



Response to TRAI Consultation Paper No. 13/2022)

(Consultation Paper on Introduction of Calling Name Presentation (CNAP) in Telecommunication Networks)
by **BLOCKCHAIN FOR PRODUCTIVITY FORUM**

At the outset, we thank the Authority in providing us an opportunity to introduce our self and to give our comments on this very pertinent issue impacting both the end customers and the industry significantly.

We are from **Blockchain For Productivity Forum**. “Blockchain for Productivity Forum”,(BFPF) is incorporated as a TRUST with the vision of creating a Research, Analysis and Engagement institution for sharing knowledge among People, Industry, Corporations and Society at large. It aims to create and manage Knowledge Bank and offer solutions for specific social business problems enabled by Blockchain. The Creation of Blockchain for Productivity Forum will also endeavor to upliftment of the communities by promotion of distributed ledger technology (DLT) development, facilitating skill development & capacity building, facilitating services or business via Blockchain Platform, in a sustainable and effective manner. The forum will promote Blockchain Technology and its usage in public administration and government agencies. The Forum aims to develop as an intellectual platform/society and will be more focused on Public service.

It is an creative Think Tank on Policy, Governance and Enterprises Use-Case matters, led by experts across multiple Industry verticals and policy domains. BFPF Board consists of a group of professionals who have varied experience from Industry, Academics, PSUs, Government, and Regulatory Institutions. BFPF is working actively towards high-quality research on Policy formulation, Advocacy, , Industry research, Training Programmes etc on the area of Blockchain Technology. BFPF collaborates with both Government and Private sectors for knowledge sharing and producing high-quality research and analysis on issues of National priority.

Our response to questions posed in the Consultation Paper is furnished against each question below.

IntroductionRegulators are mandated to protect consumer interest and that, hitherto, has loosely translated to nudging the tariffs to fall continually. There has been lot of noise about falling quality of service and misuse of the connection Butin reinvesting in network up-gradation or expansion to offer quality of service is not the priority and the ultimate sufferer is the Consumers. In this background the consultation paper on introduction of CNAP is very relevant and timely.

The economic regulation in Telecom Sector has caught the eyes of the global audience. This sector has emerged as one of the most competitive market in the world, thanks to several key reform processes introduced by the Policy makers and the Regulator. Liberalization of telecom sector has brought immense competition in the industry. Private participation in the telecom sector has increased by large scale telecom penetration and improved the performance of the sector, both in quality and price and there is notable evidence that the efficiency gains are transmitted to the consumers to a large extent. .However there is still scope for improvement.

With greater economic development, technology enhancement and transformation in pricing is taking place, where the price of any telecom service today is not more than the marginal cost of producing it. The Regulator and the Government seem to be contented in the glory of the benefits of rock bottom prices – and the consumer benefit out

Blockchain For Productivity Forum

Registered Office: Y-74, 2nd Floor, Hauz Khas, New Delhi, Delhi- 110016, India

Contact No: 011-43755344

Email Id: pg@blockchainforproductivity.in



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of it and mammoth growth in internet reach and usage. The focus is on tariff as being the dominant parameter, no matter whether the qualities of services are poor or not.

The Telecom Regulatory Authority of India (TRAI) released Consultation Paper No. 13/2022 on the introduction of Calling Name Presentation (CNAP) in telecommunication networks. CNAP is a feature that allows the caller's name to be displayed on the recipient's phone when a call is received.

TRAI's consultation paper outlines the potential benefits of implementing CNAP, including improved customer experience and increased convenience for users. It also noted that CNAP could be particularly useful for users with visual impairments, who may have difficulty identifying incoming calls based on the caller's phone number alone. However, the consultation paper also raises several issues that need to be considered when implementing CNAP. One issue is the potential for fraud and abuse, as unscrupulous actors could potentially manipulate the caller's name display in order to impersonate someone else or engage in phishing attacks. Another issue is the potential for privacy concerns, as the caller's name is personal information that may be sensitive.

To address these and other issues, TRAI's consultation paper proposes a number of measures that could be implemented to ensure the smooth and secure deployment of CNAP. These measures include:

- Requiring service providers to implement robust security measures to prevent fraud and abuse
- Establishing guidelines for the handling of personal data in relation to CNAP
- Requiring service providers to ensure that users have the option to opt-in or opt-out of CNAP
- Establishing a mechanism for addressing user complaints and grievances related to CNAP

TRAI is seeking feedback from stakeholders on the consultation paper, including service providers, consumer groups, and other interested parties. The authority will use the feedback received to inform its final recommendations on the implementation of CNAP in telecommunication networks in India.

As an interested party, we would like to provide our thoughts on TRAI's Consultation Paper No. 13/2022 on the introduction of Calling Name Presentation (CNAP) in telecommunication networks

Quality of the service are all part of Regulator scrutiny. Regulator must ensure that consumer must not be misled /cheated by any parameters .The Regulator has to ensure a larger sustainable, monitored and managed growth of the sector which they regulate. They have to ensure that all the stakeholder's interests are met with equity, sustainability and good quality of service and this is possible only if measures like CNAP is introduced and mandated

Our response to questions posed in the Consultation Paper is furnished against each question

Q1. Whether there is a need to introduce the Calling Name Presentation (CNAP) supplementary service in the telecommunication networks in India?

Ans.Yes – We believe that in the interest of consumers there is a need to introduce the Calling Name Presentation (CNAP) supplementary service in the telecommunication networks in India

Q2. Should the CNAP service be mandatorily activated in respect of each telephone subscriber?

Ans. Yes – It should be mandatorily activated in respect of each telephone subscriber

Q3. In case your response to the Q2 is in the negative, kindly suggest a suitable method for acquiring consent of the telephone subscribers for activation of CNAP service.

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Ans. Not applicable

Q4. Should the name identity information provided by telephone consumers in the Customer Acquisition Forms (CAFs) be used for the purpose of CNAP? If your answer is in the negative, please elaborate your response with reasons.

Ans. Yes –It can be considered

Q5. Which among the following models should be used for implementation of CNAP in telecommunication networks in India?

- (a) Model No. 1, in which a CNAP database is established and operated by each TSP in respect of its subscribers and the name information is sent by the originating TSP to the terminating TSP during the process of call set up;
- (b) or (b) Model No. 2, in which a CNAP database is established and operated by each TSP in respect of its own subscribers. The 29 terminating TSP dips into its MNP database to determine the originating TSP of the calling party and then performs a CNAP lookup on the CNAP database of the originating TSP;
- (c) or (c) Model No. 3, in which a centralized CNAP database is established and operated by a third party with an update mechanism from each TSP in respect to their subscribers; the terminating TSP performs CNAP lookup from the centralized CNAP database at the time of receiving a call; or
- (d) (d) Model No. 4, in which a centralized CNAP database is established and operated by a third party, and individual CNAP databases are established by all TSPs; the TSPs keep a copy of the centralized database and perform local CNAP lookup at the time of receiving a call;
- (e) or (e) Any other suitable model for implementation of CNAP along with a detailed description of the model.

Answer to Q5:

After considering various models proposed in consultation paper, it is proposed that Model No. 2, in which a CNAP database is established and operated by each TSP in respect of its own subscribers may be considered with slight modification. It is proposed that **this CNAP database is to be established and operated on permissioned blockchain (distributed ledger technology) by each TSP in respect of its own subscribers.** The terminating TSP dips into its MNP database to determine the originating TSP of the calling party and then performs a CNAP lookup on the CNAP database available at DLT Node. Here permissioned DLT platform is proposed **due to following reasons:**

- (a) Authority has already mandated distributed ledger technology for implementing one of its regulation TCCPR 2018 and same has been implemented by telecom service providers successfully. It is more secure and temper proof compare to any other centralized database models.
- (b) ITU has issued Technical Specification FG DLT D3.1 defining Distributed ledger technology reference architecture. This technical specification defines the reference architecture for distributed ledger technology (DLT), the hierarchical relationship and specific functions of the DLT architecture, important modules and specific functions in the structure of DLT, the main technical route and direction of the core module in the DLT. Thus there are standardized guidelines for DLT architecture for telecom sector are available.

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- (c) A permissioned blockchain is a distributed ledger is not publicly accessible. It can only be accessed by users with permissions. The users can only perform specific actions granted to them by the ledger administrators and are required to identify themselves through certificates or other digital means.
- (d) You might consider the addition of permissioned users as an extra blockchain security system. Administrators maintain an access control layer to allow certain actions to be performed only by certain identifiable participants. Records are kept within the blockchain of who is involved in the transactions.
- (e) When we compared permissioned blockchains to permissionless blockchains, they offer better performance. The core reason behind this is the limited number of nodes on the platform. This removes the unnecessary computations required to reach consensus on the network, improving the overall performance. On top of that, permissioned networks have their own pre-determined nodes for validating a transaction.
- (f) Permissioned networks do come with an appropriate structure of governance. This means that they are organized. Administrators also require less time to update the rules over the network, which is considerably faster. In permissioned blockchain nodes work together to move the updates faster.
- (g) Permissioned networks also make proper use of blockchain, including utilizing its decentralized nature for data storage. In this model each TSP will have the ownership of their own database and will share the same in very secure manner on DLT.

Proposed Functional Model:

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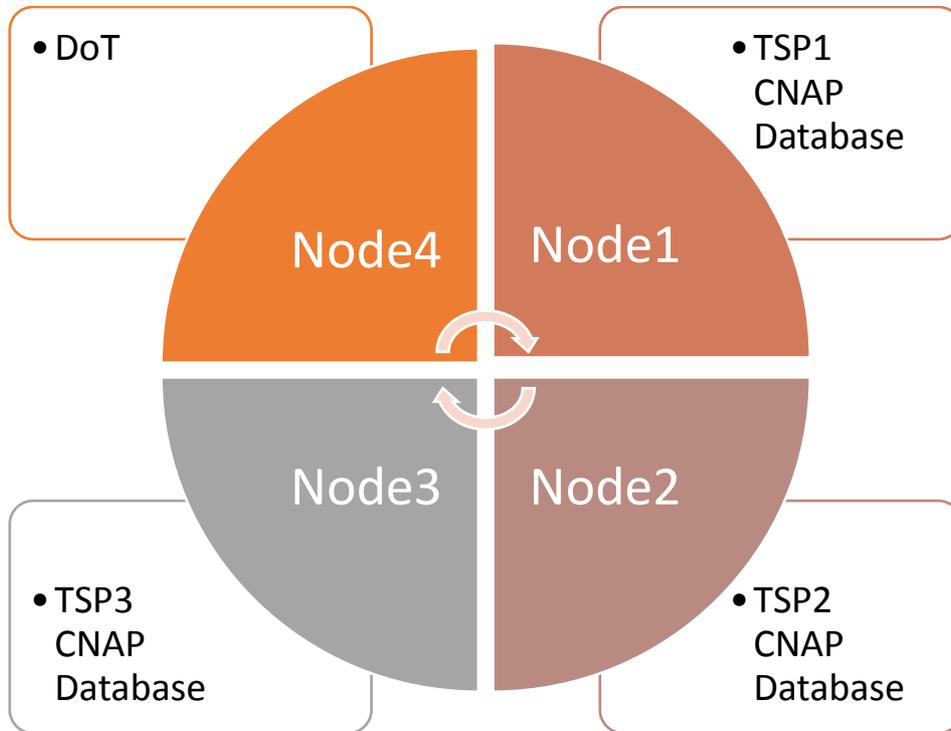


Fig1: Proposed DLT Platform

1. Indicative DLT platform is given in fig1 above.
2. In proposed DLT network each service provider will share its own CNAP database on Distributed Ledger. Each node of DLT network will have copy of complete databases of all TSP, which will be updated in realtime by all TSP from their CNAP database.
3. Each TSP will share/ update following fields of CNAP Database on DLT :

LRN	MSISDN	Name Identity	Name Identity Status (Available/ Unavailable/ restricted)	CNAP Presentation (Name to be displayed on called party)

4. Terminating TSP will DIP in MNP database to find out the LRN of Originating MSISDN and based on LRN and MSISDN terminating service provider may lookup of CNAP in DLT platform node where CNAP data of all TSPs are available. Flow for above process is indicated in Fig2 below:

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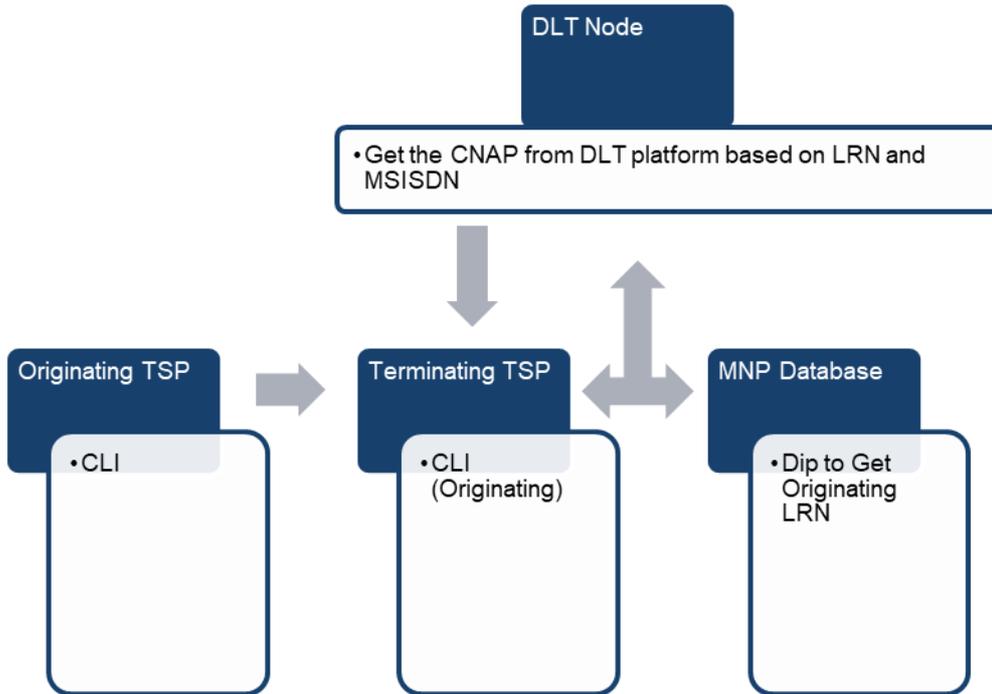


Fig2: Process flow to get CNAP by Terminating Service Provider

5. Smart contract can also be used to govern the access to CNAP database.
6. It is proposed Terminating service provider should look up for CNAP details as there may be challenges to pass the CNAP details through different network and POIs by originating TSP.

Q6. What measures should be taken to ensure delivery of CNAP to the called party without a considerable increase in the call set up time?

Ans. The answer to this question has been covered in answer to Questionno,5 above.

Q7. Whether the existing telecommunication networks in India support the provision of CNAP supplementary service? If no, what changes/additions will be required to enable all telecommunication networks in India with CNAP supplementary service? Kindly provide detailed response in respect of landline networks as well as wireless networks.

Yes - The existing telecommunication networks in India support the provision of CNAP supplementary service



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Q8. Whether the mobile handsets and landline telephone sets in use in India are enabled with CNAP feature? If no, what actions are required to be taken for enabling CNAP feature on all mobile handsets and landline telephone sets?

Ans. Yes -The mobile handsets and landline telephone sets in use in India are enabled with CNAP feature. It is already existing now through true caller etc.

Q9. Whether outgoing calls should be permitted from National Toll-Free numbers? Please elaborate your response.

Ans. No comments

Q10. In case the response to the Q9 is in the affirmative, whether CNAP service should be activated for National Toll-Free numbers? If yes, please provide a mechanism for its implementation.

Ans.AN

Q11. Whether CNAP service should be implemented for 140-level numbers allocated to registered telemarketers?

Ans – No comments

Q12. If your answer to Q11 is in the affirmative, then kindly elucidate the technical considerations for implementing CNAP service for registered telemarketers so that the name identity of the principal entity may be presented to the called party.

Ans.NA

Q13. Whether the bulk subscribers and National Toll-free numbers should be given a facility of presenting their 'preferred name' in place of the name appearing in the CAF? Please elaborate your response.

Ans- No comments

Q14. In case the response to the Q13 is in the affirmative, what rules should govern the implementation of such a facility?

Ans...NA

Q15. Whether there is a requirement of any amendment in telecommunication service licenses/ authorizations in case CNAP is introduced in the Indian telecommunication network? Please provide a detailed response.

Ans. Not required for any amendment in telecommunication service licenses/ authorizations in case CNAP is introduced in the Indian telecommunication network. This service is already covered in the existing license.

Q16. Whether there are any other issues/ suggestions relevant to the subject? If yes, the same may be furnished with proper justification

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Ans. The majority of successful industries and business models of the future will be built on data, and its application in various and interesting ways. Consequently, the collection of and access to that data is the key leverage point in every industry. Emerging technologies such as artificial intelligence (AI) and blockchain will create new business models, but they will also create new ways of organising work, , and new approaches to value creation. Traditional systems do not have the capacity to ensure that data is not misused or inappropriately shared, and blockchain could be the incentive required to encourage all actors to adopt this standard. Moving forward, policy makers and regulators need to encourage a shift from competition to collaboration with regard to data sharing, without jeopardizing data privacy or security. Blockchain can be used in such cases to give the best results

Blockchain is going to play a key role in the future of our entire system and the way we move value. Moving forward, the Government should encourage to engage with industry bodies regularly when developing and introducing the blockchain and other technological innovations.. Cyber security on using the Blockchain is ensured in the Blockchain system itself and there is mechanism in place to continuous monitoring to ensure such cyber security breach is not happening Our suggestion could be to use Blockchain in the entire process of introducing CNAP in Telecom system. We will be happy to assist TRAI in this noble effort.

Overall, we believe that the implementation of CNAP has the potential to provide significant benefits for users, particularly in terms of improved convenience and customer experience. We also support the idea of providing users with the option to opt-in or opt-out of CNAP, as this would ensure that individuals have control over the personal information that is displayed when they make a call.

However, we also recognize the potential issues that could arise with the implementation of CNAP, including the risk of fraud and abuse and the potential for privacy concerns. To address these issues, we believe it is crucial that service providers be required to implement robust security measures and to handle personal data in accordance with established guidelines. We also support the idea of establishing a mechanism for addressing user complaints and grievances related to CNAP.

In conclusion, while we believe that the implementation of CNAP has the potential to provide significant benefits for users, it is important that appropriate measures be put in place to ensure the smooth and secure deployment of this feature. We hope that our feedback will be taken into consideration as TRAI develops its final recommendations on the implementation of CNAP in telecommunication networks in India.

We thank TRAI in giving this opportunity to respond to this consultation paper. We hope our suggestions will be taken into account while finalizing the Regulation.

We look forward to the opportunities in working with TRAI and assure our continuing co-operation and support. We will be happy to meet you for further discussion on this.

Thanks and regards

Dr. S.N. Gupta
Chairman

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