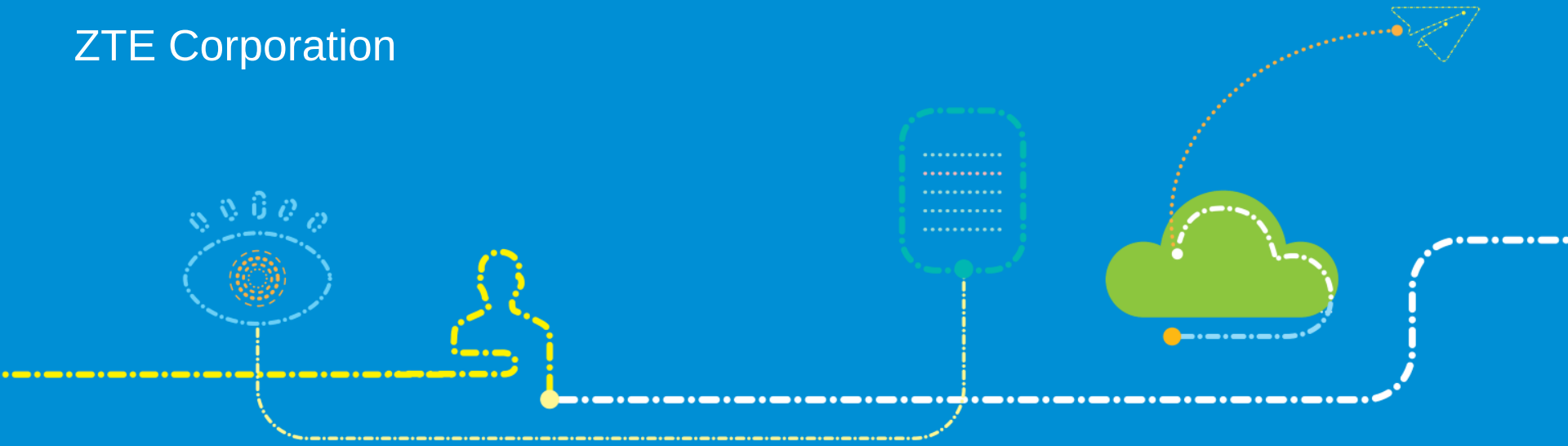
3GPP TSG-SA WG1 eMeeting #97-e
E-meeting, 14th – 24th February 2022

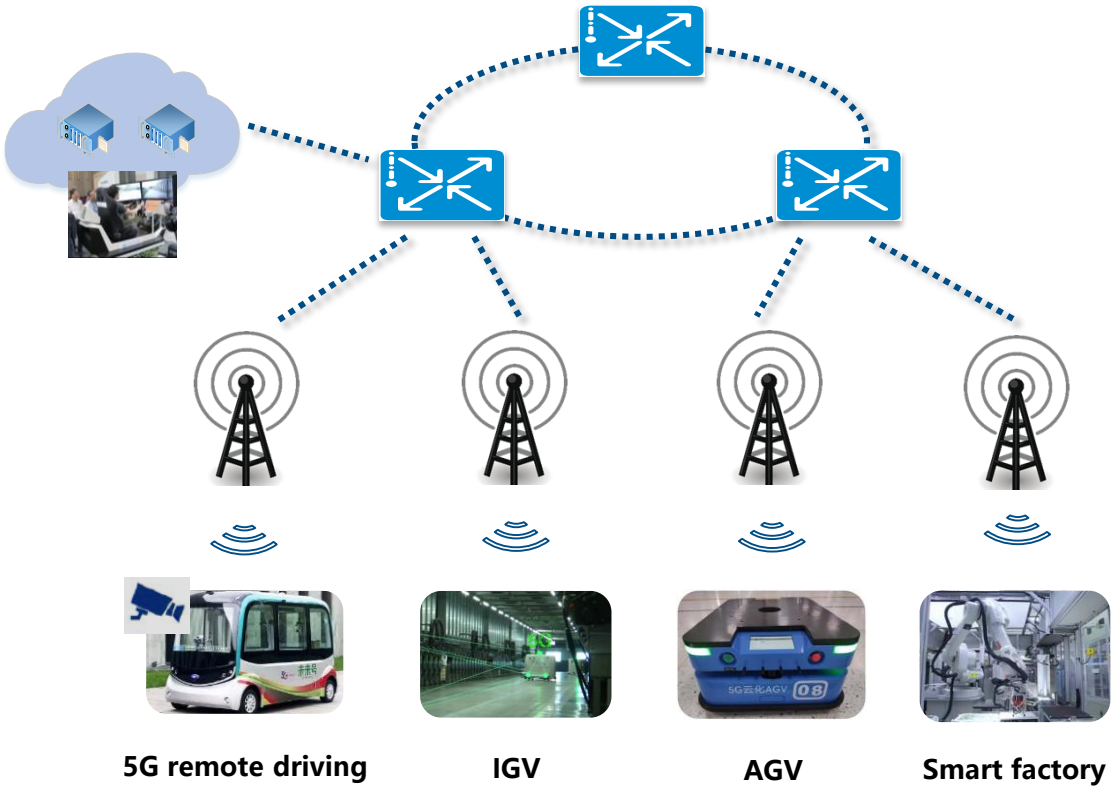
S1-220021

Discussion Paper of 5G Enabled Distributed Data Management

ZTE Corporation



Motivation --5G enabled Distributed Data Management



5G enabled DDM

✓ **Distributed data storage**

- New development trend
- 5G RAN nodes provide the capability

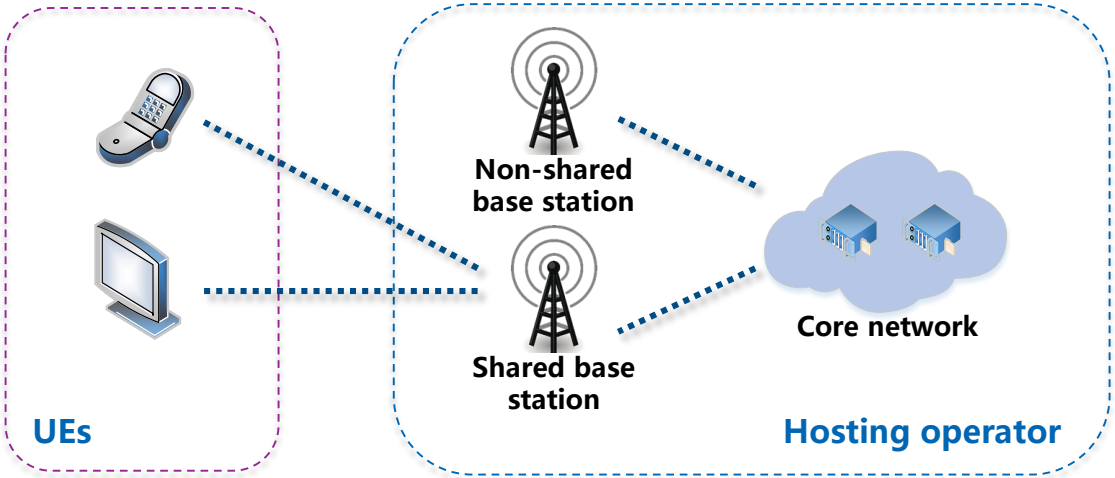
✓ **Higher frequency data collection and trustworthy sharing**

- Data collection with higher frequency: millisecond even up to sub-millisecond
- Data sharing among multiple service subscribers: trustworthy sharing
- Distributed data collection used for network intelligence

✓ **Data collection type**

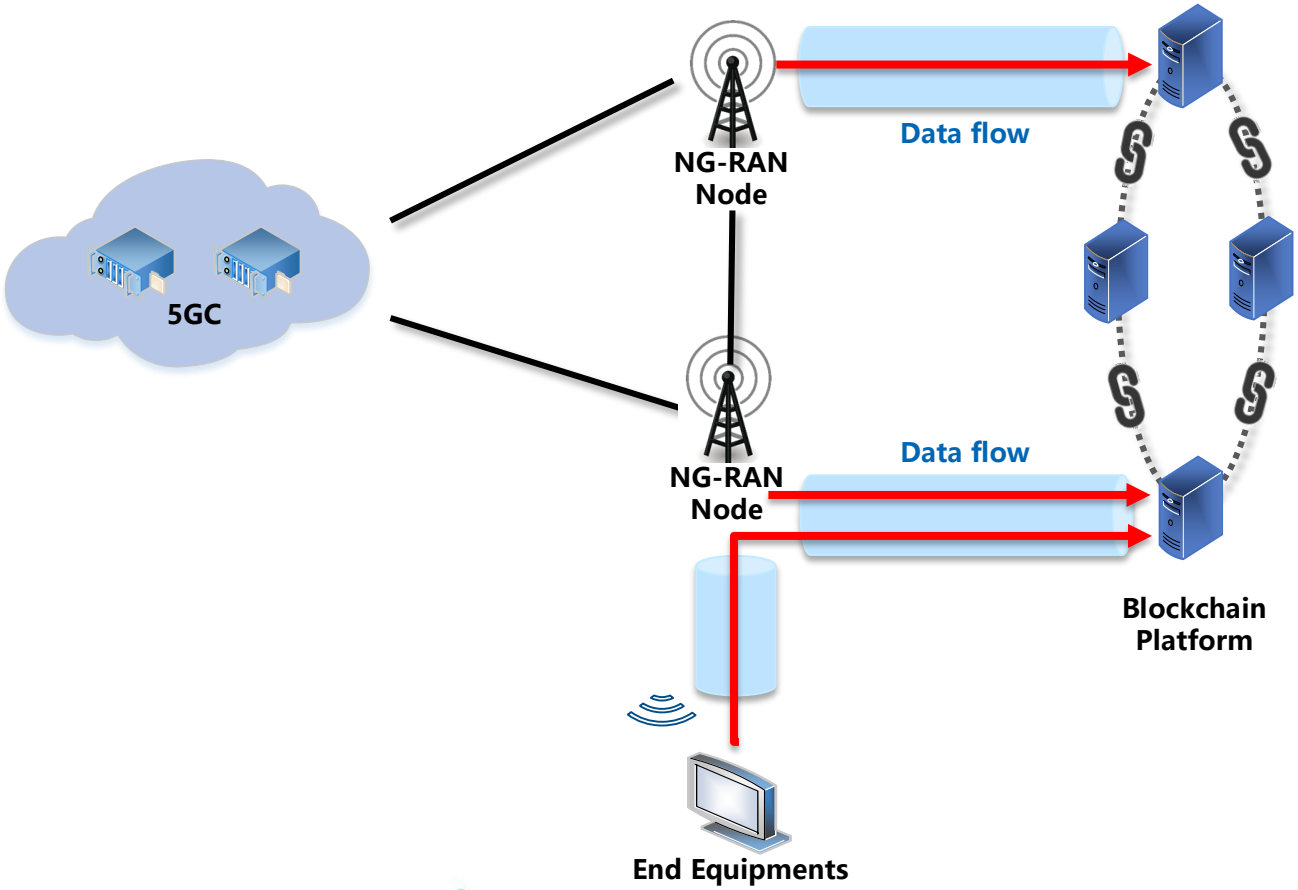
- Wireless communication network related data
- Key IoT/V2X data from end equipments

Motivation -Trustworthy Data Sharing supported by Shared RAN node



- Sharing data between participating and hosting operators, e.g. real-time millisecond-level cell load information and sub-millisecond-level latency of URLLC services
- A neutral platform is expected to support traceable data viewing, immutable data storage and trusted point-to-point transmission for operators to achieve trustworthy data sharing

Service flow Example



Objective

The objective of this technical report is to study use cases and identify potential requirements for 5G enabled distributed data management. It includes:

- Use cases related with 5G distributed data management, e.g.
  - Network sharing
  - Vertical industry: smart factory, ITS etc.
  - Network intelligence
- Potential requirements for 5G system to enable distributed data management service
  - Configuration and management of 5G RAN nodes to support the DDM service,
  - Data collection with higher frequency and extended data sources e.g. beyond the network measurement data, it can be collected from Industry IoT/V2X devices.
  - Trustworthy data sharing to 3rd party or application layer supported by 5G RAN nodes.
- Gap analysis between the identified requirements and existing 5GS requirements in 3GPP specs TS 22.261/22.104.