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Core Banking Systems 2030: Integration & Efficiency

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2021 – Chief Architect

2016 – 2021 Head Architecture

2004 – 2015 Developer, architect, lead BTFG Australia

Prior work and education

2000 – 2003 Startups in St. Louis and New York

1995 – 2000 PhD in Computer Science, Åbo Akademi University

1990 – 1995 MSc in Informatics, ETHZ and EPFL

Middle-tier and backend background

- Certified ISAQB, Java, and Google Cloud architect

- Oracle Magazine's PL/SQL Developer of the year

- AI patent holder

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Requirements of bank clients

Still payment, credit, and investment – better personalized, presented, and integrated

Functionality

- Invisible everyday banking

- Journey integration in complex financing (e.g. home mortgage)

- Trading & wealth
  - Perfect personalization in wealth & protection
  - Crypto?

- Extreme efficiency in wholesale intermediation

Customer experience

- Rising customer expectation on CX/UX/UI

- Extreme impatience: Anytime and anywhere with real-time processing

- Transparent (ideally 360°, across banks and platforms)

- Low cost

- Security and privacy

Implications for bank IT

Focus on UX journeys rather than core renewal

General

- Engage clients and provide user journeys

- Cost efficient: erosion of margins, must standardize to improve cost-income ratio

- Security

Core Banking Systems as enablers

- APIs for integration

- Data for analytics

- 24x7 availability of select functionality

- System performance

- "Support" for DEFI and tokenized assets

Improved CX for demanding clients enabled by non-functional improvements in core banking system

Requirements of banks

Satisfy clients' needs and …

Improve profitability

- Productivity of advisors
- Value-added chargeable services (e.g. advice)
- Self service
- Operational cost & risk

Capitalize on opportunities

- Aggregation across banks and other providers?
- Bancassurance ("Allfinanz")? Health?
- Platform for EAMs, marketplaces?

Mitigate risk

- Disruption by GAFA, neobanks, and fintechs
- Decentralized finance (DEFI)

Implications for bank IT

In addition to needs derived from bank clients' requirements

General

- Compliance
- Organizational and technical scalability
- Collaboration with peers and vendors on non-differentiating/non-competing (e.g. regulatory), external sourcing
- Time to market for products, partnerships, and integrations
- Modular solutions

Improved profitability and risk mitigation of banks enabled by non-functional improvements in core banking system

Beyond the single integrated CBS: Composable enterprise based on packaged business capabilities

Modularization

Why?

- Technical and organizational scalability, local optimizations, sourcing options
- Mitigate risk of upgrades and data dissemination

What?

- Functionality, processes, **data**, customization, design vs. runtime

How?

Property	Best of breed	Vendor/ecosystem pre-integrated
Functionality and flexibility	High ✓	Depends on vendor ?
Cost and risk	High ✗	Low – medium ✓
Consistency	Low ✗	Medium - high ✓

Forrester observation & recommendation

Ecosystems

Status

- No API standards beyond simple payments. No wide adoption of OpenWealth; nothing for credit.
- CH banks and CBS vendors too small to set standards individually?

Options for banks

1. Individual integrations only (e.g. instant payment, crypto): risk of falling behind on clients' requirements
2. Bank's own ecosystem: too small to be attractive for third-parties
3. CBS or other vendor's ecosystem: Still too small? Lock-in? Customized object-model or "generic" abstraction?
4. Industry/country standard: For which domains/applications is the realistic functional scope (object model) and timeline sufficient?

Evolution of banks' IT landscapes until 2030:
On Avaloq/Finnova plus vendor and ecosystem solutions around
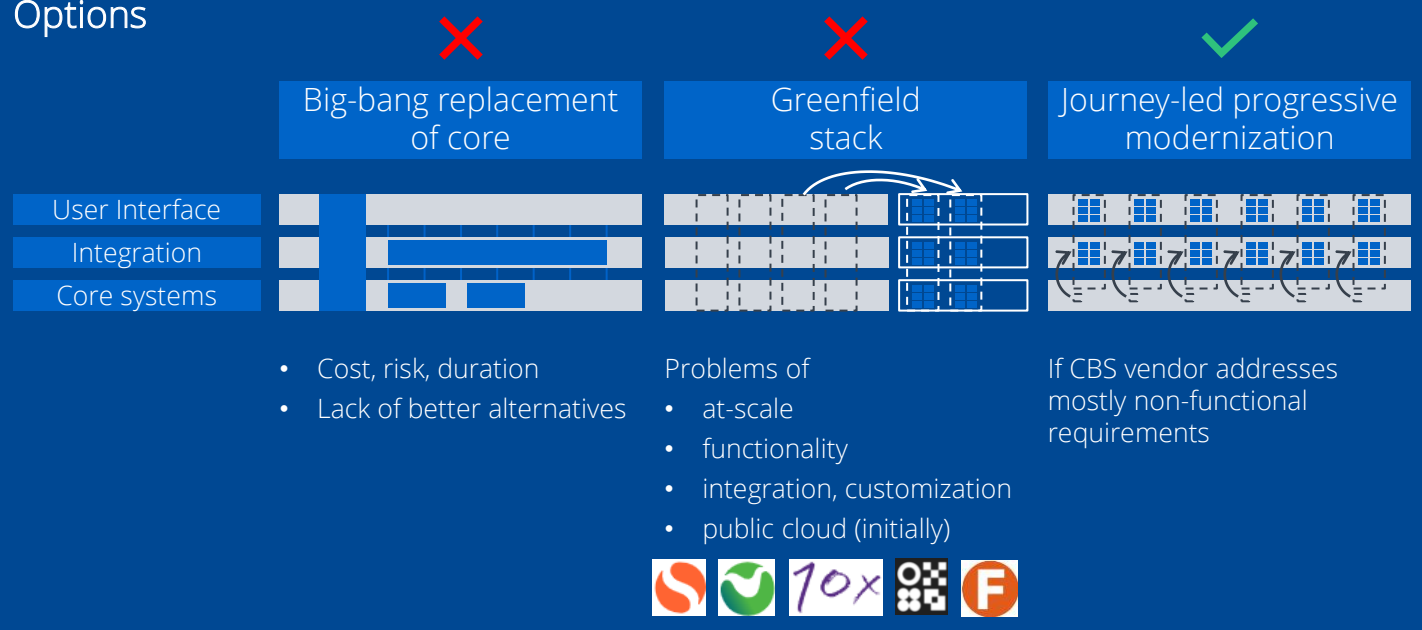
Journey-led progressive modernization

Going in

- Current systems OK: integrated, high STP rate, frequently updated, customized to requirements
- Banks have limited budget and capacity and different priorities

Required skills

- Architecture: tame complexity and cost management
- Staff able and willing to maintain customization vs. business willing to accept standardization
- Technical: integration and platform engineers
- Cyber security
- Vendor management

Options

	Big-bang replacement of core ✖	Greenfield stack ✖	Journey-led progressive modernization ✔
User Interface			
Integration			
Core systems			

- Cost, risk, duration
- Lack of better alternatives

Problems of
- at-scale
- functionality
- integration, customization
- public cloud (initially)

If CBS vendor addresses mostly non-functional requirements

Sourcing

- Most on (path to) public cloud (must for analytics, ML)
- Most new services as SaaS, slow migration of existing capabilities to SaaS

Client requirements
for the evolution of CBS

Maintain

- Maintain current strengths (reliability, consistency, STP, etc.)

Improve

- Seamless integration through API
  - Comprehensive functional coverage out of the box
  - Guaranteed fast response times (e.g. instant payment)
  - Close to 24x7 availability for select functionality (e.g. for glasses)
- Streaming of data for analytics and ML
- Flexibility and shorter time to market
- TCO: run, develop, upgrade
- Additionally for new clients: cost, duration, and risk of implementation project (➔ mostly standardized SaaS)

Addressed
by CBS vendors

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Approach

- Correct focus defined together with clients
- People and the culture for them to thrive

Constant gentle modernization

- Stay up-to-date to avoid need for future big bang
- Minimize de-releases and breaking changes

Modularization

- Allow for focused solutions (e.g. instant payment 24x7 at low latency instead of complete core 24x7)
- Simplify organizational scalability and replacements

CBS vendors: Customer obsession

- Satisfy needs of clients and their clients

- Be open and collaborate with all players

- Standardization

- Provide alternative that avoids pitfalls of best of breed

- Think ahead

- Consider self-disruption?

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Summary

Predictions 2030 for core banking systems in Switzerland

1. Current integrated CBS will still exist with full current functionality (including non-core in Avaloq and Finnova cores). Many existing clients will still rely on large parts of this functionality.

2. Banks focus on value-added service around core for customer experience and profitability.

3. CBS must improve on non-functionals: integration (API, streaming data), high availability, and low cost as well as maintain current strengths (e.g. reliability, security).

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"We always overestimate the change that will occur in the next two years and underestimate the change that will occur in the next ten."
Bill Gates

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