



Enterprise SOA – Erfahrungen und Herausforderungen bei Credit Suisse

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Dr. Georg Hüttenegger, Credit Suisse AG

Enterprise Integration Architecture

georg.huettenegger@credit-suisse.com

The Challenge of Enterprise IT Systems



Simple IT View: Business Need @ Credit Suisse

Number 1: Agility and Integration

As-is



Target



Number 2: Control/Reduce Running Costs



Unmitigated
Run the Bank
Costs

Steady
Run the Bank
Costs

Agenda

- Credit Suisse: Short Introduction
- SOA @ Credit Suisse
- Learnings & Challenges
- Conclusion

Credit Suisse Group today – key facts

- **Global bank** headquartered in Zurich, serving clients in private banking, investment banking and asset management.
- **Registered shares** of Credit Suisse Group AG (CSGN) are listed in Switzerland (SIX) and as American Depositary Shares (CS) in New York (NYSE).
- Total number of **employees**: 50,500.
- The Group's **long-term ratings** are: Moody's Aa2, Standard & Poor's A, Fitch Ratings AA-.

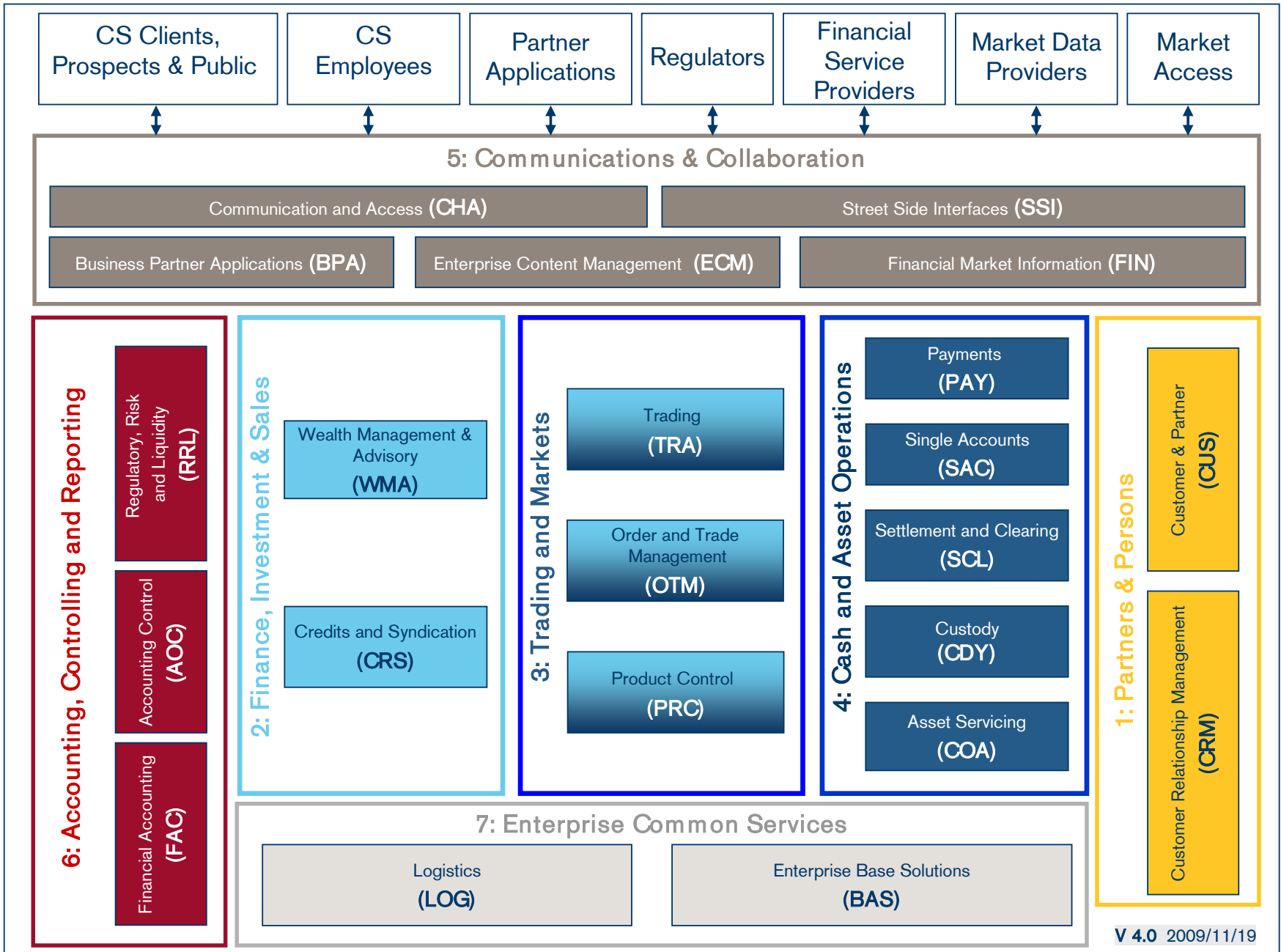


Numbers: CS IT in Switzerland as of 10/2009

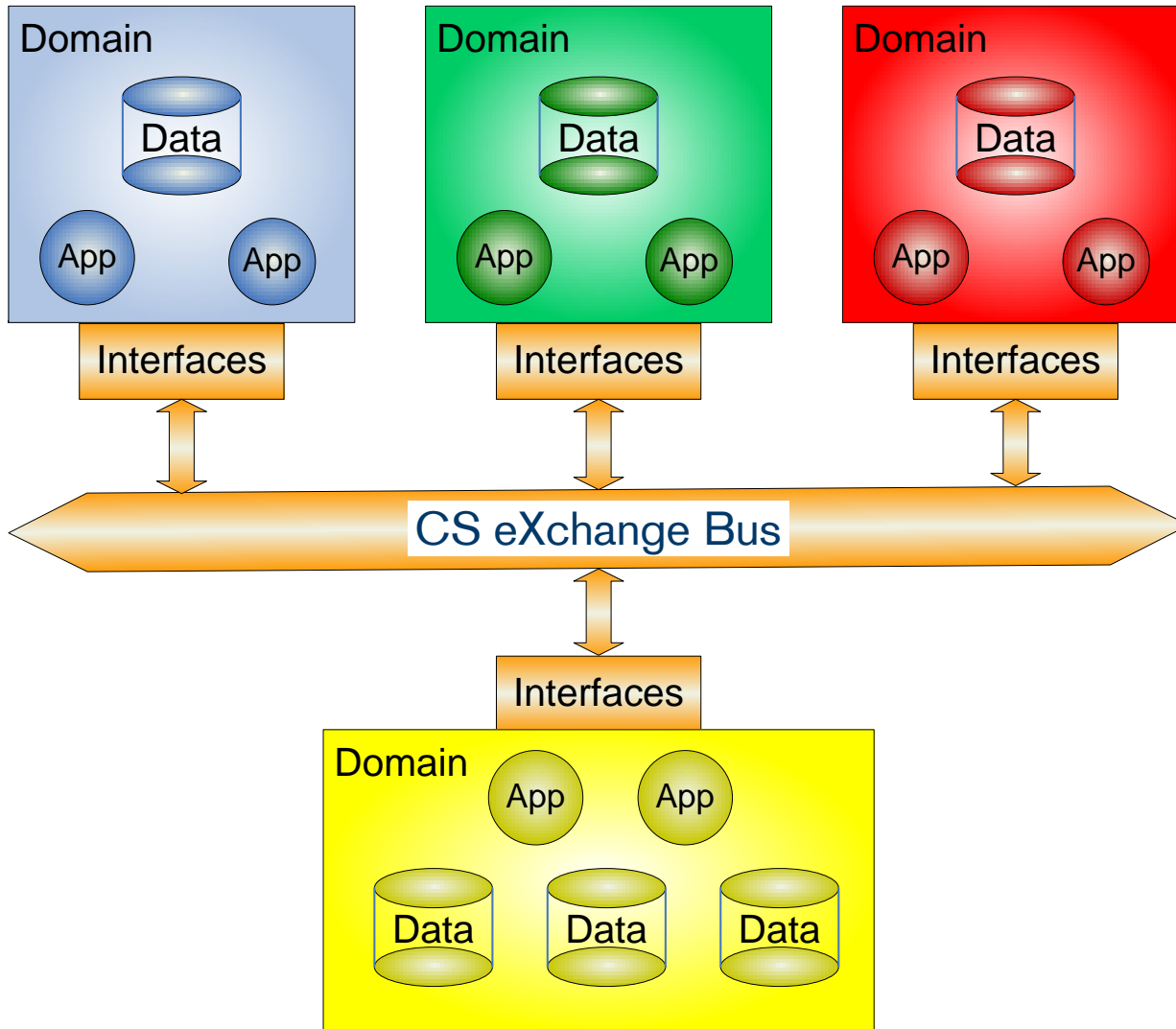
- ~250 million payments/year
- ~190 million pages A4 output/year
- 40 million lines of source code in 800 applications
- 26 million IMS transactions/peak day
- > 150 project running in parallel



Application Domains as logical components



Public Interfaces Couple Domains as Components



Designing for/Managing Service Reuse

Services have to be designed for reuse

- They allow access to an area beyond the direct responsibility of the service consumer

Services couple applications together

- Consumers depend on the services you provide
- When you change a service many applications can be influenced
- Modification of reused code is particularly error-prone

Services need governance & versioning

- Re-usable services and their reuse result from strong governance
- Services & their data types need to be versioned



**Designing for reuse is difficult.
We have to get it right the first time.**

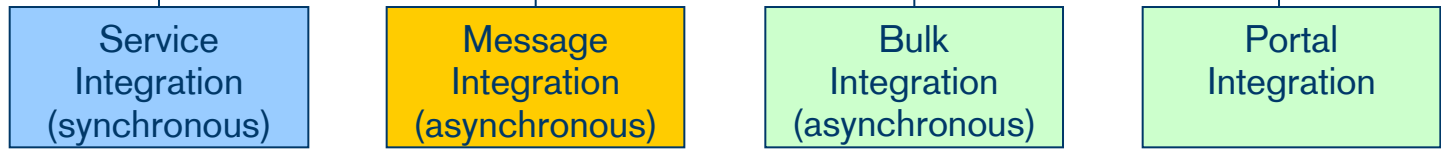
Technical Perspective of CS X Bus

IFMS

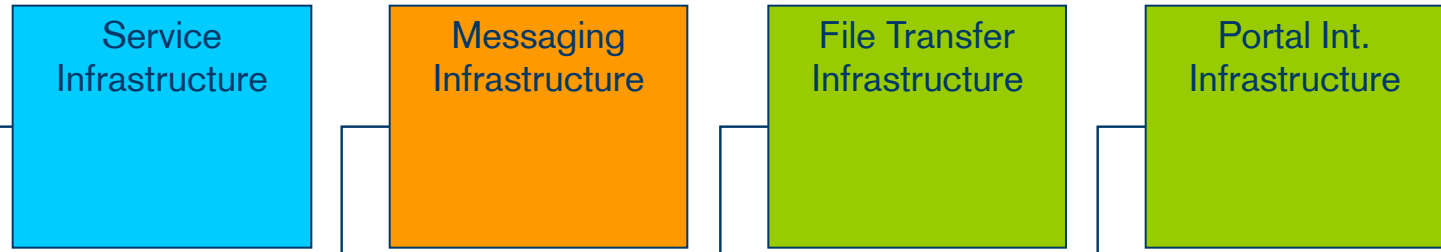
CS X Bus

Provider

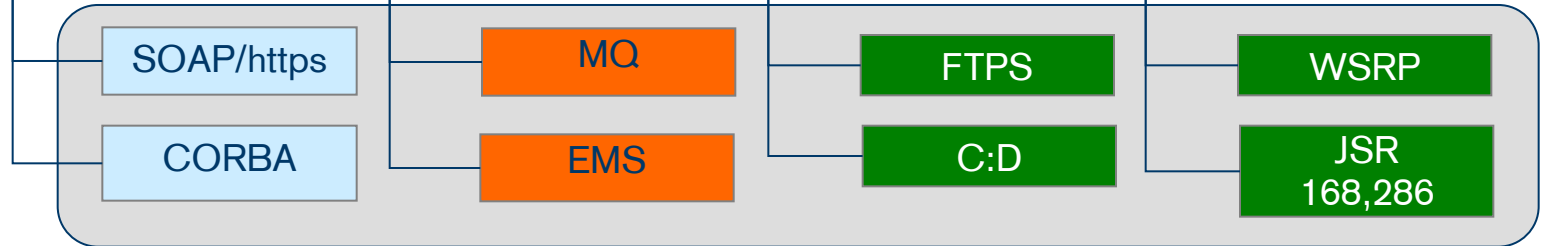
Integration type



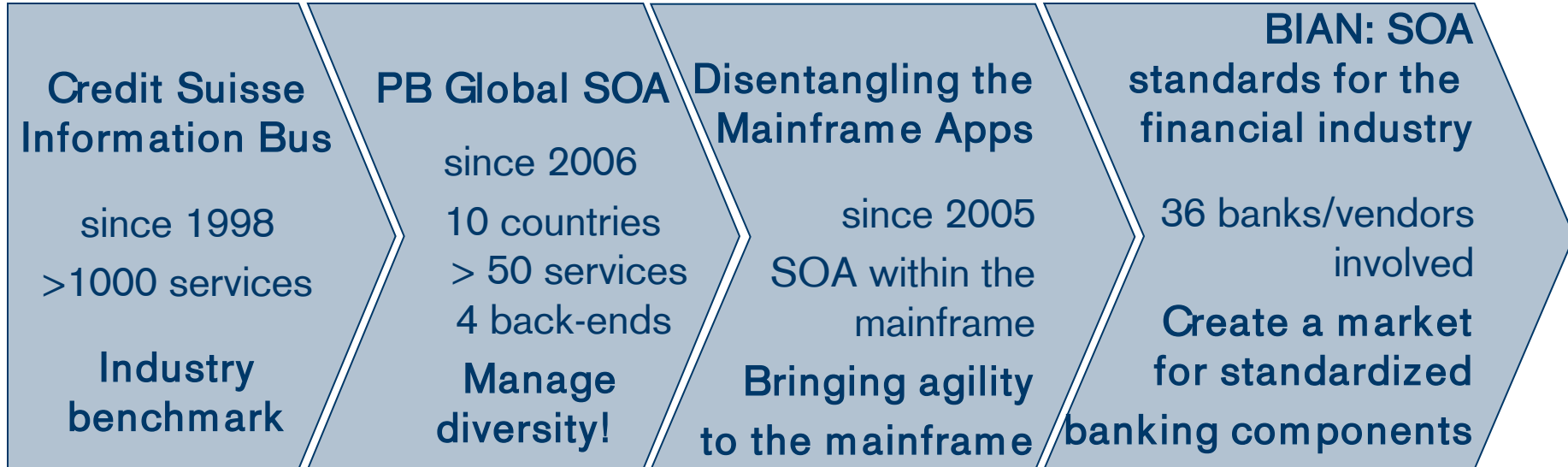
Infrastructure class



Integration technology



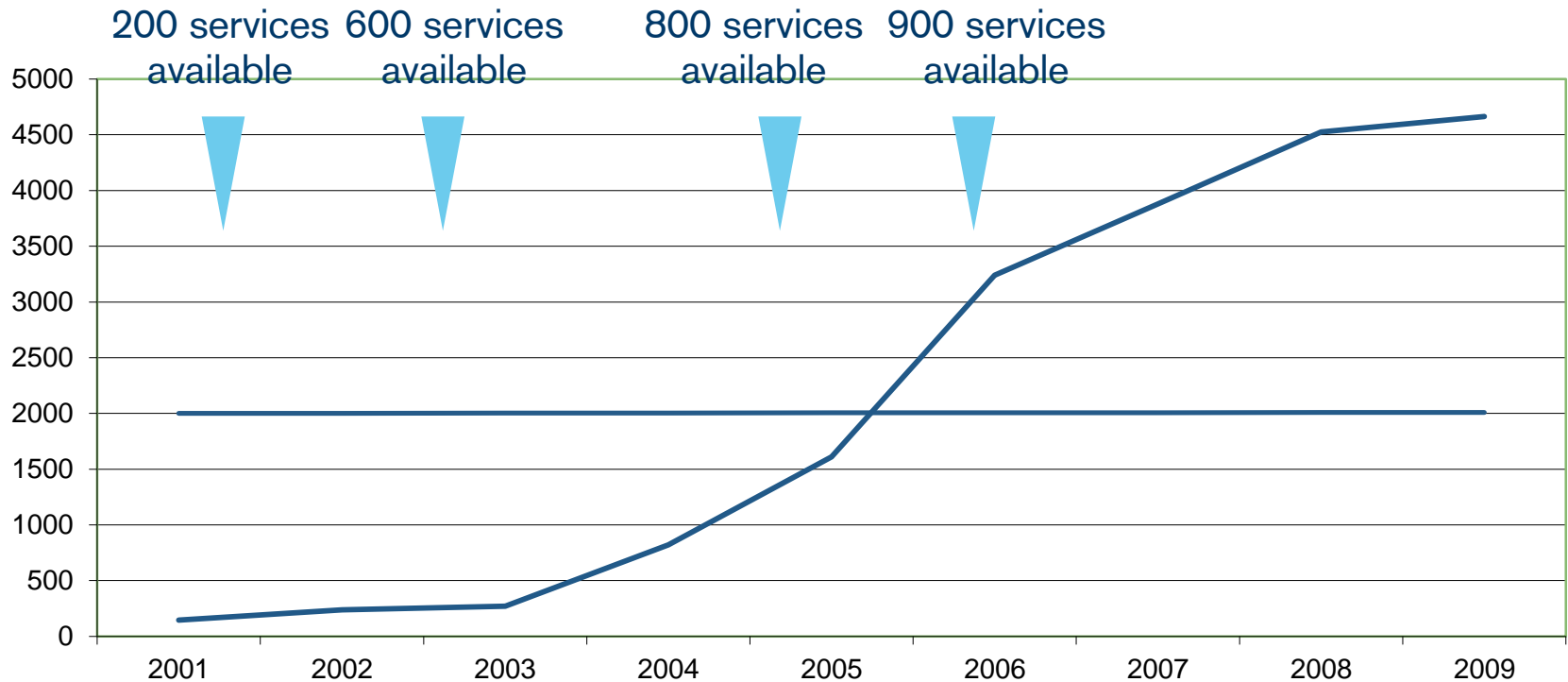
Credit Suisse does SOA since 1998



"Credit Suisse succeeded in building a highly business-critical integration infrastructure. The company is fully experiencing the benefits of SOA and the componentization of core business applications. However, to reach that desired state, Credit Suisse went through a lengthy and expensive endeavor that only leading-edge, technically sophisticated enterprises will be able to tackle."

Gartner Group

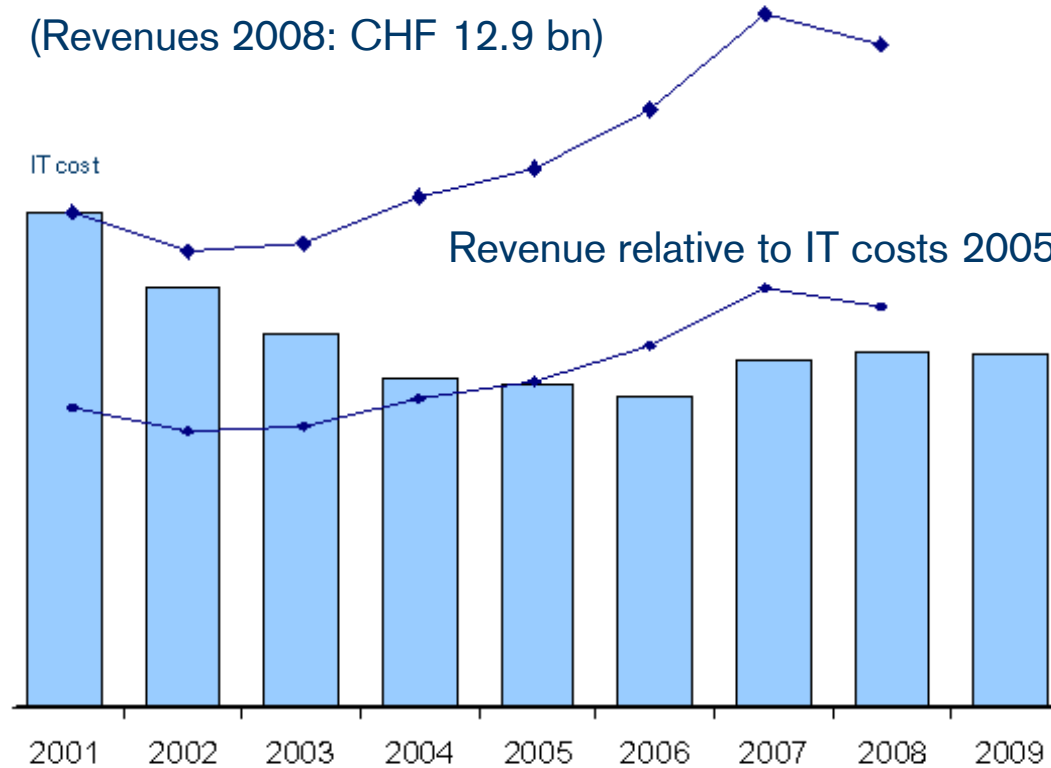
Measure Progress: Use of Services Follows Availability



- Wide use of services follows a critical mass of available services
- Today ~20 Mio. service calls a day
- Fully decoupled platform some years ahead
- Channels domain almost completely decoupled from remainder of platform

Does IT Architecture Generate Value?

Revenue relative to IT costs 2001
(Revenues 2008: CHF 12.9 bn)



- Cost reductions >33%
- Maintenance vs. project costs stable
- A lot of new functionality (CRM, Internet Banking)
- Much more business volume
- Substantially improved stability
- Since 2007 growth strategy

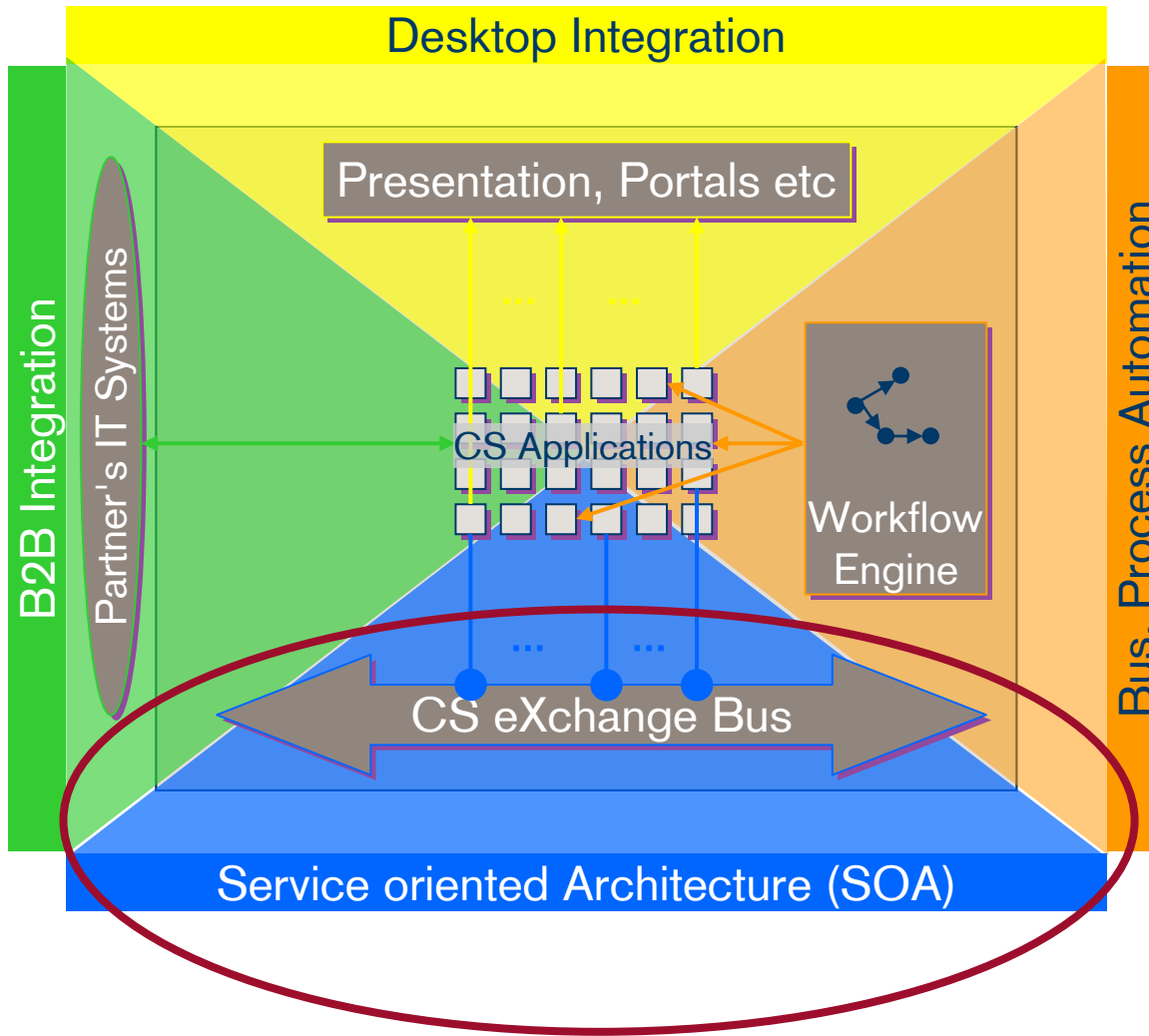
Technology replacement (Smalltalk, SNA)

Application platforms (Java, DWH)

SOA, Interface management

Formal architecture management

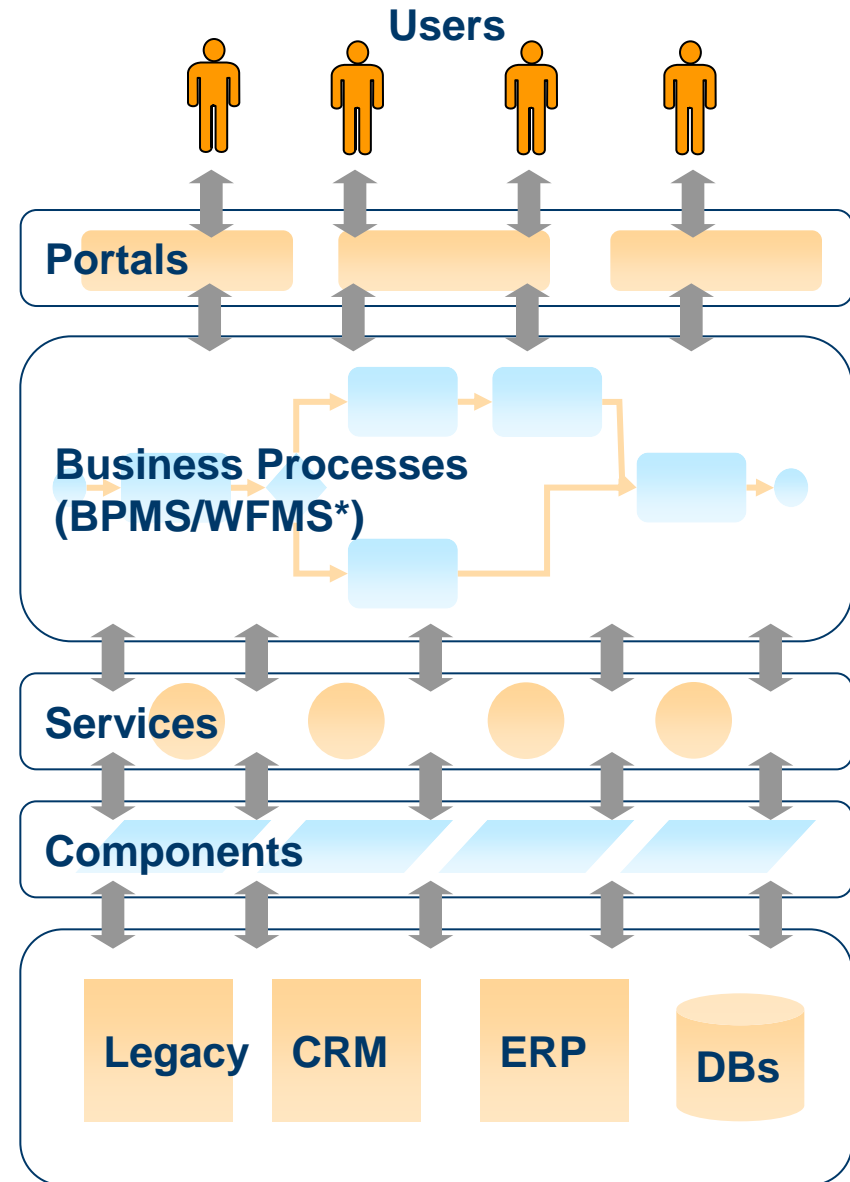
Integration Does Not Stop at Individual Services



- Service Oriented Architecture (SOA)
 - Integrate applications with the CS eXchange Bus
 - Managed Interfaces
- Desktop Integration
 - Integrate the user interfaces of applications
 - Create a coherent user experience
- Business process automation
 - Automate business processes through workflow technology
- B2B Integration
 - Integrate with IT systems of partners

Enterprise BPM Requires SOA

- Business processes can be automated on different levels:
 - within one application
 - within one domain
 - across the enterprise
- BPM across the enterprise requires SOA to decompose the application landscape into components that offer their functionality through services
- Larger scale of reuse can be achieved by exposing reusable parts of business processes as services



Key Success Factors

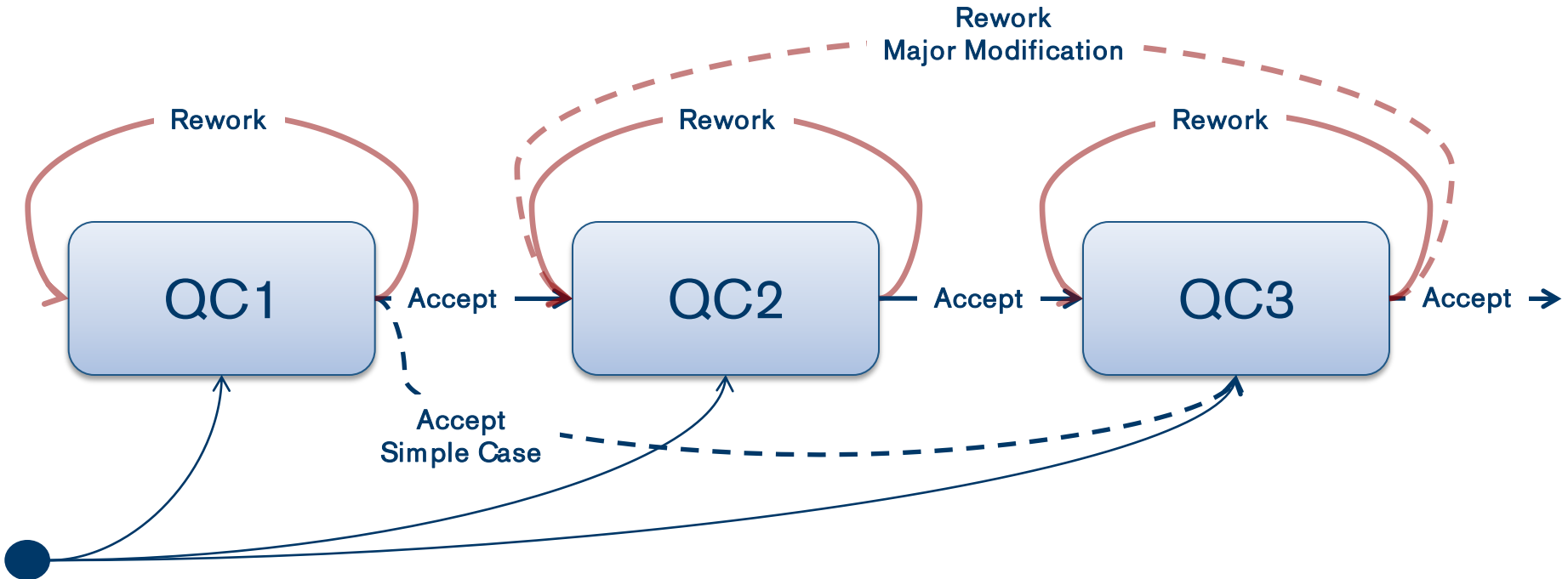
- A strong central architecture function
 - With a good reputation and senior IT management support
- Own budget for infrastructure and cleanup
 - CIO basket budget is available and the chief architects administrate it
- Processes are enforced; no ivory tower architecture
 - Architecture processes are embedded in project work
- Based on the managed evolution principle
 - Stepwise improvements to reach the long term goal

Most importantly: Hanging on to it!

Key Learnings

- Always focus on the business value of architecture
 - Make it **THE** Enterprise Architecture value proposition
- Establish unavoidable check points in infrastructure
 - Example: A new CORBA service needs architecture approval within CS otherwise it is not registered with the naming service
 - Ensures that architecture is not just an ivory tower exercise
 - „Drawback“: This means architecture needs to deliver on its promises!
- Select a few major principles and „drive them through“
 - Leave breathing space for the individual projects!
- A federated approach was ideal for Credit Suisse
 - A strong center supported by decentralized architects

Governance Model of Service Review/Quality Checks (QC)



Core questions to pass QC

- Is this new interface really needed?
- What is its correct position in the respective Interface Group Hierarchy?
- Is the interface well specified ?
- Does it use the correct data types?
- Are the new data types well designed?
- Was the interface testing and documentation successful and complete?
- Are all obligations from previous QCs fulfilled?

Selected (☺) Challenges

- Leverage Switzerland success/experiences world-wide
 - Clash of cultures ...
- Migrating 2'600 CORBA service operations to web services
 - The biggest central middleware infrastructure @ Credit Suisse
- Defining & managing global & cross-divisional service definitions
 - Despite different approaches, cultures, legacy systems, ...

To name the most important ones ...

Conclusion

- Credit Suisse's business needs an agile and cost effective IT
 - Tightly coupled legacy systems are no longer sufficient
 - SOA is key to achieve agility
- Credit Suisse enjoys most of the promised SOA benefits
 - Re-use is a reality and reduces project costs
- It is a long road to a successful SOA
- There are a lot of challenges ahead

There is still a lot to do!

Thank you.

QUESTIONS?

