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भारत संचार निगम लिमिटेड
(भारत सरकार का उपक्रम)
BHARAT SANCHAR NIGAM LIMITED
(A Govt. of India Enterprise)

No. BSNLCO-RGLN/25/2/2021-REGLN dated 01.12.2021

To,

Shri Kaushal Kishore
Advisor (Finance & Economic Analysis)
Telecom Regulatory Authority of India
Mahanagar Doorsanchar Bhawan
Jawahar Lal Nehru Marg
New Delhi - 110 002

Subject: Comments on Consultation Paper on "Tariff related issues to SMS and Cell Broadcast alerts disseminated through Common Alerting Protocol (CAP) platform during disasters/non-disasters.

The para-wise comments of BSNL are as below:

Question 1: What are the technical options available with the Telecom Service Providers for mass message dissemination through Common Alerting Protocol (CAP) platform during disasters and non-disasters and what are the challenges being faced with respect to these technology options?

Presently CAP platform developed by CDOT has been integrated for sending SMS. However the mass messaging can be executed through the following options:

- a) **SMS** - Short Message Service is used to send text messages to mobile phones. The messages can typically be up to 160 characters in length. No major challenge is there. TSPs are well quipped to provide SMS service. The device ecosystem is most suitable as all handsets support the service.
- b) **USSD**. Unstructured Supplementary Services Data (USSD) is a session based service unlike SMS which is a store and forward service. A USSD message can be up to 182 characters long, establishes a real-time communication. USSD notifications are flash messages, delivered straight to the end user's mobile handset. The service is widely available and supported by all handsets. The chances of the message being read are also very high as the message is opened automatically as flash message even when the screen is locked. USSD can be one of the most suitable way to deliver the messages in the ecosystem available in India. USSD can also be used to set dialogue with the subscribers and receive response(s).

However for bulk messaging through SMS and USSD, it requires establishment of database of target customers. Such bulk messaging

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solutions require that messages must be sent individually to each number in the database. In an emergency situation, where networks are often congested, the volumes created can further increase congestion and lead to delays in message delivery.

- c) **CBS** - Cell Broadcast service works on a broadcast i.e. one-to-many basis. One message can be sent to millions of devices quickly and the message is broadcast to all connected handsets within a designated target area. The area can be as large as an entire network or as small as a single cell. Setting up of CBS system needs integration with RAN and requires huge investment. For cell broadcast to be truly effective as a public warning system, its implementation needs to be standardized across the majority of handsets. Currently, the service still needs to be enabled manually on most handsets and this process can be different for various brands and types of handsets. This is seen as a major barrier for implementation. Moreover there is no concept of delivery report and therefore the actual delivery cannot be measured. CBS system is not available with BSNL. However, BSNL has an agreement with M/s Celltick for provision of VAS Services based on cell broadcast. Under this agreement M/s Celltick shall on as-is-where -is basis support connectivity to disaster system on Channel 50.
- d) **OBD** - An outbound dialling (OBD) is an example of computer telephony integration (CTI) which is used to make calls, usually for reaching prospects or delivering customer service. Delivery of audio alert message is slow as compared to other text based alert messages. It is the only way to reach to the landline customers. It also requires establishment of database of target customers.
- e) **Mobile App push Message** - Alert message may be disseminate through mobile applications. If the messages are pushed through select number of popular Apps, there is very fair chance that message is read by subscriber.

Question 2: Which method of mass message dissemination for alert, Short Service Message or Cell Broadcast Service, is preferred? Please provide supporting reasons.

BSNL Comments:

None alone is sufficient, all methods are complementary to each other. Combination of suitable methods can be adopted depending on types of network, location, availability of time etc.

Question 3: What is the success rate in delivery of messages in each of the methods adopted by the operators for dissemination of messages to the masses? Please provide details.

BSNL Comments:

- **SMS dissemination** - On best effort. Alert message is delivered to mobile subscriber, if subscriber is not in coverage area, the same is retried again for delivery. Success rate is approx. 85 %.

- **CBS dissemination** - CB message is broadcasted on real time basis and frequency of message may be decided for a particular period of time. Delivery of message depends on type and make of handset and enabling of settings in handset. There is no mechanism for message delivery report hence, success rate cannot be measured. The awareness of CBS channels and setting is very poor and therefore the delivery is expected to be very low unless CBS is a mandated feature with preconfigured permanent setting in handsets or mandated in all SIMs.
- **Outbound dialling (OBD)** - Delivery of audio alert message is slow as compared to other text based alert messages. Success rate of OBD is very low as compared to SMS, as subscriber may not pick up call from unknown CLI. However, success rate may be increased if specific number (CLI) is mandated by Govt. for disaster alert messages.
- **USSD (Unstructured Supplementary Service Data)** - The success rate is expected to be very high as the only requirement is that subscriber's handset should be on.
- **Mobile App push Message** - Success rate is high however, to deliver the message through mobile App subscriber should have active data connection and feature phone.

Question 4: What are the challenges related to customer end devices that may arise due to Cell Broadcast Service? If so, what are they and what is the extent (total number as well as percentage) of such cases encountered so far? In case an operator has first-hand experience, then the same may be shared with facts.

BSNL Comments:

Challenges related to customer end devices arise due to CBS dissemination:

- CB channel has to be kept always ON in mobile handset. Government need to issue mandate for the same for mobile handset manufacturer / SIM specification.
- Display of message varies on different make & models of handset. In legacy handsets message tickers in the top of screen for a short duration of time. On smart phone it come in form of SMS (only after enabling CB setting in handsets).
- Number of message characters are limited 21 characters (On channel 50) and 45 characters (on channel 60).
- Education is required at customer side.

Above challenges were observed during pilot testing in Tamil Nadu LSA in coordination with C-DoT and SDMA teams.

Question 5: Is there a need for an elaborate tariff fixation exercise for CAP messages? In the alternative, would it be better from the perspective of ease of regulation to keep all categories of alerts/ messages given in paragraph 2.6 above including those at categories (i),(ii) and (iv) thereof, free of charge? Is keeping all CAP alerts/ messages free of charge an economically prudent and viable option?

BSNL Comments:

Considering the integration efforts made by TSP for delivering alert messages, it is not suggested to provide services free of cost. Moreover the resources used for connectivity to CAP and other deployments by TSP will not be available for any commercial usage. Therefore such expenditure should be suitably compensated.

Question 6: If answer to the question number 5 is No, then whether the service SMS charges of up to Rs 0.05 (up to five paise) as mentioned at Regulation 35 of TCCCPR 2018 be adopted for SMS/Cell Broadcast alerts/ messages sent through CAP platform?

BSNL Comments:

This CAP platform is to be created and integration efforts are made especially for delivering alert messages. On the other side TCCCPR platform is in regular use for commercial purpose. Therefore, charges of these SMS / CBS should not be linked with charges of SMS defined in TCCCPR regulation.

For CBS, charges for alert messages should not to be calculated on subscriber base and the same may be calculated on the basis of network size/ elements such as number of cells/BSCs etc.

Question 7: What tariffs should be charged by TSPs for SMS and Cell Broadcast alerts/ messages under category (i), (ii) & (iv) as given at paragraph 2.6 above, in case SMS charges of up to Rs 0.05 (up to five paise) as mentioned at Regulation 35 of TCCCPR 2018 is not to be adopted?

BSNL Comments:

- a) For CBS message, as stated above, charges for alert messages should not to be calculated on subscriber base and the same may be calculated on the basis of network size/ elements such as number of cells/BSCs etc. BSNL is not having sufficient data to calculate the cost based tariff for CBS message, as no financial data is available regarding the cost of CBS system.
- b) For SMS, it is proposed that the charges may be fixed as Rs. 0.05 per delivered SMS.

Question 8: What are the operational challenges for disseminating mass messages through Short Service Message and Cell Broadcast Service? What is the impact of these operational challenges on the costs involved in such dissemination? Please justify.

BSNL Comments:

SMS dissemination:

- SMS alert message dissemination is based on store and deliver (queuing mechanism). Hence, delivery in bulk takes time and undelivered messages again retried for delivery.
- Integration efforts with CAP platform, MSCs (for VLR dump) and SMSCs for delivery of Alert messages.

CBS dissemination:

- CBS dissemination requires Cell Broadcast system.
- Integration of Cell Broadcast system (CBS) with BSC/MSC is required for CBS dissemination.
- Integration of multiple CBS server is not possible for 2G/3G network.
- In BSNL's multivendor network, integration of CBS with RAN is a tedious/cumbersome job.
- Uniform channel number for CBS broadcasting may not be defined in all legacy network elements.

Outbound dialling (OBD):

- OBD dissemination is also based on queuing mechanism. Hence, Delivery of audio alert message is very slow as compared to other text based alert messages.

USSD (Unstructured Supplementary Service Data):

- Capacity of USSD GW need to be reviewed.
- Dissemination is based on queuing mechanism.

Question 9: What methodology should be adopted to do the costing of the Cell Broadcast alerts/ messages? What are the cost items which should be factored in? Please provide supporting reasons.

BSNL Comments:


For CBS, charges for alert messages may not be calculated on subscriber base and the same may be calculated on the basis of network elements such as number of cells/BSCs etc.

Question 10: If there are any other issues/suggestions relevant to the subject, stakeholders are invited to submit the same with proper justification.

BSNL Comments:

Nil

Yours faithfully



01-12-2021

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