SERVICE-ORIENTED COMPUTING AND CLOUD COMPUTING

Challenges and Opportunities
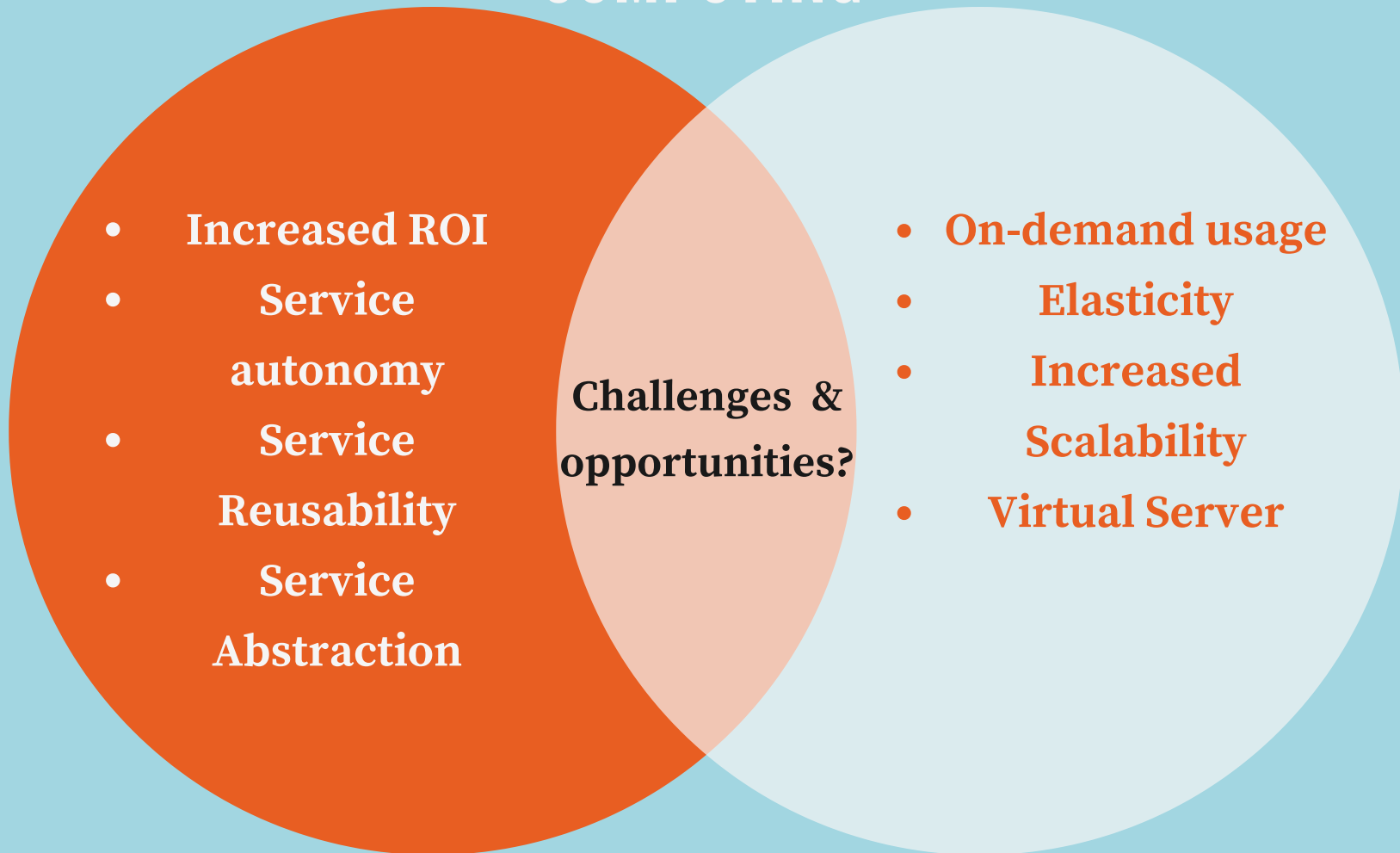
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CONTENT OVERVIEW

WHAT IS SERVICE-ORIENTED COMPUTING?

- Promotes the idea of assembling application components into a network of services to create applications.
- Web services are the most optimistic SOC based technology.

WHAT IS CLOUD COMPUTING?

Cloud computing entails running computer/network applications that are on other people's servers using a simple user interface or application format.

CONNECTION POINTS BETWEEN SOC AND CLOUD COMPUTING

- **Increased ROI**
- **Service autonomy**
- **Service Reusability**
- **Service Abstraction**

Challenges & opportunities?

- **On-demand usage**
- **Elasticity**
- **Increased Scalability**
- **Virtual Server**

COMBINED CHALLENGES

MAINTAINING HIGH SERVICE AVAILABILITY

The underlying services of SOC-based systems must maintain a high level of availability. Services are now hosted on the architecture of a single cloud computing provider. As a failsafe, customers can't simply move their installed services and applications from one cloud computing provider to another.

PROVIDING END-TO-END SECURE SOLUTIONS

Security concerns exist for both cloud computing and on-cloud services. In SOC, messages are exchanged between different service providers across multiple organizations. Cloud environments suffer the same problems with privacy issues related to message-passage. There are significant negotiations required between end users, cloud consumers, and cloud providers.

MANAGING LONGER-STANDING SERVICE WORKFLOWS

SOC requires the management of loosely coupled services to main- tain its working condition. A single service might be integrated into many complex applications and failure of one service can cause negative effects to numerous interdependent applications. Each service within a workflow could reside with unique service providers. Current cloud computing providers don't offer user-customized management and monitoring mechanisms built into their infrastructure.

TRANSFORMATIVE OPPORTUNITES

SERVICE DISCOVERY THROUGH FEDERATED CLOUDS

The UDDI standard has not gained widespread acceptance or deployment. The deployment of next-generation services in cloud settings effectively centralizes these services. Federated databases make it easier to query data from several distant data sources. Similarly, federated clouds may make it easier to discover the services that are housed within them. These technologies need certain protocols in order for service information to be anonymously transferred among cloud providers.

RAPID SERVICE DEPLOYMENT

Web services can be accessed from anywhere and combined with other services to create higher-level work-flows. Merging and new organizations might need to relocate existing services to new IT environments.Standard cloud APIs will allow service providers to offer their services across numerous cloud computing providers in the future. Cloud computing providers should include functionality to their cloud infrastructures that allow for deployment service administration and monitoring.

AGENT-MEDIATED ONTOLOGY GENERATION FROM CO-LOCATED INFORMATION

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CONCLUSION

THANKS FOR YOUR TIME!

Any questions please?