GEdge Platform Conference

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엣지클라우드의 데이터 관리와 데이터 가버넌스

Data Governance on Edge Cloud

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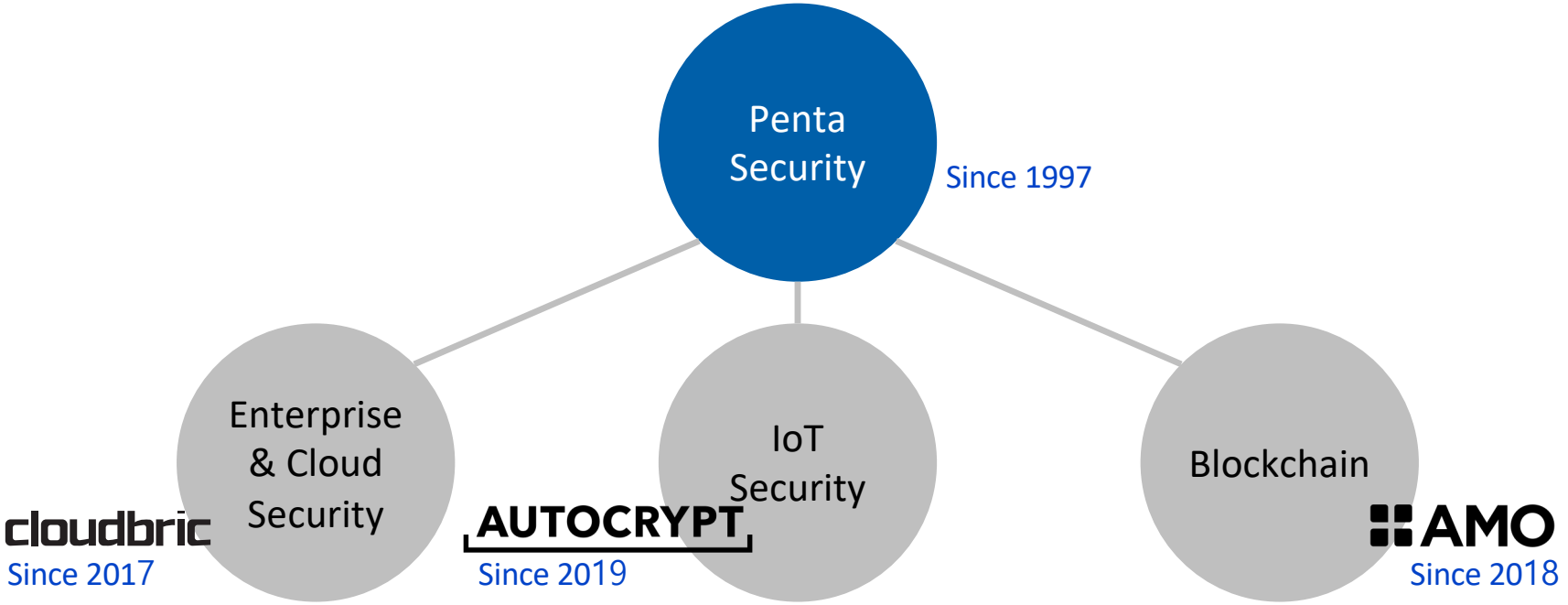
“Team Penta”



- Data Encryption
- Web Application Firewall
- Authentication

- Car
- Railway / Ship
- AMI
- Smart Factory

- Data Sharing Platform

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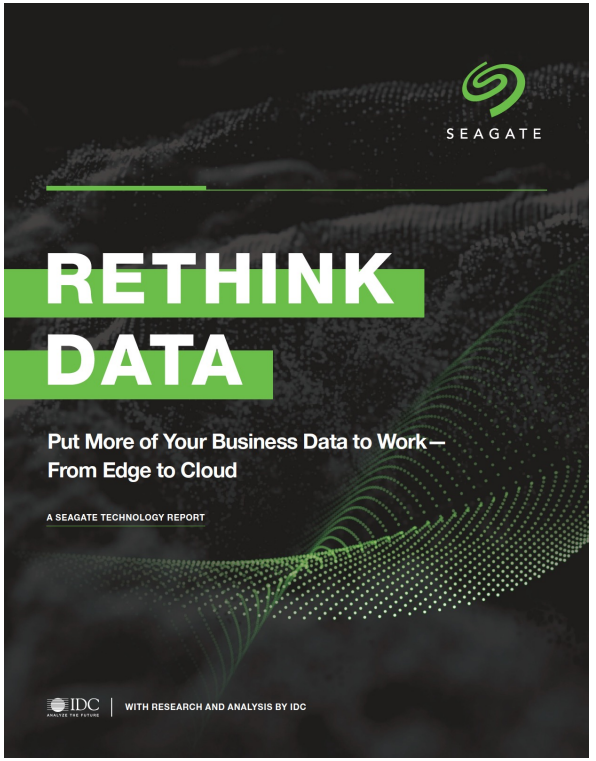
Data Sharing Platform

Data Governance

AMO

DataOps & Data Governance

- Over the next two years, enterprise data is projected to increase at a 42.2% annual growth rate.
- Only 32% of data available to enterprises is put to work. The remaining 68% goes unleveraged.
- On average, organizations now periodically transfer about 36% of data from edge to core. Within only two years, this number will grow to 57%. The volume of data immediately transferred from edge to core will double, from 8% to 16%.
- The top five barriers to putting data to work are:
  - 1) making collected data usable,
  - 2) managing the storage of collected data,
  - 3) ensuring that needed data is collected,
  - 4) ensuring the security of collected data, and
  - 5) making the different silos of collected data available.
- The solution to a great deal of data management challenges is DataOps — the discipline connecting data creators with data consumers. Only an average of 10% of organizations report having implemented DataOps fully across the enterprise. A majority of respondents say that DataOps is "very" or "extremely" important.
- Along with other data management solutions, DataOps leads to measurably better business outcomes: boosted customer loyalty, revenue, profit, and a host of other benefits.



* Source: "Rethink Data", Seagate (July 2020)
https://www.seagate.com/files/www-content/our-story/rethink-data/files/Rethink_Data_Report_2020.pdf

Data Governance (from Wikipedia)

Data Governance is a data management concept

- the capability that enables an organization to ensure that high data quality exists throughout the complete lifecycle of the data
- data controls are implemented that support business objectives
- availability, usability, consistency, data integrity and data security
- processes to ensure effective data management throughout the enterprise

Data governance encompasses the people, processes, and information technology

- to create a consistent and proper handling of an organization's data across the business enterprise

Goals of Data Governance

- Increasing consistency and confidence in decision making
- Decreasing the risk of regulatory fines
- Improving data security, also defining and verifying the requirements for data distribution policies
- Maximizing the income generation potential of data
- Designating accountability for information quality
- Enable better planning by supervisory staff
- Minimizing or eliminating re-work
- Optimize staff effectiveness
- Establish process performance baselines to enable improvement efforts
- Acknowledge and hold all gain

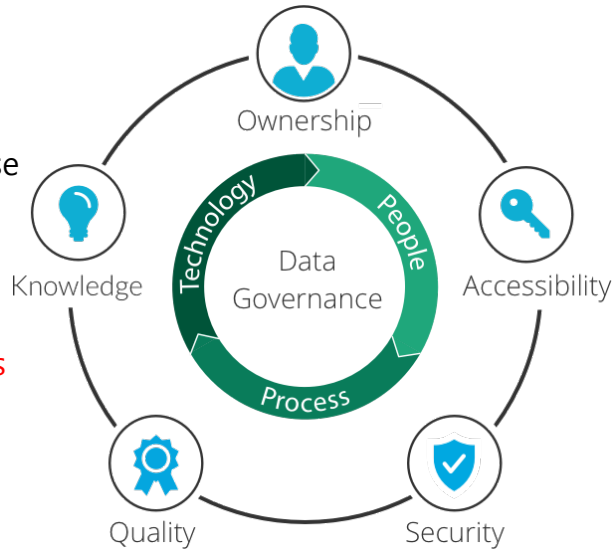
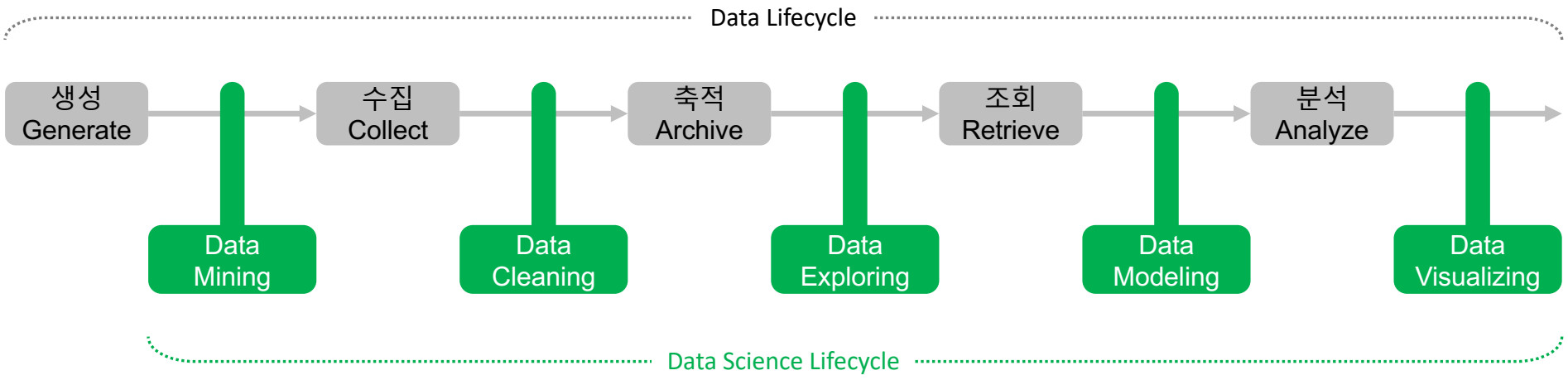


image : https://www.imperva.com/learn/data-security/data-governance/

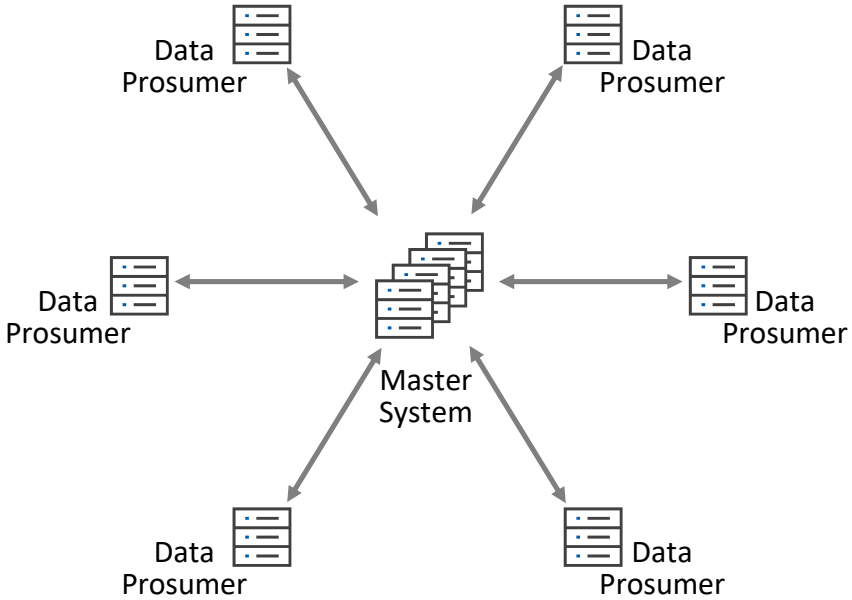
Data Lifecycle & Data Science Lifecycle



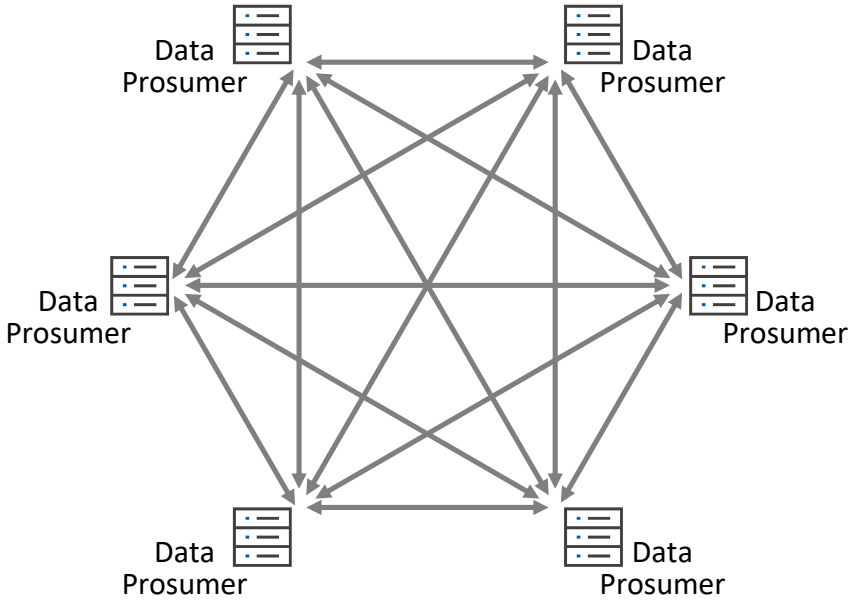
Our Approach for making *the different silos* of collected data *available*

- Centralized Model needs a Master System, which can be *a single point of failure*.
- Master System takes more cost to availability and sustainability.
- Decentralized Model uses blockchain's Distributed Ledger Technologies giving availability and integrity.

[Centralized Model]

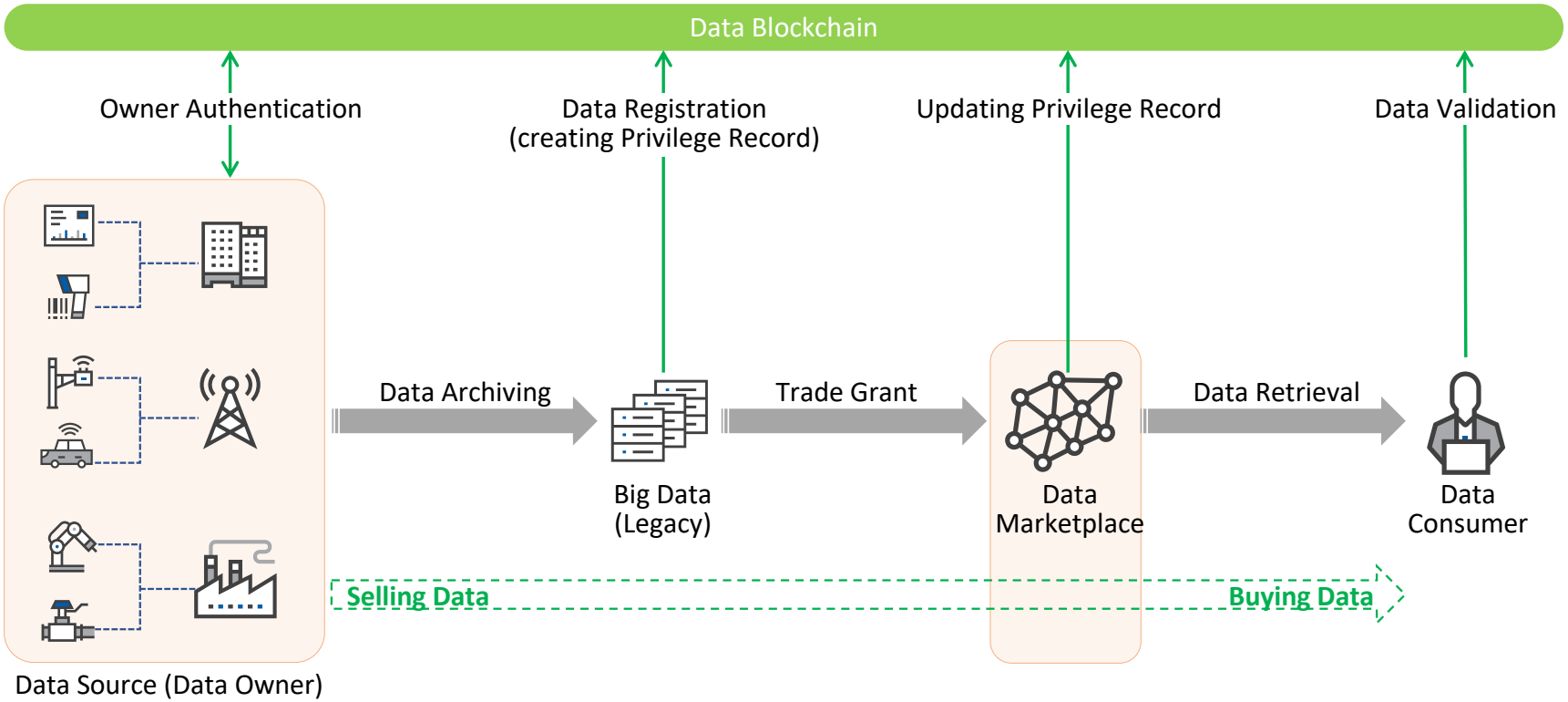


[Decentralized Model]



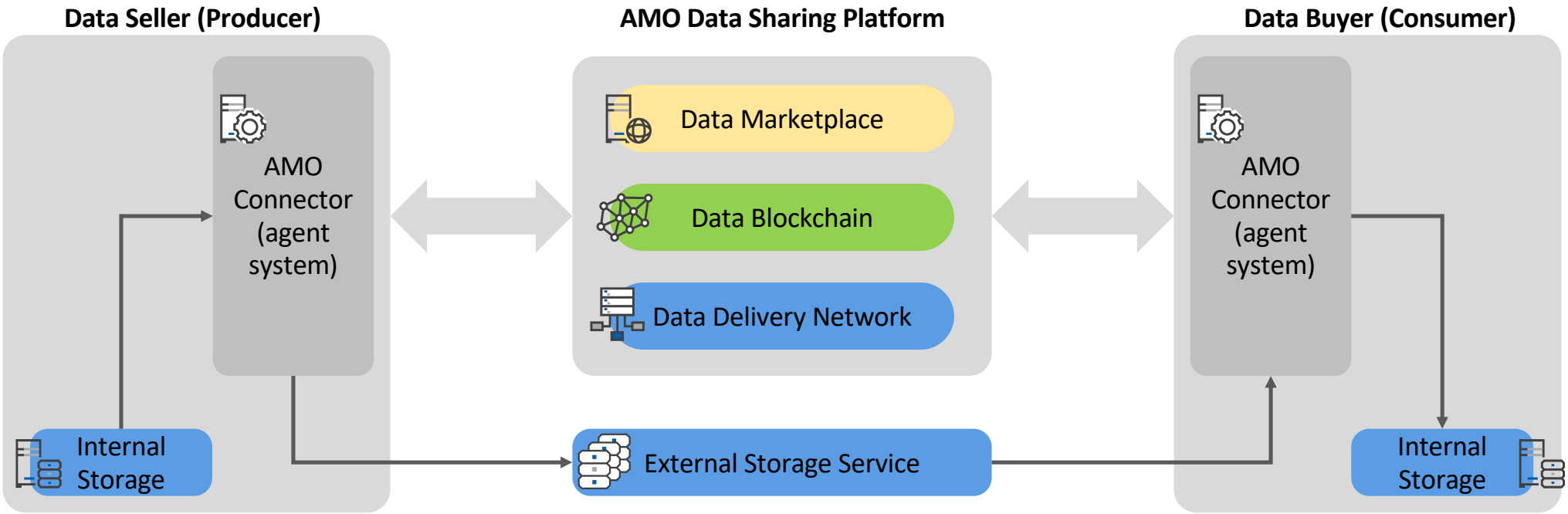
Our Approach for Security & Trustworthy Data

- Data Blockchain stores *Privilege Record* for authentication, ownership and integrity validation.
- Existing bigdata system can be integrated with Data Blockchain.
- Users can easily retrieve data and validate the retrieved data via Data Market.



System Architecture for *Blockchain-based Data Sharing Platform*

- **Data Blockchain** stores metadata and privilege record for authentication, ownership and integrity validation.
- **Data Marketplace** helps sellers and consumers to register data, to retrieve data and to manage data trades.
- **Data Delivery Network** feeds real-time or unbound data to subscribing consumers.
- Seller's data can be delivered via *External Storage Service* or via *Data Delivery Network*.



5G & Automotive

[img] https://www.computerweekly.com/news/252485389/Optus-to-test-5G-mmWave-technology

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eMBB
enhanced Mobile BroadBand

mMTC
massive Machine-Type Communications

uRLLC
ultra-Reliable and Low-Latency Communications

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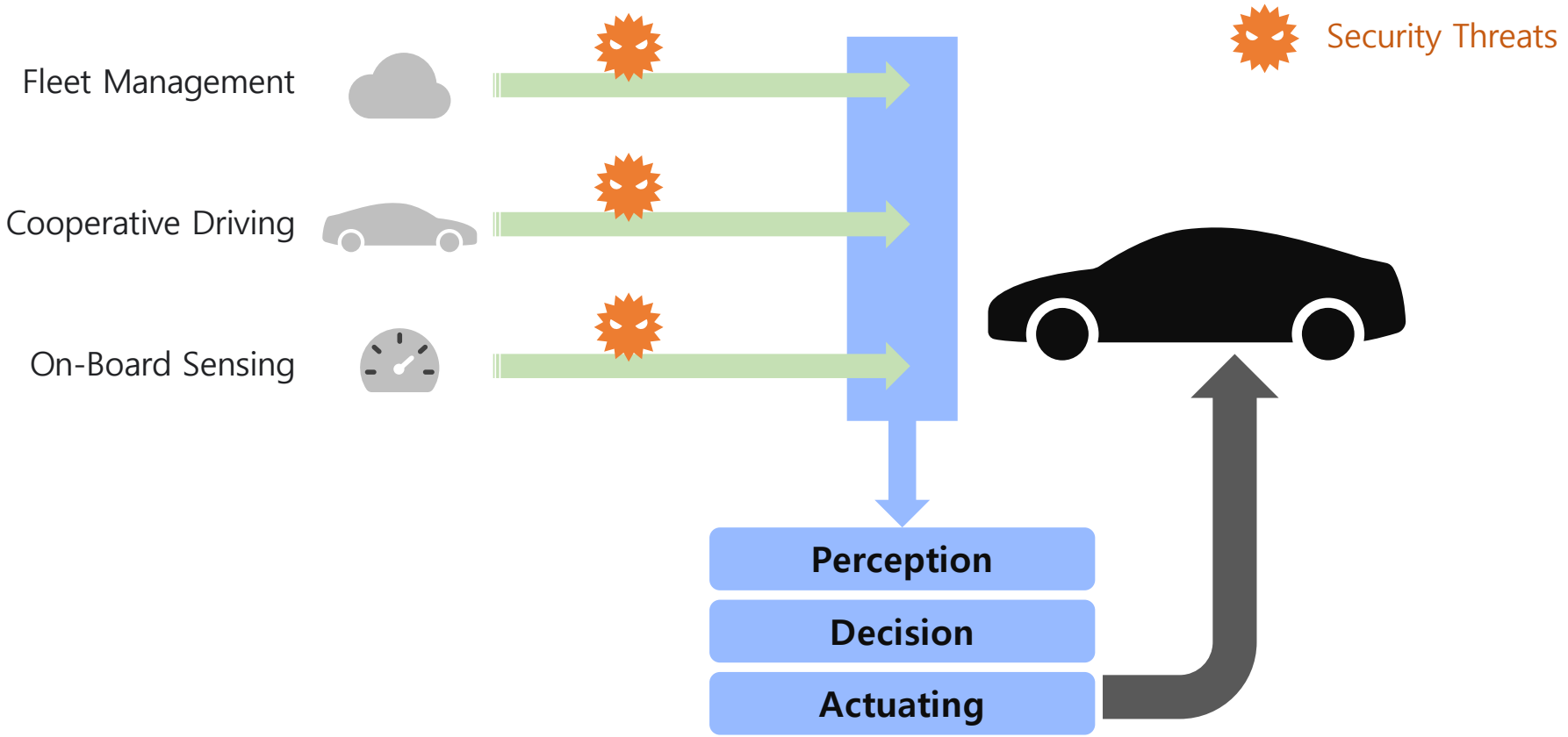
Smart Car

CAM
(Connected & Automated Mobility)

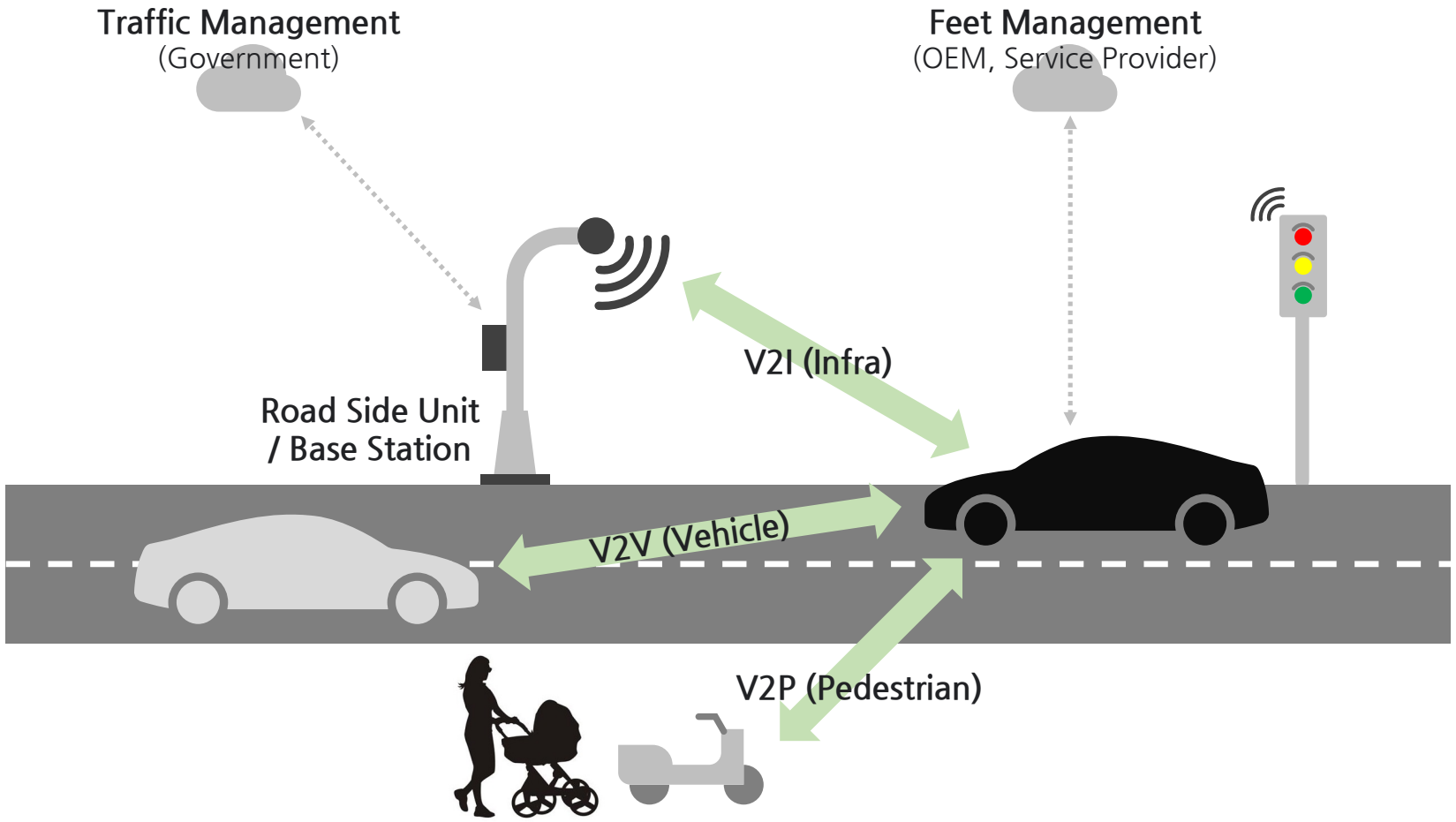
Connected Car

Autonomous Car

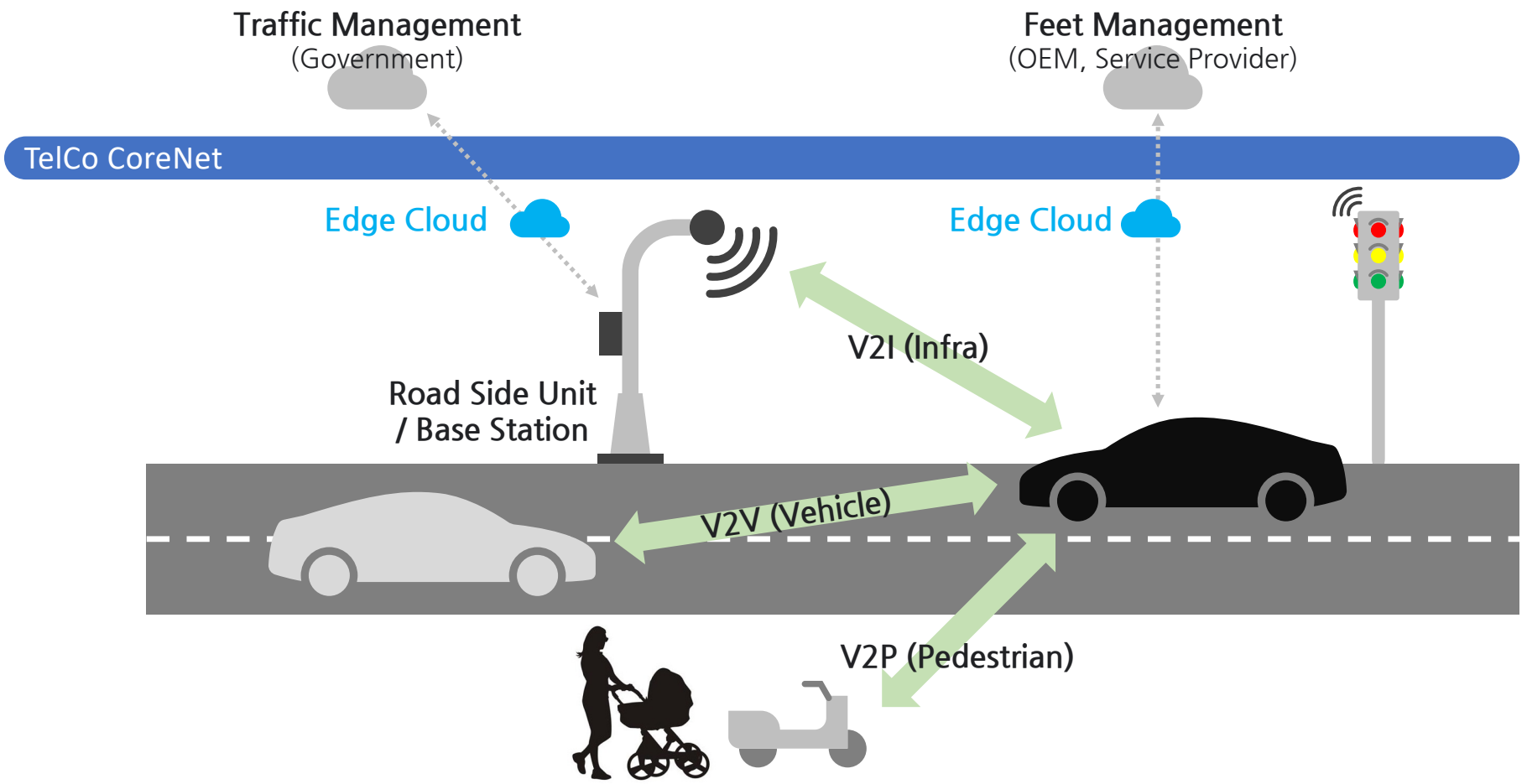
Autonomous Driving



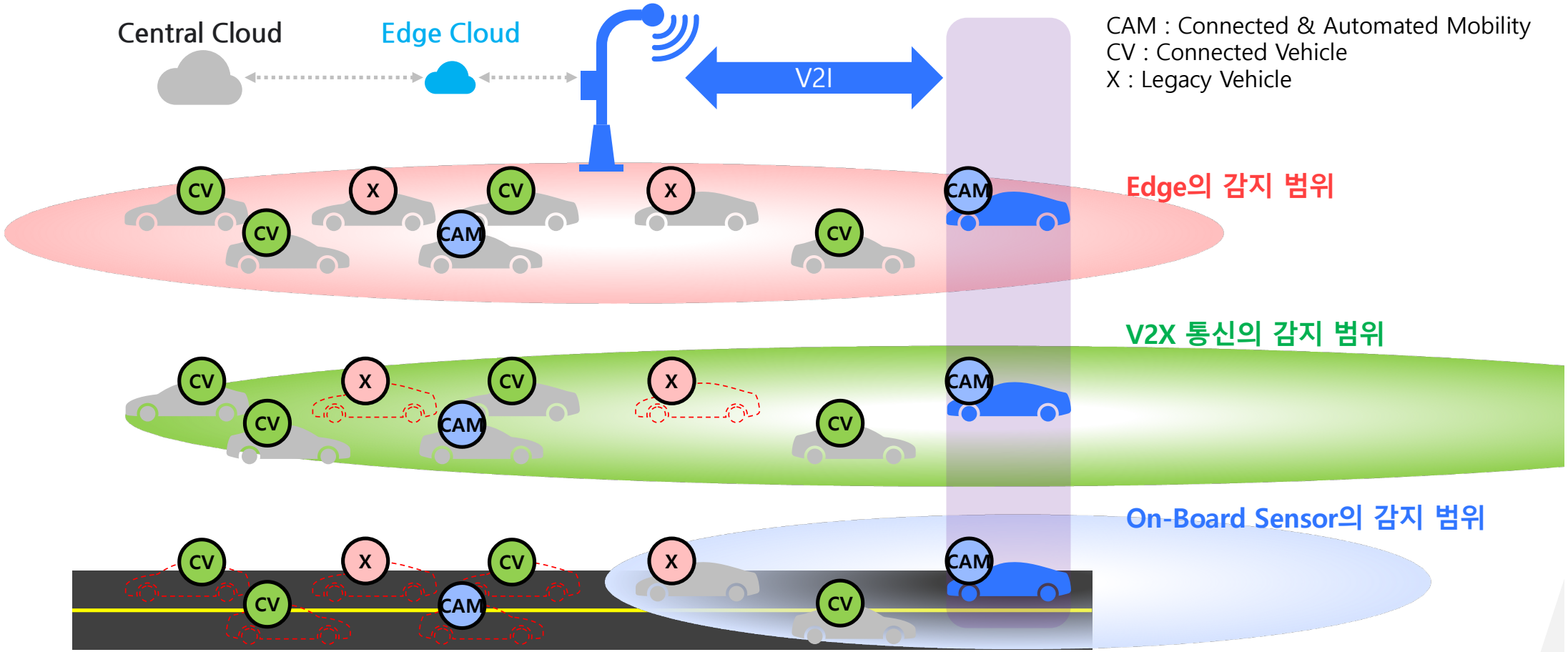
Cooperative Driving



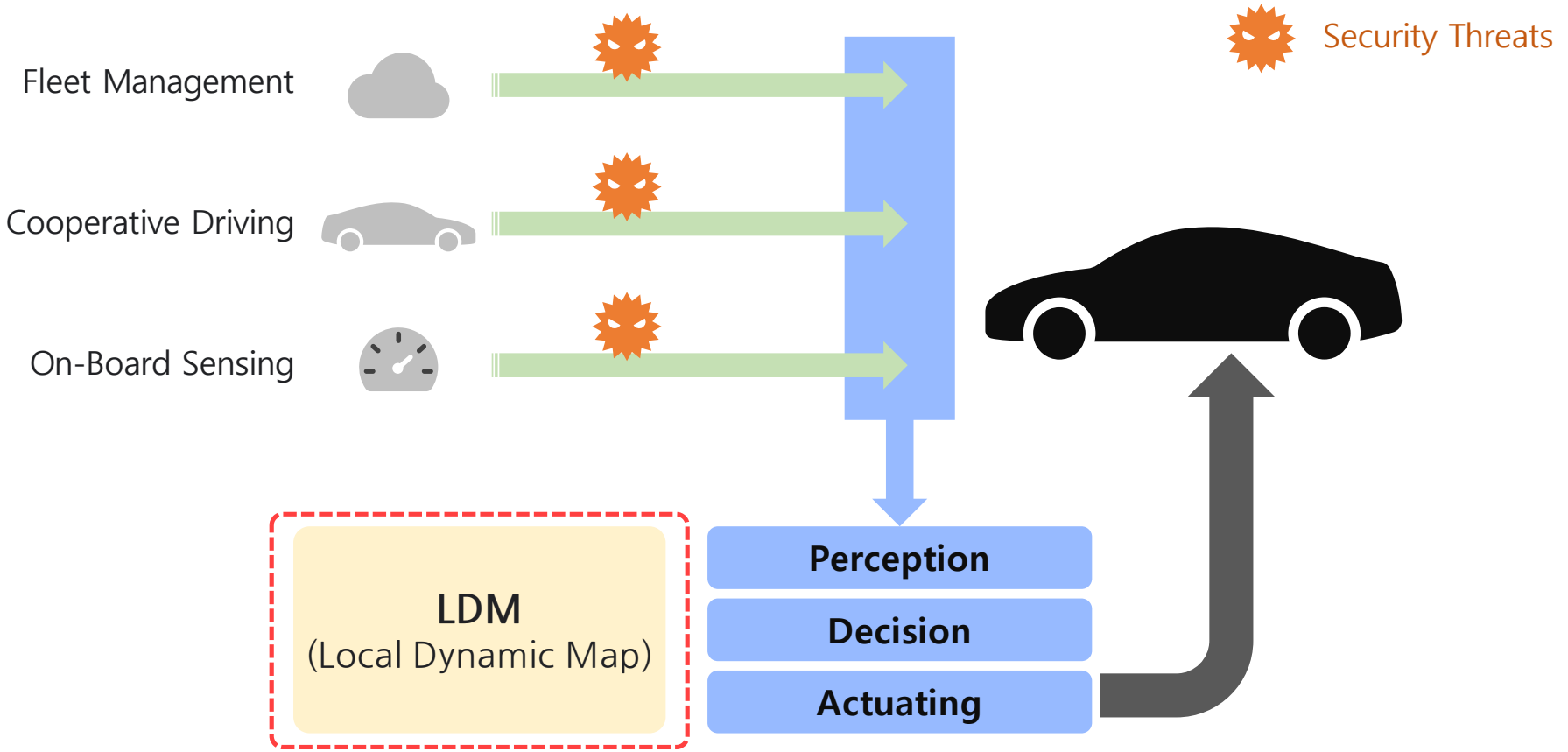
Cooperative Driving with Edge



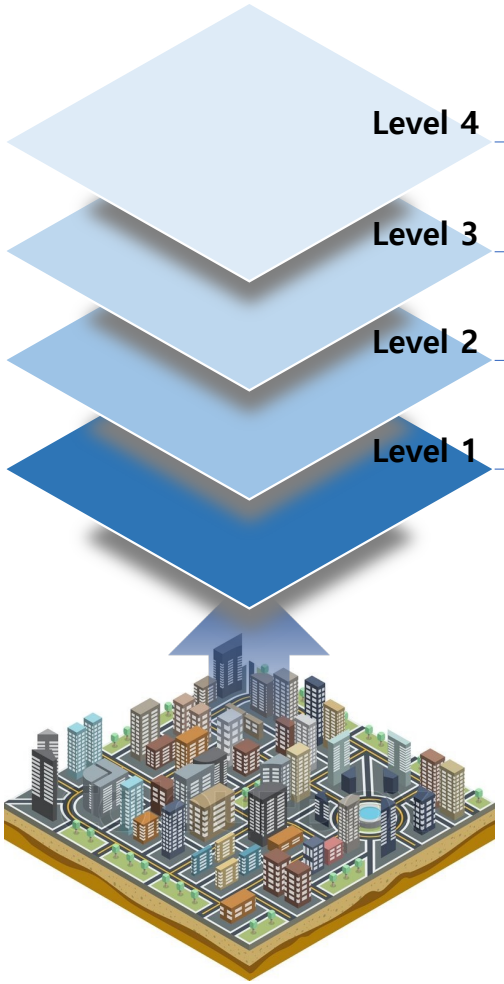
Edge Cloud for CAM



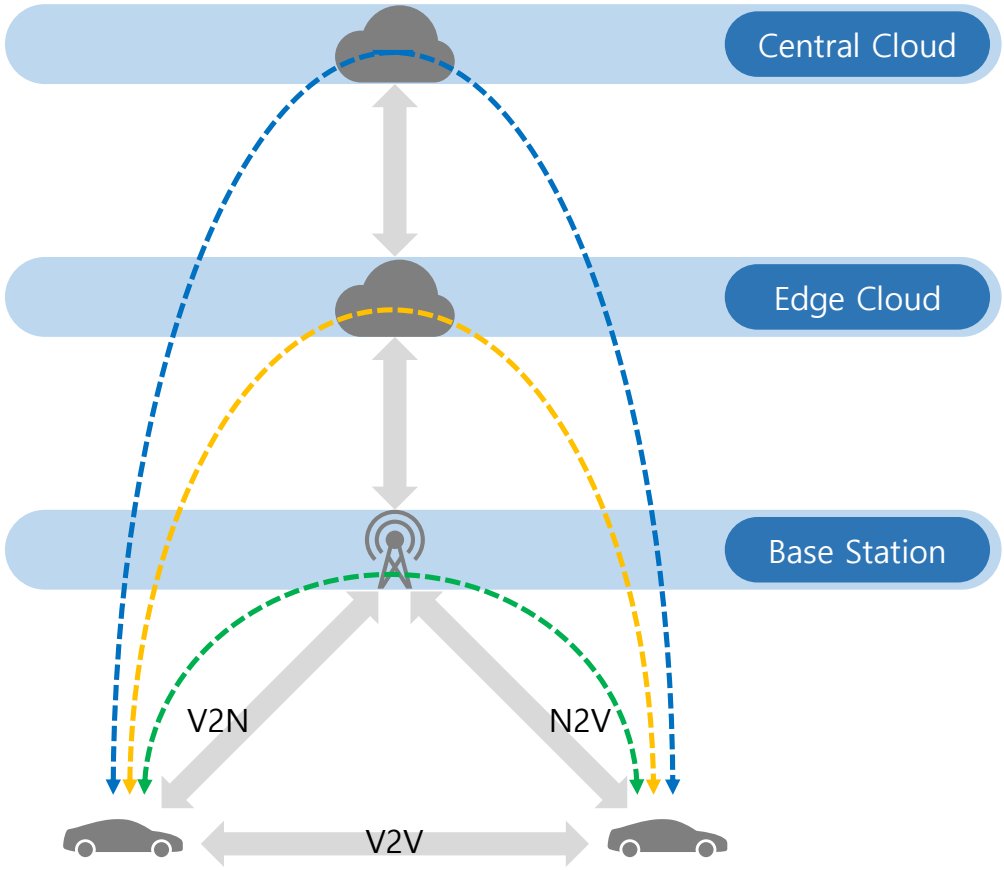
LDM(Local Dynamic Map) & CAM



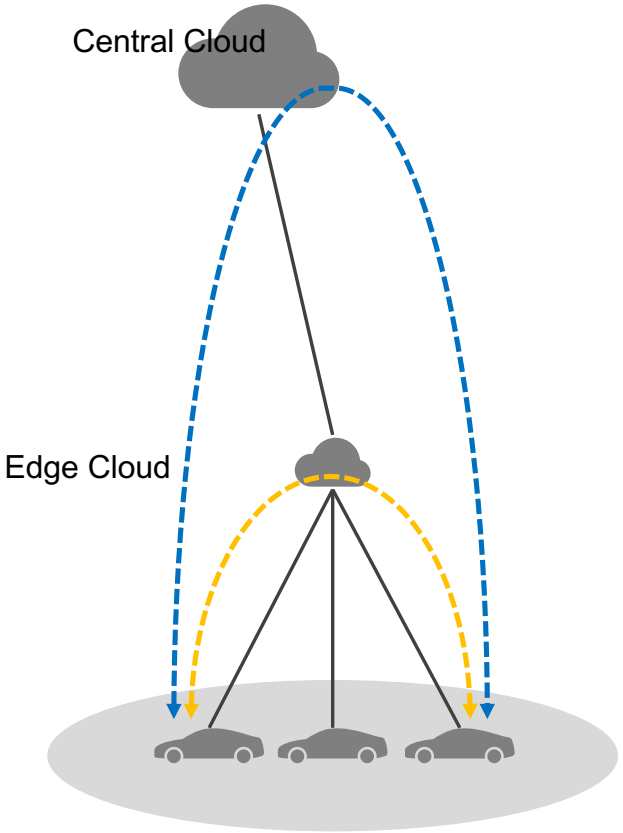
V2N2V Service Structure for LDM(Local Dynamic Map)



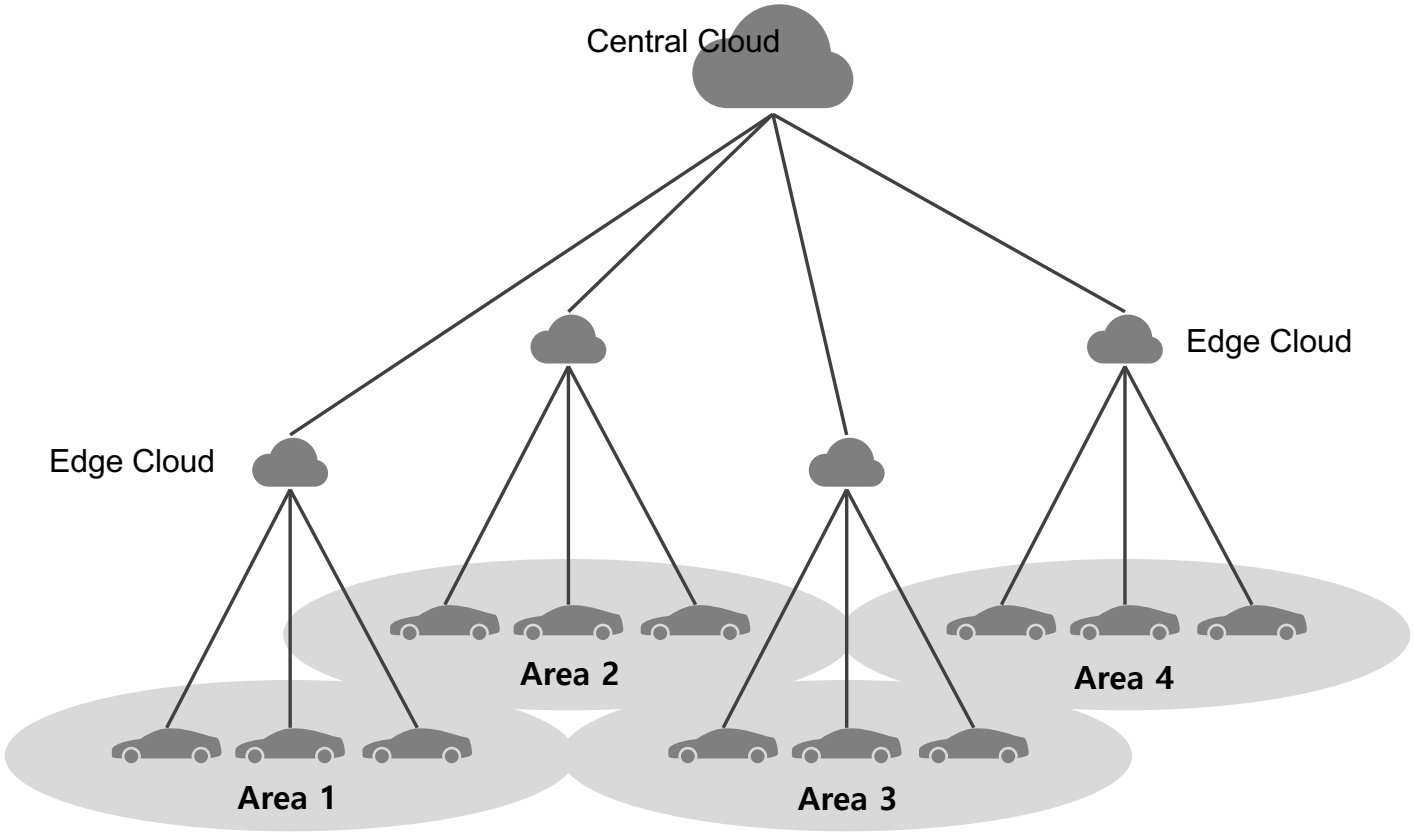
Local Dynamic Map



CAM & Edge Cloud



Edge Network



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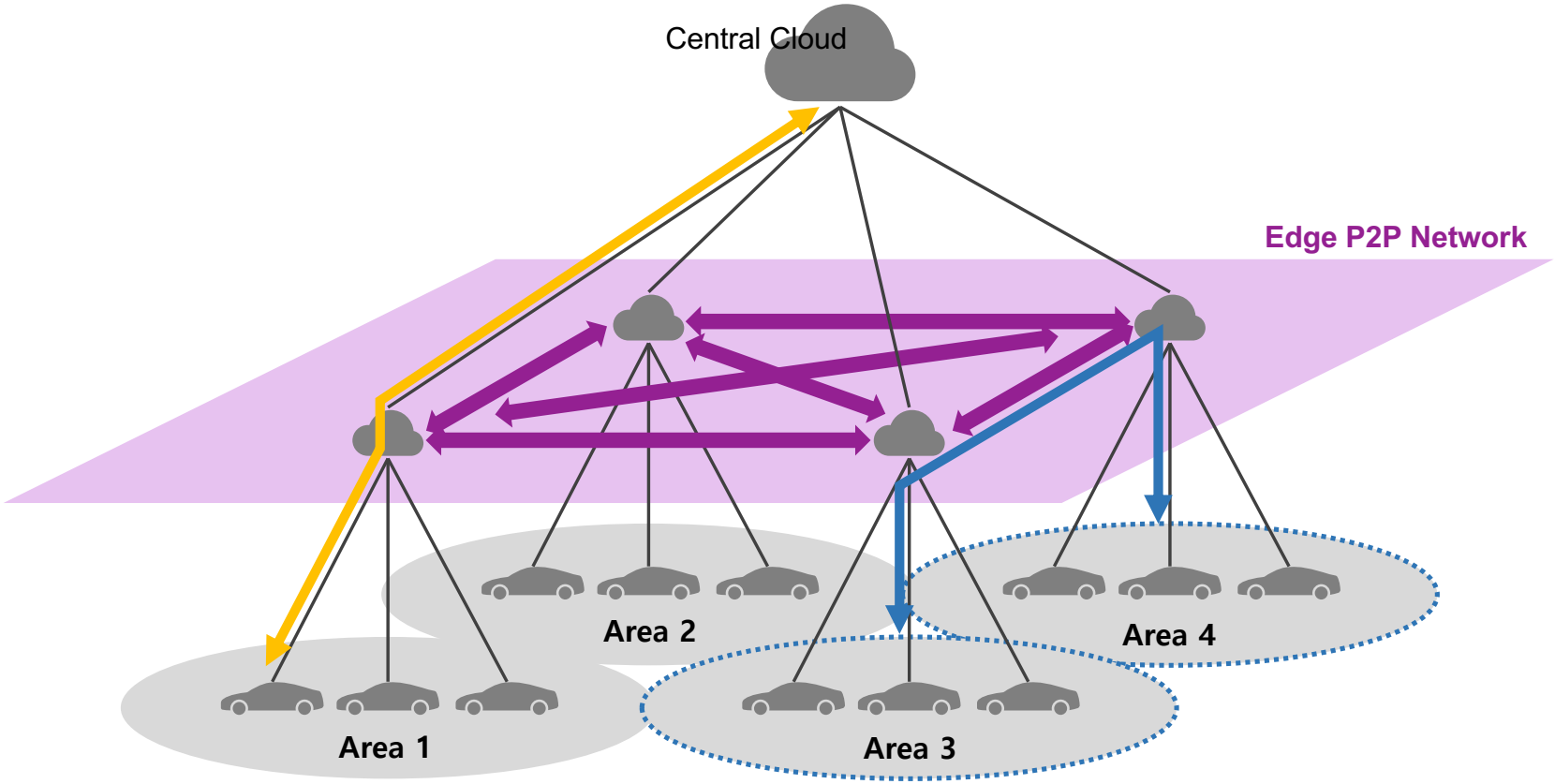
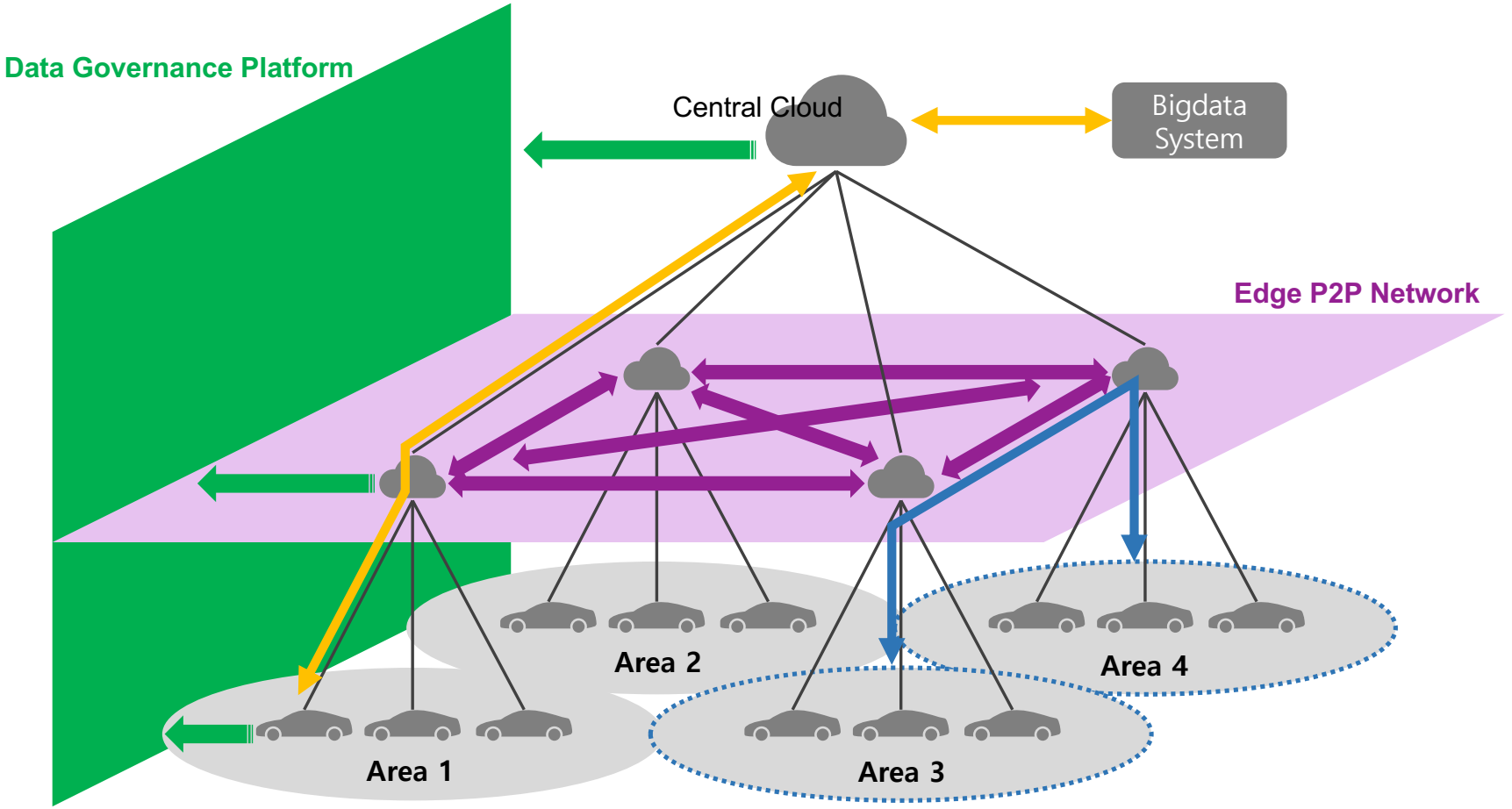
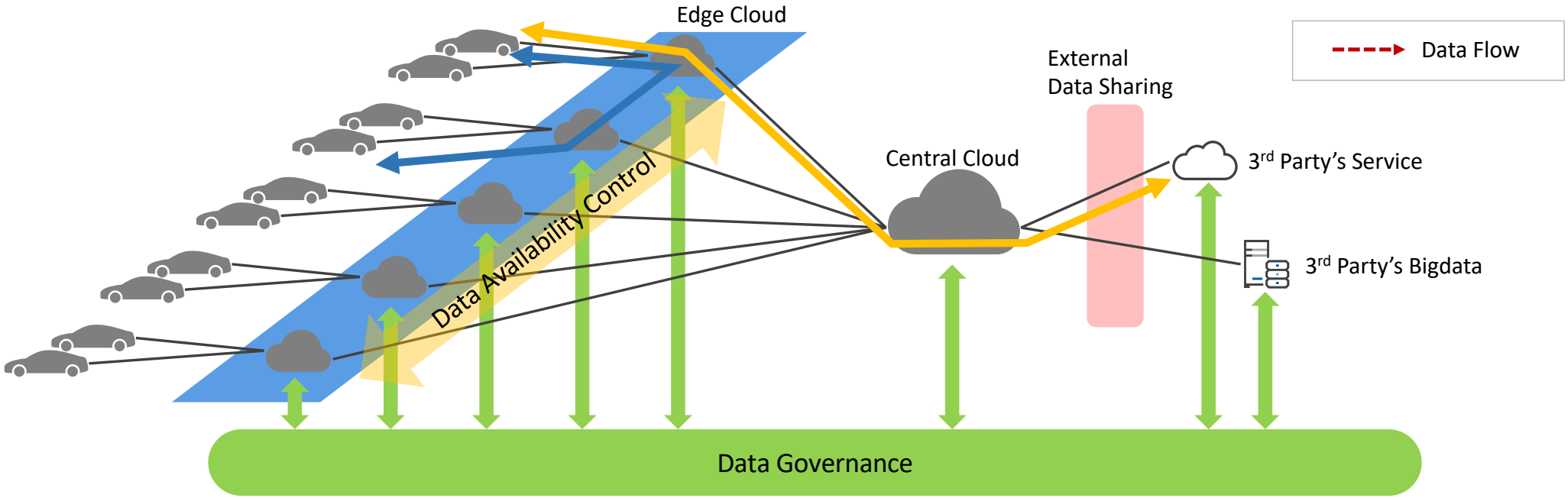


Edge Network with Data Governance Platform



Edge Network with Data Governance Platform



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