NewNet's STC for Mobile, IoT Payments in 5G Edge, Cloud

IoT Payments in 5G Edge, Cloud Core

5G is creating ubiquitous network of networks, and Mobile Network Operators are presented with a golden opportunity to recapture the role played by the Telcos in the past with payment transaction network infrastructure, and ramp up capability for securely routing and switching mobile, internet transactions as a premium service, or jump start in the roles of acquirers and processors.

NewNet, over the last 3 decades is offering payment solutions for Telcos/MNOs for payment network services and transaction network services. NewNet's latest solutions leverage 5G's distributed computing models for Mobile payment routing, transport and secure network access, empowerment of connected devices for IoT Payments, and offer cloud native solutions for both edge and core cloud compute segments. These solutions hold immense capability to enable the Mobile Network Operators and Mobile Service Providers to carve out expanded payment network service roles. Several potential use cases hold immense value for MNOs in Payments and FinTech industry based on closed loop models or open payment ecosystem centric models leveraging NewNet's field proven cloud ready Secure Transaction Cloud (STC) application for payments.

MNOs in Payments, FinTech Use Cases with NewNet's STC.

- Carrier billed payments
- Mobile wallet payments (generic wallets, own/specific wallets)
- IoT payment routing & authorization
- Tokenization for Mobile, IoT Payments
- Specialized payment security with P2PE
- Secure payment aggregation on the edge & backhaul service
- Payment transaction network services for Banks, Acquirers, Processors
- Payment Acquirers, Processors

5G Edge computing unleashes the power of cloud computing at the edge along with necessary storage and security. This reduces latency of traffic, minimizes network traffic to the core, thereby enabling the millions of IoT devices for the payment functions. NewNet's STC application in the Edge can handle these payments for rapid, real time authorizations with highest security. Multi Access Edge Computing (MEC) in 5G is expected to deliver ultra-low latency and giga bits per second speed which allows to support high density of IoT devices and related applications requiring faster responses and operate with highest security in real time.

STC in 5G Edge can rapidly process and complete the Mobile and IoT payment authorizations working in conjunction with STC in the Core Network Cloud via Network Exposure Function (NEF) of 5G's Service Based Architecture (SBA). STC securely communicates with Card Networks and Issuer's infrastructure which could be virtualized and supported in MNO's distributed Cloud of 5G Network. In the immediate timeframe it is likely that STC communicates with Card Networks and Issuers' respective enterprise datacenters, or virtualized infrastructure with the future potential to eventually migrate these to the MNO's cloud infrastructure.

The network model here indicates the usage of STC for deployment in the Mobile Carriers' distributed sites, using the Network Exposure Function (NEF) to create secure transaction transport, routing and switching APIs. These APIs could be simple extension or expansion of existing API framework that mobile operators already use to interconnect their customers to MNO's data services. These APIs are used by authorized devices, businesses, acquirers, and processors to offer universal transaction routing services and capabilities.

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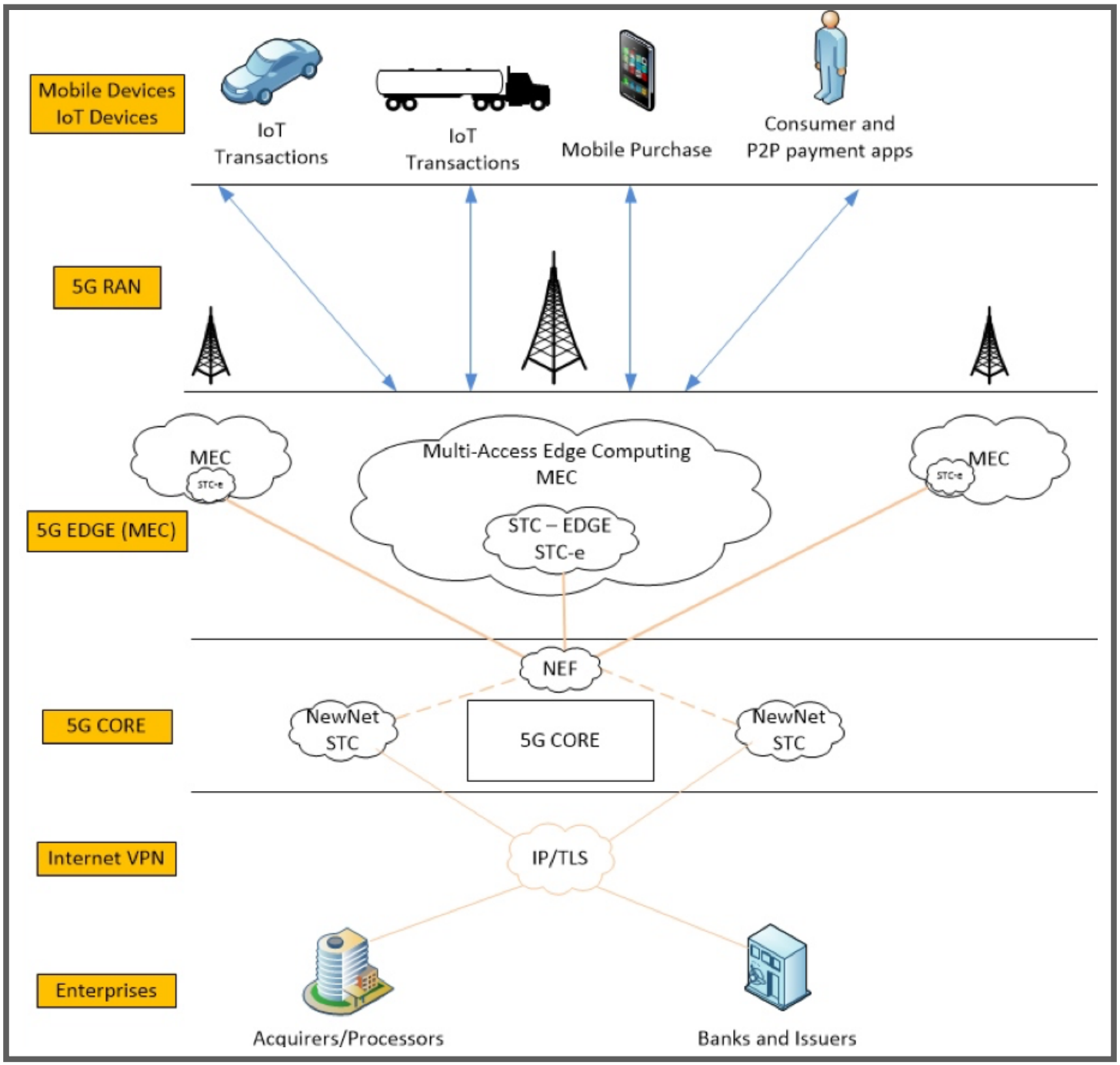
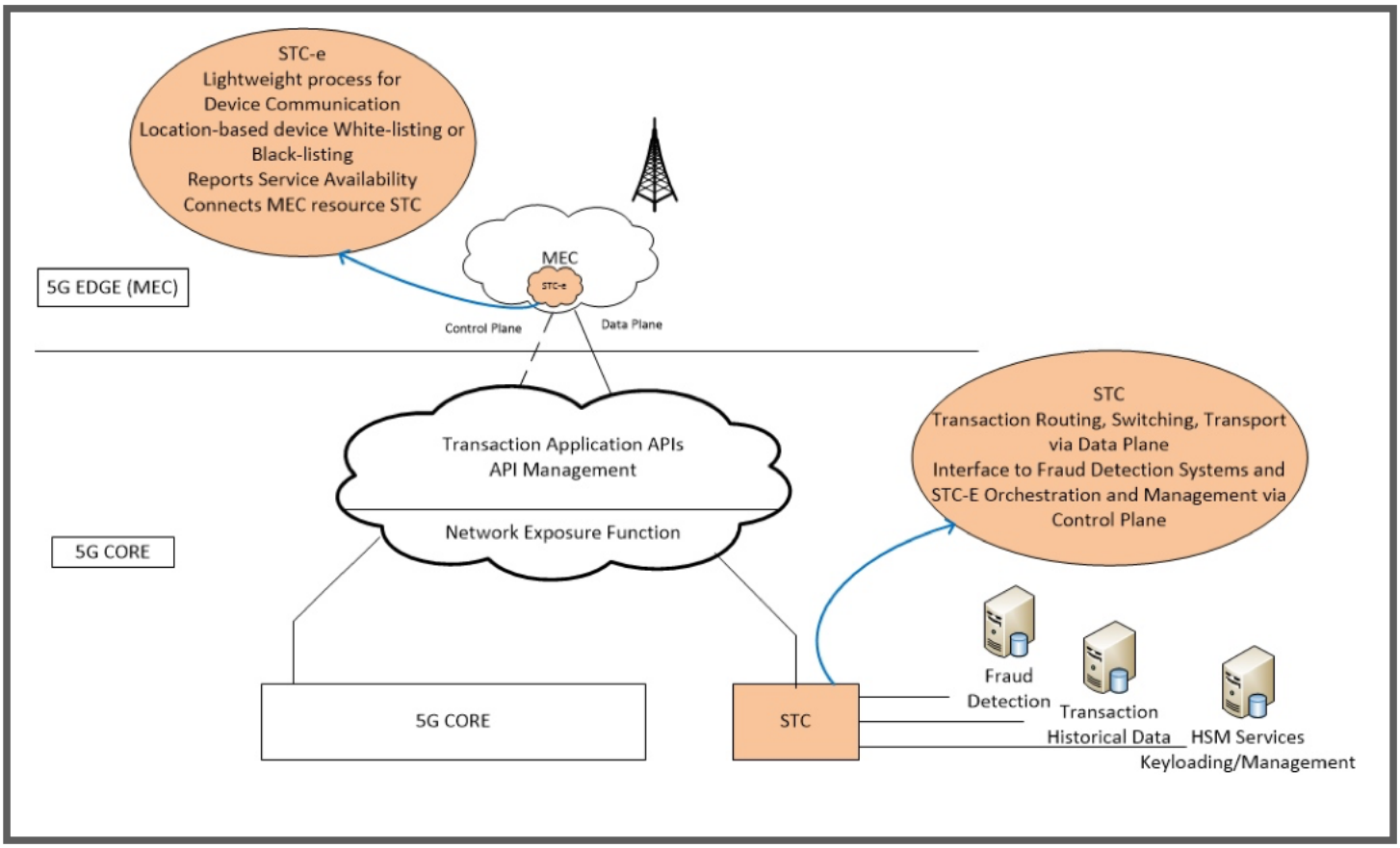
SECURE PAYMENT TRANSACTIONS

STC in 5G Edge & Core Cloud



STC application suite addresses multiple functional capabilities that Mobile operators can offer as services, wherein STC-e (STC-in-Edge) in 5G EDGE (MEC) is lightweight and enables IoT payments, Mobile payments, traditional POS transaction routing, transport, and switching. STC-e allows location based white/black-listing enabling service-controlled access. STC-e communicates with STC in 5G Core for back end operations and involving CloudHSM related crypto operations. STC which is located in the Core Cloud interfaces to Transaction History Data systems, CloudHSM, Fraud Detection systems, facilitates the interfaces to operations support systems and backend support systems associated with payments processing.

STC in 5G Edge & Core Cloud



At blazing speeds of 20Gbps with millimeter wavelength, latency of 1 millisecond enabling several tens of billions of Mobile, IoT devices initiated payments, 5G promises to revitalize the payment industry in unprecedented ways in the years to come, and MNOs stand to benefit with vital application solutions like STC deployed in their infrastructure.

About NewNet Communication Technologies and NewNet's Secure Transaction Cloud (STC)

NewNet Communication Technologies is a leading provider of innovative payment and communication solutions. NewNet's Secure Payment Transactions BU offers secure payment solutions for global acquirers, processors, payment service providers, Mobile Network Operators, Telcos, FinTechs, ISOs, banks, and financial institutions. NewNet's secure payment systems facilitate payment transaction routing, secure network access and payment data security for the broader payment entities. NewNet systems deployed with our customers transport 1-in-4 transactions worldwide annually.

NewNet's Secure Transaction Cloud (STC) solutions offer NFV based virtualized secure payment applications for transaction transport, routing, and switching with specific Virtual Network Functions (VNF) for security (TLS, IPSec, SSH, HTTPS), transaction protocols (ISO20022, ISO8583, TPDU, VISA, XML), Tokenization, Host Interfaces, Load Balancing, etc. The virtualized capabilities allow the solution to support a wide range of payment types including Internet payments, mobile payments, IoT payments, POS based transactions which are IP/Mobile access based and all forms of eCommerce, mCommerce payments with PCI standards compliant security utilizing HSMs.

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