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会社名 : NTTデータ先端技術株式会社
情報所有者 : APT事業部 GT担当

NTT data

NTTデータ 先端技術株式会社



Telecom : Telecom Security Management on Blockchain

Powered By –Blockcube Technology Limited
Blockcube is a Blockchain Technology Research, Development and Consulting Firm.

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NTTデータ先端技術株式会社 ソフトウェアソリューション事業本部
NTT DATA INTELLILINK Corp. Software Solutions Sector

Agenda

1. Telecom security management on blockchain.
2. Impact and Benefits of Telecom System Security.
3. What are the effects of a compromised telecom security on other segments.

Telecom : Telecom Security Management on Blockchain

Telecom Security Blockchain

Digital Fusion of IOT and Blockchain with immutability and transparency.

Invention of Blockchain , created time stamping fingerprints of records / transaction.

Blockchain/DLTs : The New Technology of Trust

IRREVOCABLE

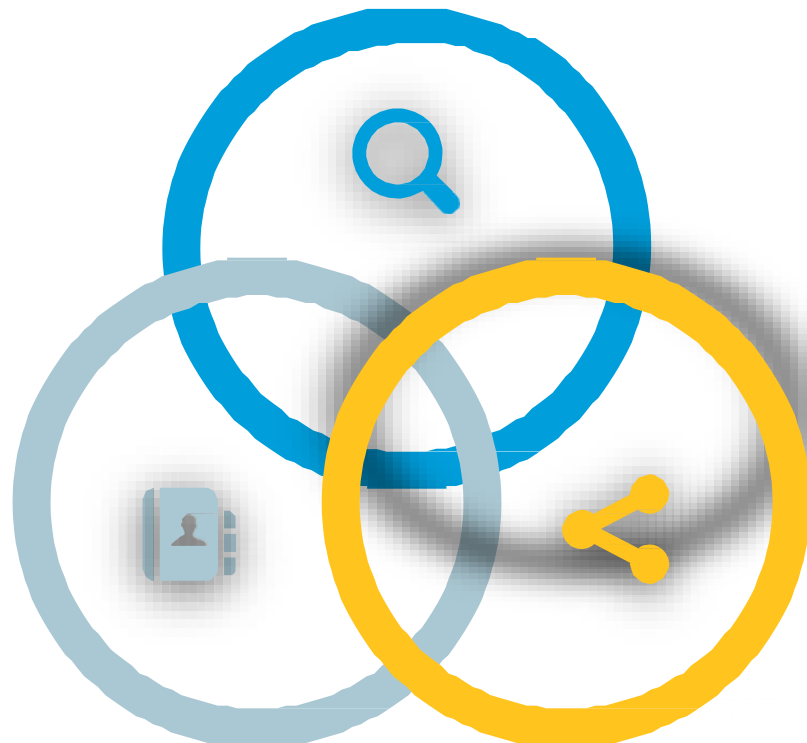
Once a smart contract is deployed on blockchain it is irrevocable, that's why smart contract auditing is a significant step in its deployment.

IMMUTABILITY

DLTs are fundamentally immutable, because transactions recorded within it cannot be deleted or changed mathematically.

PROVENANCE

All records and audit trails are generated by DLTs are 100% counterfeit proof and verifiable



Delegated proof of process

DLT's and the Future: Without change there is no innovation, creativity or incentive for improvement, those who initiate change will have a better opportunity to manage the change that is inevitable.

Block chain/DLT's influence

DLT provides irrefutable proof of the records existence and time. Content certified on DLT/Blockchain, including SMS, call history, cannot be changed, deleted or forged.



**Inter-
Operability**



**Proof of
Process**



**Traffic
Endurance**



**Resilient
Infrastructure**

❑ **Interoperable :**

Secure attribution that can be independently verified by the nodes authorize by TRAI.

❑ **High Traffic Endurance**

Monitor the real time the integrity of your data in the network and verified by the multiple nodes up to 300000 RPS

❑ **Proof of Process**

Ensure and certify that a dataset or records existed at a certain point of time when checks by authorized person

❑ **Resilient Infrastructure**

Protocol that allows participants to trust a common process by decoupling the proof of the data from the actual source data

Impact and Benefits of Telecom System Security

Impact and Benefits of Telecom system security

With Telecom system security you will have “Safe, Secure and Happy” customers.

Telecom system security Blockchain provide immutable, transparent and authenticity proof with Zero Knowledge Proof.

**Authentication
and tracking**



**Easy audit
process**



Telemarketers

What are the effects of a compromised telecom security on other segments

What are the effects of a compromised telecom security on other segments ?

- ❑ Breach of call data record / data breach.
- ❑ Threat from external forces and from its own employees.
- ❑ Risk of intrusions through mobile devices.
- ❑ Risk from cloud – based applications.

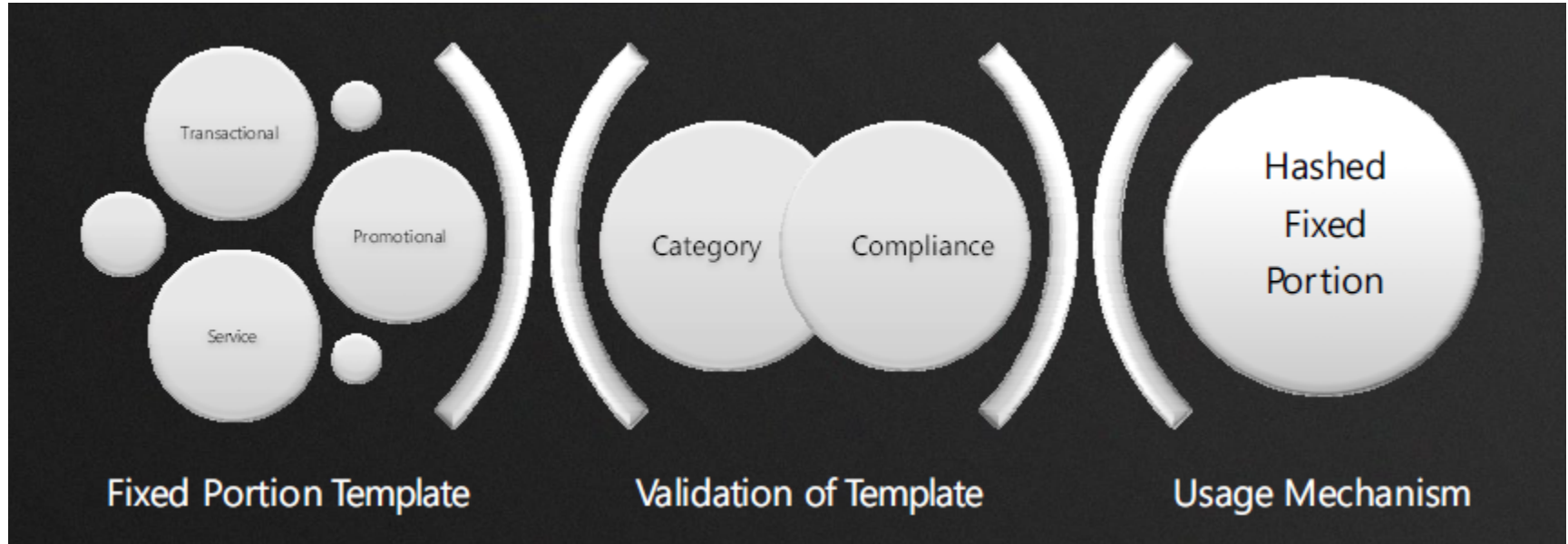


This includes customers, operators, marketers and regulators all in one

- ❑ **Authentication and Tracking** : Each functional entity registered in the DL entity shall be given unique identity
- ❑ **Easy audit Process** : we help telemarketers carry out one or more functions while keeping all records and execution of functions separately against each activity for internal audit by the telecom partners to meet regulatory outcomes specified in the regulations.
- ❑ **Telemarketers**: telemarketer with the associated function shall be declared using permissioned blockchain built on our proprietary proof of process.

Content Registration and Verification

Entity Consent Registration Functionality using DLT uses simple Rest APIs



❑ Preference Registration

Registration can be done on DLT using API's using web interface and mobile app Patches provided by us.

❑ Preference Identification

Using unique public addresses corresponding to each mobile Number, preferences can be identified.

❑ Preference Verification

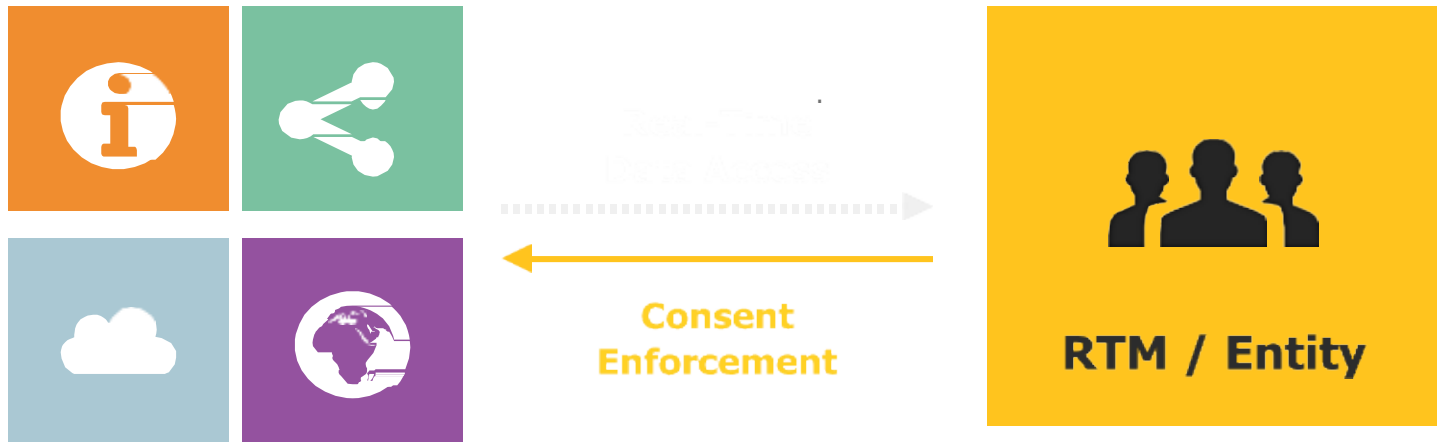
Verification will be done for every Call or sms by RTM via preference Scrubber API's.

❑ De- registration Service

To de register preference or temporarily suspend use.



Entity consent Registration functionally using DLT uses simple rest API,s and its scrubbing layer allows RTM,s to validate access before any messages are sent.



❑ Trust less Acquisition:

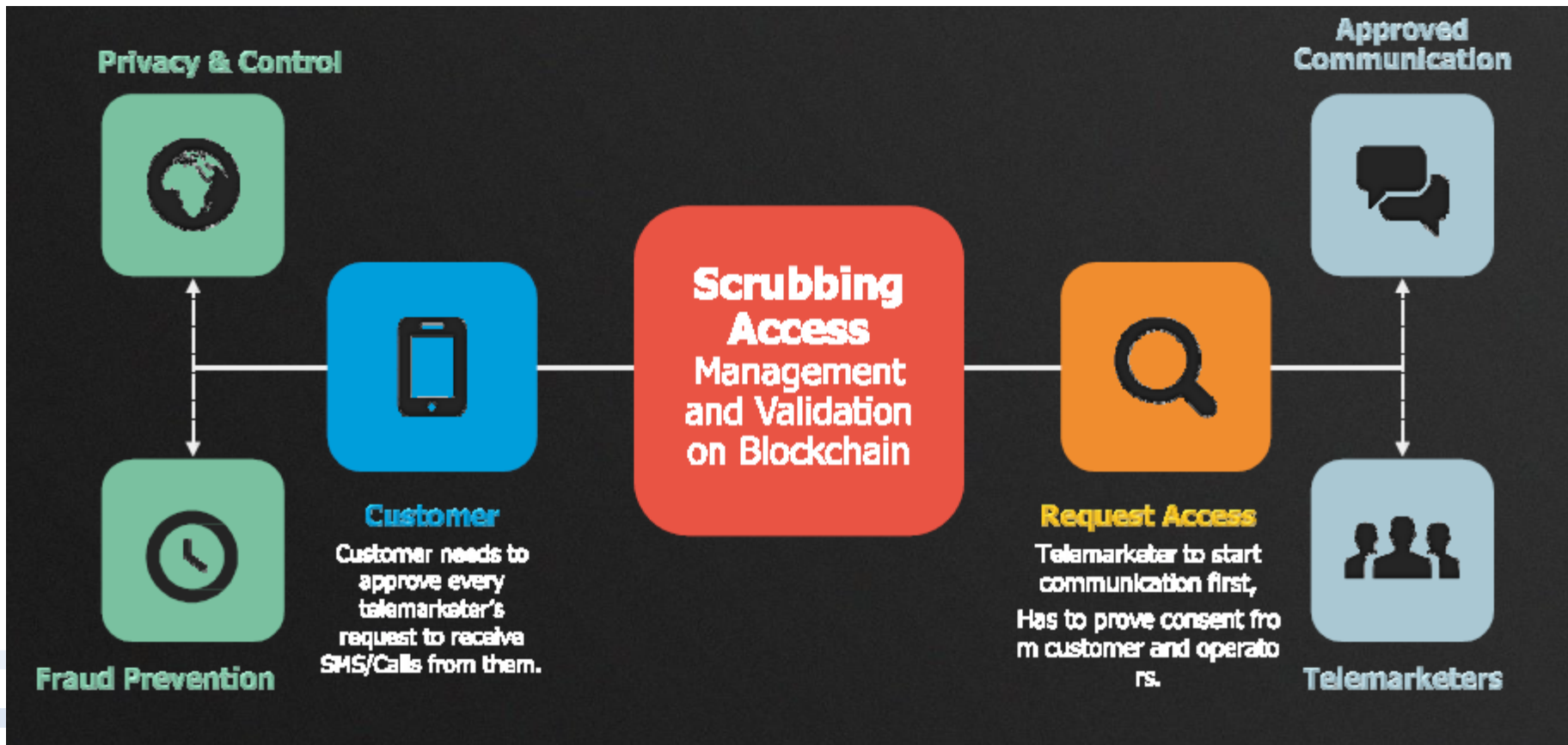
Whether its hard copy based consent acquisition or soft, the information flow directly to DLT Via API,s.

❑ Immutable Consent:

We use IPFS to make ensure data safely, alongside blockchain based immutable and irrevocable records which ensure no breaches exists.

Scrubbing Access

Customers, marketers, regulators and operators – All in one



Digital Ledger Complaints – Customer complaint Registration functionality using DLT

Faster Resolution : The report in certain cases may also acts a indisputable time stamped proof by cyber cell as an evidence.

- ❑ Customer makes a call to “service number” for registering his complaint network relay called the DL- Complaints API’s.
- ❑ When registering via SMS details provided by the complainant regarding date/time on which it was received along with content of received message and in case of voice call, brief of content of communication.
- ❑ Functioning of intelligent and intuitive mobile app for devices with different operating systems and helping customers to identify and report suspected sources of spam and also making use of it by the customers to make complaints.
- ❑ Procedure for the customer to make complaints by visiting website of access provider and register his complaint. Procedure for filling form and design it for the purpose of filling complaint with all relevant details.

UCC Detection

Standardized Technical Measure to share intelligence information, rules, criteria to detect suspected sources of spams can acquired through our system.

Spam Call Detection

Fraud/Ponzi Scheme or any other Cyber Crime when reported at Telecom ops discretion forwarded to Cyber Cell.

Unsolicited Call Report if processed but no wrongdoing is concluded.

Unsolicited Telemarketer when reported will be scrutinized and found guilty.



Augmented Behaviour

Unsolicited Telemarketer when reported will be scrutinized and found guilty.

The caller will be allowed to access the system again and cleared from Sidechain.

Telemarketer will be blocked out of the network and associated KYC will be reported.

