

**BEST**

**Development of NCMC Compliant Automatic Fare Collection (AFC)- PoC/Pilot at BEST**



## About BEST – Transport Statistics

Depots	27
Fleet ( Single deck, Midi, Double deck operated on CNG, Diesel and Electric)	3198
Daily Avg. effective kms.	4.4 Lakhs
Passengers/day	32 Lakhs
Earnings/day	Rs.1.80 crores
No. of routes (Ordinary, Limited, Express)	411
Bus Stations	57
Bus Chowkies/terminii	100

# Development of NCMC Compliant Automatic Fare Collection (AFC)

- Complete Make in India Initiative of MoUHA/BEL/NPCI/CDAC
  - Rupay Payment Scheme of NPCI
  - AFC by CDAC
  - ETIMs by BEL
- Funding of PoC/Pilot by MoUHA

# AFC software features

## Central System

- User Management
- Configuration Management
- Transaction Management
- Reconciliation

## Depot System

- Monitoring of device health
- ETIM Issuance
- Revenue Reconciliation
- Dashboards and MIS reports

## Mobile Application for QR ticketing

- Interface with existing Mobile App (if already existing)

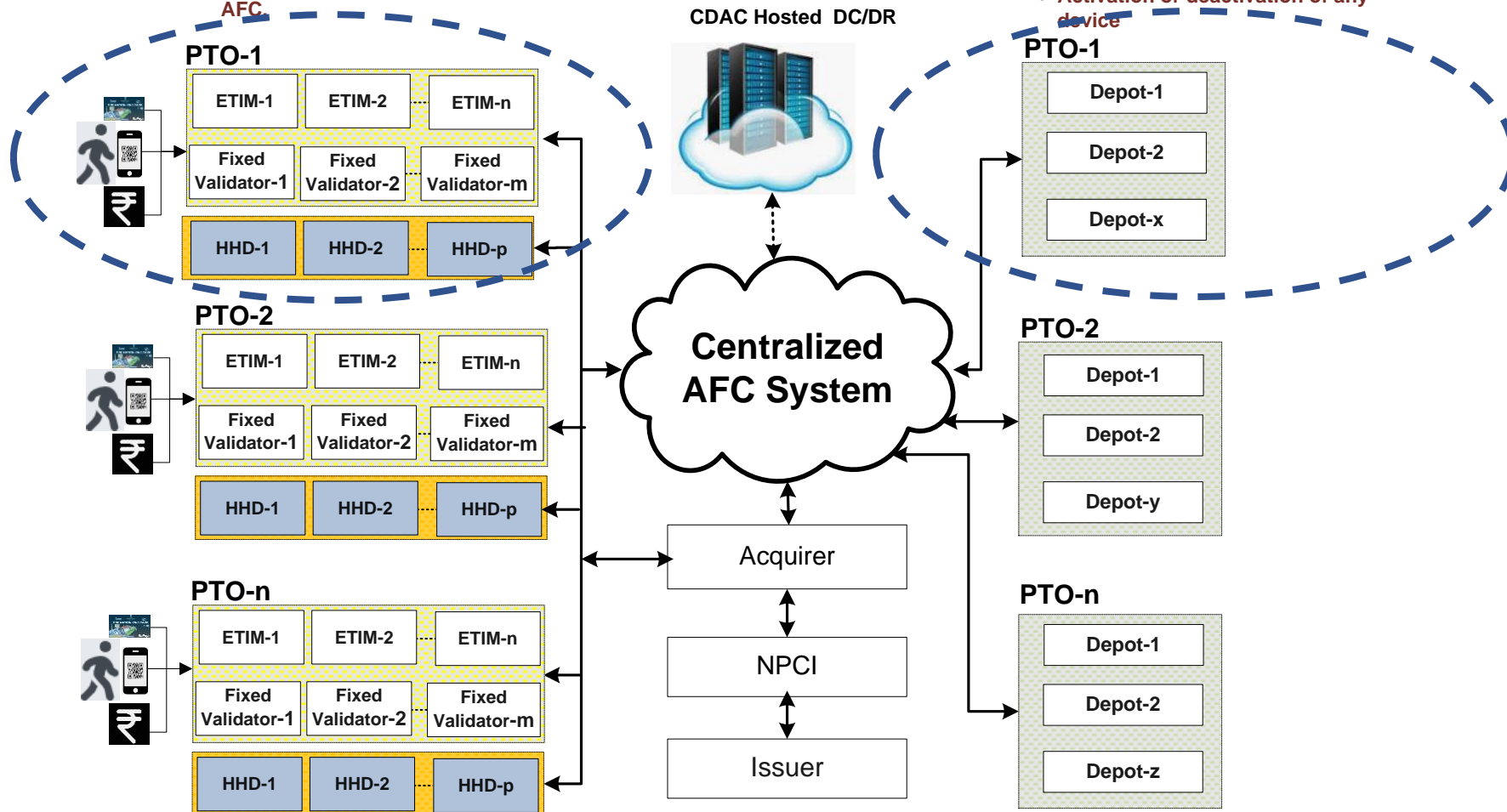
## Third party system Integration

- Vehicle Tracking System (VTS)
- Integrated Transit Management System (ITMS)

# Top Level Architecture – Centralized AFC System

- Data flow from each and every terminal (ETIM, HHD & Fixed Validator) installed in field
- Online configuration and other controls from centralized AFC to any terminal device
- Alarm/event messages from terminals to AFC

- Centralized dashboard
- Status of Depot wise buses and terminal machines
- Txn settlement report
- Reconciliation
- Activation or deactivation of any device





# Top Level Architecture of Centralized AFCS



## Central AFC System

The central system receives the transaction information from each Public Transport Operator and responds back on real time basis.

## Station Servers

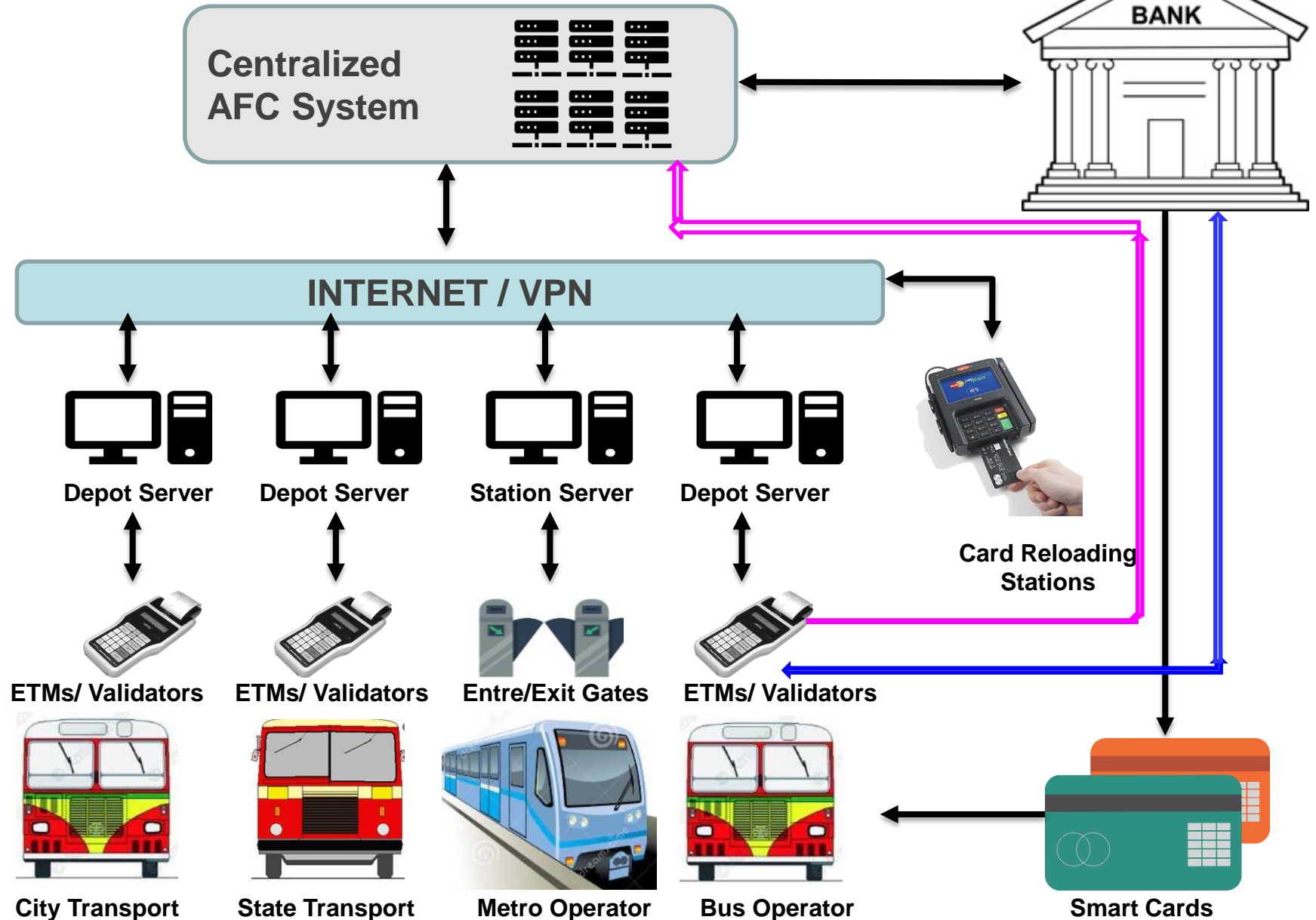
These are station level servers for data aggregation. Each tap information is sent to central servers for reconciliation purposes.

## Equipment

The payment interfaces are the field components that customers interact with when making journey for the use of their fare media.

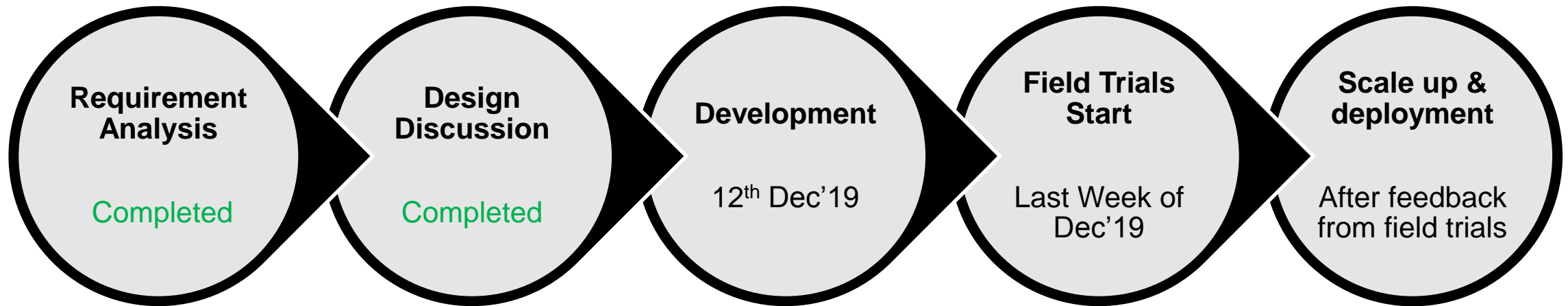
## Operators

Public Transport Operators integrated with AFCS system.



## Development and Proof of Concept deployment for an NCMC compliant Centralized AFC solution for Road Transport Operators

### NCMC Scope of Pilot at BEST Mumbai – 2 Depot, 20 Buses and 10 Routes



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- L1 certification by Dec First week (BEL)
  - L2 and L3 certification by Third week of Dec (CDAC) – 3 – 4 week after L1 Certification
  - Initial estimates for Go-Live are 3-6 months after field trials



Thank you !