



SOA and VO-s

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Overview / Context of SOA

- VO/VE (idea)
 - from static mainframes to dynamic arrangements
- SOA (architecture)
 - from information silos to information flow
- Web Services (interface)
 - from proprietary Systems to open Standards



Use Cases

- Virtual Organizations / Enterprises (flexible interconnection of partners)
- Health Insurance Companies (easy adaptation to new regulations)
- Banking / Finance (expansion across countries, easier local customization)



Outline / Definition

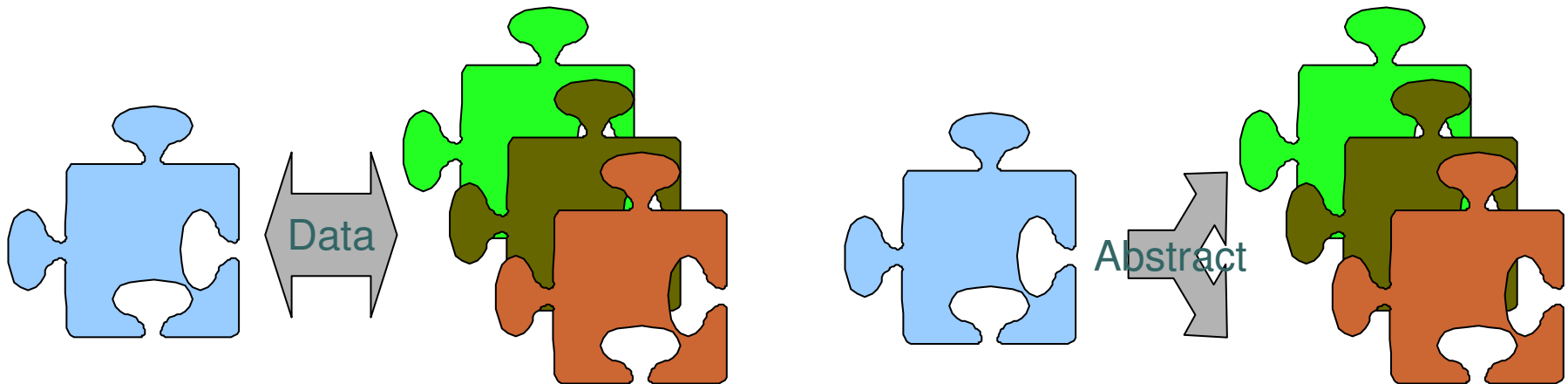
SOA = Service oriented architecture

- design principle
 - consistent technological infrastructure
- network based
 - knowledge-sharing and collaboration
- loosely coupled services
 - exchangeable components
- re- usability
 - multichannel application
- layer based architecture
 - independent functionality
- topology of interfaces
 - support horizontal integration



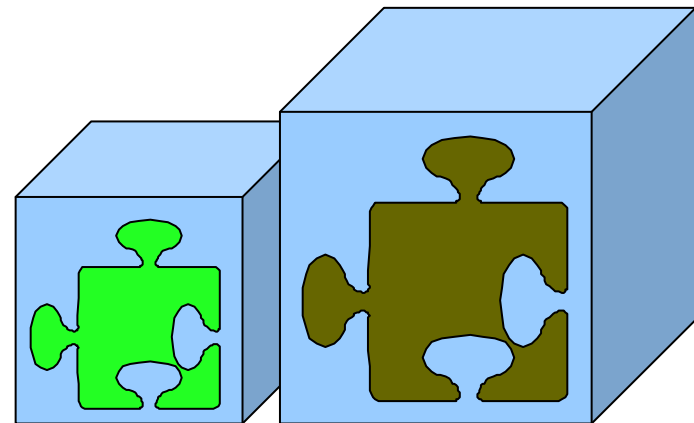
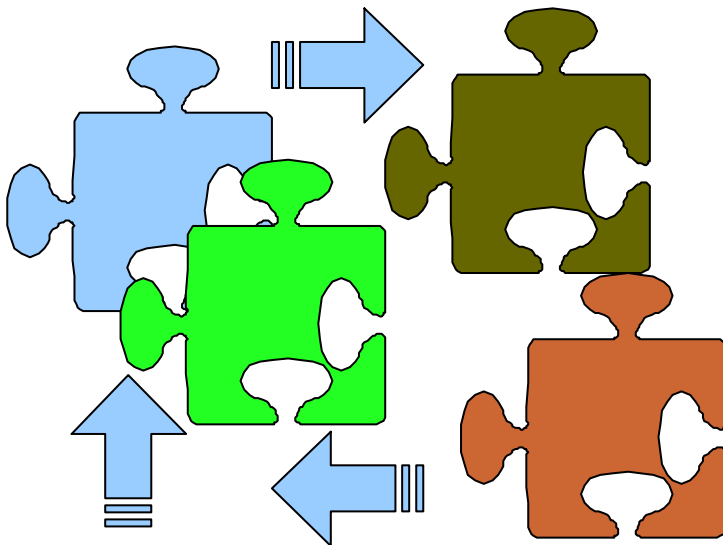
Design Principle

- Open Standards
 - platform independence, progression
- Composite Development
 - application assets, multi-channel abstraction



Loosely Coupled Services

- Orchestration of Services
 - remodeling business processes
- Unbound Infrastructure
 - scalability, cross-platform

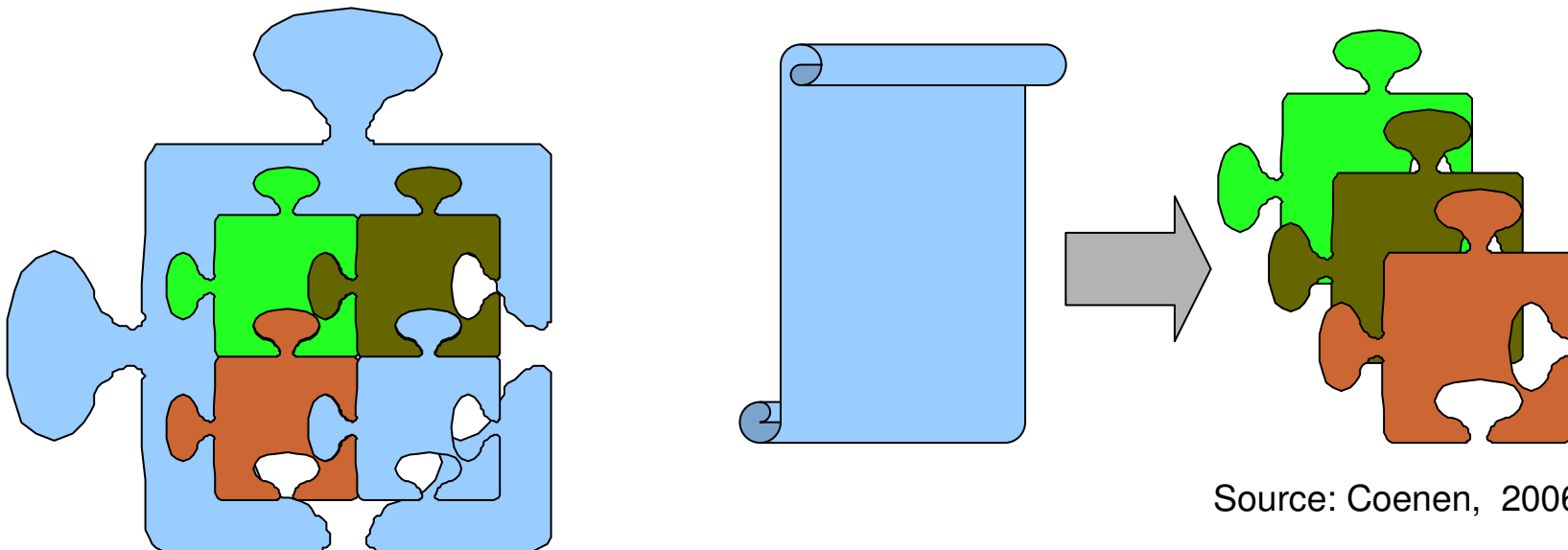


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Layer Based Architecture

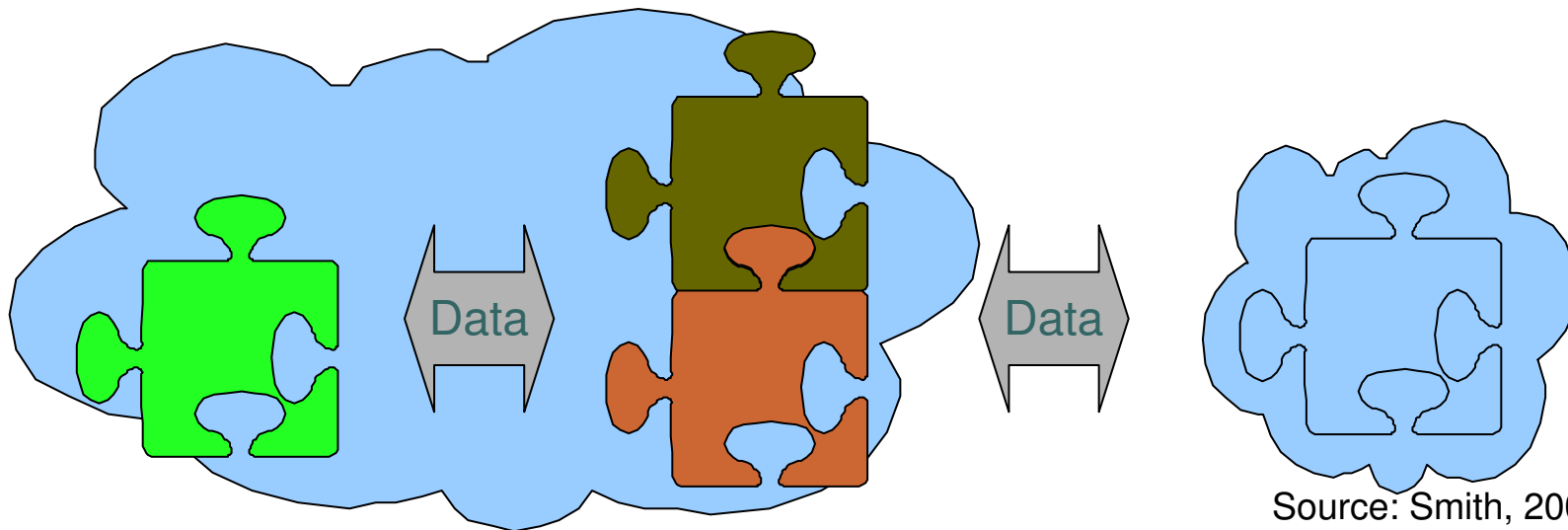
- Operational Boundaries
 - restrictions of access and rights
- Processing Information
 - adapting to business rules





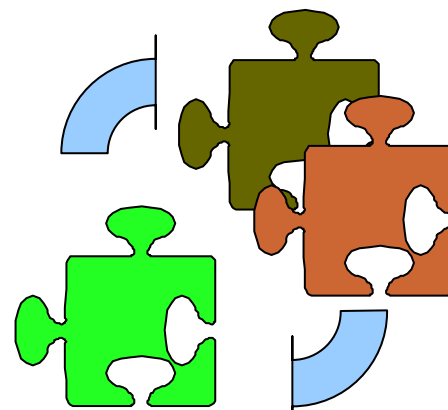
Network Based

- Exchange of Data
 - internal / external versatility
- Intercommunicable
 - augments outsourcing



● ● ● | Re-Usability

- Customizable Services
 - cooperation, common base modification
- Flexible Utilization
 - responding to conditions

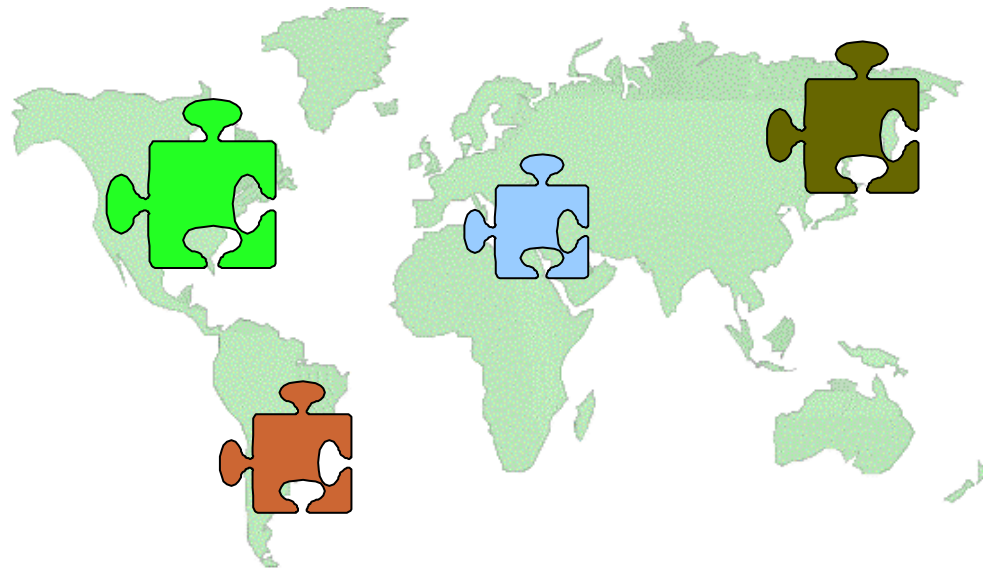


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Topology of Interfaces

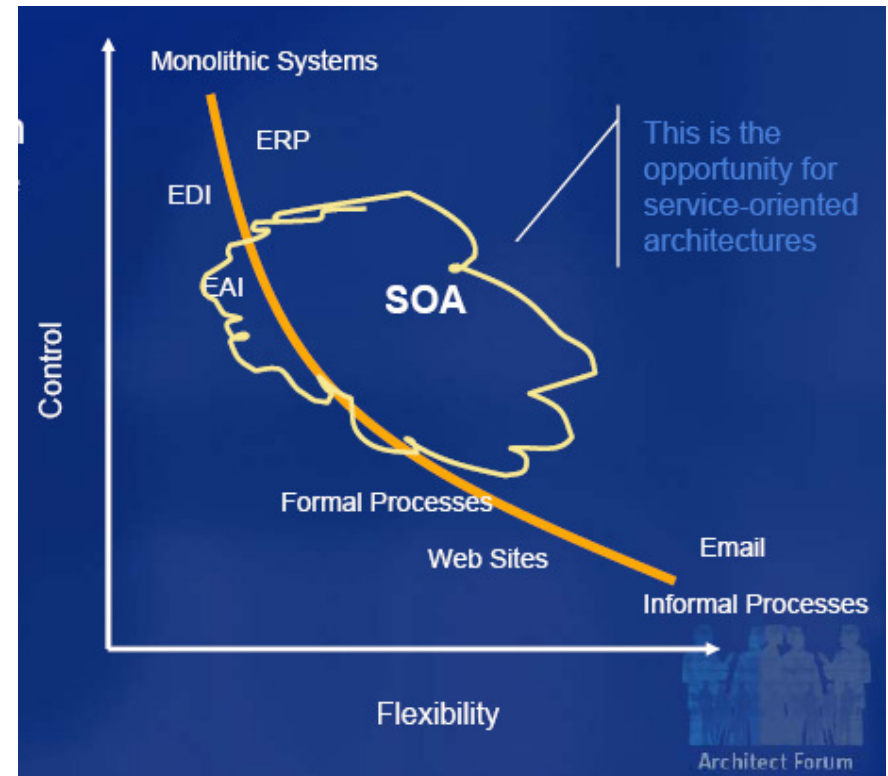
- Compatible Interfaces
 - components can be replaced
- Technically-Independent
 - accessing / providing data via interfaces



SOA and VOs

SOA in VE-S (Protogeros, 2006):

- All participants are arranged within an architecture that is able to link up the different services by means of connecting their interfaces
- SOA enhances VE capabilities
- SOA pushes opportunities for SME (Small- and Medium size Enterprises)



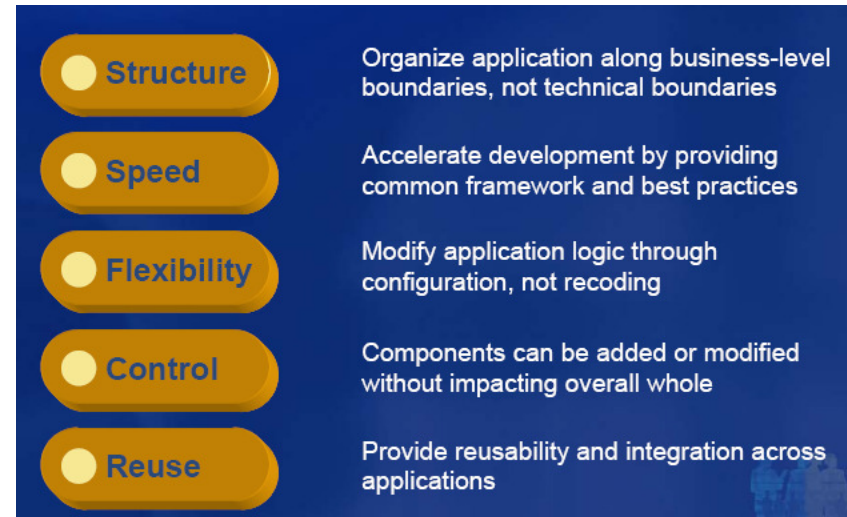
http://download.microsoft.com/download/e/9/9/e994ebf1-193e-4031-8691-f80682a74269/SOA_Case_Study_National_Databank_System.pdf



Advantages

Advantages of SOA for VO-s (Protogeros, 2006):

- interoperability / independent services that function platform/technology independently
- only interfaces are defined, the process is individual
- independence of data and processes
- efficiency through reuse (on macro level), scalability
- support VE relationships
- flexible development and deployment
- low-cost development of new business processes
- easier version control and dynamic configuration management
- clarity of application alignment



http://download.microsoft.com/download/e/9/9/e994ebf1-193e-4031-8691-f80682a74269/SOA_Case_Study_National_Databank_System.pdf



Disadvantages

Disadvantages of SOA for VO-s (Maguire, 2006; Protogeros, 2006):

- management of (massive) metadata
- level of security
- more governance
- harmonization of SME and big companies
- economical (how to evaluate?)
- technological (different teams/interoperability)
- organizational (exploitation of web services)



Future trends

- SOA as a driver of VE integration?
- SOA in SMEs?
- SOA 2.0
- Level of acceptance and adoption of SOA



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