

Information Note to the Press (Press Release No51/2023)

For Immediate Release

Telecom Regulatory Authority of India

TRAI issues Direction for deploying Artificial Intelligence and Machine Learning based UCC_Detect system under TCCCPR, 2018


New Delhi, 13th June 2023- TRAI has directed all Access Providers to deploy Artificial Intelligence and Machine Learning based UCC_Detect system to detect, identify, and act against senders of Commercial Communication who are not registered in accordance with the provisions of Telecom Commercial Communication Customer Preference Regulations, 2018 (TCCCPR-2018). The entities who do not get registered with the Access Providers and use 10 digits mobile numbers for sending commercial communications through messages or calls are called Unregistered Telemarketers (UTMs).

TRAI has been taking various steps to curb Unsolicited Commercial Communication (UCC) which is a major source of inconvenience to the public. It has resulted in reduction in complaints against Registered Telemarketers (RTMs). Despite measures taken by the TSPs, UCC from Unregistered Telemarketers (UTMs) is still continuing. At times these UTMs through messages having fraudulent links and telephone numbers trap the customers into sharing of their critical information causing financial loss to the customers.

To detect, identify and act against all such Unregistered Telemarketers (UTMs), TRAI has been insisting Access Service Providers to implement UCC_Detect System with requisite functionalities within the framework of TRAI's Telecom Commercial Communication Customer Preference Regulations, 2018 (TCCCPR-2018). Access Service providers have implemented such detect system as per their suitability and feasibility. However, since the UTMs are continuously evolving new techniques to send unsolicited communications and the current UCC detect systems deployed by the Access Service providers are not fully capable to detect such UCC.

Therefore, in order to have uniformity of UCC_Detect System implementations, TRAI has directed all Access Providers to deploy Artificial Intelligence and Machine Learning based UCC_Detect system capable of constantly evolving to deal with new signatures, new patterns and new techniques used by UTMs. Access Providers have also been directed to share intelligence with other Access Providers using DLT platform. Access Providers have further been directed to ensure that such UCC_Detect System shall detect senders who are sending Unsolicited Commercial Communications in bulk and not complying with the provisions of the regulations. All the Access Providers are directed to comply with the above directions and forward an updated status on actions taken within thirty days.

For any clarification/information Shri Jaipal Singh Tomar, Advisor (QoS) TRAI may be contacted at Tel. No. 011-23230404.


(V. Raghunandan)
Secretary, TRAI



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TELECOM REGULATORY AUTHORITY OF INDIA
भारत सरकार / Government of India



Dated: 18th June 2023

DIRECTION

Subject: Direction under section 13, read with sub-clauses (i) and (v) of clause (b) of sub-section (1) of section 11, of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997) regarding implementation of UCC Detect System under Telecom Commercial Communications Customer Preference Regulations, 2018 (6 of 2018).

F. No. RG-25/(6)/2022-QoS - Whereas the Telecom Regulatory Authority of India (hereinafter referred as the "Authority"), established under sub-section (1) of section 3 of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997) (hereinafter referred to as "TRAI Act"), has been entrusted with discharge of certain functions, inter alia, to regulate the telecommunication services; ensure technical compatibility and effective inter-connection between different service providers; lay-down the standards of quality of service to be provided by the service providers and ensure the quality of service and conduct the periodical survey of such services provided by the service providers so as to protect the interest of the consumers of telecommunication service;

2. And whereas the Authority, in exercise of the powers conferred upon it under section 36, read with sub-clause (v) of clause (b) and clause (c) of sub-section (1) of section 11, of the TRAI Act, made the Telecom Commercial Communications Customer Preference Regulations, 2018 (6 of 2018) dated the 19th July, 2018 (hereinafter referred to as the "regulations"), to regulate unsolicited commercial communications (UCC);

3. And whereas regulation 3 of the regulations provides that every Access Provider shall ensure that any commercial communication using its network only takes place using registered headers assigned to the sender for the purpose of commercial communication;

4. And whereas regulation 5 of the regulations, inter alia, provides that every Access Provider shall develop or cause to develop an ecosystem to regulate the delivery of the commercial communications as provided for in the regulations to detect, identify and act against senders of Commercial Communication who are not registered with them, and to comply with any other directions, guidelines and instructions issued by the Authority in this regard;

5. And whereas regulation 8, inter alia, provides that every Access Provider shall, before allowing any commercial communication through its network, develop Codes of Practice (hereinafter referred to as "CoPs") for Unsolicited Commercial Communications Detection (CoP-UCC_Detect) as per Schedule-IV;

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6. And whereas regulation 11 of the regulations, inter alia, provides that every Access Provider shall inform its subscribers while giving telecom resources that he shall not get involved in the activity of sending Commercial Communication or cause sending Commercial communication, or authorize the sending of the Commercial Communication using the telecom resources failing which the telecom resources used or assigned to him may be put under Usage Cap or his telecom resources may be disconnected;
7. And whereas regulation 12 of the regulations, inter alia, provides that Access Providers shall deploy, maintain and operate a system, by themselves or through delegation, to carry out regulatory pre-checks and post-checks in respect of Commercial Communication being offered for delivery and also to keep records of actions performed;
8. And whereas regulation 17 of the regulations provides that the Authority may direct Access Providers to make changes, at any time, in the CoPs and Access Providers shall incorporate such changes and submit revised CoPs within fifteen days from the date of direction issued in this regard;
9. And whereas regulation 18 of the regulations provides that every Access Provider shall comply with submitted CoPs provided that any provision in CoPs shall not have effect to the extent of being inconsistent with these regulations;
10. And whereas regulation 19 of the regulations provides that the Authority reserves the right to formulate a standard CoP in case the formulated CoP is deficient to serve the purposes of these regulations;
11. And whereas regulation 20 of the regulations provides that every access provider shall comply with the provisions of standard CoP;
12. And whereas regulation 25 of the regulations, inter alia, provides that every Access Provider shall establish systems, functions and processes to resolve complaints made by the customers and to take remedial action against senders and the relevant provisions of the said regulation reads as under-

"(5) The OAP, in case, the complaint is related to a UTM,

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(c) In case of occurrence of complained communications under sub-regulation (5)(a), OAP shall further examine, within two business days from the date of complaint, whether there are similar complaints or reports against the same sender; and

(i) in case, it is found that number of complaints against the sender are from ten or more than ten recipients over a period of last seven days, the OAP shall put sender under Usage Cap and at the same time shall initiate investigation as provided for in sub-regulation (6);

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Provided that such Usage Cap shall be valid till investigation is completed or thirty days from the date of effect of restrictions, whichever is earlier;

(ii) in case it is found that number of complaints against the sender are from less than ten recipients over a period of last seven days, the OAP shall, from the previous thirty days data of CoP_UCC_Detect System, check whether suspected sender is involved in sending Commercial Communication in bulk or not; and

- A. *in case, sender has sent commercial communications in bulk, the OAP shall put the sender under Usage Cap, and at the same time initiate investigation as provided for in sub-regulation (6);*

Provided that such restrictions shall be valid till investigation in this regard is completed under relevant regulations or thirty days from the date of effect of restrictions, whichever is earlier;

- B. *in case, sender has not sent commercial communications in bulk, the OAP shall warn such sender through appropriate means as provided for in Code(s) of Practice;*

(6) OAP shall issue notice, within three business days, to give opportunity to such sender(s), under sub regulations (5)(c)(i), (5)(c)(ii)(A) to represent his case and shall investigate, within thirty business days from the date of receipt of complaint and shall conclude whether the communication so made was unsolicited commercial communication or not; and conclusion of the investigation was that sender was engaged in sending unsolicited commercial communications, OAP shall take action against such sender as under: -

(a) for first instance of violation, due warning shall be given;

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(b) for the second instance of violation, Usage Cap shall continue for a period of six months;

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(c) for third and subsequent instances of violations, all telecom resources of the sender shall be disconnected for a period up to two years and OAP shall put the sender under blacklist category and communicate to all other access providers to not to allocate new telecom resources to such sender for up to two years from the date of such communication;

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Provided further that one telephone number may be allowed to be retained by such sender with the Usage Cap for a period up to two years.”;

13. And whereas regulation 32 of the regulations provides that no business or legal entity not registered with the access provider for the purpose of sending commercial communications under these regulations shall make commercial communication or cause such message to be sent or voice call to be made or authorize the sending of such message or making of a voice call;

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14. And whereas item 1 of Schedule IV to the regulations provides that every Access Provider shall establish, maintain and operate system, functions and processes to detect senders who are sending Unsolicited Commercial Communications in bulk and not complying with the regulations, and act to curb such activities as provided in the regulations and the relevant provisions of the said item reads as under-

"1. Every Access Provider Every Access Provider shall establish, maintain and operate following system, functions and processes to detect sender(s) who are sending Unsolicited Commercial Communications in bulk and not complying with the regulation(s), and act to curb such activities: -

1. *System which have intelligence at least following functionalities: -*
 - a. *identifying sender(s) on basis of signature(s);*
 - b. *deploying honeypot(s) and using information collected by it;*
 - c. *evolving signature(s) by learning over time;*
 - d. *interface to exchange information with similar system(s) established by other access provider(s) to evolve signature(s), detecting sender using Sender Information (SI);*
 - e. *considering inputs available from DL-Complaints about complaints and reports and analyze them;*
 - f. *considering inputs available, if any, from any other network element(s) of the access provider system(s);*
2. *provide ways and means for resolving complaint(s) by sharing information related to telephone number(s) of sender(s) against which complaint is made;";*

15. And whereas item 2 of Schedule IV to the regulations provides that every Access Provider shall formulate codes of practice (CoP-UCC_Detect) for system, functions and process prescribed as provided in the regulations and the relevant provisions of the said item reads as under-

"2. Every Access Provider shall formulate codes of practice (CoP-UCC_Detect) for system, functions and process prescribed as following: -

- (1) implementation details for detecting Unsolicited Commercial Communications related to suspicious unregistered telemarketing activity using Signature solution, deploying honeypots and other technical measures;*
- (2) minimum standards of technical measures to share intelligence information, rules, criteria to detect suspected sources of spam;*
- (3) approaches to detect and identify unregistered Unsolicited Commercial Communications sender(s), who are camouflaging themselves by fragmenting their activity across multiple phone numbers;*
- (4) approaches for deployment of honeypots to capture Unsolicited Commercial Communications voice call(s);*
- (5) approaches to detect and identify source(s) of dictionary attacks;*
- (6) timeline(s) for implementation of the functionality referred in code of practice and operationalizing it;*
- (7) such other matters as the Authority may deem fit, from time to time. ";*

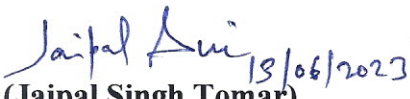
16. And whereas sub-item (c) of item 3 of Schedule IV to the regulations provides that entities found to be using telephone number harvesting software for sending Unsolicited Commercial Communications are barred to use their network;

17. And whereas the Authority has, on the basis of various complaints from customers, reports published in print and electronic media, representations received, feedback and reports shared by the law enforcement and other agencies, and after review of the present regulations, noticed that-

- (i) UCC_Detect System with requisite functionalities should be established to detect, identify, and act against senders of Commercial Communication who are not registered in accordance with the provisions of the regulations;
- (ii) there has been an increase in UCC calls and SMS from Unregistered Telemarketers (UTMs) using ten-digit mobile numbers;
- (iii) some of the UTMs are using fraudulent links and misusing telephone numbers to trap the customers into sharing of their critical information and many times such spamming and phishing activities have caused financial loss to the customers;
- (iv) the current UCC detect systems deployed by the Access Service providers are not fully capable of detecting senders of such unsolicited communications;
- (v) the UTMs are continuously evolving new SMS phishing (smishing) patterns, CTAs (call to action) and other frequently changing techniques which sometimes remain active for less than a couple of hours, thus making it almost impossible to contain the menace;
- (vi) in view of such evolving cases of misuse, there is a need to use AI/ ML techniques to deploy and constantly evolve the UCC_Detect system capable of dealing with new signatures, new patterns and new techniques used by UTMs.

18. Now, therefore, the Authority, in the exercise of the powers conferred upon it under section 13, read with sub-clauses (i) and (v) of clause (b) of sub-section (1) of section 11, of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997), and the provisions of the regulations, hereby directs all Access Providers to –

- (a) deploy Artificial Intelligence and Machine Learning based UCC_Detect system which is capable of evolving constantly to deal with new signatures, new patterns and new techniques used by UTMs;
- (b) ensure that such UCC_Detect System shall detect senders who are sending Unsolicited Commercial Communications in bulk and not complying with the provisions of the regulations;
- (c) ensure that UCC_Detect System shall be capable of -

- (i) reputation-based analysis of the message sender, which may be helpful in avoiding false positives, taking into account various factors like age of subscription, authentication at the time of subscription, address verification method, and SMS sending/ calling pattern;
 - (ii) sharing intelligence with other Access Providers using DLT platform.
 - (d) ensure that action is taken by the Originating Access Provider (OAP) as per provisions of the regulations;
 - (e) share information with concerned Law Enforcement Agencies (LEAs), Ministry of Home Affairs (MHA), and Department of Telecommunications (DoT).
19. All Access Providers are directed to comply with the above directions and forward a compliance report within thirty days from date of issue of this direction.
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(Jaipal Singh Tomar)
Advisor (QoS-II)
- To,
- All Access Providers (including BSNL and MTNL)**