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VDV Core Application
(VDV-KA),
the interoperable
standard for the
“(((eTicket Germany”

NFC as part of the VDV-KA





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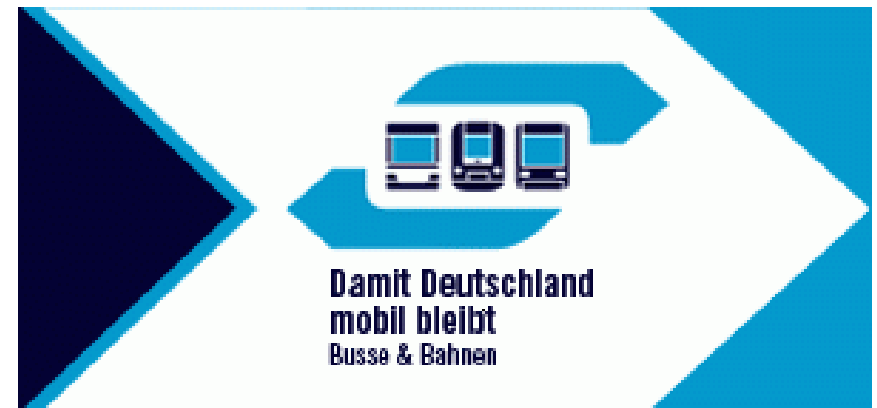
Internet: www.vdv-ka.org



VDV =

Association of Germany's Public transport undertakings and further transport companies and transport authorities.

- **VDV was founded in 1895**
 - 540 ordinary members
 - 53 extraordinary members
- **VDV-publications**
 - VDV-recommendations (~ 160)
 - VDV-reports (~ 175)
- **VDV national und international activities (e.g. UITP, UIC)**



Is structured into five divisions:

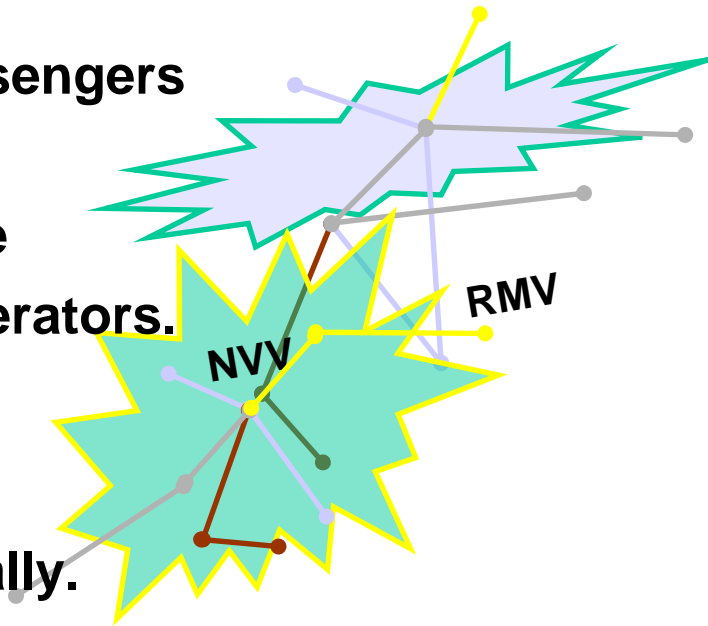
- **Passenger traffic with buses (BUS)**
- **Passenger traffic with tramways, light rail transit systems, metros or comparable transport systems (TRAM)**
- **Passenger traffic with railways (PTR)**
- **Rail freight traffic (RFT)**
- **Association and principal organisations (A/P)**



The VDV-Kernapplikations GmbH & Co. KG (VDV-KA KG) was founded by VDV and public transport undertakings and authorities as central body for the ((eTicket Germany.

Public Transport in Germany – Interoperability is the Basis

- More than $\frac{3}{4}$ of the 27 million daily passengers in public transport use one of the 50 “transport authorities”, they use one ticket intermodally between several operators.
- More than $\frac{3}{4}$ of all passengers use subscriber cards or monthly passes. But 24 million people use PT occasionally.
- The last closed (i.e. gated) systems were shut down in the 1960’s and the current “fraud rate” is generally between 2% and 4%.
- Germany is multi-central and the mobility in, and from other urban agglomerations is high.



VDV Core Application – the IDEA of the (((eTicket Germany



- One medium for the customer in different Ticketing Systems, in different PT companies
- An uniform customer interface for each kind of system/vending machine

VU=Verkehrsunternehmen

- The certainty that the „action learnt " is performed right, reduces entry barriers and increases customer comfort.
- Customers can use the (((eTicket Germany to buy tickets or to take part in the automated fare collection.



For that...

**Unbelievably simple -
simply unbelievable!**

The new  Ticket for whole Germany.



eBezahlen



eTicket



Check-in / Check-out



Automatische
Ticketerfassung



www.vdv-kernapplikation.de
www.eticket-deutschland.de



This may be ...



In future the customer can use public transport in Germany with the one application initialized for the (((eTicket Germany stored in a mobile carrier medium.



What do you have to do, to use the (((eTicket Germany?

To become customer and be customer in every KA-IFM-System!



- Sign a contract anonymously or personalised
- Get customer information



- Get a user medium with payment mode and travel right



- Agree on a KA-payment mode (STR, KA-Account)
- Load STR/Pay the bill
- Use the customer service
- Use the payment mode and travel right everywhere
 - to buy eTickets
 - to use automatic fare collection systems

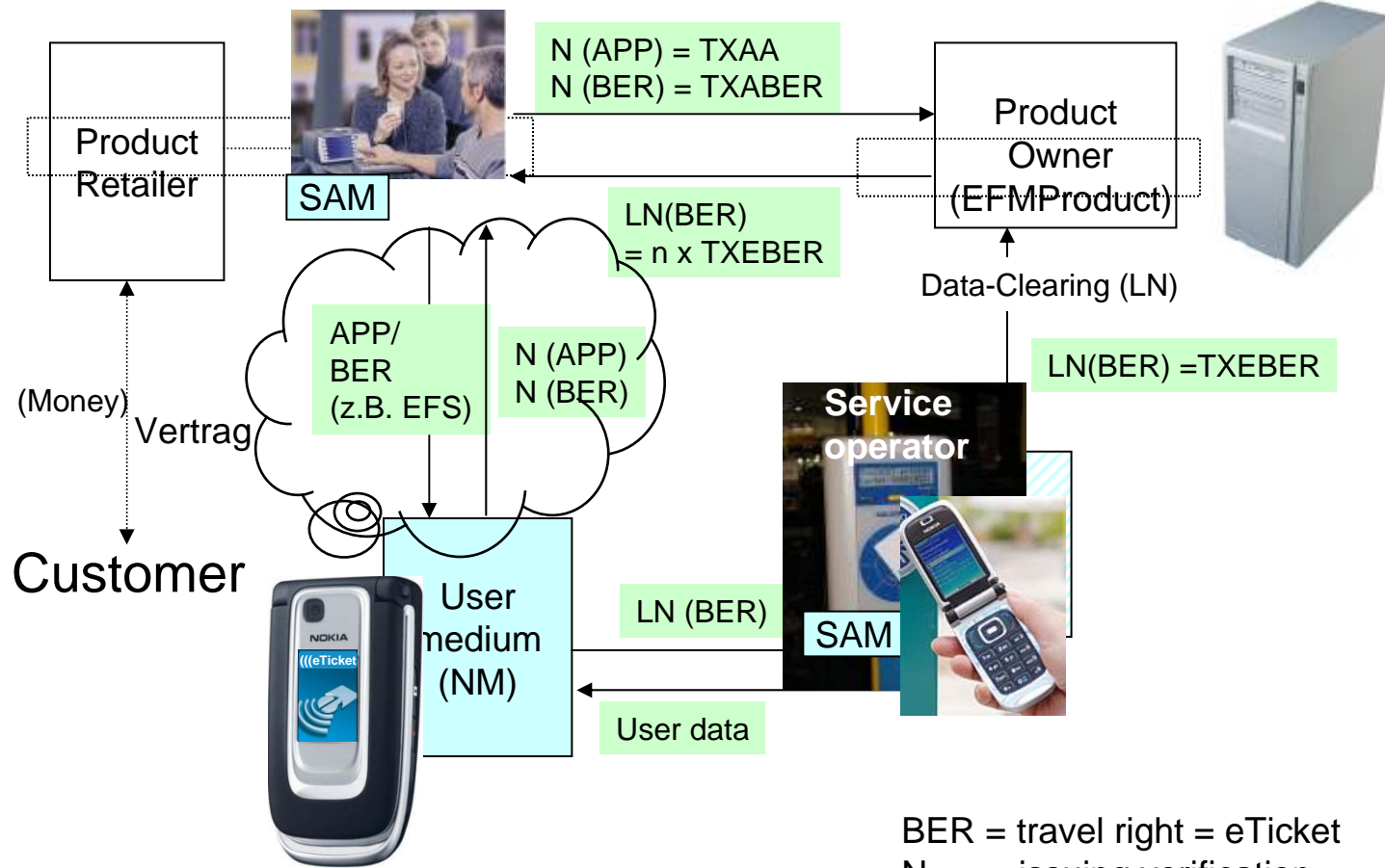


Interoperable Electronic Fare Management: Different Solutions – One Standard

The interoperable Standard VDV-Core Application for
(((eTicket Germany includes three variants,
which can exist in parallel over longer periods:



(((eTicket Germany already covers Specifications for Operation with NFCphones!



Secure element within the mobile!

BER = travel right = eTicket
 N = issuing verification
 LN = using verification



(((eTicket Germany on Mobile phones

- **The VDV Core Application can be used with mobile phones containing a secure chip and a standardized Near-Field-Communication-Interface.**
- **This allows to use the VDV Core Application payment modes, electronic tickets via mobile phone networks and to communicate with Check-in-/Check-out-Reader-Infrastructure and passive NFC-TAGs.**



Mobile Ticketing as one Mode of Interoperable electronic Fare Management:

- **Several PT-Operators and Authorities have implemented a common Mobile-Ticket-Pilot using Java-Technology.**
- **Java-Technology is secure, comfortable and applicable to all tariffs.**
- **If NFC phones are available: The mobile-ticket-server shall issue Core Application compliant Tickets, which can be read and inspected via NFC-Interface with Core Application Security.**



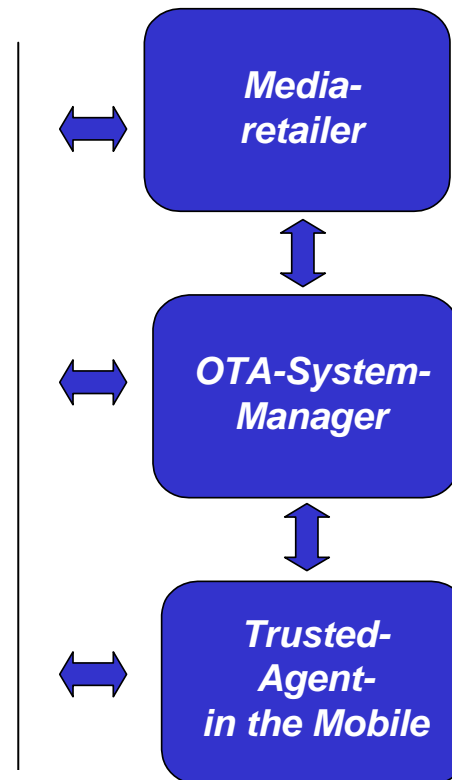
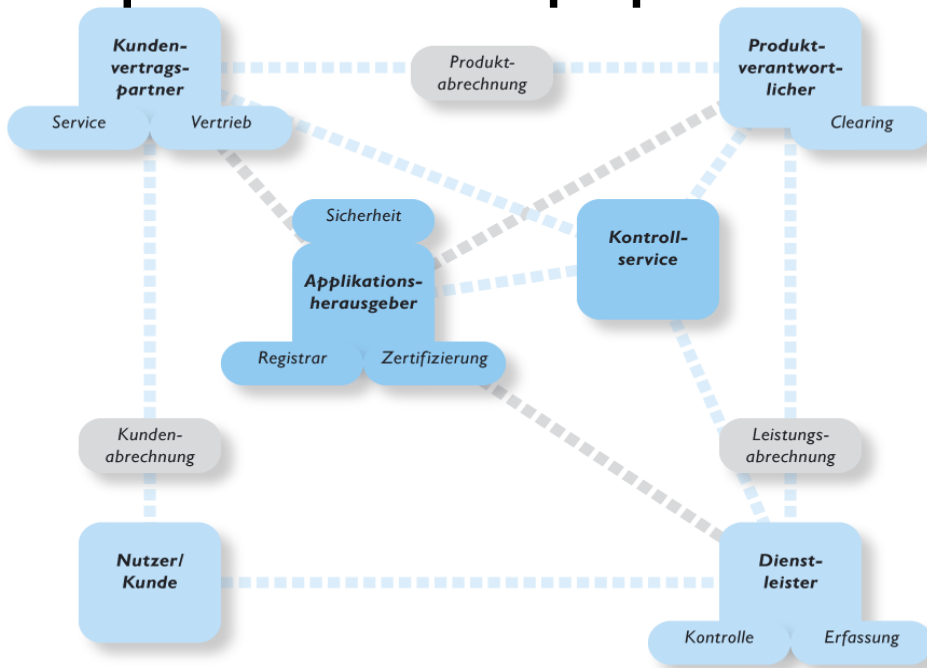
What remains to be done concerning the ((eTicket Germany in Terms of NFC phone?

- The use of NFC phones as KA-medium requires the possibility of a secure application download on the mobile phone, so that the specified security criteria of the VDV core application are guaranteed!
- The use of the NFC interface for communication with tag solutions in IFM systems according to KA-variant 2 or the creation of low-cost systems for automated fare collection (variant 3) to increase customer comfort has to be specified and to be included in the KA-standard.
- The integration in the KA-customer interface is required!



What remains to be done concerning the (((eTicket Germany in terms of NFCphone?

- Under the title "LuKA,, the requirement specification of air interfaces in a (((eTicket Germany compliant interoperable mobile ticketing with a passive Near Field Communication (NFC) infrastructure as well as its integration into the VDV KA reference systems and the crossover into the practical operation is to be prepared.



Status Quo VDV-KA Role Model (EN/ISO 24014 -1)



*Thanks for your
attention!*

