

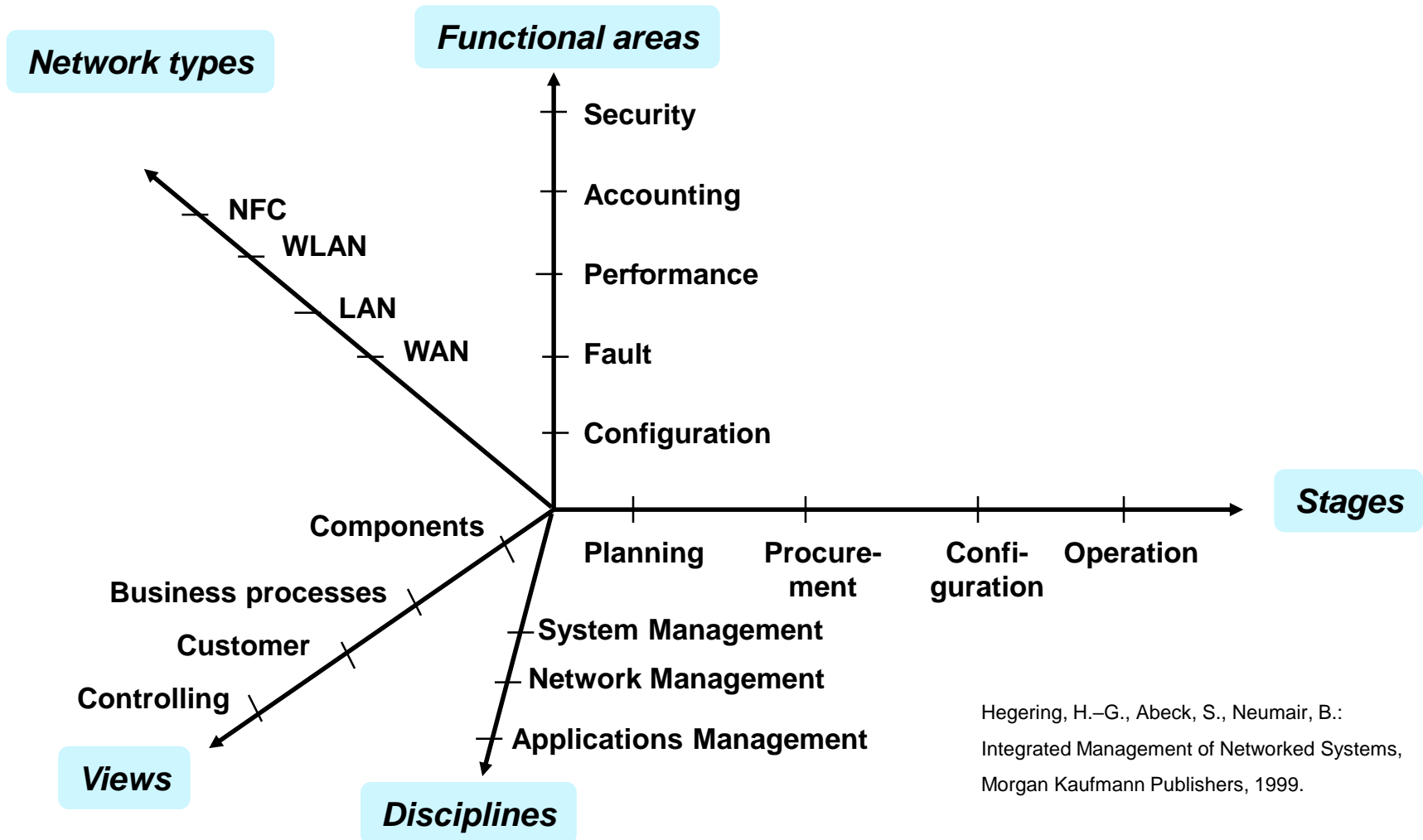


**Module: Network Management
vs. NetOps
vs.DevOps**

Conceptual clarification and discussion



What is network management (classical model)?



Hegering, H.-G., Abeck, S., Neumair, B.:
Integrated Management of Networked Systems,
Morgan Kaufmann Publishers, 1999.



What is DevOps?

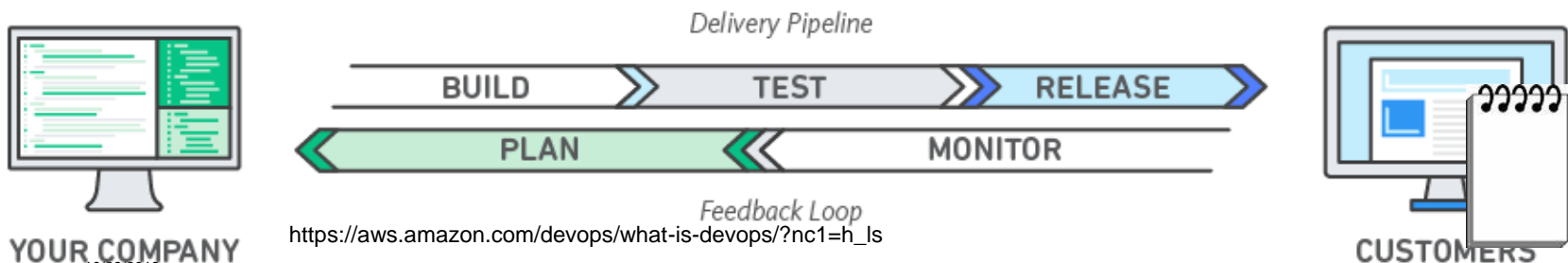
Wiki:

- DevOps ... is a **software development methodology** that combines **software development** (Dev) with **information technology operations** (Ops). The goal of DevOps is **to shorten** the systems **development life cycle** while also delivering features, fixes, and updates frequently in **close alignment with business objectives**.

<https://en.wikipedia.org/wiki/DevOps>

Amazon:

- DevOps is the combination of **cultural philosophies, practices, and tools** that increases an organization's ability to **deliver applications and services at high velocity**: evolving and improving products at a faster pace than organizations using traditional software development and infrastructure management processes. **This speed enables organizations to better serve their customers** and compete more effectively in the market.



https://aws.amazon.com/devops/what-is-devops/?nc1=h_ls



What is NetOps?

Wiki:

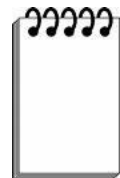
- NetOps is defined as the operational framework to *operate, manage and defend* the Global Information Grid (GIG) to ensure information superiority for the United States.

<https://en.wikipedia.org/wiki/NetOps>

NetworkWorld:

- NetOps specifically focuses on the **philosophies, practices, and tools** in building and **operating the network** to **deliver and respond** quickly to application and **user service needs**. It does this by linking network change with the applications and services being **delivered in real time**. This requires **automated workflows and analytics** that **connect** the network not only to the teams and systems for the network, **but also to the engineering teams and systems for the applications, user services and other infrastructure**.

<https://www.networkworld.com/article/3193000/lan-wan/netops-are-you-ready-how-can-you-start.html>





Module: Configuration Management vs. Provisioning

Conceptual clarification and discussion



What is Configuration Management?

Wiki:

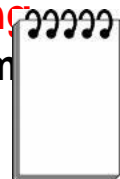
- **Configuration management (CM)** is a **systems engineering** process for **establishing and maintaining consistency** of a product's performance, functional, and physical attributes with its requirements, design, and operational information throughout its life. The CM process is widely used by military engineering organizations to manage changes throughout the system lifecycle of complex systems, such as weapon systems, military vehicles, and information systems. **Outside the military**, the CM process is **also used with IT service management** as defined by **ITIL**, and with other domain models in the civil engineering and other industrial engineering segments such as roads, bridges, canals, dams, and buildings.

https://en.wikipedia.org/wiki/Configuration_management

Article on network management:

- **Configuration management** is concerned with **recording and maintaining network configuration**, update configuration parameters to ensure normal **network operations**.

Raouf Boutaba and Jin Xiao: Network Management: State of the Art, IFIP WCC TC6 2002





What is Provisioning?

Wiki:

- In **telecommunication**, provisioning involves the process of **preparing and equipping a network** to allow it **to provide new services** to its users.
- **Network provisioning** is one of provisioning type. The services which are assigned to the customer in the customer relationship management (CRM) have **to be provisioned on the network element** which is enabling the service and allows the customer to actually use the service.
- **Server provisioning** is a set of actions to **prepare a server with** appropriate systems, data and software, and make it ready for network operation. Typical tasks when provisioning a server are: **select a server from a pool** of available servers, **load the appropriate software** (operating system, device drivers, middleware, and applications), **appropriately customize and configure** the system and the software to create or **change a boot image** for this server, and then change its parameters, such as IP address, IP Gateway to find associated network and storage resources (sometimes separated as resource provisioning) to audit the system.

[https://en.wikipedia.org/wiki/Provisioning_\(telecommunications\)](https://en.wikipedia.org/wiki/Provisioning_(telecommunications))





What is Provisioning?

Techopedia- The IT Education Site:

- **Provisioning provides equipment, software or services** to customers, users, employees or IT personnel and has **contexts in computing, computer networking and telecommunications**. Divided into the following subsets:
 - **Grid computing** provisioning: Involves the activation of servers, arrays or switches for user grid availability.
 - **Storage Area Network (SAN)** provisioning: Optimizes performance by efficiently appropriating storage to all users.
 - **Server provisioning**: Prepares a server for network operation via the installation and connection of data, software and systems.
 - **User provisioning**: Involves creating, maintaining and deactivating required business process automation objects and attributes in systems, directories and applications.
 - **Internet access provisioning**: Includes multiple client system configuration steps that vary according to connection technology and involve modem configuration, driver installation, wireless local area network (LAN) setup, Internet browser configuration, email system configuration and additional user-requested software installation.

<https://www.techopedia.com/definition/4069/provisioning-computing-computing>

