	Not required	Minor	Medium
	<b>Overall Impact and changes for Full MNP</b>	<b>Minor</b>	<b>Medium</b>	<b>Major</b>

**Submission:**

**Keeping above in view as well as the stability of present systems, Approach 1 may be adopted and followed for a focused & in-depth deliberation, under a comprehensive consultation paper.**

**Q2: Inputs may also be provided on amendments required in the existing license conditions of the MNP service license, relating to scope of work, entry fee, license fee, exclusivity period etc.**

**Aircel Response:**

**The MNPO license should include provisions on following:**

- **MNP service license should be amended for mandatory interconnection in between the MNPO's,**
- **Activities of inter-service porting to be defined alongwith SLA.**
- **No Porting cost increase for the consumers and no such barriers to be created for consumers to exercise option of porting.**
- **Synchronization of MNPDBs in between MNPOs**

**Q3. Comments may be provided on issues related to generation of UPC by a roaming subscriber outside his service area, including generation of UPC for the subscriber desiring to/from porting in the J&K service area.**

**Aircel Response:**

- **As per our preliminary analysis there may not be any serious issue in generation of UPC by a roaming subscriber outside service area (except J&K) through SMS. In this case, customer would be charged roaming tariff for generation of this SMS as well as for delivery of SMS containing UPC (if required).**
- **For the J&K subscribers in roaming networks, customers would be required to call 1900 and further Routing this call to home circle for the UPC generation would require a co-operation between telecom operators due to following reasons:**
  - i) **All Roaming networks would need to Identify Call origination from J&K subscribers to “1900” and accept this call for onward routing.**
  - ii) **All Roaming networks would need to Identify home network of “1900” calls for correct routing for the appropriate handling and UPC generation.**

- iii) Networks in the J&K would have to adapt for receiving calls from their out-roamers destined to “1900” for UPC generation.
- iv) Charging and Carriage Charges for such calls would need to be settled between roaming networks.
- v) A mandate on the cooperation between networks and home routing of 1900 would thus be required for extension of facility for J&K roaming subscribers.
  
- vi) In case of J&K prepaid mobile number, UPC generation request has to be submitted while in home network only since, DoT has not allowed prepaid in-roaming or out-roaming in J&K. Similarly, prepaid customers of PAN India circle other than J&K, will not be able to latch into any network in J&K service area hence, may not be able to generate UPC. For this, they have to generate UPC in other than J&K service area.

In this case of voice call to 1900 by J&K out-roamers, they would be charged applicable roaming tariffs.

**Additional Issues to be clarified:** Under Full MNP, there may be a case that J&K subscriber moves from one circle to another and another. For UPC generation and other security requirements, only those mobile connections should be treated as J&K subscribers where Donor operator is of J&K service area instead of Number range holder.

**Q4. Comments may be provided on the mechanism to be adopted for routing of calls if the number has undergone inter-service area porting.**

**Aircel Response:**

**A. Identification of Inter-circle call & pre-call announcement**

At the outset, there has to be significant awareness created with the public at large on the Full MNP about to come in India. With Intra-service area MNP, number only remained identifier of the telecom circle rather to be of an operator and with inter-service area MNP, Mobile number would cease to remain identifier of service area as well. In this case, public at large should be informed about the number storage & dialing with prefix as either ‘0’ or ‘+91’.

In case of an pre-call announcement to subscriber about ‘number has been ported to other service area’ Network infrastructure would require intelligence for identifying Inter-circle/intra-circle nature of the calls and require significant changes in networks including all MSC & MSS which would also lead to increase in call-set up time. Few of the processing requirements wherein network would need to match combination of criteria and play pre-call announcement are:

- i. The dialed number belonging to Intra-circle number series
- ii. the current porting status and current network of dialed number
- iii. dialed number being identified as inter-circle basis the porting status
- iv. call setup to be kept on hold for playing the pre-call announcement.

The provision for announcement in such a scenario would be highly impractical considering below high level impacts:-

- 1) Loading of the network traffic resources for the pre-call announcements
- 2) Increase in the call setup time for all calls which have pre-call announcements
- 3) Requirements of increasing the network processing capabilities for identifying inter & intra circle call.
- 4) Adaptations of various legacy switches across fixed line as well as the older infrastructure to support pre-call announcements for pre/paid subscribers.
- 5) Charging for the call duration of the pre-call announcements, especially on the roaming scenarios.
- 6) Provision of such a facility for subscriber while they are latched on to the roaming networks.
- 7) Further, changes in entire chain of systems i.e. mediation, IN etc.

**Submission:**

**There should not be any separate pre-call announcement if customer dials any number being ported outside the service areas.**

**B. Call Routing:**

- With the introduction of the Full MNP, the Call routing would not encounter significant changes, with present ACQ based methodology at the Call/SMS transaction continuing unchanged.
- The Origination Networks would be required to perform a ACQ based query for the porting domain and route the call/SMS with the LRN information to the next hop.

**Q6. Minimum Possible testing scenarios covering the various possibilities of porting.**

**Aircel Response:**

The Testing of the Full MNP prima facie correlates to the aspects of the changes introduced with the Full porting versus Intra-Circle porting:-

**Call Routing IOT and Testing:**

- Present MNP Process works on principle of All Call Query (ACQ). All the calls to the porting domain are queried by originating end and routed with LRN information to next hop. With the introduction of the Full MNP, the Call routing would not encounter significant changes, with present ACQ based methodology continuing unchanged.
- A sample testing between networks to check call origination and call termination success may be conducted with a matrix such as by taking 01 X-Y pairing per LSA:-

<b>Origination Network X</b>	<b>Destination Network Y</b>
A Sub Inter Circle Ported from Y Network	B Sub Inter Circle Ported from X Network
A Sub Non-Ported Subscriber	B Sub Non-Ported Subscriber
A Sub Inter Circle Ported from Y Network	B Sub Non-Ported Subscriber
A Sub Non-Ported Subscriber	B Sub Inter Circle Ported from X Network

Total Call volume for the testing for each network would thus be 4 Calls x 22 Partner Network from other LSAs x 2 (for Origination + Termination) = 176 Calls  
Similar testing can be done for SMS as well.

**Porting Process Testing:**

- In case approach 1 is adopted, there would not be any requirement of testing at telecom operator's end. For rest approaches, there would be significant process testing required.

**Submission:**

With all networks already routing the calls on basis of LRN and receiving the calls on basis of LRNs, the sample testing should be sufficient to proceed for implementation of the Full MNP. Approach-1 should be followed which would also lead to minimum testing in case of Porting process. In any case, even with these minimum testing scenarios, there would be a significant cost to be borne by operators.

**Q5. As the present regulations are formulated for porting of mobile numbers within service areas, inputs may be provided regarding modifications required in the MNP regulations.**

**Q7. Comment on any other relevant point related to full number portability may be provided**

**Aircel Response:**

**1) Porting window for 95% of the request**

- a) It is extremely difficult, almost practically impossible, to meet 100% of port-in or port-out within 2 hours of instructions from MNPOs due to various technical & IT reasons, as highlighted by Industry through COAI vide letter No. RSM/COAI/231 dated November 15, 212.
- b) Considering financial disincentive provision for not meeting said timeline, we again request TRAI to kindly review the said Regulation and it may be modified, to the extent that no financial disincentive will be levied if operators are able to comply 95% of request within 2 hours of instruction form MNPSP, and such 2 hours should also exclude any downtime of network / IT nodes due to upgradations in the system.

- 2) Increase in the timelines of 24hrs for RO to submit the porting request to MNPO, due to change in DoT's Subscriber Verification guidelines and related timelines to complete process steps.