

# TEKZONEFORUM 054

MO. 28. NOV. 2005, 17:00 UHR

SERVICE ORIENTED ARCHITECTURE (SOA)

**SOA ALS PRAGMATISCHER ANSATZ ZUR  
VEREINFACHUNG VON IT-KONZEPTEN –  
ODER WIE MIT KOMPONENTEN-ARCHITEKTUR IN IT-  
SYSTEMEN WIEDER ORDNUNG GESCHAFFEN WIRD.**

WIRD PRÄSENTIERT VON

**netcetera**

# Service Oriented Architecture

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## Introduction



November 28, 2005

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# Service Oriented Architecture on the Web

The screenshot shows a Google search results page for the query "Service Oriented Architecture". The search bar at the top contains the text "Service Oriented Architecture" and a "Suche" button. Below the search bar, there are navigation links for "Web", "Bilder", "Groups", "Verzeichnis", "News", and "Mehr". The search results are displayed in a list format, with each result including a title, a brief description, and a URL. The first result is "Web Services and Service-Oriented Architectures" from www.service-architecture.com. The second result is "Service-oriented architecture (SOA) definition" from the same website. The third result is "webservices.xml.com: What is Service-Oriented Architecture?". The fourth result is "Service-oriented architecture - Wikipedia, the free encyclopedia". The fifth result is ".NET Architecture Center: Service Oriented Architecture". The sixth result is "The Architecture Journal" from msdn.microsoft.com. The seventh result is "The Next Big Thing: Service-Oriented Architecture (SOA) Takes a ...". The eighth result is "SOA and Web Services" from java.sun.com. The search results are sorted by relevance, and the total number of results is 26,400,000. The search took 0.29 seconds. A red circle highlights the text "Ergebnisse 1 - 10 von ungefähr 26'400'000 für Service Oriented Architecture (0.29 Sekunden)".

Google [Web](#) [Bilder](#) [Groups](#) [Verzeichnis](#) [News](#) [Mehr »](#)   [Erweiterte Suche](#) [Einstellungen](#)

Suche:  Das Web  Seiten auf Deutsch  Seiten aus der Schweiz

Web Ergebnisse 1 - 10 von ungefähr 26'400'000 für Service Oriented Architecture (0.29 Sekunden)

[Web Services and Service-Oriented Architectures](#) - [ [Diese Seite übersetzen](#) ]  
This site will help you get started with Web services and service-oriented architectures. It features free articles, product listings, and services that can ...  
[www.service-architecture.com/](http://www.service-architecture.com/) - 30k - [Im Cache](#) - [Ähnliche Seiten](#)

[Service-oriented architecture \(SOA\) definition](#) - [ [Diese Seite übersetzen](#) ]  
The definition of a service-oriented architecture (soa) involving services and connections (includes graphic).  
[www.service-architecture.com/web-services/articles/service-oriented\\_architecture\\_soa\\_definition.html](http://www.service-architecture.com/web-services/articles/service-oriented_architecture_soa_definition.html) - 24k - 14. Nov. 2005 - [Im Cache](#) - [Ähnliche Seiten](#)

[webservices.xml.com: What is Service-Oriented Architecture?](#) - [ [Diese Seite übersetzen](#) ]  
**Service-Oriented Architecture** underpins most modern web services. It aims to achieve loose coupling between interacting software agents in order to preserve ...  
[webservices.xml.com/pub/a/ws/2003/09/30/soa.html](http://webservices.xml.com/pub/a/ws/2003/09/30/soa.html) - 57k - 14. Nov. 2005 - [Im Cache](#) - [Ähnliche Seiten](#)

[Service-oriented architecture - Wikipedia, the free encyclopedia](#) - [ [Diese Seite übersetzen](#) ]  
In computing, the term **Service-Oriented Architecture** (SOA) expresses a ... When most people speak of a **service-oriented architecture**, they speak of a set of ...  
[en.wikipedia.org/wiki/Service-oriented\\_architecture](http://en.wikipedia.org/wiki/Service-oriented_architecture) - 30k - 15. Nov. 2005 - [Im Cache](#) - [Ähnliche Seiten](#)

[.NET Architecture Center: Service Oriented Architecture](#) - [ [Diese Seite übersetzen](#) ]  
.NET Architecture Center: The goal for a **Service Oriented Architecture** (SOA) is a world wide mesh of collaborating services, which are published and ...  
[msdn.microsoft.com/architecture/soa/default.aspx](http://msdn.microsoft.com/architecture/soa/default.aspx) - 13k - [Im Cache](#) - [Ähnliche Seiten](#)

[The Architecture Journal](#) - [ [Diese Seite übersetzen](#) ]  
Messaging Patterns in **Service Oriented Architecture** – Part 2 · Business Patterns for Software Engineering Use – Part 2 ...  
[msdn.microsoft.com/architecture/journ/](http://msdn.microsoft.com/architecture/journ/) - 25k - 14. Nov. 2005 - [Im Cache](#) - [Ähnliche Seiten](#)

[The Next Big Thing: Service-Oriented Architecture \(SOA\) Takes a ...](#) - [ [Diese Seite übersetzen](#) ]  
RouteOne's **service-oriented architecture** (SOA), which serves some 80% of the 22000 auto dealerships in the United States, makes it clear that SOA is here to ...  
[java.sun.com/developer/technicalArticles/Interviews/routeone\\_qa.html](http://java.sun.com/developer/technicalArticles/Interviews/routeone_qa.html) - 44k - [Im Cache](#) - [Ähnliche Seiten](#)

[SOA and Web Services](#) - [ [Diese Seite übersetzen](#) ]  
**Service-Oriented Architecture** (SOA) provides a cost-effective solution to evolving and enhancing legacy enterprise information systems (EIS).  
[java.sun.com/developer/technicalArticles/WebServices/soa/](http://java.sun.com/developer/technicalArticles/WebServices/soa/) - 42k - [Im Cache](#) - [Ähnliche Seiten](#)

~26 million documents found with Google search for "Service Oriented Architecture" – way more than one can digest...

SECTION 1

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# Service Oriented Architecture

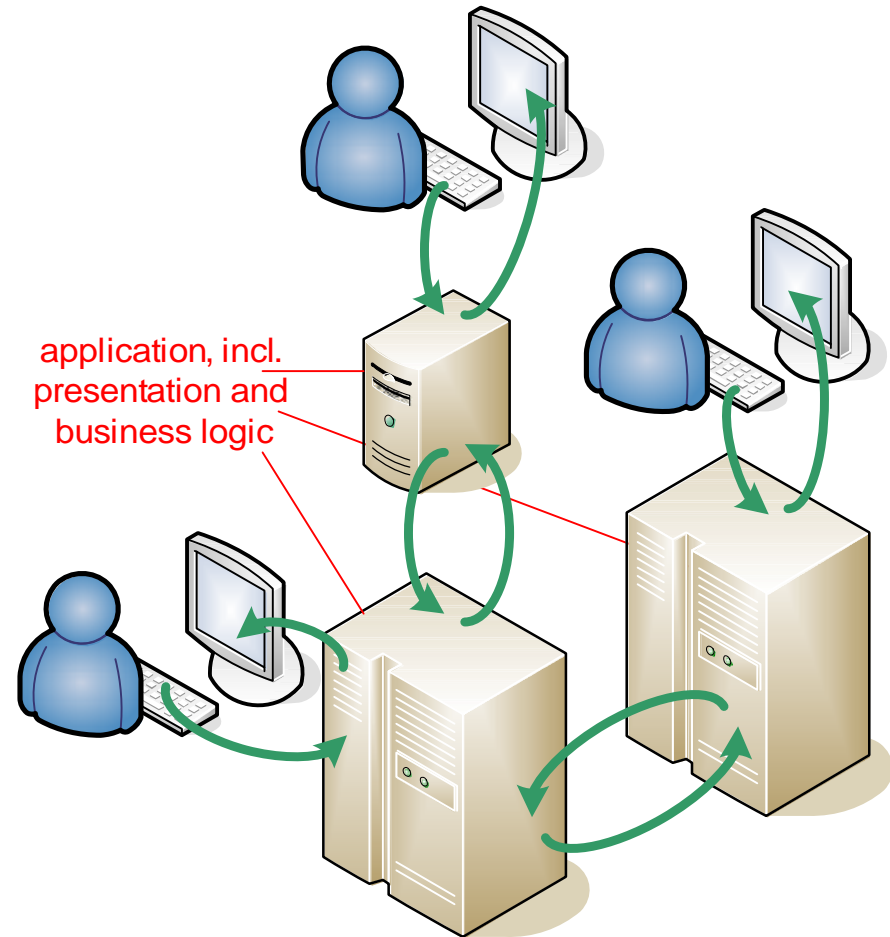
# Introduction

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- ◆ What is "Service Oriented Architecture (SOA)"?
  - The aim of SOA is to put reusable (and static) pieces of code (called services) in the center of the IT system, in order to provide easy to build (and more volatile) business products on top of them
- ◆ Who needs SOA?
  - Companies using IT systems from several providers (3rd party, homegrown) are interested into SOA in order to increase reuse of business functions in several applications
  - Companies using software from one provider have no interest in SOA (maybe the software provider has implemented SOA – but this is no matter for the user)
- ◆ Who owns services in an SOA world?
  - Governance over business functions implemented in services need to be well defined in order to ensure reuse and availability for service consumers
- ◆ Cultural impact
  - Mindset of business and IT people need to change: silo thinking is often a hurdle to SOA; proper requirement analysis and service definition is key discipline

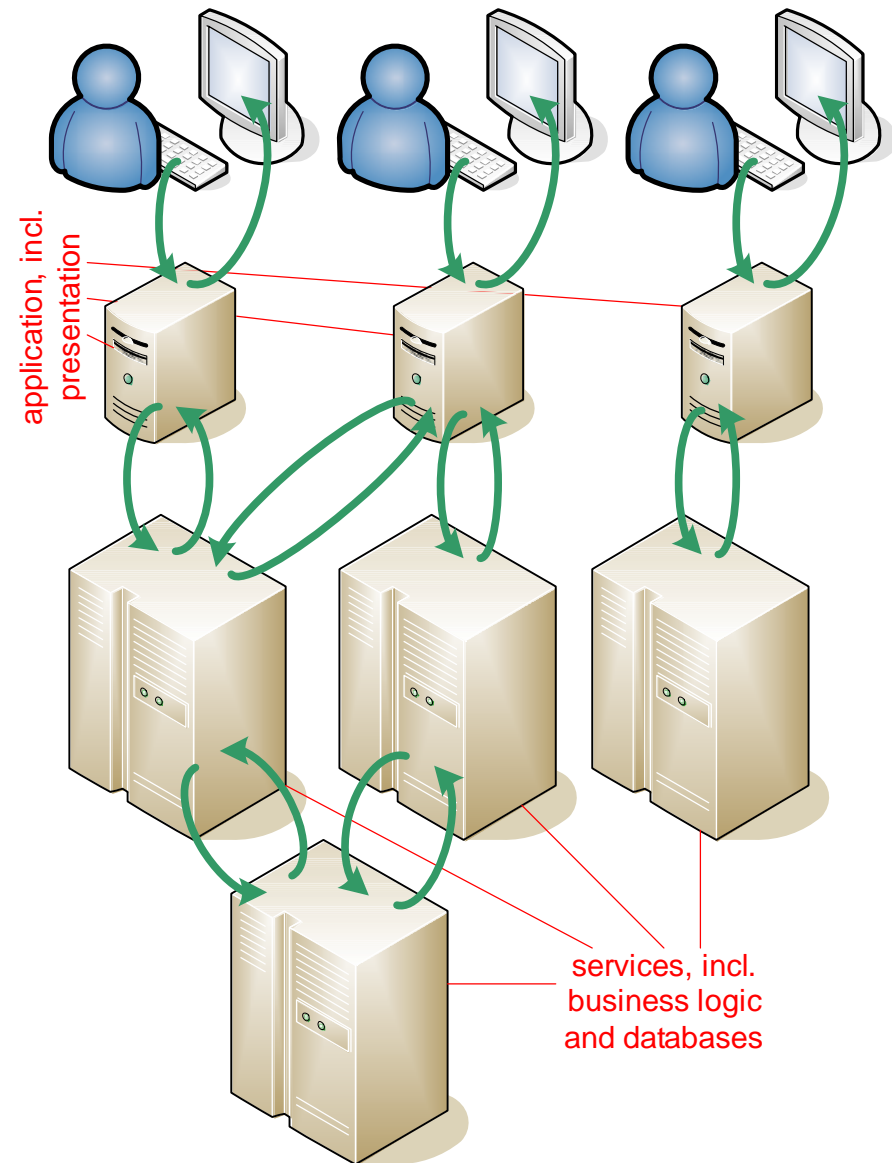
# Applications in a Silo Architecture

- ◆ Typical silo applications build their functionality on top of an existing application stack
  - A user uses an application with a GUI which accesses business data through mainframe applications
  - Business logic is distributed over mainframe and decentral computers
  - As the mainframe service is itself an application, its interface tends to be volatile, which forces service consumer to adapt each time a change occurs



# Applications in a Service Oriented Architecture

- ◆ Typical applications in a Service Oriented Architecture contain presentation logic only
  - Services typically offer business functions without presentation
  - A user uses an application which offers presentation functions and screenflows – business functionality is provided by services
  - An application mainly groups and sequences screens to embed business functionality into a process – reduced complexity can lead to quicker application development and deployment





# Comparison Silo vs. Service Oriented Architectures

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- ◆ In a service oriented architecture, the logical cut between service consumer and provider is defined by a business function, not by application boundaries, as typical for silo architectures
- ◆ In SOA, a service provides a fully self-contained business function (or group of functions) and exposes an interface to its consumers; business logic may change without affecting service consumers
- ◆ Applications in a service oriented architecture do not contain business logic anymore; they consume services instead, therefore they become much smaller and easier to implement; a shorter time-to-market for new products is an important result for business development
- ◆ A typical problem of silo architecture is, that changes at the lower layer affect the whole "stovepipe" – leads to high maintenance costs

# Critical Issues in a Service Oriented Architecture

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- ◆ Interaction pattern between service consumer and provider
  - The tighter they are coupled, the more interaction you will get → poor response time of the client application and high resource consumption of the system will be the result
- ◆ Service granularity
  - The finer the granularity, the higher will be the interaction between service consumers and providers → poor response time of the client application and high resource consumption of the system will be the result; service interface will more likely change than with coarser grained services due to higher specialization of the services
- ◆ Technology independence of the service interfaces
  - Consumers and providers may typically run in different runtime environments and be implemented with different technologies
- ◆ Cascading (or collaborating) services
  - Services may call other services (cascade) or share logic in sub-services → code redundancy decreases and lower maintenance costs are resulting

SECTION 2

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## References

# Some SOA Related Documents

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- ◆ Wikipedia: [en.wikipedia.org/wiki/Service-oriented\\_architecture](http://en.wikipedia.org/wiki/Service-oriented_architecture)
- ◆ IBM Aktuelles: "SOA ist viel mehr als eine einfache Verbindung" [www.ibm.com/news/ch/de/2005/09/21d.html](http://www.ibm.com/news/ch/de/2005/09/21d.html)
- ◆ IBM redbook: "Patterns: implementing self-service in an SOA environment" [www.redbooks.ibm.com/redbooks/pdfs/sq246680.pdf](http://www.redbooks.ibm.com/redbooks/pdfs/sq246680.pdf)
- ◆ IBM redbook: "Patterns: integrating enterprise service buses in a service-oriented architecture" <http://www.redbooks.ibm.com/redbooks/pdfs/sq246773.pdf>
- ◆ SUN: [www.sun.com/products/soa/](http://www.sun.com/products/soa/)
- ◆ Forrester Trends: "Who owns business services in an SOA world?" [www.forrester.com](http://www.forrester.com)
- ◆ Ovum: "There is an 'A' and a silent 'M' in SOA" [www.ovum.com](http://www.ovum.com)
- ◆ Gartner: "Learn the key success factors for SOA deployments" [www.gartner.com](http://www.gartner.com)