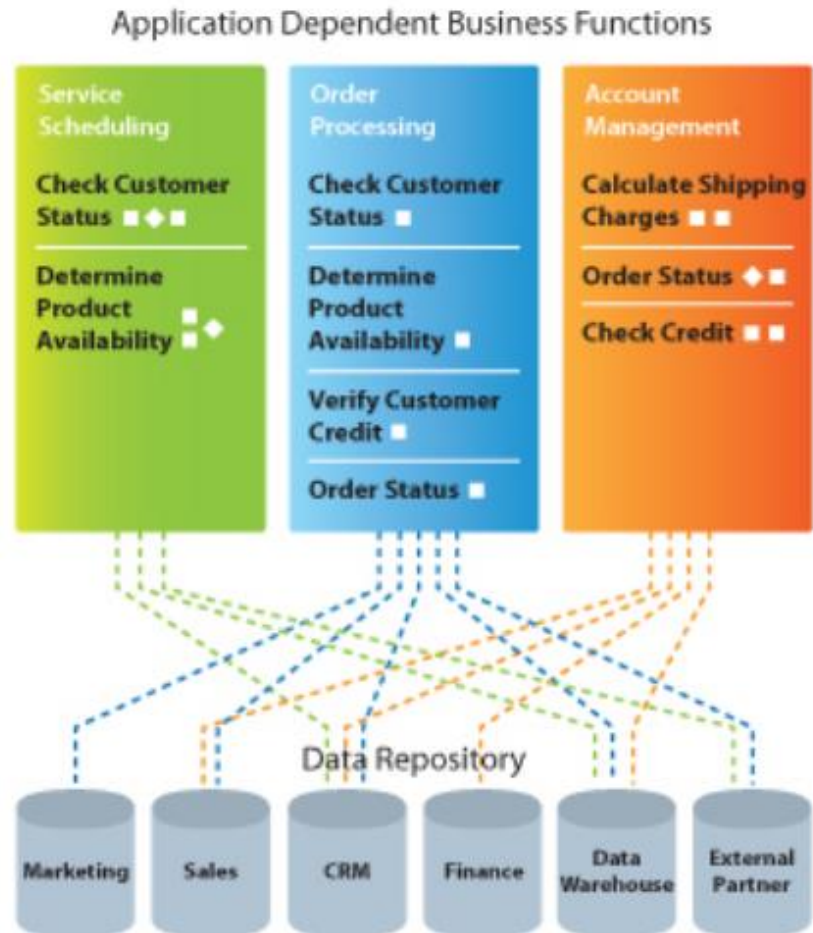


SOA



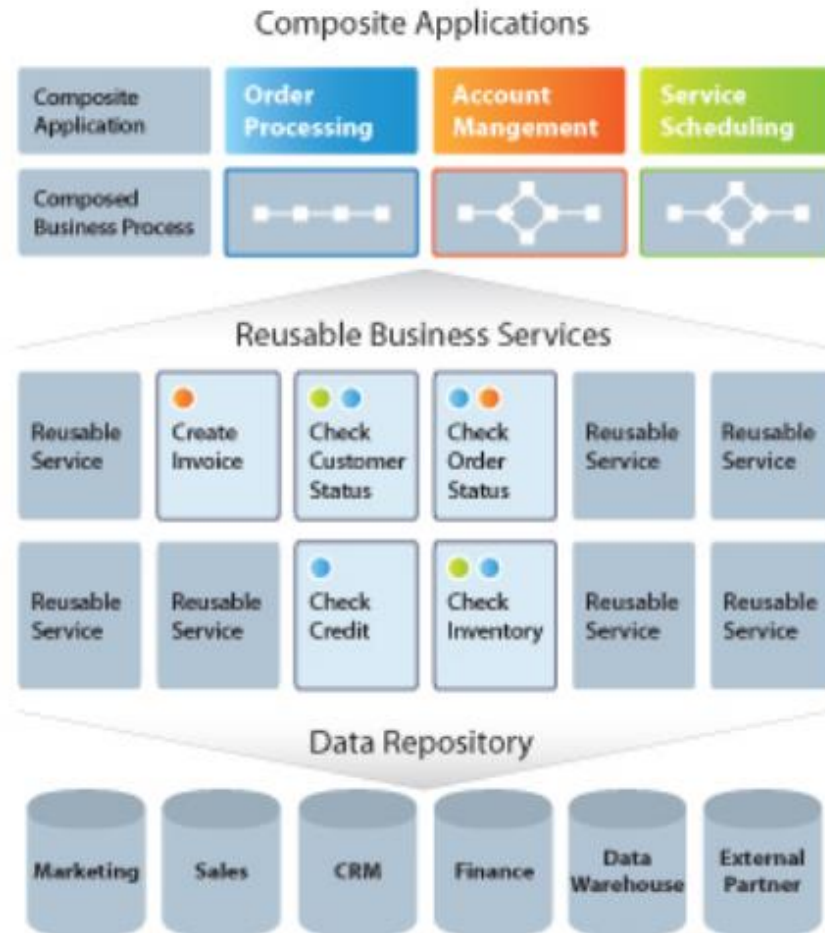
Before SOA

Closed - Monolithic - Brittle



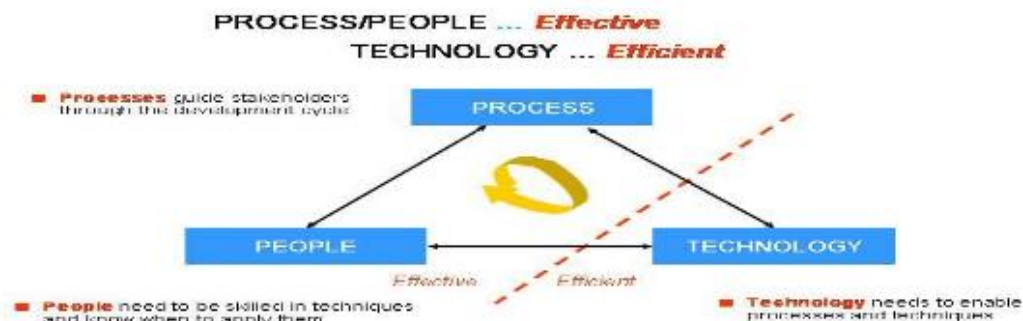
After SOA

Shared services - Collaborative - Interoperable - Integrated



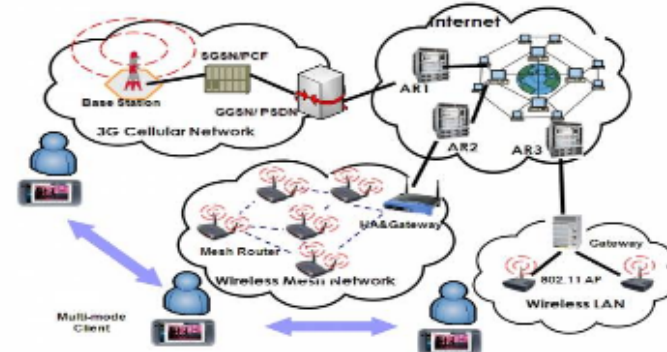
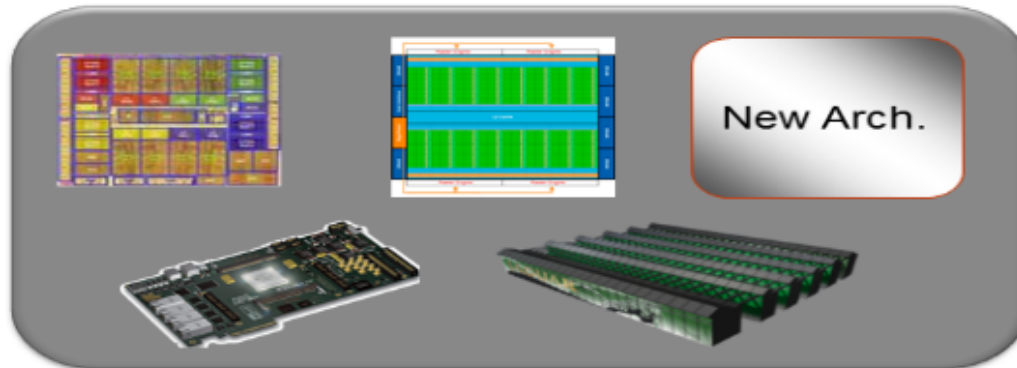
Introduction

- Enterprise wide transformation poses significant challenges for process, people and technology.
- Early identification of challenges and defining a mitigated approach achieves a smooth transformation.
- Challenges include **resistance to change** by



Introduction

- Factor include role and responsibilities, management skills development and discipline and cultural shifts.
- Creating awareness in organization for the need to drive such a transformation in the best interests of business.
- Challenges include dealing with infrastructure complexity- heterogenous hardwares and varying versions of s/w across disparate environments.



Service Management

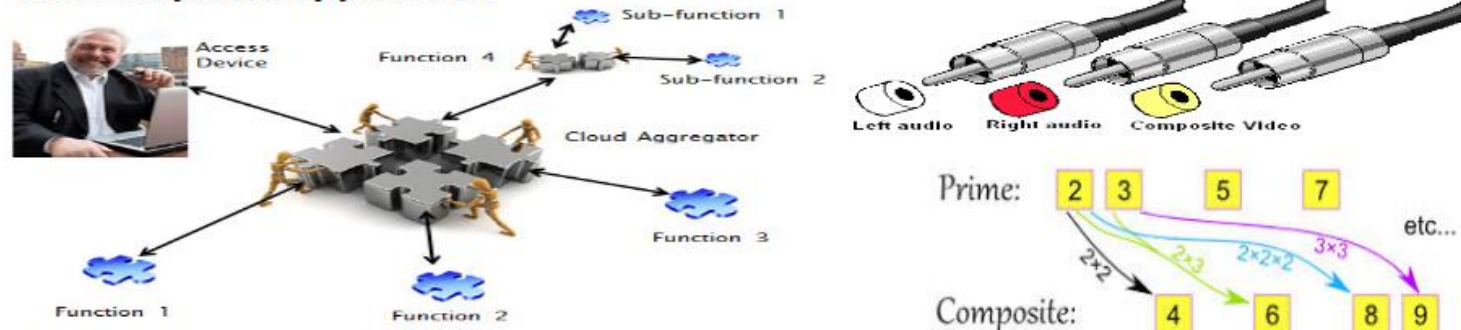
- **Service Management** is one of the similarities between cloud infrastructure and SOA approaches.
- Developing an integrated service management approaches for both the application services and infrastructure service together will drive efficiency in IT operations by improving resource utilization and improving service levels.
- Such an integrated service management can move IT toward to an end-to-end service-oriented environment.
- This will enable business agility by better aligning IT with the Business.



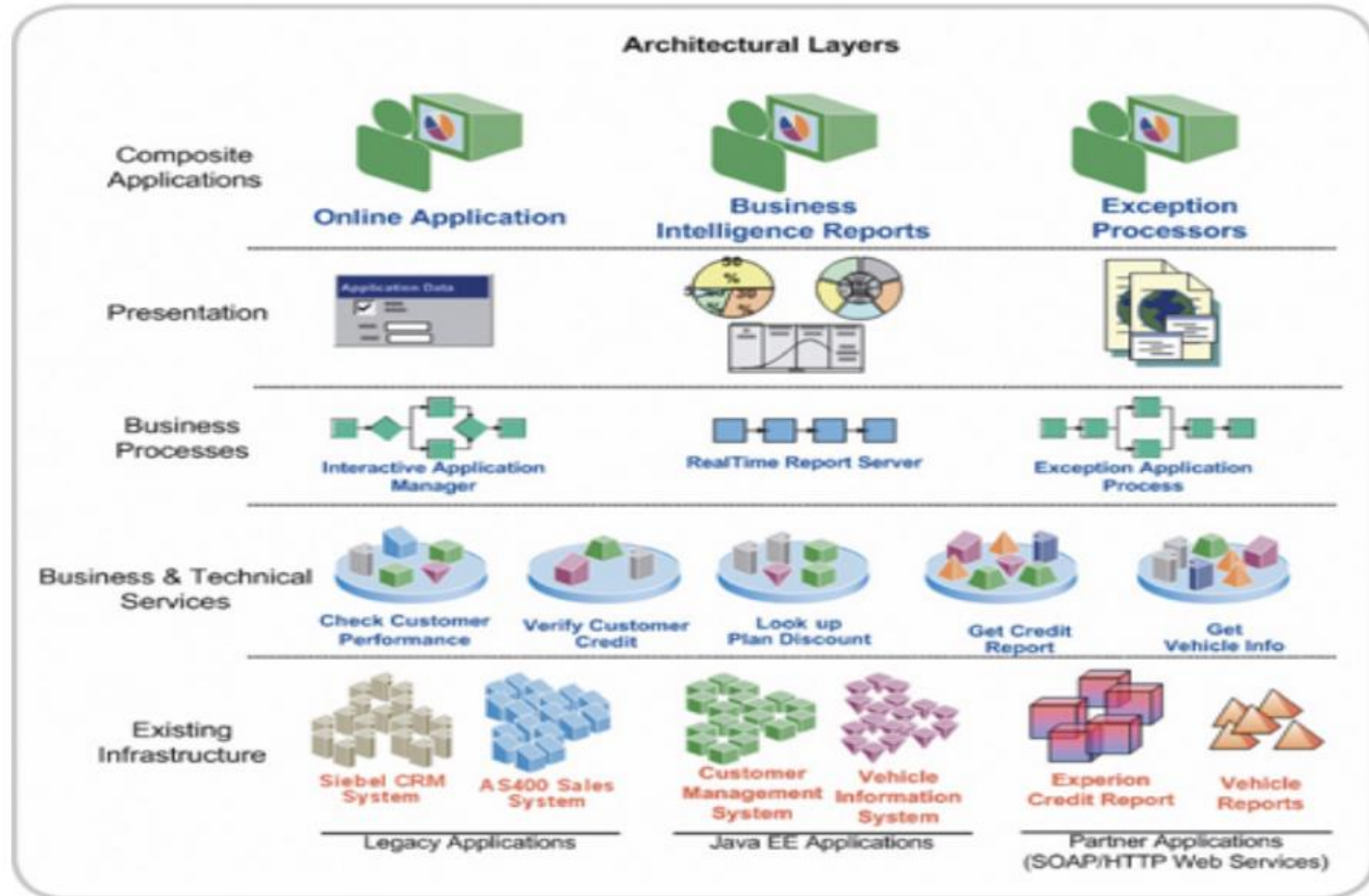
Enterprise Infrastructure and SOA

- SOA makes IT applications into **composite applications**.
- Instead of traditional **monolithic applications**, composite applications are **created, composed** of many services often developed and deployed independently by separate development teams on different schedules.
- By adhering to **common standards** and **interfaces**, development of new composite applications and extension of existing applications is made easier through reuse of existing services and rapid integration of new service

The composite application

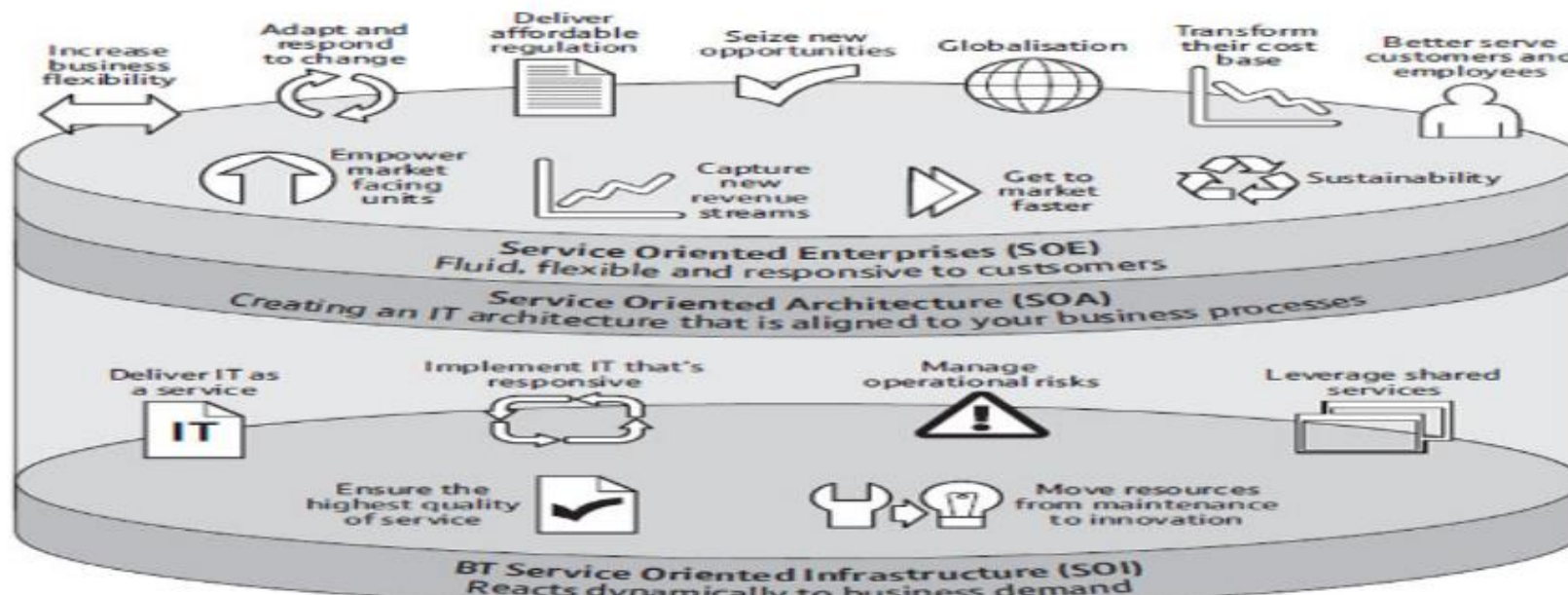


SOA based Infrastructure



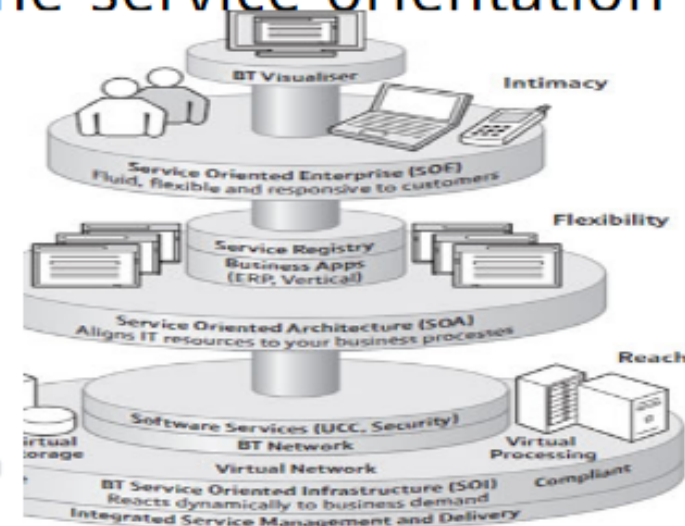
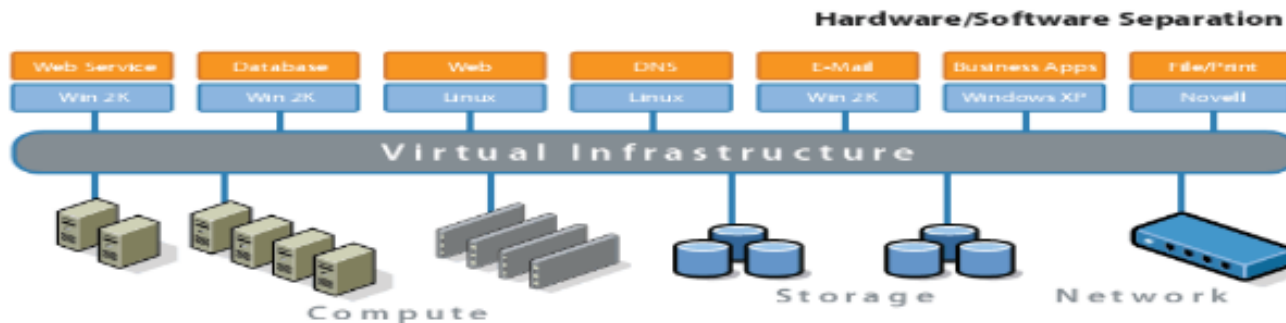
SOA journey to infrastructure

- The path to transformation consists of a long journey with a staged approaches, leading to the ultimate goal of a service-oriented enterprise.
- Multiple islands of disparate infrastructures in today's environment need to be consolidated to gain control, reduce cost and become operationally efficient.



SOA journey to infrastructure

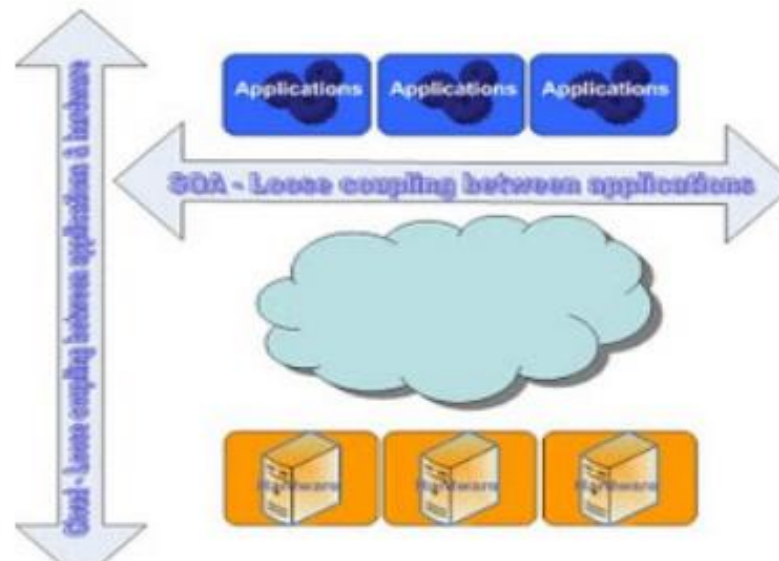
- The next step is to introduce virtualized infrastructure to improve utilization levels and allowing dynamic flexibility to move resources and capacity to meet fluctuating workload demands.
- Service orientation is achieved by building capabilities on the top of virtualized and automated infrastructure.
- In Service orientation state- infrastructure is provided and utilized as a service, rather than in piecemeal.
- Cloud computing will help to further the service orientation paradigm, to meet the scaling demands of future state of business



SOA and Cloud

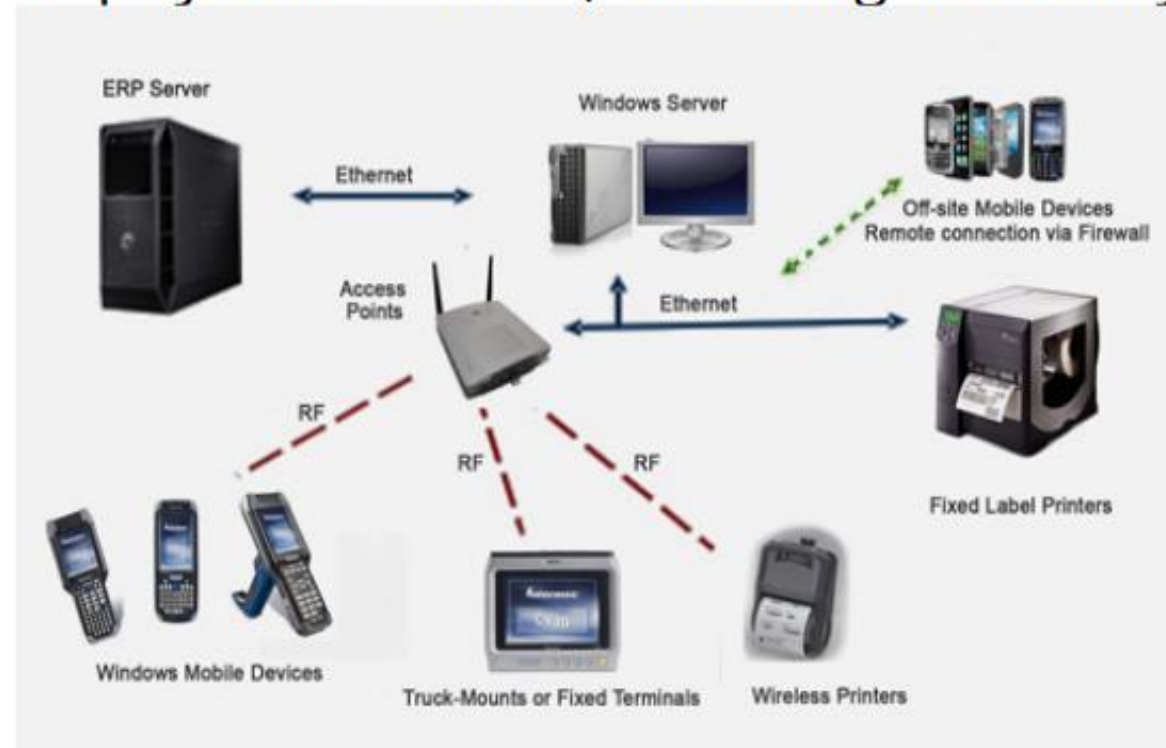
- SOA binds how you will both deliver and leverage cloud based services. Cloud computing relies on service-orientation to loosely-couple applications to underlying infrastructure model for using web services
- It uses web services to compose complex, customizable, distributed applications and encapsulate legacy systems

SOA & Cloud Computing



Infrastructure Technologies

- Cloud infrastructure is based on virtualization- dynamic systems that enable the definition and delivery of resources on demand.
- Current technologies can deliver hundreds of virtual servers on small cluster of physical servers, enabling flexibility and high availability.



SOA Defination

SOA is an approach to architecture that is intended to promote flexibility through encapsulation and loose coupling.

SOA is defined by what a service is.

Services are defined by the following characteristics :

- Explicit, implementation-independent interfaces
- Loosely bound
- Invoked through communication protocol
- Stress location transparency and interoperability
- Encapsulate reusable business functions

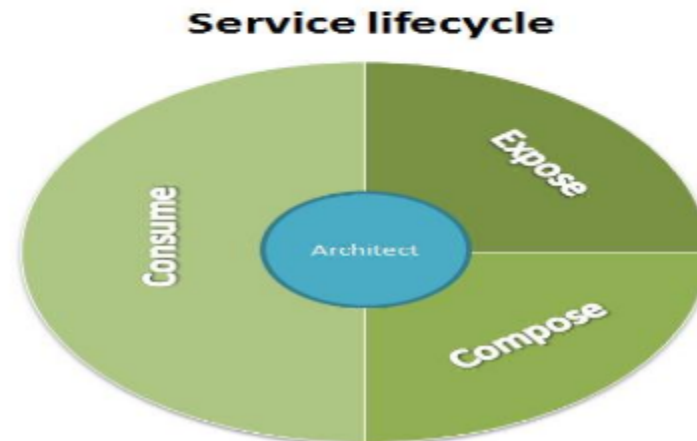




The core components which make up an SOA implementation

1.SOA Life Cycle

- SOA lifecycle resembles “traditional” application lifecycle, but introduces new terminology.
- SOA in terms of life cycle requires a start in the SOA model Phase by gathering business requirement and designing their business processes.
- Once they have been optimized the business processes, they implement it by combining new and existing services.
- These assets are then deployed into a secure and integrated environment for integrating people, processes and information.

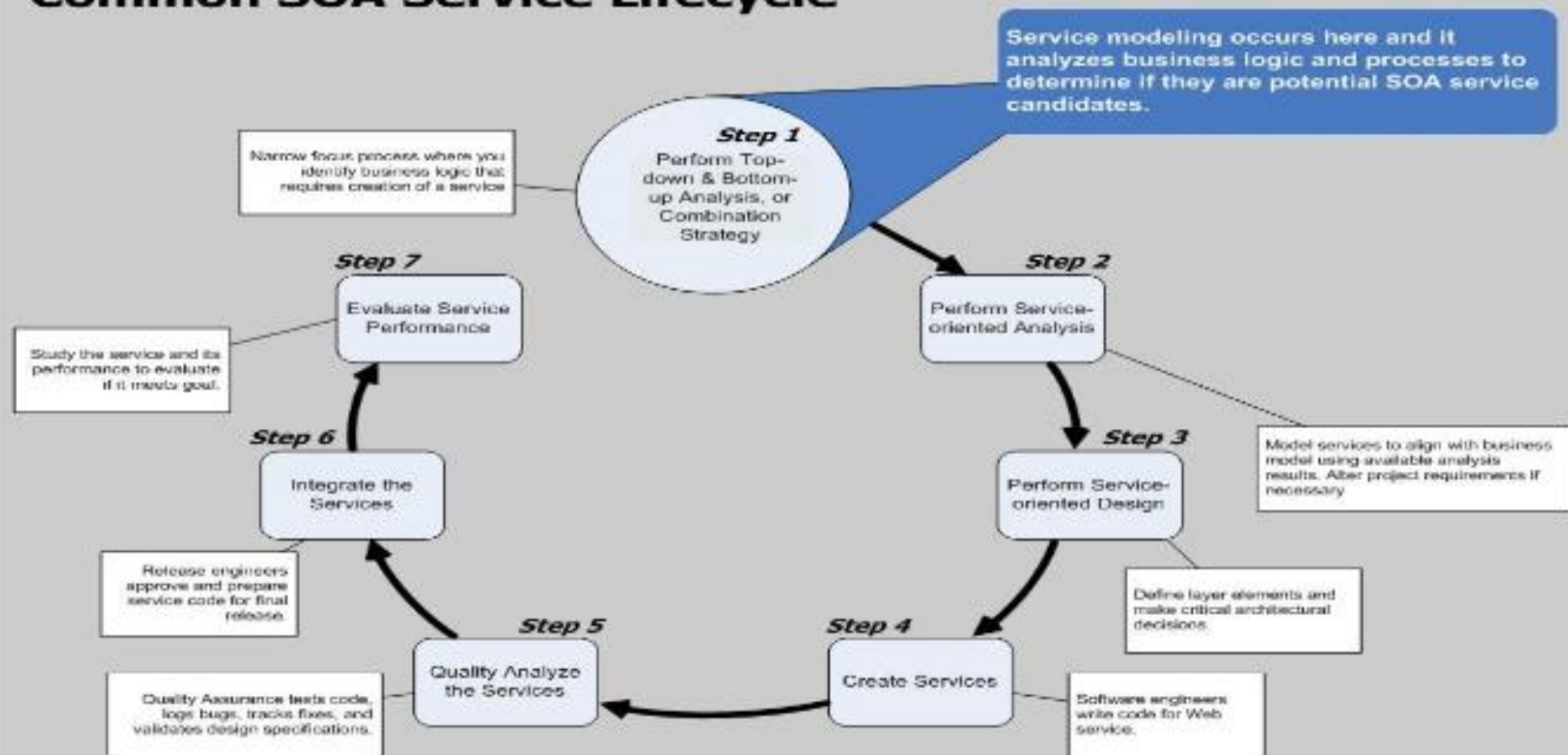


2.Service Oriented Computing

Service orientation is a design paradigm comprised of specific set of design principles. Its most important feature is its reliance of the separation of concerns design philosophy.

Separation of concern (SoC) is based on the simple fact that a problem becomes easier to approach if it is divided into small units and handled separately

Common SOA Service Lifecycle



SOA and IaaS

SOA principles of service is applied in case of IaaS. It provides infrastructure elements as a service

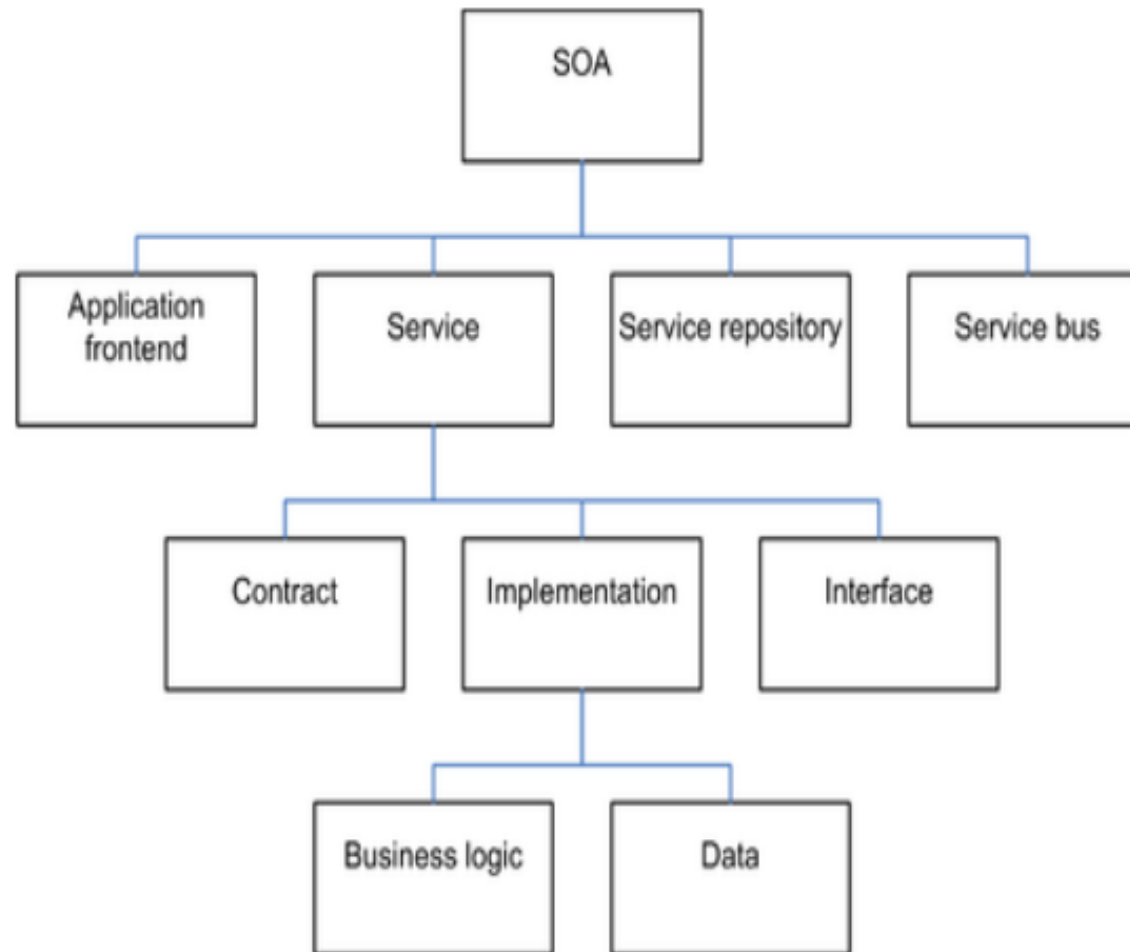


1. Architecture

Cloud Infrastructure has many service components.

Services can be divided into four domains :

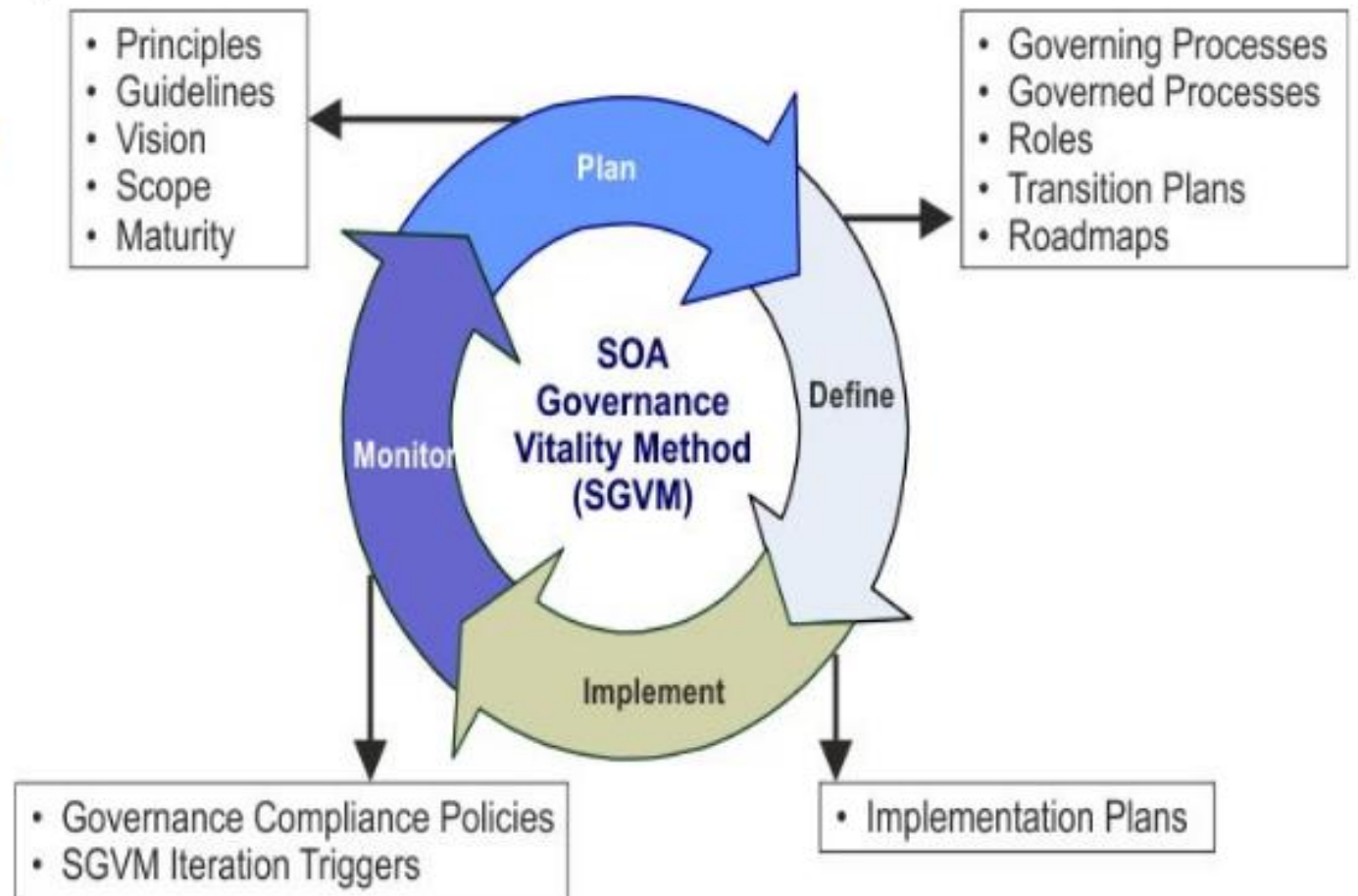
- Application Services
- Information Services
- Common IT services
- Infrastructure Services



SOA based Cloud Infrastructure steps

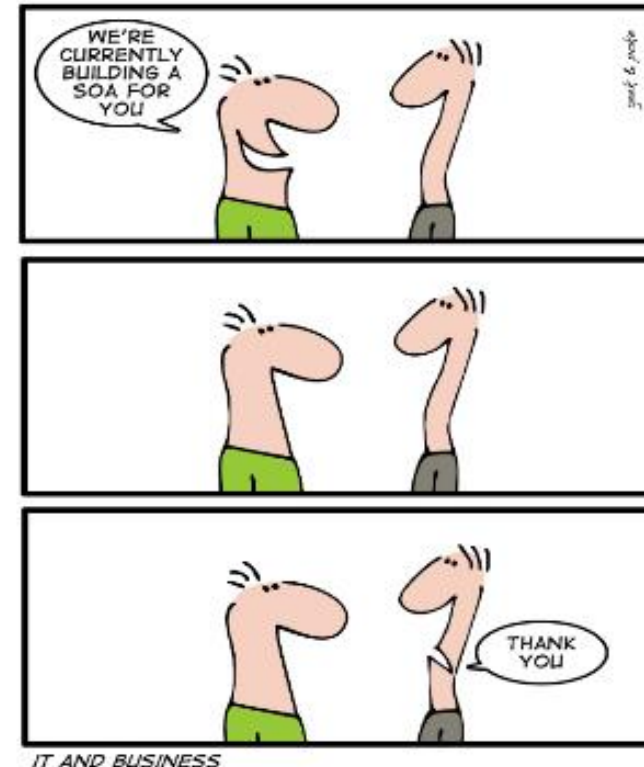
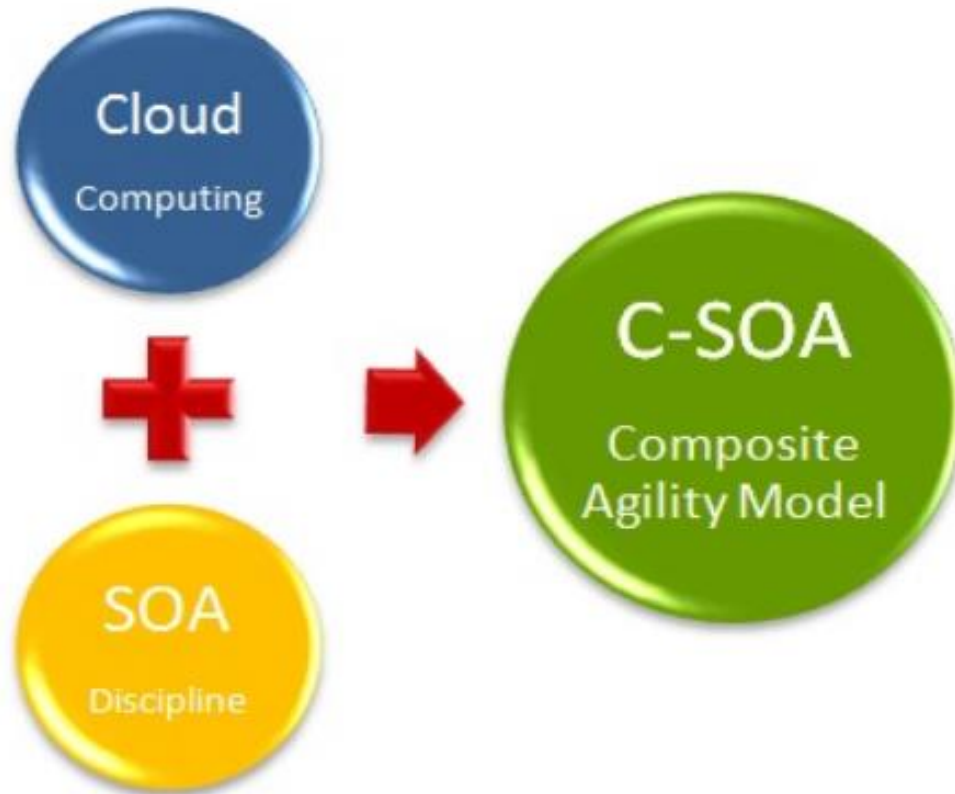
Enterprises that intend to harness cloud computing must consider the following steps :

- Analysis and Strategy
- Planning
- Implementation
- Value-driven



1. SOA and Cloud Infrastructure

- SOA-based cloud computing model builds on the IT and internet models.
- It is in essence a service-oriented architecture



SOA Business and IT services

- Different management tools are needed for SOA architecture for comprehensive integration of SOA architecture.
- These tools help to leverage the benefits of infrastructure services.

Thank you