Module 3
Design & Architecture with SOA, Services & Microservices

Services
- are
  - collections of units of work
- have
  - capabilities (units of work)
  - functional contexts
  - service contracts
- can be
  - agnostic (multi-purpose)
  - non-agnostic (single purpose)
- comprise
  - service-oriented solutions
  - service compositions
- are the result of
  - applying service-orientation

Service-Orientation
- principles
  - Standardized Service Contract
  - Service Loose Coupling
  - Service Abstraction
  - Service Reusability
  - Service Autonomy
  - Service Statelessness
  - Service Discoverability
  - Service Composability

Service Compositions
- are comprised of
  - services
- result in
  - service activities
- runtime roles
  - composition controller
  - composition sub-controller
  - composition member
  - composition initiator

Strategic Goals
- increased intrinsic interoperability
- increased federation
- increased vendor diversification options
- increased business and technology alignment
- increased ROI
- increased organizational agility
- reduced IT burden

Siloed Application Design
- benefits
  - streamlined and predictable solution delivery
  - tactically focused analysis and design
  - can leverage technology advancements
- problems
  - waste and redundancy
  - inefficient application delivery
  - bloated technical environments
  - convoluted enterprise architecture
  - complex and expensive integration
  - ever-increasing IT operational costs

Service-Oriented Application Design
- Web services and REST services
  - depends on agnostic services
  - requirements fulfilled by composing services
  - challenges siloed application development
  - challenges traditional application integration
  - increases complexity of composition requirements
- Microservices
  - relies on coordination of non-agnostic services
  - can meet high performance requirements
  - emphasizes contract versioning
  - compatible with agile development methodologies
  - microservices scale through replication

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Official Mind Map Supplement 1 of 2

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Arcitura TRAINING SOA Fundamentals

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