



Secure electronic IDs Made Simple

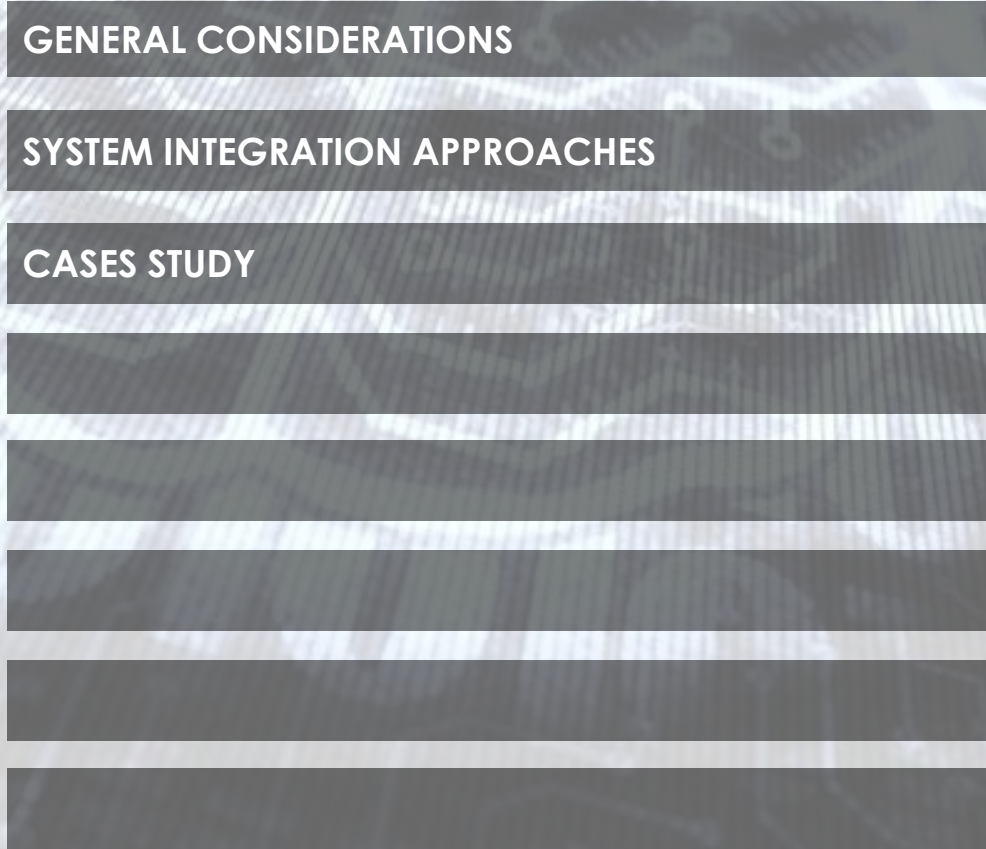
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1 GENERAL CONSIDERATIONS

2 SYSTEM INTEGRATION APPROACHES

3 CASES STUDY



General considerations

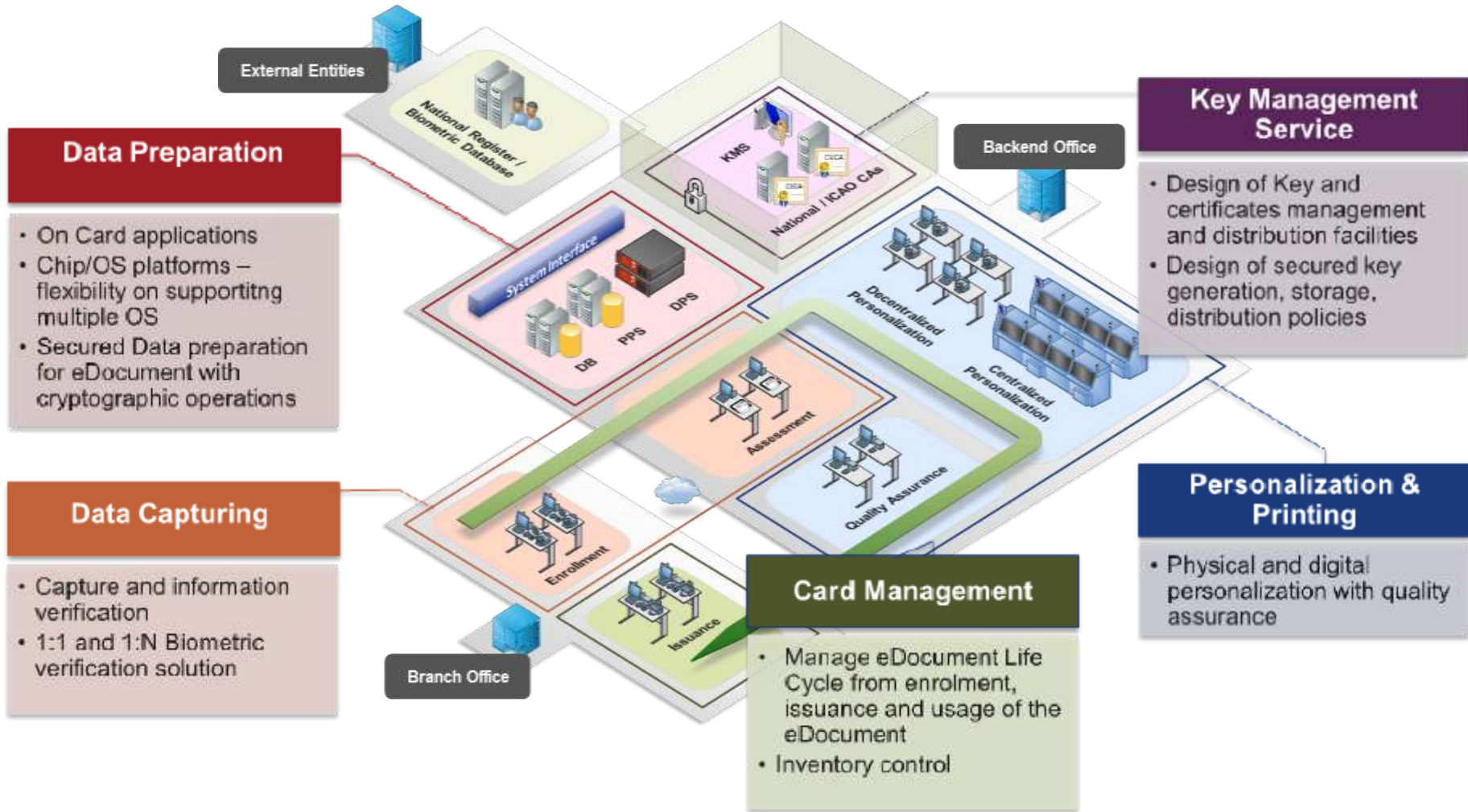
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➔ System integration definition

- “A systems integrator is company that specializes in bringing together **component subsystems into a whole** and ensuring that those subsystems function together, a practice known as system integration” – *Wikipedia*
- “Systems integrators have to be good at **matching customers’ needs** with existing products” – *Wikipedia*



eDocument Issuance Systems





➔ **Adaptability to Changes**

eID Market Considerations

- “Rolls Royce” products may not address customers’ needs
- Non-homogeneous technology adoption
- Budgets may force projects to be delivered in phases
- Documents complexity increase
- Standards evolve quickly
- Local companies can bring value
- Countries need control over their national security



➔ **Adaptability to Changes**

Agile system solutions and architectures

- Deep understanding of local skills, users' requirements
- Flexibility for technology evolution, replacements & upgrades
- Need to shield business services from technology complexity
- Scalable architecture for capacity expansion

➔ **Minimize** inter-dependency to **Maximize** adaptability

System integration approaches

2



➤ Proprietary & Product Approach

- **Product-oriented design** to address customers' needs
 - Products drive the solution design orientations
 - Agility within product family only
 - Upgrades dependency on product vendor
- **Point-to-point architecture** to integrate to existing operations
 - “Hard wired” fixed connection to
 - existing workflows
 - backend systems

➤ Proprietary & Product Approach

- **Consequences: limitations & inflexibility**
 - On system manageability, reliability, performance
 - On system security
 - On capacity expansion and future upgrades possibilities
- **Consequences: cost & timing**
 - Huge replacement & evolution impacts
 - Evolutions → system re-write
- **Typical company profiles**
 - Companies with little domain knowledge
 - Product vendors
 - Locked-in approach SI



➤ Holistic & Agile Approach

- **Holistic solution with end-to-end view**
 - Service Oriented Architecture (SOA) → Plug-and-Play
 - **Easy** application / technology replacement
 - **Easy** upgrades of individual modules
 - **Best-of-breed** technologies deployment
 - Scalable infrastructure ensuring
 - End-to-end system security
 - Manageability, performance and reliability
- **Open system architecture** to merge with existing operations
 - Seamless integration with
 - Existing workflows
 - Backend systems



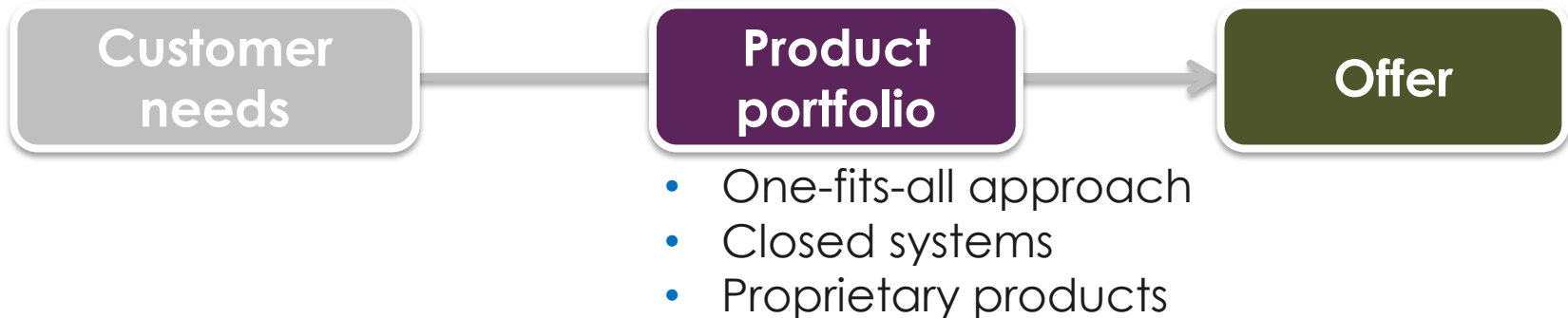
➤ Holistic & Agile Approach

- **Benefits:** agility across the full system
 - Faster, more reliable and evolutive solution
 - “Technology agnostic” system
 - Minimized impacts on current operations & infrastructure
 - Increased end-users confidence and satisfaction

- **Key success factors are**
 - System Integrator’s experience
 - Will to adopt an open approach
 - Ability to understand & match local needs with
 - Available technologies, internal or external
 - Best-Fit selection of technologies



Many product-oriented vendors



Very few systems integrators



Some concrete cases

3



➤ Indonesia

2.5 months

- **Initial:** Issuance of MRP
Existing Captured Data, Data Processing and Personalization Solution
- **Delivered:** Migration from MRP to eMRP (BAC/EAC)
 - Services-oriented Data Preparation Module
 - Scalable back-end environment for KMS
w/ key generation, storage, distribution & document signing
 - Integration of secure chip encoding
to existing personalization processes
 - Seamless deployment in existing environment
with production training & ramp-up monitoring



➔ Kazakhstan

- **Initial:** eID PC cards procured from Europe
- **Phase 1:** new factory built from the ground up
 - Unchanged final eID card (*Polycarbonate, Dual-Interface*)
 - Additional card making capabilities (*Bank, GSM*)
 - Machine selection & installation
 - Materials selection & process development
 - Production instructions writing, training
 - Ramp-up



➔ Kazakhstan

- **Phase 2: Chips & Operating Systems (COS)**
 - Newer & faster OS for both eID and e-Passport
 - Newer chips for both eID and e-Passport
 - GOST local ePKI & certification of eID card COS
 - Upgraded existing personalization system
 - Minimum operational impacts*
 - Multiple COS support, from Arjowiggins and 3rd party*
 - Minimum training to existing staffs in Kazakhstan
 - eID cards Chip & COS ready for future usage (eGov, health)
 - Country-owned Chip Operating System for eID cards



Thank you

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