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#### Preface

# Concepts

## Abstraction

Abstraction is the concept of *dividing specific functions of a server into their own individual systems*. Much like subcontracting janitorial, or security services out for a building owner.

### Virtualization

* Compute – Provided by hardware with Hypervisor software installed
* Storage – SAN’s or other storage service store the data and virtual machines
* OS – Operating Systems are installed in Virtual Machine files that can be moved like any other file
* DRaaS – Services such as Disaster Recovery are provided by online services

### SDN – Software Defined Networking

* Hardware – Routers, Switches and other networking equipment is “dumb” and receives all configurations from a Management Server
* Management Server – manages all rules, logs, and controls network devices
* Rules – written in Python or other languages the rules can offer fine tuned configurations that can route traffic by individual devices, users, and even based on outside conditions.

### Serverless Architecture

* Code – is stored on a basic server and makes calls to other services
* Compute – services are now accessed without dealing with the underlying Operating Systems. You call an “encode” service that encodes your video instead of dealing with a Windows Server with ffmpeg.
* Storage – is simply a bucket offered by AWS or AZURE
* Authentication – even services such as authentication can be made through API calls instead of dealing with Active Directory.