Overview

Switch system is mobile Cashier backend sale system for merchants, which provides the following base features:

- Management of Partners, Merchants, Users, Cashiers, Cash registers, mPOS Terminals and Merchant's Product catalogues
- Processing Sales with combined payment methods (*currently support for: Card, Cash and Gift card payments, but API is open to adding of new payment methods*)
- Card payments can be routed to the right Payment gateway based on rules configured for Merchant
- Merchant's ERP system integration (*Sale notifications, Products stock and Cashiers activity tracking). Currently cloud SAP (Business by Design) is supported*.
- Loyalty (Voucher) system services - providing GiftCards selling and GiftCard payment method for attracting customers.
- Sales history with the possibility to invoke actions (like Reversal, Refund, Receipt generation, etc.)
- Possibility to communicate with HSM module for data decryption and reencryption
- Terminals supported: Spire SPm2, Spire Posmate, bbpos Chipper, IDTECH UnimagPro, Miura (HSM is needed)

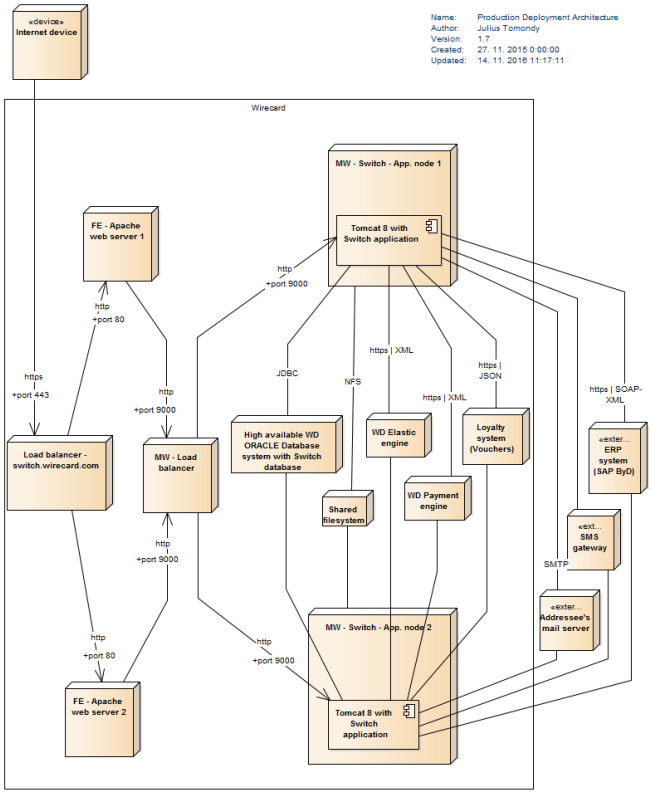
Other highlights/details:

- Related operations grouping: Cancelations and Returns are grouped with original Sale transaction
- Connection of Log (communication) records with Sale records for convenient troubleshooting
- Alert for failed Sales not automatically resolved (reversed) by Switch + manual Sale (Transaction) status change possibility with description Message left (for catching the way of “manual” resolution of failed Sale/Transaction)
- Repeatable partial Sale-Return with list of returned Sale items and custom message
- Merchant’s Sale/Payment transactions statistics displayed in tables and graphs
- Various Sale metadata storing like: shopID, cashRegisterID, cashierID, customerID
- Own HSM and Payment gateway internal simulators - it is possible to execute test payments (without connection to real instances of connected payment gateway, HSM)
- Features access driven by application user roles
- Swagger integration for observing and testing REST API

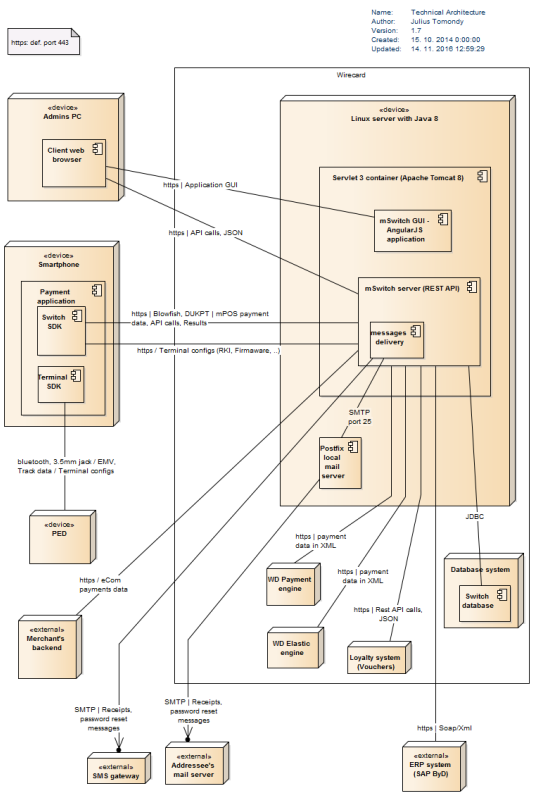
Modern, scalable technologies:

- Services accessible via REST API
- Able to work in load-balanced environment
- Test automation with Serenity and Robot test frameworks (test suites with 400+ tests)
- Java 8, Tomcat 8, Spring, Hibernate, Angular JS (for GUI), Databases supported: Oracle 11g, MySql 5.6.4+

Deployment schema:

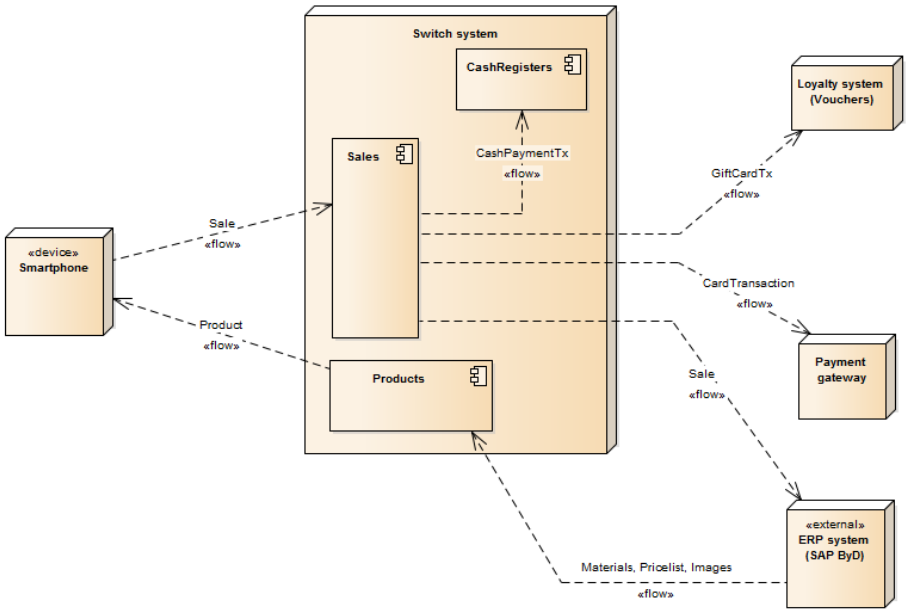


Technical architecture:



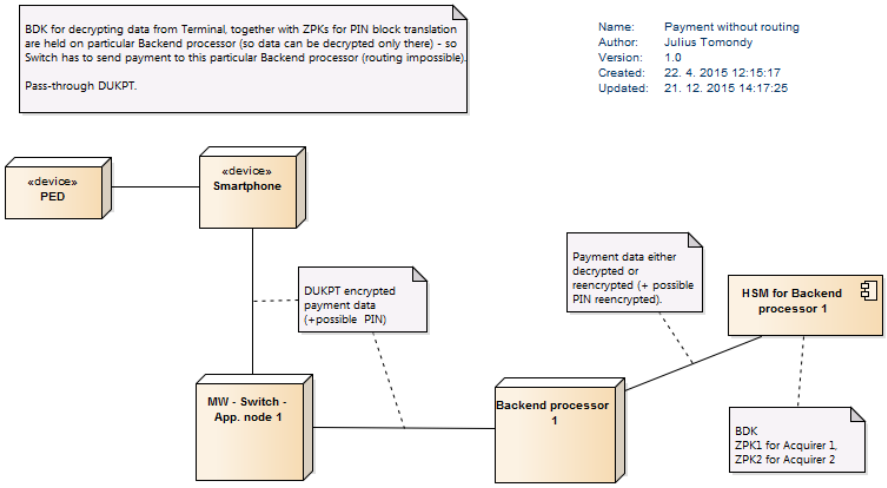
Logical - main data exchange:

Name: Logical - Main Data flow
Author: Julius Tomondy
Version: 1.7
Created: 14. 11. 2016 0:00:00
Updated: 14. 11. 2016 13:08:41



Terminal payments routing scenarios:

Payments without routing



Payment with routing scenario requires HSM accessible by Switch.