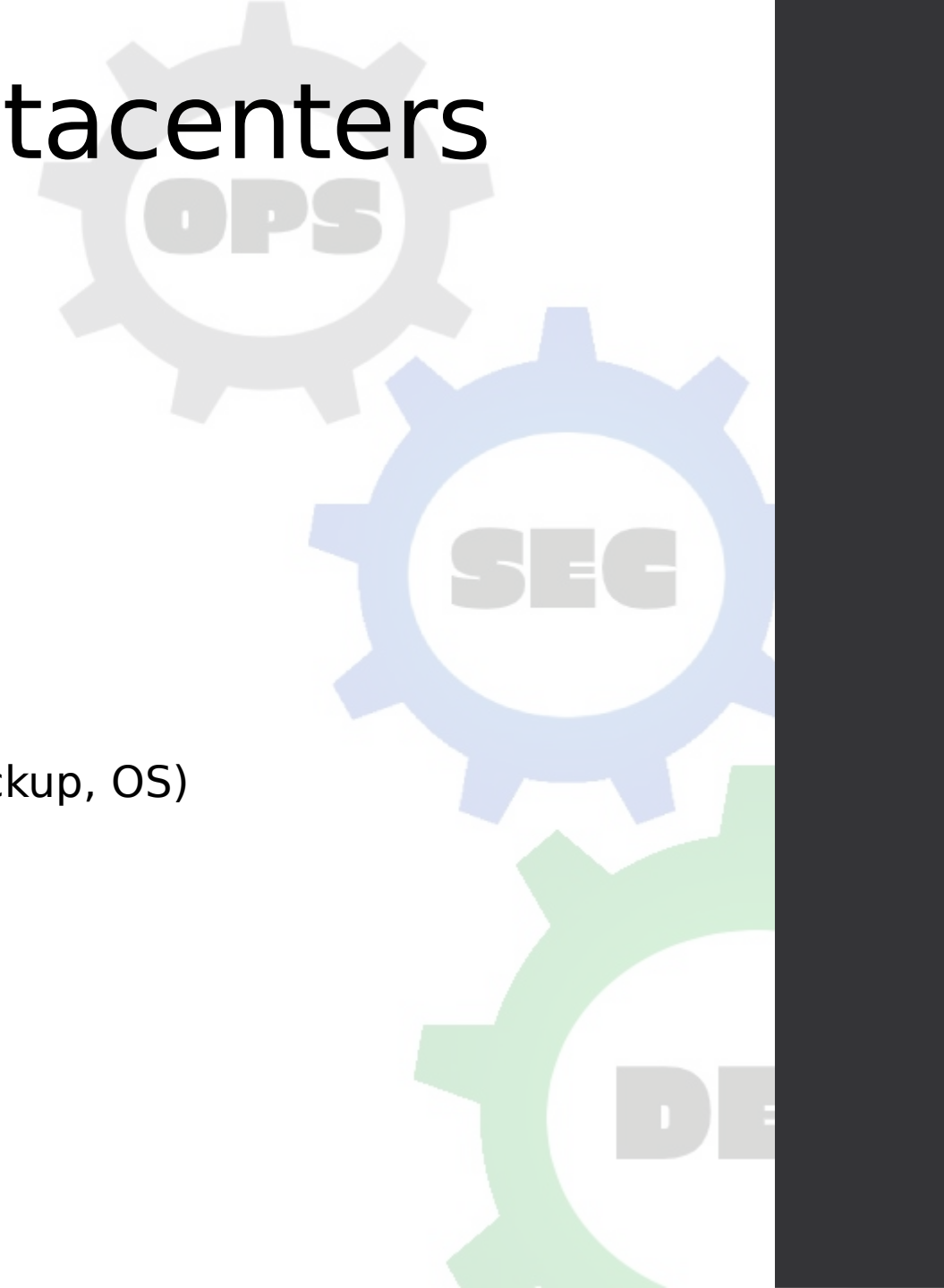
Cloud Computing

The big picture

What is cloud computing?

Problems with classic datacenters

- Data centers capacity
- Hardware is not utilized efficiently
- Legacy hardware and systems
- Application compatibility issues
- Cross vendor interoperability
- Complex processes and management
- A lot of experts are required (e.g. Network, Storage, Backup, OS)



The Era of Cloud Computing

- Computing resources provided as a service
- Natural evolution and adoption of
  - Existing technologies
  - Existing paradigms

Utility Services

- Available to the customer as needed
- Charges for specific usage
- Maximize the efficient use of resources
- Minimize associated costs
- Billing reporting

How Cloud Computing can help?

- Managed services
- Cost effective solutions
- Server consolidation
- Service or application isolation
- Simplified service deployment
- Simplified service management
- Increased service and application availability
- Automatic scalability
- Service automation

Behind The Scene

- Hardware Infrastructure
- Virtualization
- Containers
- Management stacks
- Automation stacks
- Programming APIs
- Web User Interface

Cloud Classifications and Service Models

- Classification
  - Public
  - Private
  - Hybrid

- Service Models
  - Infrastructure as a service (IaaS)
  - Platform as a service (PaaS)
  - Software as a service (SaaS)
  - And more…

Cloud Computing Today

- Cloud Computing has reached a maturity that leads it into a productive phase
- Nowadays Cloud Computing is integral concept in IT
- More innovations because of Cloud
- Increased development for the Cloud

Good Cloud Platform

- Managed Services
- API automation
- Self-Service – UI, CLI, API
- Flexible billing model (pay-as-you-go)
- Flexible billing reporting
- Dynamic workload balancing
- High-Availability and Scalability
- Role-based administration
- Monitoring and Reporting
- Integration with other systems

Public Cloud Platforms

- 2022 Q1
  - AWS – 33%
  - Azure – 21%
  - Google Cloud – 8%
  - Alibaba – 6%
  - Others – 32%

Private Cloud Platforms

- A lot of vendors
  - DELL
  - VMWare
  - IBM and RedHat
  - Oracle
  - BMC
  - Citrix
  - HP
  - Cisco
  - Microsoft
  - More...
- What is the problem with those platforms
  - Mainly focused on Virtual Machines (IaaS)
  - Do not provide real cloud native experience
  - Very hard to maintain and support
  - Not so good or mising APIs
  - Missing and or bad support for tools like terraform, cdk, ansible and etc.

Hybrid Cloud Platforms

- AWS Outposts
- Azure Stack
- Google Anthos
- More...

Cloud Native vs Traditional Workloads