Subject: **Fwd: FW: feedback on TRAI paper**
To: rajender@trai.gov.in

Date: 11/03/17 02:28 PM
From: "Asit Kadayan, Advisor" <advqos@trai.gov.in>

UCC-feedback-MSFT.docx (35kB)   UCC_CP_14092017.pdf (1.6MB)

-------- Original Message --------
From: Asit Kadyan <asit.kadyan@gmail.com>
Date: Oct 25, 2017 4:14:30 PM
Subject: Fwd: FW: feedback on TRAI paper
To: "Asit Kadayan, Advisor" <advqos@trai.gov.in>, Pavan Gupta <pkg20672@gmail.com>

---------- Forwarded message ----------
From: **Prashant Shukla** <prshukla@microsoft.com>
Date: Wed, Oct 25, 2017 at 3:14 PM
Subject: FW: feedback on TRAI paper
To: Sunil Bajpai <sunilbajpai@gmail.com>, Asit Kadayan <asit.kadyan@gmail.com>, Satya Lokam
<Satya.Lokam@microsoft.com>, Siddharth Prakash <Siddharth.Prakash@microsoft.com>, Nishanth Chandran
<nichandr@microsoft.com>
Cc: Prashant Shukla <prshukla@microsoft.com>

Dear Sir, here is the feedback we would like to provide on the TRAI paper. Kindly let us know you received this email.
Further, we would like to start working toward a workshop as well.

Regards
Prashant shukla

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A responsive system for UCC Complaints:

We believe the current system for handling UCC complaints can be made more efficient and effective in a number of ways if we have a common system to register and resolve consumer complaints and manage and update the data about RTM's and UTM's. A typical and highly simplified flow may go as follows:

1. Subscriber registers a UCC complaint with the "system" using one of the portals, e.g., voice call, SMS, or web portal, giving as many details as she can about the nature of the call and the caller. If there's private information in this complaint, that will need to be encrypted so it can only be accessed by authorized parties. But the event that she made a complaint and the parties involved in the UCC is logged in. The complaint should be recorded as a fixed and general format data object to enable automatic processing. It can have optional payload of auxiliary information.

2. The TSP's pull, e.g., on a daily basis, all complaints that involve them either as Originating or as Terminating Access Provider (OAP or TAP). The pulled records are tagged as such with a time stamp and a log created of this action,

3. Within 24 hours, say, the TSP's process the complaints and record back into the "system" the information pertinent to that complaint from their point of view.

   a. If it is a TAP, they will compare the Call Details Record with the subscriber's preferences (which are also recorded in the common system, perhaps in an encrypted and tamper-resistant way) and validate whether it indeed qualifies as UCC. If it does, they will indicate the OAP (or it could be automatically inferred) and post it for consumption in next phase by the OAP with the relevant details.

   b. If it is an OAP, it can determine if the UCC came from an RTM and if so, if it can evaluate the score, e.g., 0 if it is not a valid UCC, 1 to 10 based on severity of the violation of norms. This gets recorded in the system that keeps track of history of the RTM. If the caller is a UTM, the OAP can update the registry of UTM's with appropriate scores, additional details passed on from subscriber via TAP, etc.

Other suggestions:

- Service Providers should share info on UTM's
- Better eKYC for subscribers and RTMs'
- Use spam filtering and anti-fishing techniques

Q.1 To what extent, time required for registration and enforcement can be reduced? For achieving reduced time lines, what changes in processes or in different entities e.g. PCPR, NCPR, CPDB may be required? Will providing scrubbing as a service for RTM reduces time? Please give your suggestions with reasons.

A1: Combining these functionalities as much as possible has the potential to reduce the registration and enforcement time. A single portal with different modes of access (such as by voice call, SMS, or web interface) that allows a common registration process shared by all TSP's would make the process efficient. When a subscriber changes service provider, the preferences can easily be forwarded to the new service provider. The CPDB could be a shared repository of information (while encrypting private information as appropriate) that would make the process more efficient and effective.

Q.2 How to ensure availability of Mobile Apps for registering preferences and complaints and for de-registration for all types of devices, operating systems and platforms? Whether white label TRAI Mobile App may be bundled along with other Apps or pre-installed with mobile devices for increasing penetration of app? For popularizing this app, what other initiatives can be taken? Please give your suggestions with reasons.

A2: When all the service providers share a common service for handling UCC, they can also define a common App interface for registering preferences and complaints. This enables developing the App easy for anyone hosting these common services or even a third party. If the UCC services are hosted in the cloud, the cloud service provider can enable the downloading of the app from its portal. The App can also function as an advertising platform for the telemarketers and other companies. This can make the app essentially free.

Q.3 In case of Mobile Number Portability (MNP), what process may be defined for retaining the status of customer for preference registration? Please give your suggestions with reasons.

A3: Customer preferences could be part of the (e)KYC documents that get transferred from the old service provider to the new one as part of the MNP process. In fact, if MNP and UCC (and perhaps other services) are managed together in a cloud environment, a customer data dashboard can be provided. That dashboard can be used by the customer to register their preferences, complaints, and requests such as porting their number to a different service provider, choose bill payment options, and many more. The backend of that dashboard could be the common infrastructure that runs all the services.

Q.4 How bulk registration may be allowed and what may be the process and documents to register in bulk on behalf of an organization or family?Please give your suggestions with reasons.

A4: Bulk registration is most easily done through a web portal by simply providing this as an option and have a script that generates the same preferences for all the selected numbers. In the data that drives the customer dashboard mentioned above, a tag can indicate if this number is part of a family/organization and then present the option of doing a bulk registration. With SMS or voice interaction, this can still be done with a bit of extra effort if those portals can also access the same back end data and respond with options for bulk registration.

Q.5 Is there a need to have more granularity in the choices to actually capture customers interest and additional dimensions of preferences like type of day, media type(s)? What will be impact of additional choices of preferences on various entities like CPRF, PCPR, NCPR, CPDB etc.? Please give your suggestions with reasons.

A5: Yes, more granularity will help both customers and telemarketers at the expense of little additional technical work on CPRF, PCPR, NCPR, CPDB, etc.,. It should be hierarchical structure of preferences rather than just a long list of options, Customers who prefer simplicity can still fall back on the current method of a single number. Customers who want the refined set of options can go down the tree to specify more precise conditions and preferences. This will also help telemarketers to target their messages better to the audiences that are more likely to be receptive. Such targeted messaging will deliver maximum benefit for the resources they spend in telemarketing. More refined preference registration would give a competitive advantage to the service providers.

Q.6 Should the scope of UCC regulation be enhanced to include unwantedcalls like silent, obnoxious, threatening calls etc. and unauthorized communications? What role government or constitutional organizationsmay play in curbing such activities? Please give your suggestions withreasons.

A6: Yes, UCC regulations should be enhanced to include these unwanted calls as well. The authorities can play a crucial role in curbing such activities by requiring the TSP's to provide information on the sources of such calls promptly and completely. This in turn requires them to keep accurate and up to date information on their customers, which is helpful in several other ways besides this. Their technology should also be enhanced to trace and keep a record of such calls.

Q.7 What steps may be taken to address the issues arising from robo-calls and silent calls? What are the technical solutions available to deal with the issue? How international co-operation and collaboration may be helpful to address the issue? Please give your suggestions with reasons.

Q.8 For robust verification and authentication of telemarketer getting registered, what changes in the process of registration, may be introduced? Please give your suggestions with reasons.

A2: Telemarketers should be *incentivized* to do accurate and complete registration in addition to being penalized when they violate regulations. One incentive is an automated tool to generate efficient and very targeted compilations of subscriber numbers that match the telemarketers' requirements. To enable such automatic tools, preferences of subscribers in turn also should also be accurately registered and managed. Moreover, the TSP's must be willing to share their data on a common platform to make the UCC process more effective. Another financial incentive is reduced costs if the telemarketers don't violate any regulations.

Q.9 Should registration of other entities such as content providers, TM-SEs, Principal Entities, or any other intermediaries be initiated to bring more effectiveness? Whether standard agreements can be specified for different entities to be entered into for playing any role in the chain? Please give your suggestions with reasons.

A9: The more transparency the better. So, yes, registration of all entities along the chain would make the UCC process more effective to all parties involved. The agreements and cost structures should be as simple as possible while making clear what each party gets out of the system and justifying how the costs and the processes benefit them. The incentive/penalty structure should be designed so that following the processes is less painful and more beneficial than not following them.

Q.10 Whether new systems are required be established for the purpose of header registration, execution and management of contract agreements among entities, recording of consent taken by TMSEs, registration of content template and verification of content? Should these systems be established, operated and maintained by an independent agencyor TRAI? Whether agency should operate on exclusive basis? What specific functions these systems should perform and if any charges for services then what will be the charges and from whom these will be charged? How the client database of TMSEs may be protected? Please give your suggestions with reasons.

A10: Yes, new systems to do all these things will certainly help. Regarding operating agency, a single agency should provide the platform infrastructure, e.g., cloud and/or blockchain, database, etc.,. However, the tools and applications that various stakeholders might need to use this infrastructure should be open to market competition or determined by the respective parties themselves. The economic impact and benefits should be distributed and fine-grained. The costs of running the infrastructure and implementing the regulatory processes should be collectively borne by all the stakeholders. But the costs of the tools and apps mentioned above should be more on a case by case basis. Client databases of TMSE's can be easily protected by a number of techniques from cryptography. In fact, they can be protected so as to provide selective access to parts of the data to selective parties based on their credentials and customer preferences.

Q.11 Whether implementation of new system should full edged since beginning or it should be implemented in a phased manner? Whether an option can be given to participate on voluntary basis? Please give your suggestions with reasons.

A11: For a single service such as UCC, a full-fledged system should be deployed. As mentioned before, the benefits of a common platform are the highest when all parties participate and effectively play their respective roles. The ecosystem evolves through interdependencies to a collective good if everyone buys into the larger goals of a better system. Participation to a minimal extent can be made mandatory and as the system evolves, if properly designed and built, they will hopefully find it beneficial to be in it rather than out of it.

Q.12 Whether scrubbing as a service model may be helpful for protection of NCPR data? Whether OTP based authentication for queries made by individuals on NCPR portal may be helpful to protect NCPR data? What other mechanisms may be adopted to protect the data? Please give your suggestions with reasons.

A12: Yes, scrubbing could help protect NCPR data. OTP based authentication only provides authentication but not necessarily protection of data. A better approach might be store the data in encrypted form and provide a one-time mapping that maps the real phone numbers to unique proxy numbers that become ineffective once they are use. TSP's will have to cooperate to interpret the mapping and translate the proxy numbers to real numbers. Such a mapping could be provided as part of the scrubbing service.

Q.13 What interface and functionality of NTR system may be made available to Principal entities for managing header assignments of their DSAs and authorized agents? How it may be helpful in providing better control and management of header life cycles assigned to DSAs and authorizedentities? Please give your suggestions with reasons.

Q.14 What changes do you suggest in header format and its structure that may be done to deal with new requirements of preferences,entities, purpose? How principal entities may be assigned blocks of headers and what charges may be applied? What guidelines may be issued and mechanism adopted for avoiding proximity match of headers with well known entities? Please give your suggestions with reasons.

Q.15 Whether voice calls should be permitted to TMSEs and how these can be identified by the customers? How intelligent network (IN) or IP Multi-media subsystem (IMS) based solutions may be useful for this purpose and what flexibility it may provide to TMSEs in operating it and having control on its authorized entities? Please give your suggestions with reasons.

Q.16 What steps need to be initiated to restore the sanctity of transactional SMS? What framework need to be prescribed for those transactional SMS which are not critical in nature? Please give your suggestions with reasons?

Q.17 To what extent, present gap between time when UCC complaint was made and time when this was resolved can be reduced? What changes do you suggest to automate the process? Please give your suggestions with reasons.

A17: See at the top of this document for suggestions on a responsive system for handling UCC complaints.

Q.18 How the medium of Customer Complaint Resource Functionality (CCRF) with pre-validation of data e.g. Mobile App, Web Portal etc. may be helpful to achieve better success rate in complaint resolution process? Please give your suggestions with reasons.

A18: A web portal is most helpful. Mobile App could be just as useful if it can interface to the same back end as the web portal. In either case, as mentioned earlier, the interface should create a fixed and general enough data object that captures essential information about the complaint. Such a data object enables automate processing and quick resolution of the complaint. The same data object should be produced even when the complaint is filed from other portals such as SMS or voice call to a customer service representative.

Q.19 Whether access providers may be asked to entertain complaints from customers who have not registered with NCPR in certain cases like UCC from UTM, promotional commercial communication beyond specified timings, fraudulent type of messages or calls etc.? What mechanism may be adopted to avoid promotional commercial communication during roaming or call forwarding cases? Please give your suggestions with reasons.

A19: All customers should be included into the preference registry shared commonly by all TSP's. There should be a minimal default option that every subscriber should be registered for, even if it was to allow all calls, and should be made explicit. Additional, more refined preferences can be registered for an additional charge based on the competence of the TSP and a cost structure determined by the TSP's and approved by authorities such as TRAI.

Q.20 How the mobile App may be developed or enhanced for submitting complaints in an intelligent and intuitive manner? How to ensure that the required permissions from device operating systems or platforms are available to the mobile app to properly function? Please give your suggestions with reasons.

Q.21 Should the present structure of financial disincentive applicable for access providers be reviewed in case where timely and appropriate action was taken by OAP? What additional measures may be prescribed for Access Providers to mitigate UCC problem? Please give your suggestions with reasons.

Q.22 Whether strict financial disincentives should be levied for different types of techniques like robocall, auto-dialer calls for UCC? Please give your suggestions with reasons.

Q.23 What enhancements can be done in signature solutions ? What mechanism has to be established to share information among access providers for continuous evolution of signatures, rules, criteria?Please give your suggestions with reason.

Q.24 How Artificial Intelligence (AI) can be used to improve performance of signature solution and detect newer UCC messages created by tweaking the content? Please give your suggestions with reasons.

Q.25 How the honeypots can be helpful to detect and collect evidences for unsolicited communications? Who should deploy such honeypots? Please give your suggestions with reasons.

Q.26 Should the data from mobile app or from any other source for registering complaints be analyzed at central locations to develop intelligence through crowd sourcing? How actions against such defaulters be expedited?Please give your suggestions with reasons.

Q.27 How the increased complexity in scrubbing because of introduction of additional categories, sub-categories and dimensions in the preferences may be dealt with? Whether Scrubbing as a Service model may help in simplifying the process for RTMs? What type and size of list and details may be required to be uploaded by RTMs for scrubbing? Whether RTMs may be charged for this service and what charging model may be applicable? Please give your suggestions with reasons.

Q.28 How the cases of false complaints can be mitigated or eliminated? Whether complaints in cases when complainant is in business or commercial relationship with party against which complaint is being made or in case of family or friends may not be entertained? Whether there should be provision to issue notice before taking action and provision to put connection in suspend mode or to put capping on messages or calls till investigation is completed? Please give your suggestions with reasons.

Q.29 How the scoring system may be developed for UCC on the basis of various parameters using signature solutions of access providers? What other parameters can be considered to detect, investigate and mitigate the sources of UCC? How different access providers can collaborate? Please give your suggestions with reasons.