

9-ANEKA—INTEGRATION OF PRIVATE AND PUBLIC CLOUDS

Cloud Computing
Principles and Paradigms

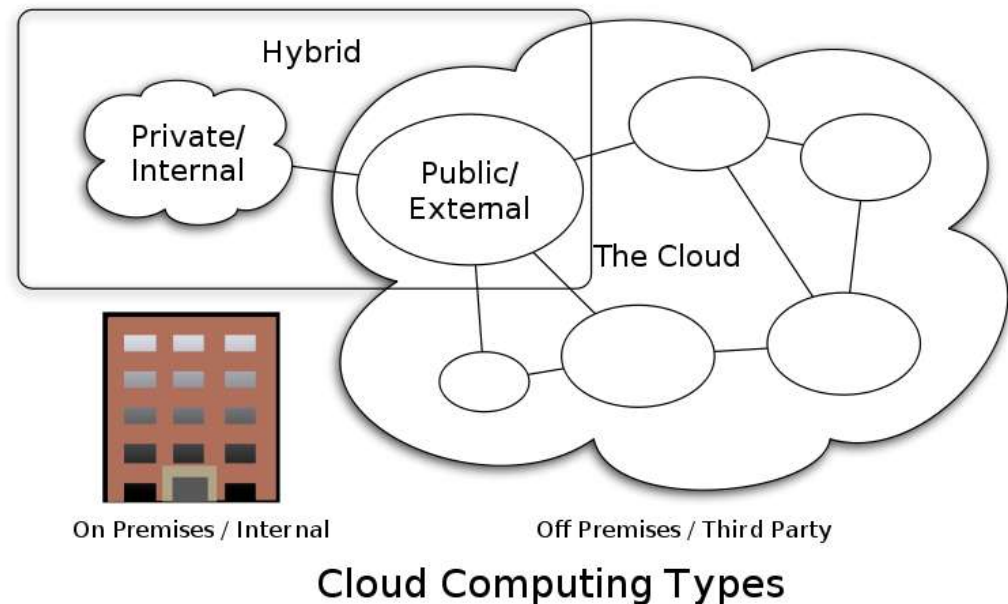
Presented by
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Outline

- Introduction
- Technology and Tools for Cloud Computing
- Aneka Architecture overview
- Aneka Resource Provisioning Service
- Aneka Implementation
- Future Directions and Conclusion

Introduction

- How to form private and public cloud?
- Private cloud
 - Advantages
 - Information Protection
 - Ensuring SLA
 - Standards
 - Disadvantages
 - Scale out
 - Solution
 - Hybrid clouds
 - PaaS solutions
 - Manjrasoft Aneka



Technologies and Tools

- Deploying private cloud

- VM technologies
- VM managers

- IaaS

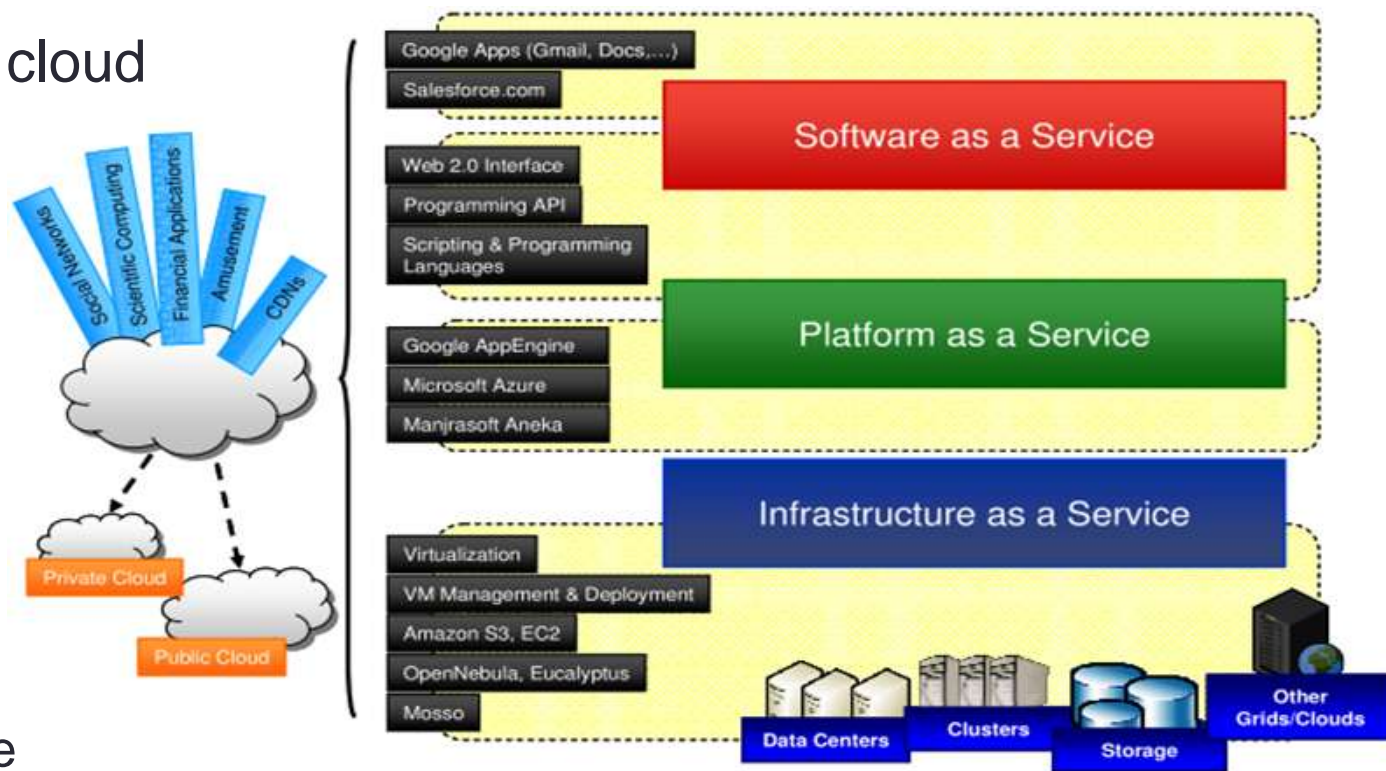
- Amazon
 - EC2, S3
- GoGrid
- 3Tera AppLogic

- PaaS

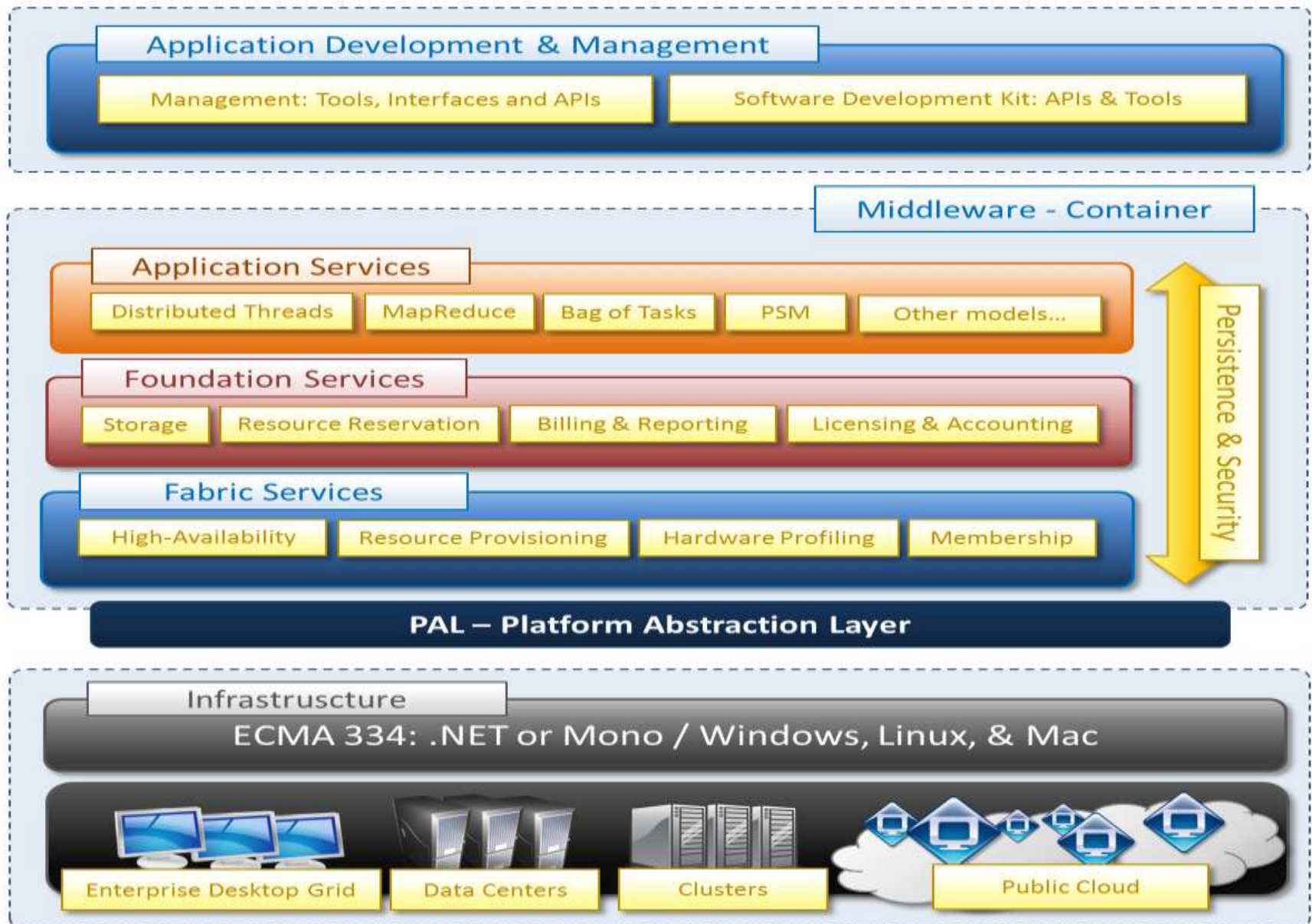
- Microsoft Azure
- Google AppEngine

- Other Tools (commercial and research)

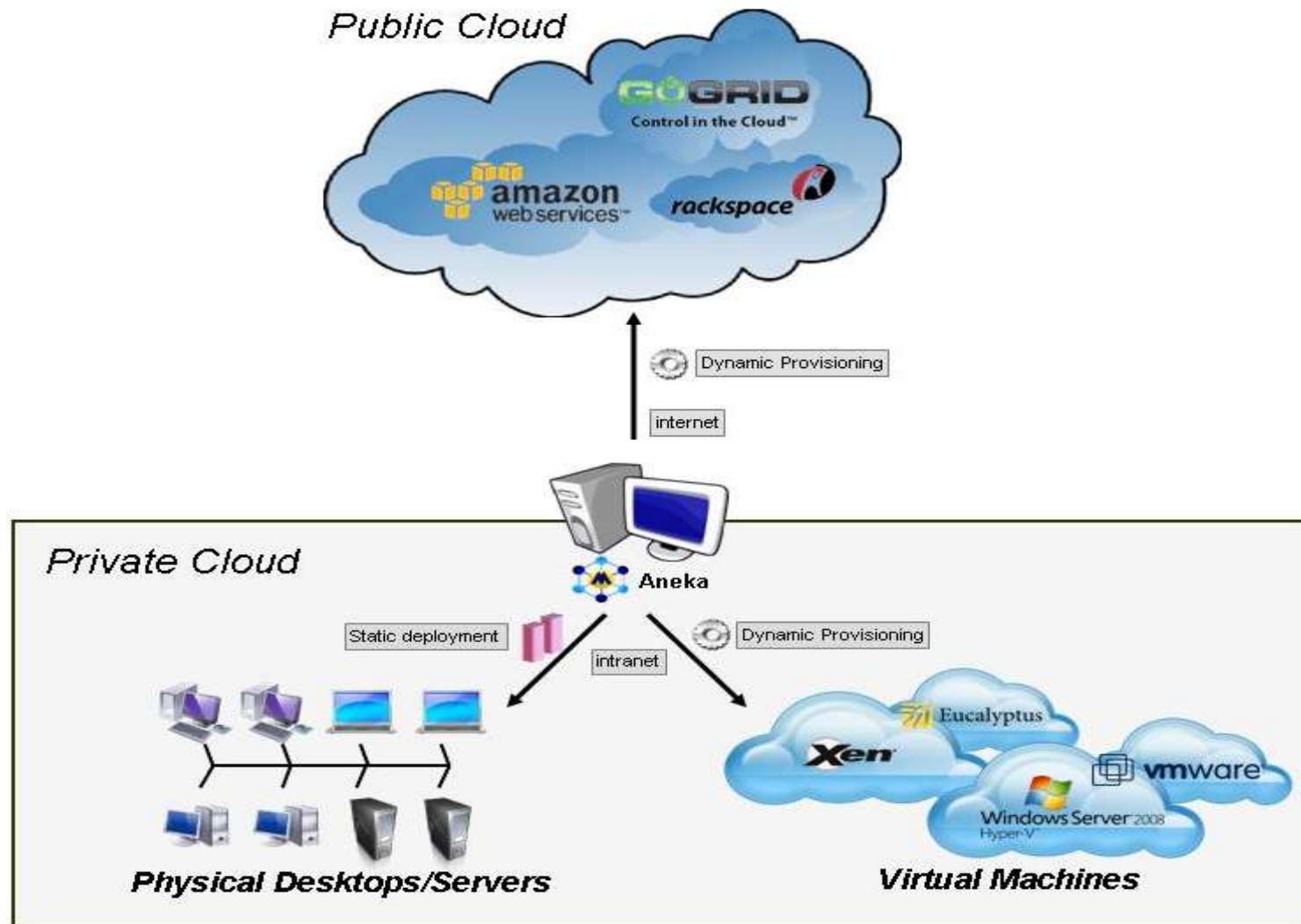
- DataSynapse, Elasta, Zimory Pools, App-Logic
- Aneka, OpenNebula, Nimbus



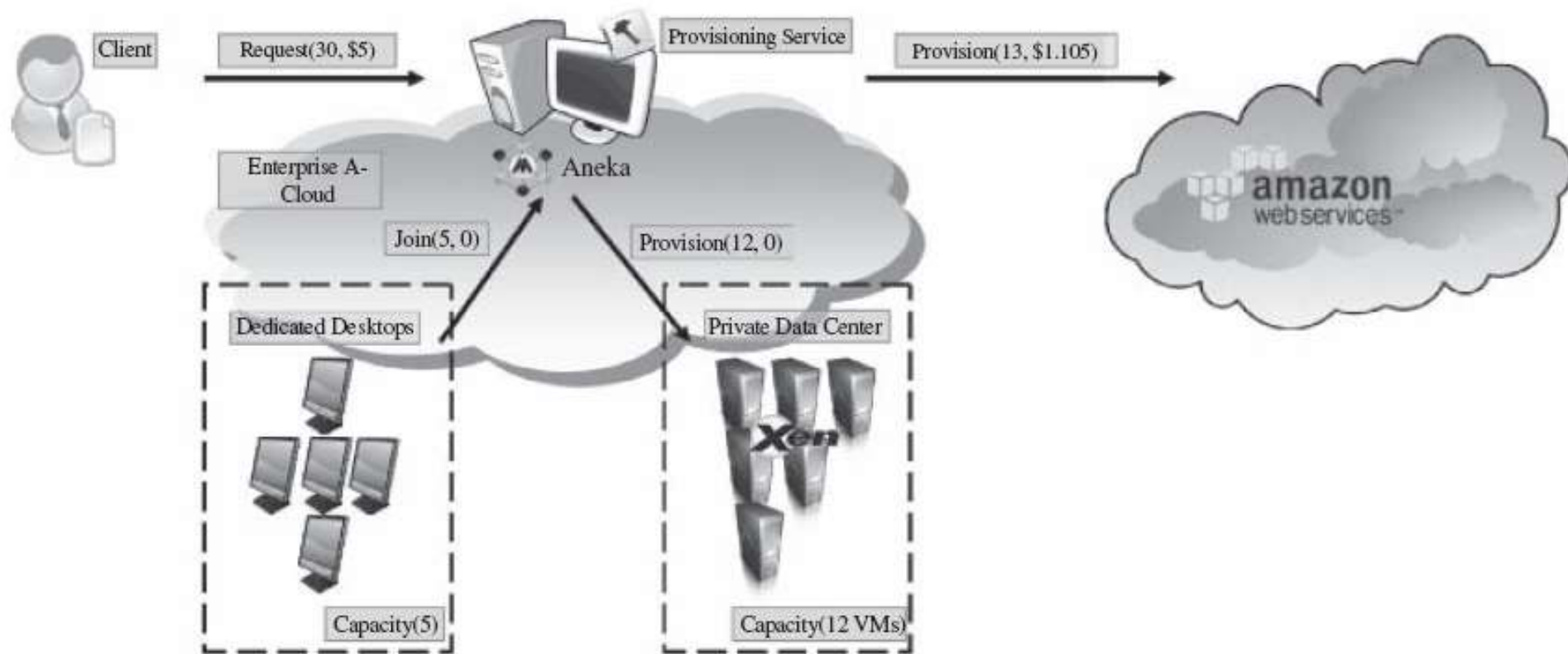
ANEKA - Architecture



Resource Provisioning



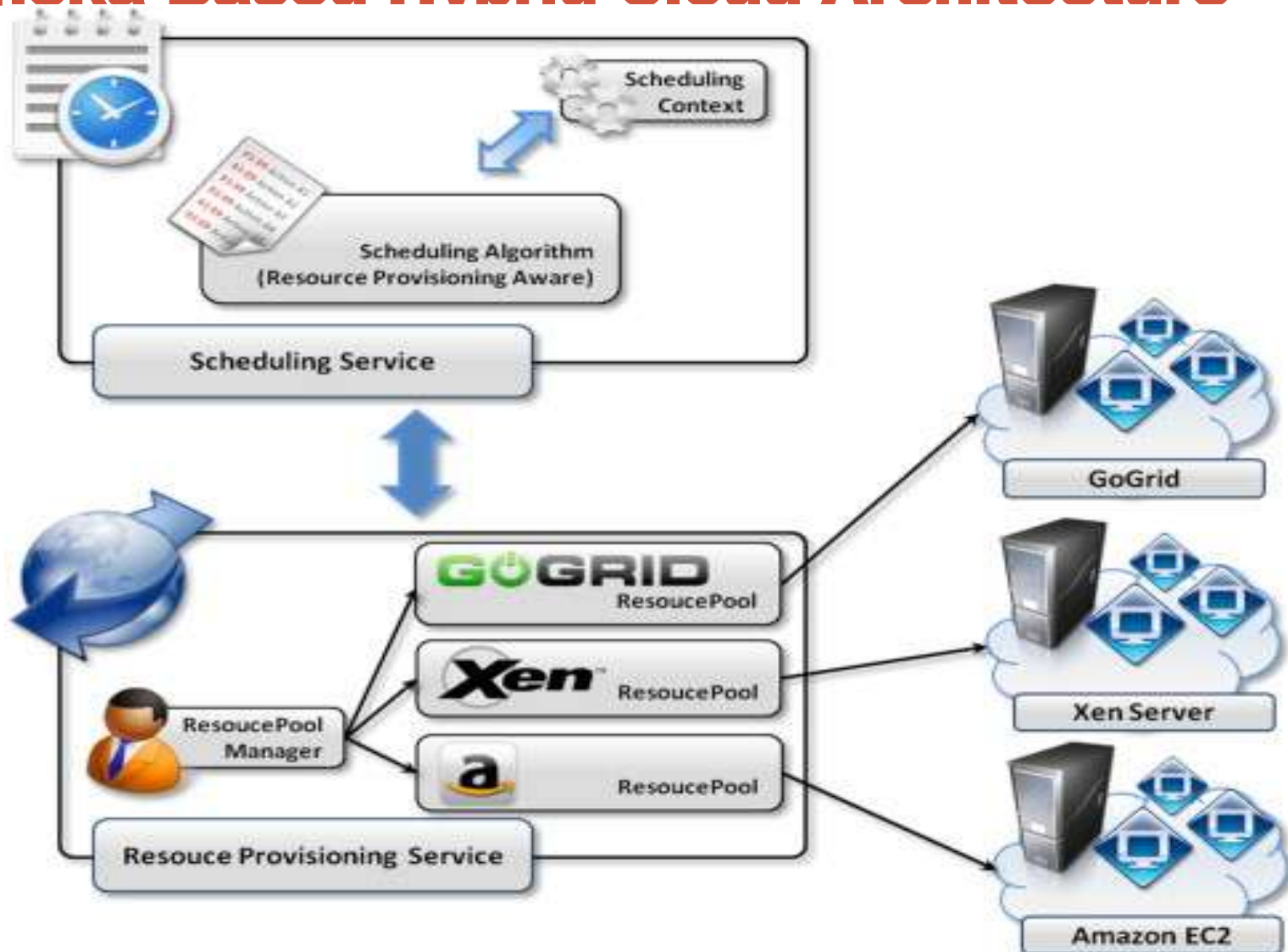
Use case of resource provisioning under Aneka



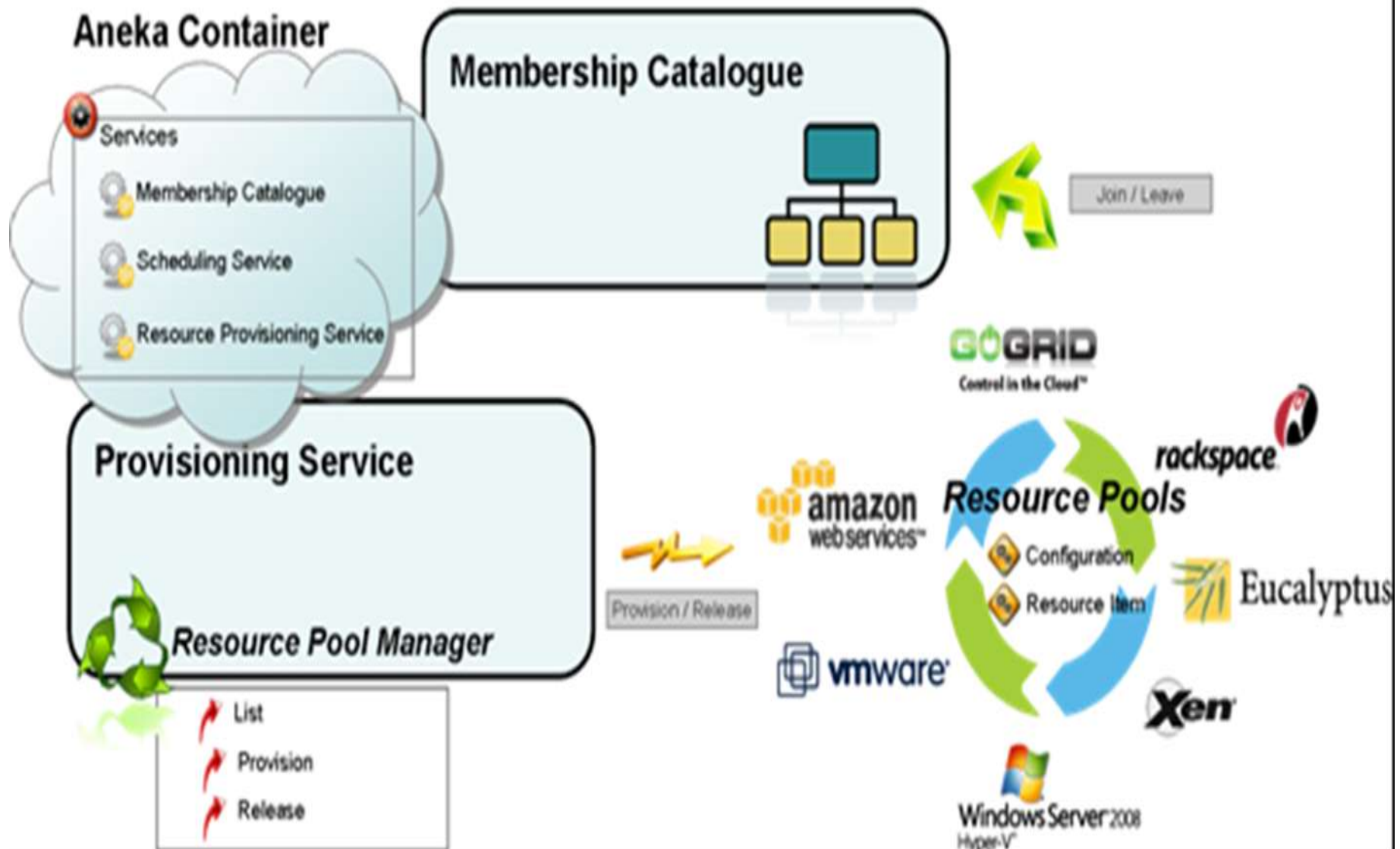
features of hybrid clouds

- Support for Heterogeneity
 - integrate additional cloud service providers (IaaS) without major changes to the entire system
- Support for Dynamic and Open Systems
 - plugging new components and rapidly integrating new features
- Support for Basic VM Operation Management
 - software frameworks that support hypervisor-based execution should implement a minimum set of operations
- Support for Flexible Scheduling Policies
 - Public and private resources can be differently utilized, and the workload should be dynamically partitioned
- Support for Workload Monitoring
 - To lease a subset of resources and dismiss resources if they are no longer necessary

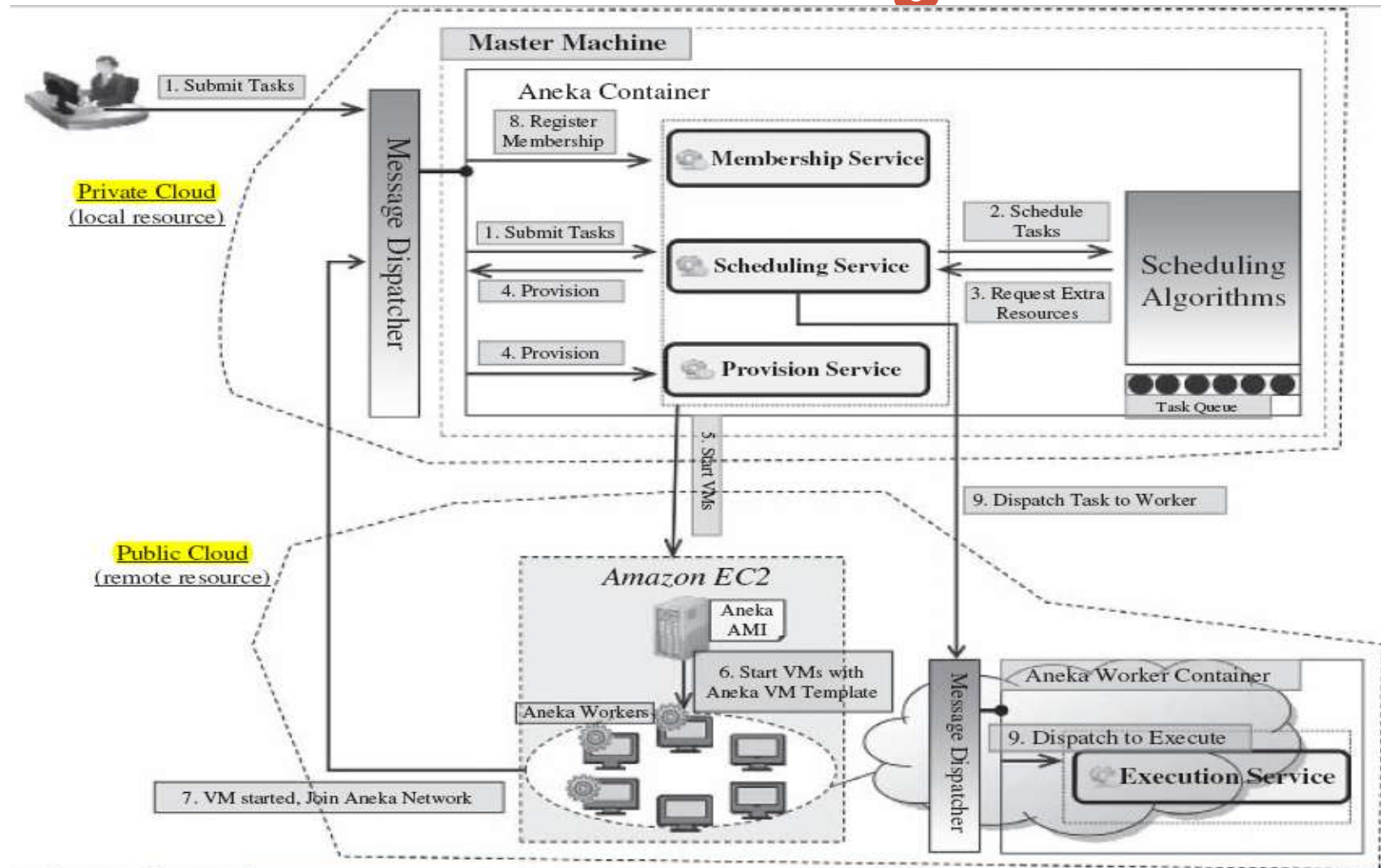
Aneka-Based Hybrid Cloud Architecture



Aneka Hybrid Cloud Architecture



Implementation for Aneka Resource Provisioning



Research in Hybrid Clouds

- Pricing Models
- Security Standardization
- Management and Scheduling Policies for heterogeneous environment
- Security in hybrid cloud
- Data retention
- Possibility of massive outage
- Provider trust
- Jurisdiction (confidentiality of data)
- Standardization

END

ANEKA - Integration Of Private And Public Clouds