

IF1006 – DevOps Software delviery way: Introduction

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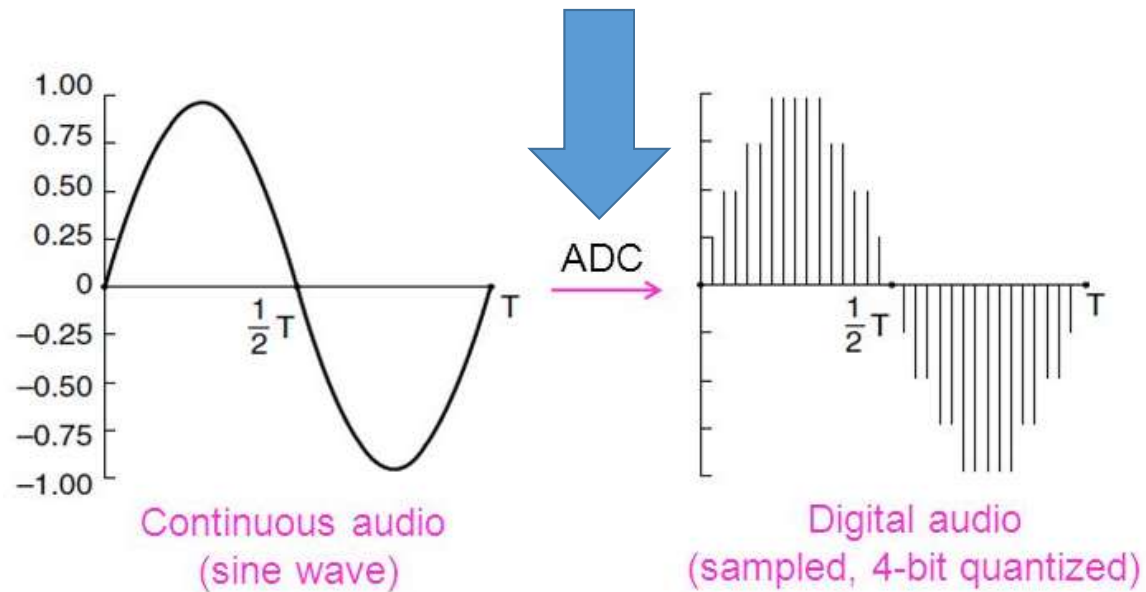
What is DevOps?

Discussing at classroom....

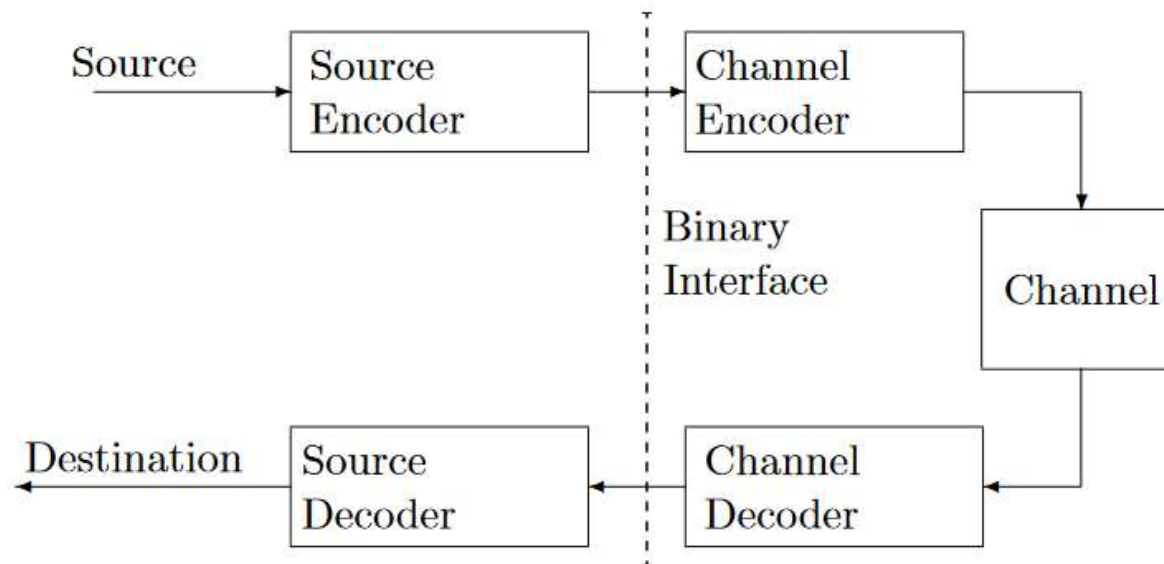
A set of practices to delivery software fast without loss
quality. [lenbass]

At beginning ... Binaryzation

Transforming signals in bits with an analog-to-digital converter

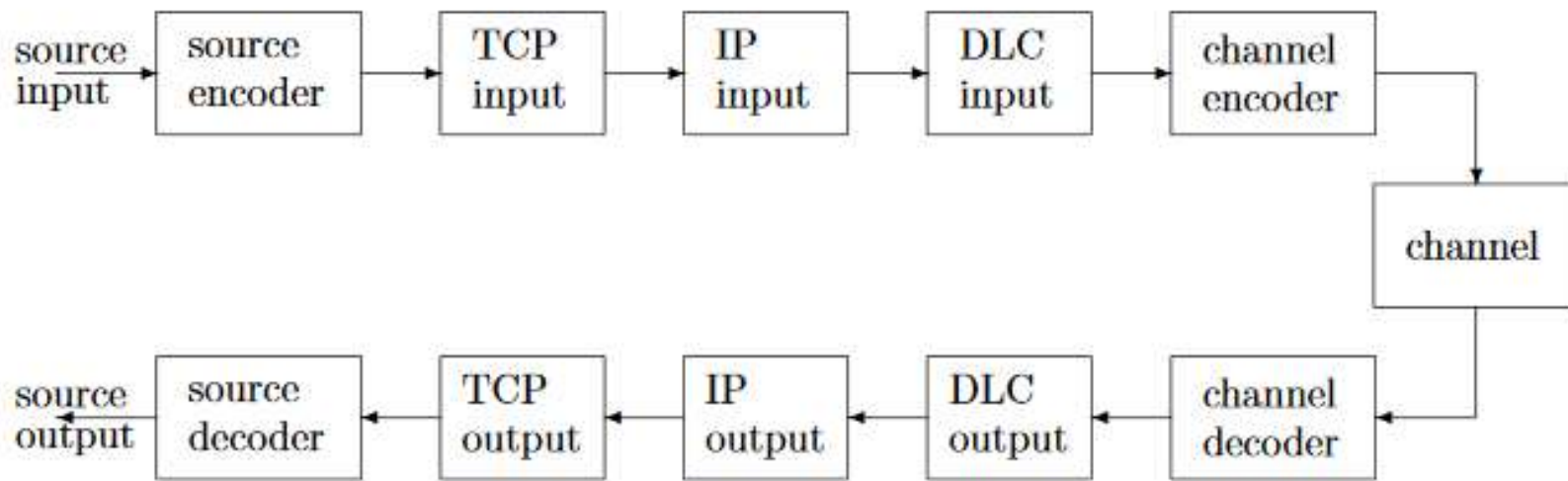


Binaryzation in Networking



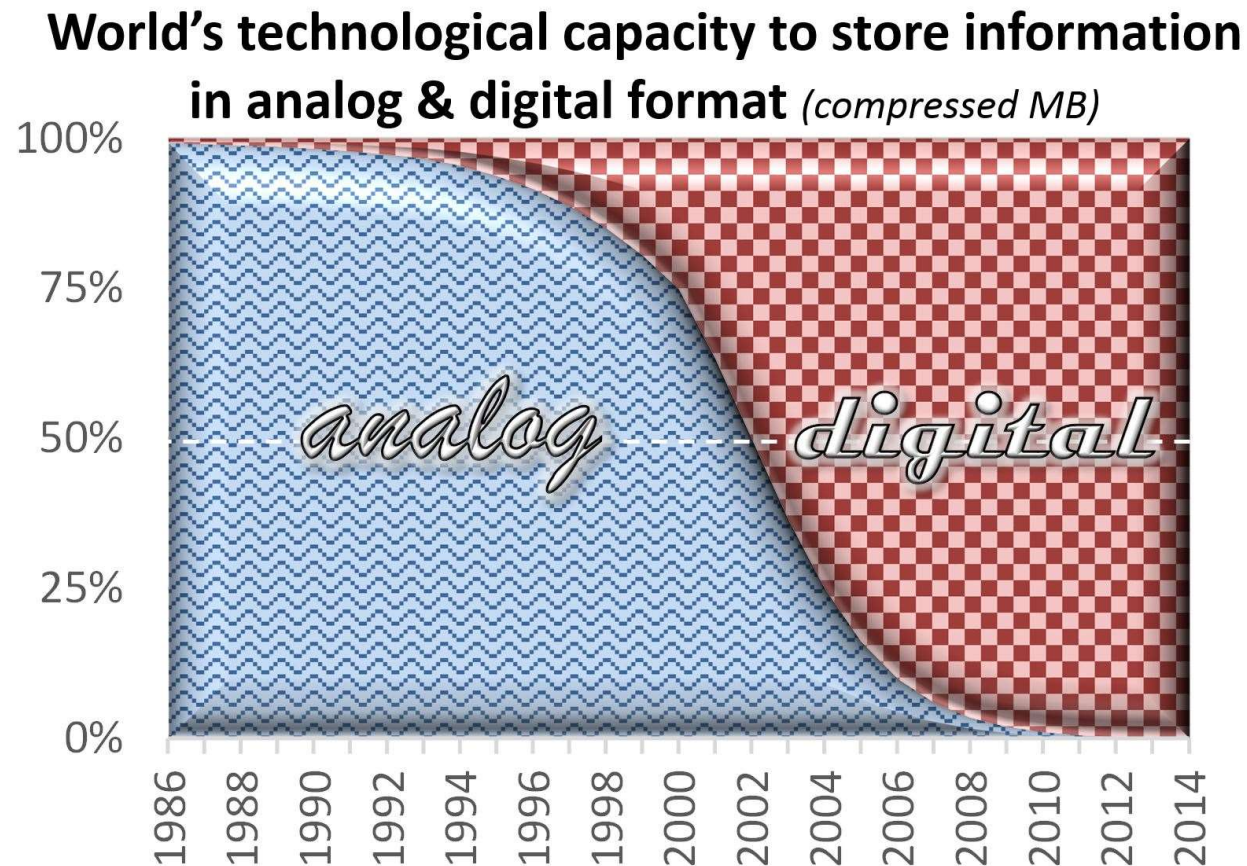
Robert Gallager, course materials for 6.450 Principles of Digital Communications I, Fall 2006.
Massachusetts Institute of Technology.

Binaryzation in Networking (TCP/IP)



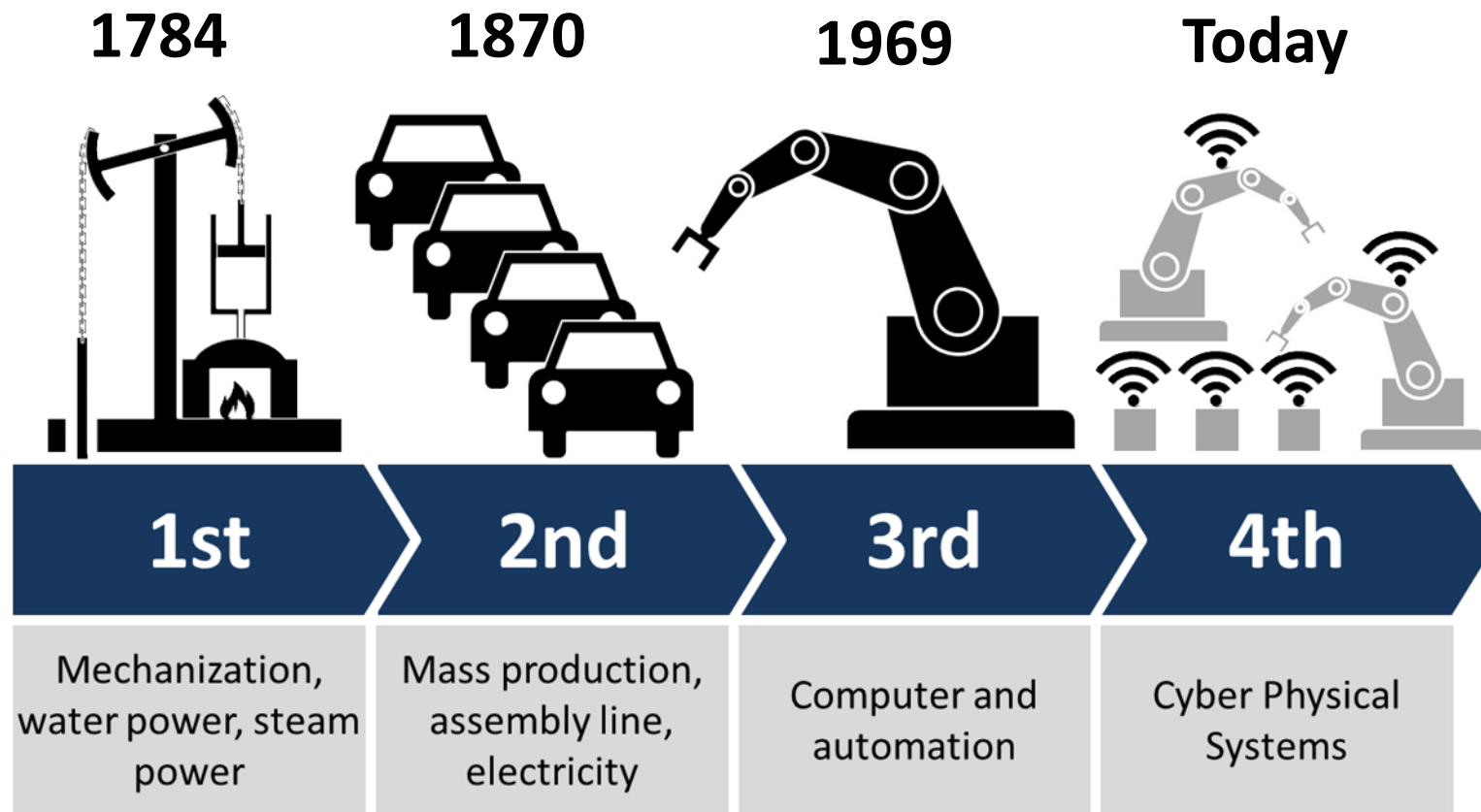
Robert Gallager, course materials for 6.450 Principles of Digital Communications I, Fall 2006.
Massachusetts Institute of Technology.

Binarization To Digitalization (Platforms or tools over binaries)



Hilbert, M., & López, P. (2011). The World's Technological Capacity to Store, Communicate, and Compute Information. *Science*, 332(6025), 60–65. www.martinhilbert.net/worldinfocapacity.html

Digitalization -> Revolution (digital transformation) at industry



Modified from "Christoph Roser
[<http://www.allaboutlean.com> AllAboutLean.com"]

Digital transformation (DT): impact over Market changes

The world is changing faster than ever before. We are referring to this change as a revolution – the fourth of its kind – but what is remarkable about this revolution is the pace at which change is happening. Our customers are engaging in new ways and demonstrating completely new behaviors. New business models are arising in ways that, at first glance, may seem random. Product innovation is happening with an ease that is enviable. And the traditional definition of an organization, the notion of mobilizing a network of human resources and

Modified from Marianne Dahl (Microsoft) in Digital transformation Report 2017 - Creating a Digital-First Business : How the Largest Danish Enterprises Address Digital Transformation

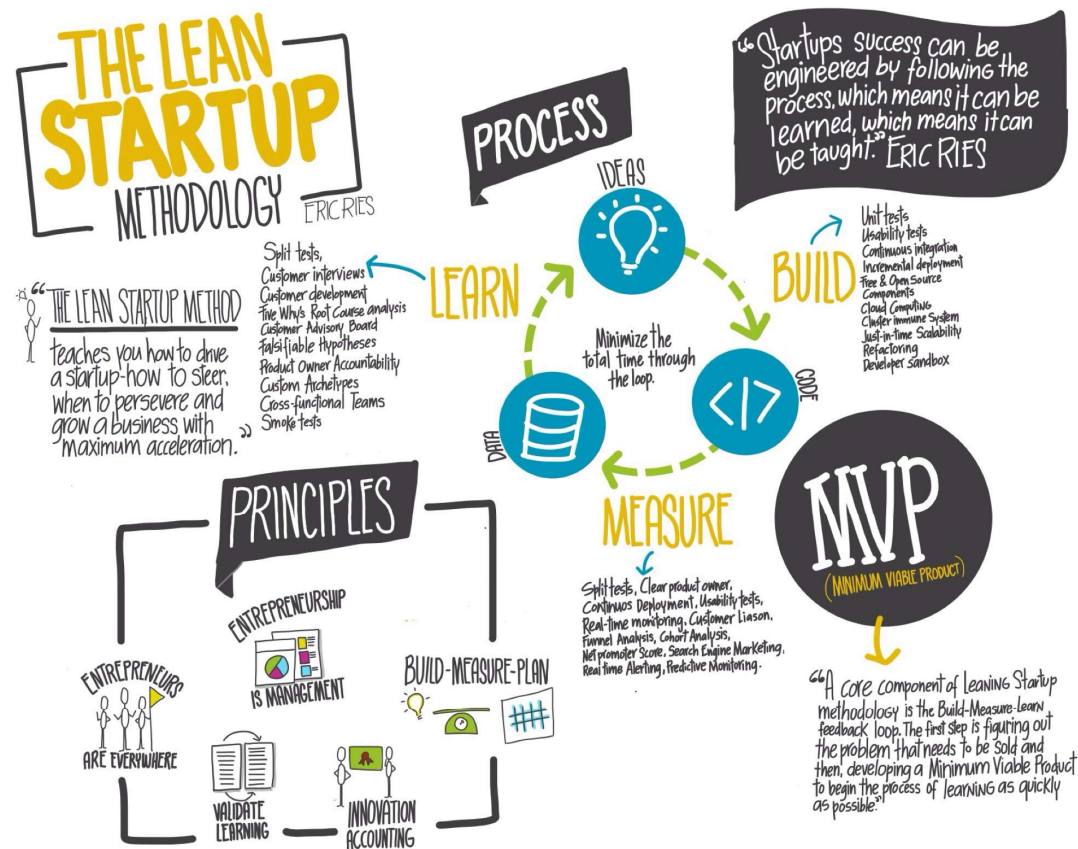
What is Digital transformation?[theguardian]

"digital transformation" is a visible wholesale restructure to avoid a tipping point caused by digital technologies and downstream market effects.

Causes

- Lean methodologies
- Digital platform
- **The customer (the most important one)**

Cause: Lean methodologies



Cause: Digital platform

- Mobile
- BigData
- IA
- IoT
- **Cloud Computing [another focus of this course]**

Cause: Customer

- Software is changing our lives.
- Cloud, social media e mobile are present in almost every place changing our decisions.
- The customer is influenced to use more software than ever.
- They are requiring more velocity and quality than ever.

Cause: Customer - eg. Google Chrome vs Mozilla Firefox

- Google Chrome: In 2010, Google has announced its rapid release approach (before quarterly, after every six-weeks)
- Mozilla Firefox: one year later (2011), Mozilla announce its rapid release approach too. (before quarterly, after every six-weeks)

MOTIVATION: inhibit user's evasion by enabling rapid bugfixes and deliver new functionalities to customers;

Rapid-release Firefox meets corporate backlash(2011). <<http://goo.gl/wsSygx>>
Google ethos speeds up Chrome release cycle(2010). <<https://goo.gl/6dQvBn>>

Results from a business stading point

- A COMPETITIVENESS never seen in the market
- The need of INOVATION as commodity;
- The need of velocity OR be HIGH-PERFORMING to be competitive.

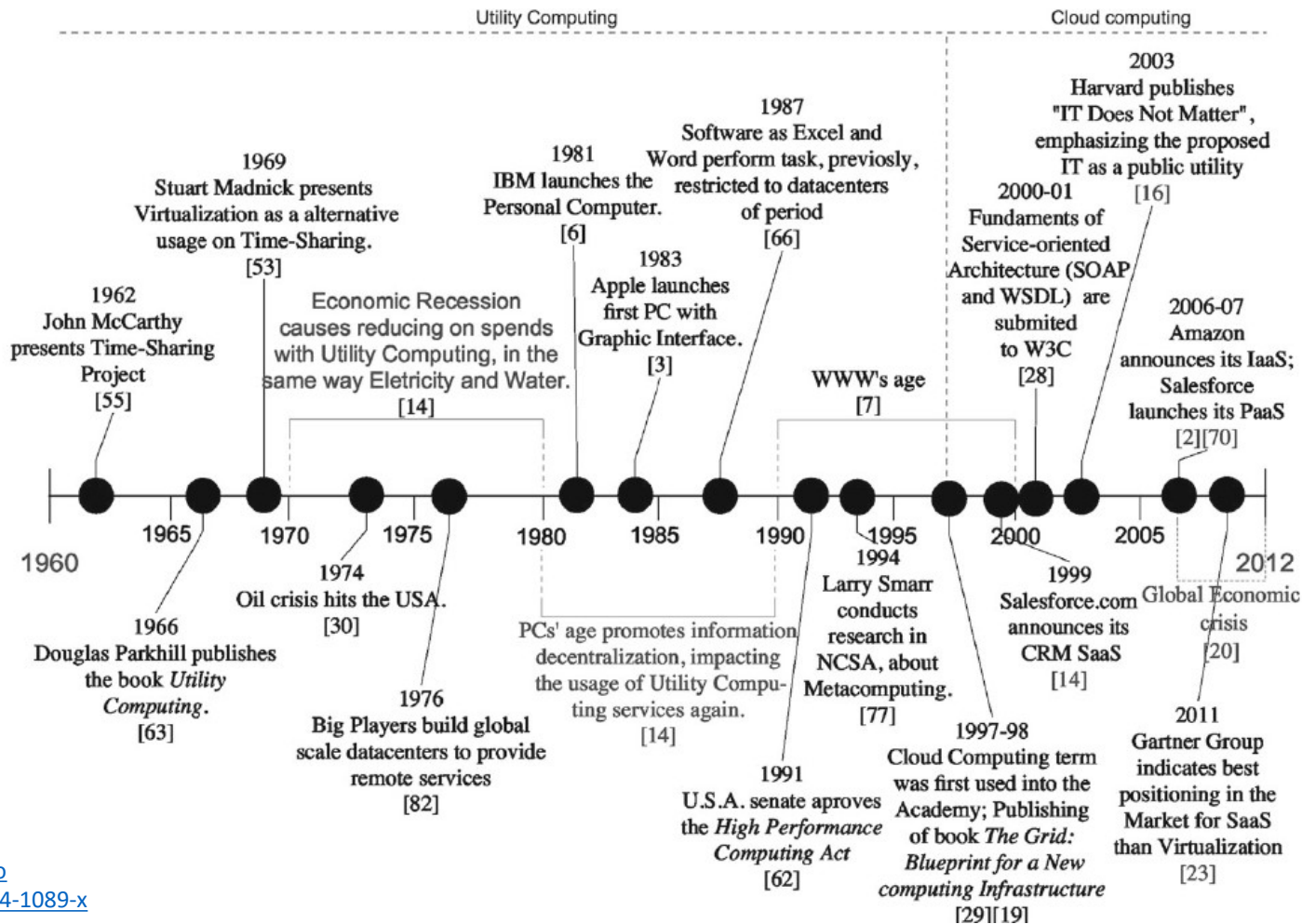
The role of Cloud Computing in DT

- Fundament for others “digital tools”.
- Before, Should-have technology. Today, MUST HAVE.
- Helping Software development lifecycle (Governance, development and operations);
- \$ 500 Billions 2018 [IDC]
- Until 2020, 25% world economy will be involved with [accenture]

What is Cloud computing? [NIST]

Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.

The rise of Cloud computing in middle of digital transformation



Cloud Computing Commodity attributes

- Fast hardware provisioning;
- Canary releases;
- Green/blue Deployment
- Testing
- Monitoring
- Ephemeral resources
- Scalability
- Easy to manage Heterogeneity of development environments

Homework

Identify problems that delay the release of software during software development lifecycle.