Cloud Computing: Der Paradigmenwechsel

Workshop: Cloud Computing und Informationssicherheit

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THE MAGAZINE

November 2011

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What Every CEO Needs to Know About the Cloud

by Andrew McAfee

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In 2010 an IBM survey of more than 1,500 CEOs worldwide revealed a troubling gap: Close to 80% of them believed their environment would grow much more complex in the coming years, but fewer than half thought their companies were well equipped to deal with this shift. The survey team called it "the largest leadership challenge identified in eight years of research."

Unfortunately, the information technology infrastructure at many large companies only makes this challenge more difficult. Their technology environments actually impede their ability to sense change and respond quickly. While there is no simple fix for this problem, help is at hand in the form of cloud computing, a new suite of digital tools and approaches.

Cloud computing is a sharp departure from the status quo. Today most companies own their software and hardware and keep them "on premise" in data centers and other specialized facilities. With cloud computing, in contrast, companies lease their digital assets, and their employees don't know the location of the computers, data centers, applications, and databases that they're using. These resources are just "in the cloud" somewhere.

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TOP BLOG POSTS

24 HOURS 7 DAYS 30 DAYS

1. Steve Jobs Solved the Innovator's Dilemma
2. Four Ways Women Stunt Their Careers Unintentionally
3. Nine Things Successful People Do Differently
4. Ten Innovation Myths
5. The George Costanza Approach to Fixing Fatal Flaws
6. America: Excelling at Mediocrity
7. Get the Mentoring Equation Right

Aktuelle Situation

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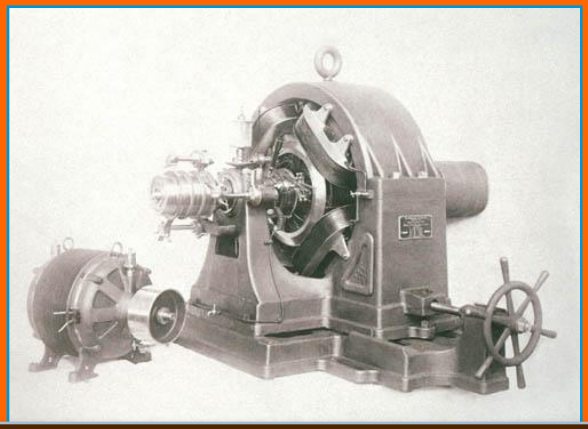
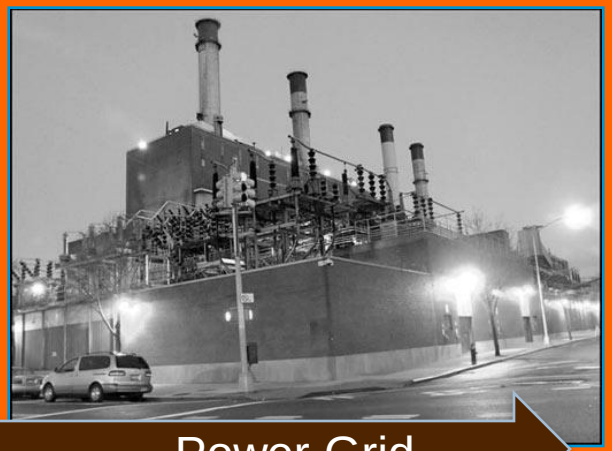
Zurück in die Zukunft





Water Wheel → Private Power Systems → Power Grid

Siloed IT → Private Cloud → Open Cloud

Cloud Computing: Verkettung (un?)glücklicker Umstände

Explosion der Daten, Dienste und Wachstum der Internetnutzung

- Breitband
- Video, Voice Over IP

Technologie am kritischen Punkt

- Mooresches Gesetz treibt die Kosten nach unten
- Skalierbare Rechenzentren wie Lagerhallen
- Konsolidierung, Virtualisierung und Automatisierung

Mobilität und Wireless

- Zu jeder Zeit, mit jedem Gerät
- Intelligente und IP-fähige Geräte

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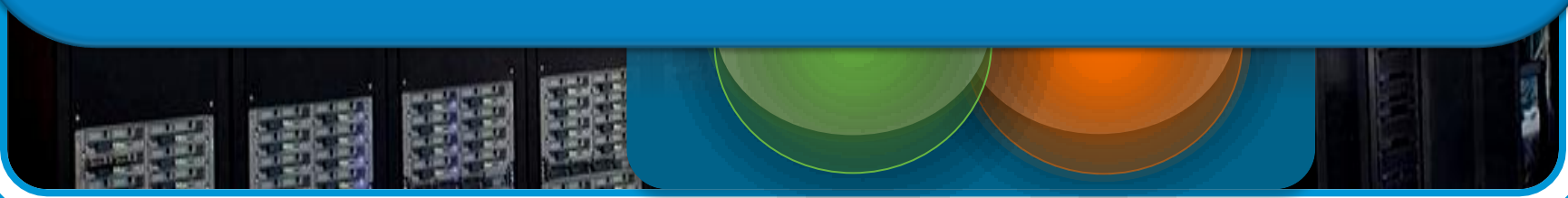
Die “Power” der Cloud:
Geteilte Ressourcen, Bereitgestellt als “Service”

Cloud ist keine Technologie…

Cloud ist ein Betriebsmodell….
…ein Applikationszentrisches Betriebsmodell



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Cloud Bewertungskriterien

Vorteile

Kosten sparen

Business Agilität

Jegliche Geräte

Information teilen / Collaboration

Bedenken

Betriebsintegration- / kompatbilität

Sicherheit / Vertrauen

Compliance

Daten Portabilität / Standard

DataPortability

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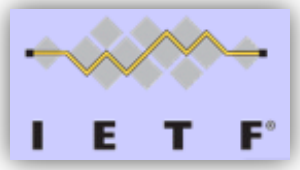
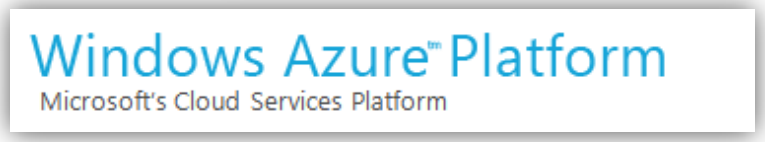
Cloud Standards(bemühungen)

Entgegenwirkende Kräfte sind am Werke

"Pull" zur Standardisierung

Push" für neue Cloud Innovationen





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Auswirkungen

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Die Welt der vielen Clouds

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Welches ist jetzt die “richtige” Cloud?

Cloud Bedenken	Public Cloud	Community Cloud	Private Cloud	Hybrid Cloud
Portabilität	?	✓	✓	✓
Verbrauch	✓ SaaS	?	✓	?
Betriebsintegrierbar	✓ SaaS	?	?	?
Kultur	?	?	✓	✓
Sicherheit	?	✓	✓	✓
Standards	?	✓	✓	?

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Cisco und das Cloud Paradigma

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Ciscos Cloud Strategy

Cloud Dienste *ermöglichen* basierend auf unseren intelligenten Netzwerken

Angepasste Lösungen um Clouds zu "bauen"

Kunden befähigen Public oder Private Clouds zu bauen und zu betreiben

Starkes Ecosystem: Integrierte Lösungen

Kunden befähigen getestete, validierte und best of breed Lösungen zu nutzen

Die Nutzung von Cloud Diensten beschleunigen

Kunden die Nutzung von Cloud ermöglichen für Collaboration und Security

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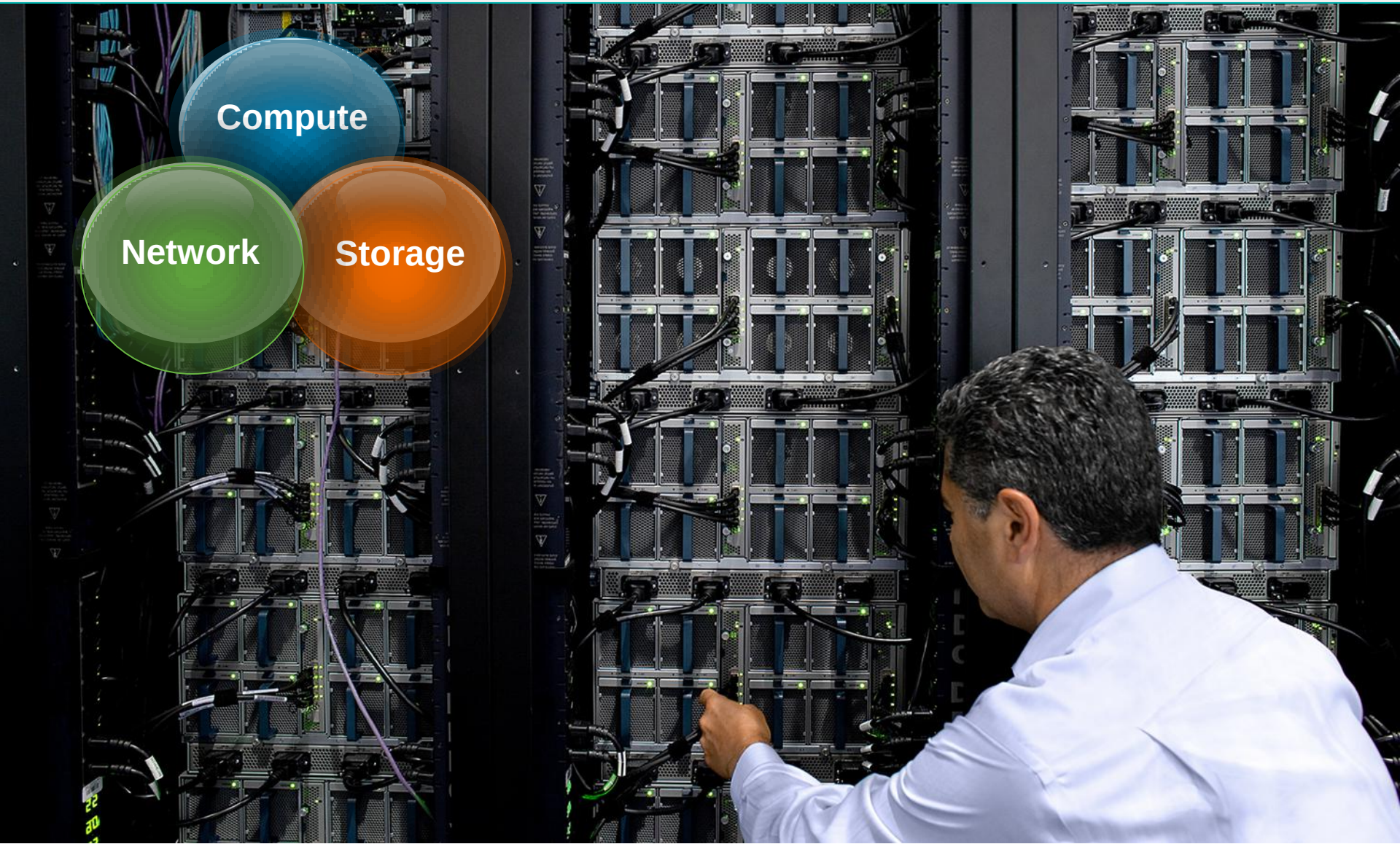
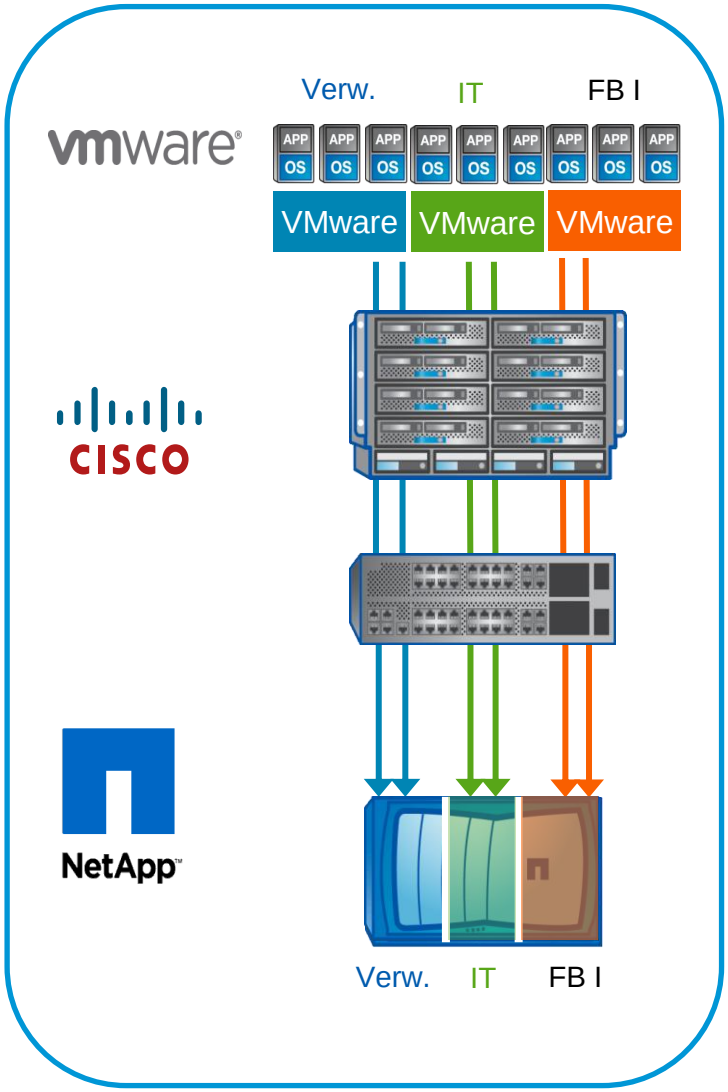
Unified Computing System
Herzstück konvergierter Infrastrukturen



Konvergierte Infrastruktur
FlexPod = Cisco, NetApp & VMware



- Secure Multi-Tenancy Architektur
  - End-to-End SMT Lösung für virtuelle Umgebungen
  - Sichere Trennung der Daten und individuelle SLAs für die Applikationen
- Cisco Validated Design
  - Getestete End-to-End-Designs
  - Garantierte Interoperabilität

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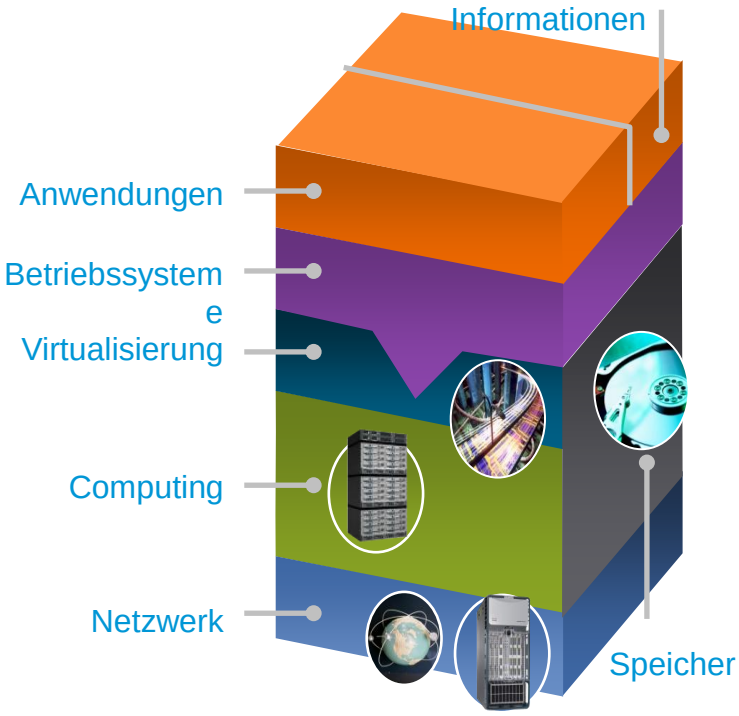
Konvergierte Infrastruktur
VCE Vblock = Cisco, EMC, VMware

- **Jointventure VCE**
- **Zentralen Infrastruktur Plattform in EINER Lösung**
  - Cisco UCS
  - Cisco Nexus 1000v und Ciscos MDS-Switche
  - EMC Storage inkl. Security-Tools von RSA
  - vSphere
  - Zentrales Management und Provisionierung
- **Vorkonfektioniert, vorintegriert, abgestimmt**
  - V-Block 0 300-800 VMs
  - V-Block 1 800-3000 VMs
  - V-Block 2 3000-6000 VMs
- **Nahtloser Support aller drei Hersteller durch VCE**

Lösungspaket



Vblock Infrastruktur Paket

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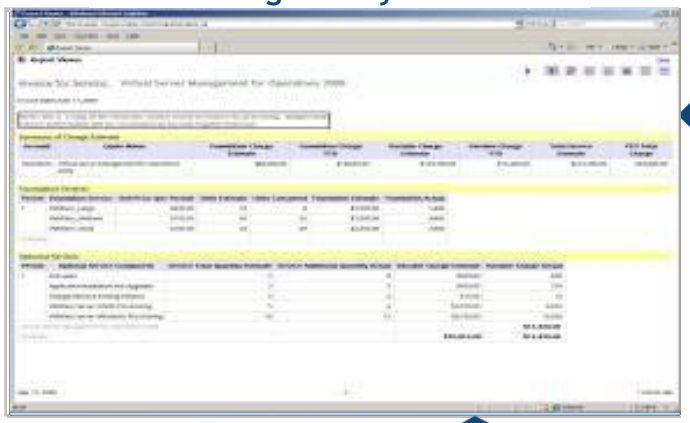
Automation / Orchestrierung

Review Offerings,
Get Quotes

Chargeback
or Showback

Self-Service

Tracking for Pay-Per-Use



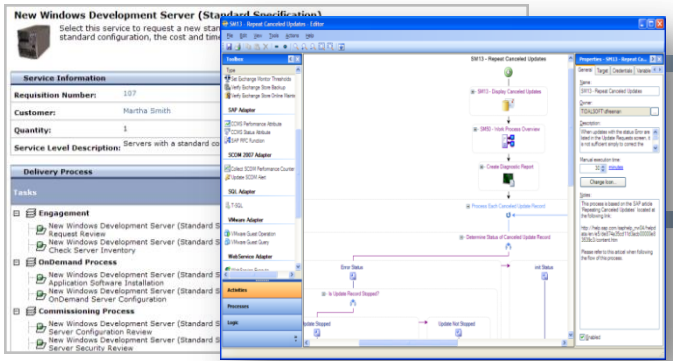
Define and Publish
Standard Options

Architecture & IT

Approvals & Controls

Orchestrate
Delivery

Report
Consumption



Lifecycle
Management

Process Coordination and
Delivery Automation

Server
Provisioning

Application
Server

Database Server

Network

Storage

Security
Ops
DR

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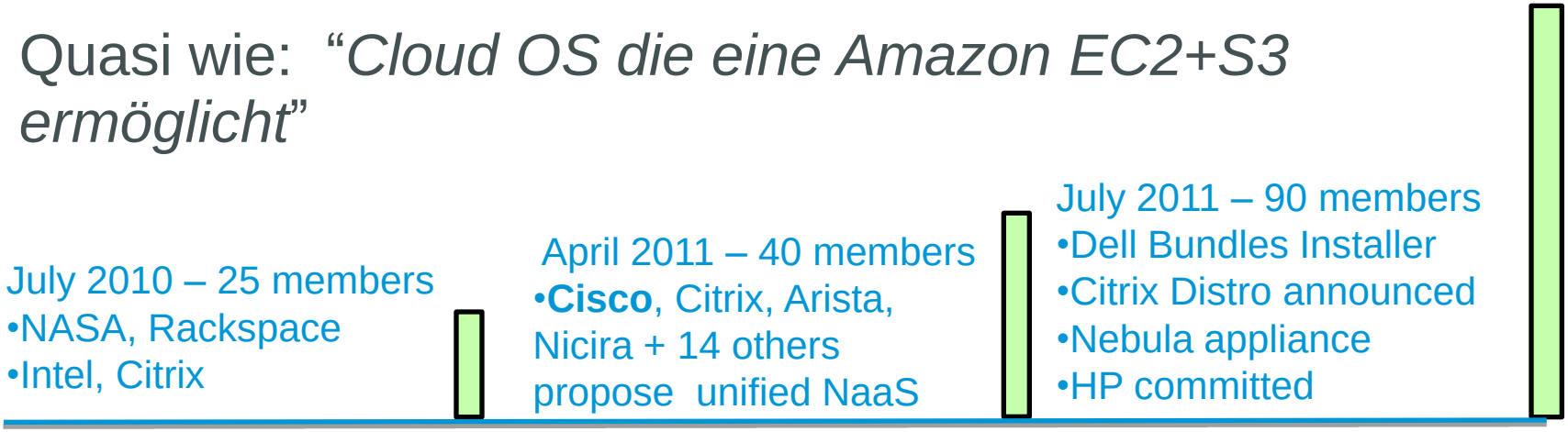
OpenStack

- OpenStack ist Open Source Software, das es jedem Unternehmen emöglicht seine eigene Public oder Private Cloud zu bauen
- Hypervisor agnostisch, weil es über dem Hypervisor liegt
  - Xen, KVM, Vmware ESX, Hyper-V
- Quasi wie: "*Cloud OS die eine Amazon EC2+S3 ermöglicht*"



- *Wie war das: Open Source hält das, was die Cloud verspricht… ☺*

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Beschleunigung von Cloud Diensten

Cisco webex

cisco **TelePresence**

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Cisco on Cisco

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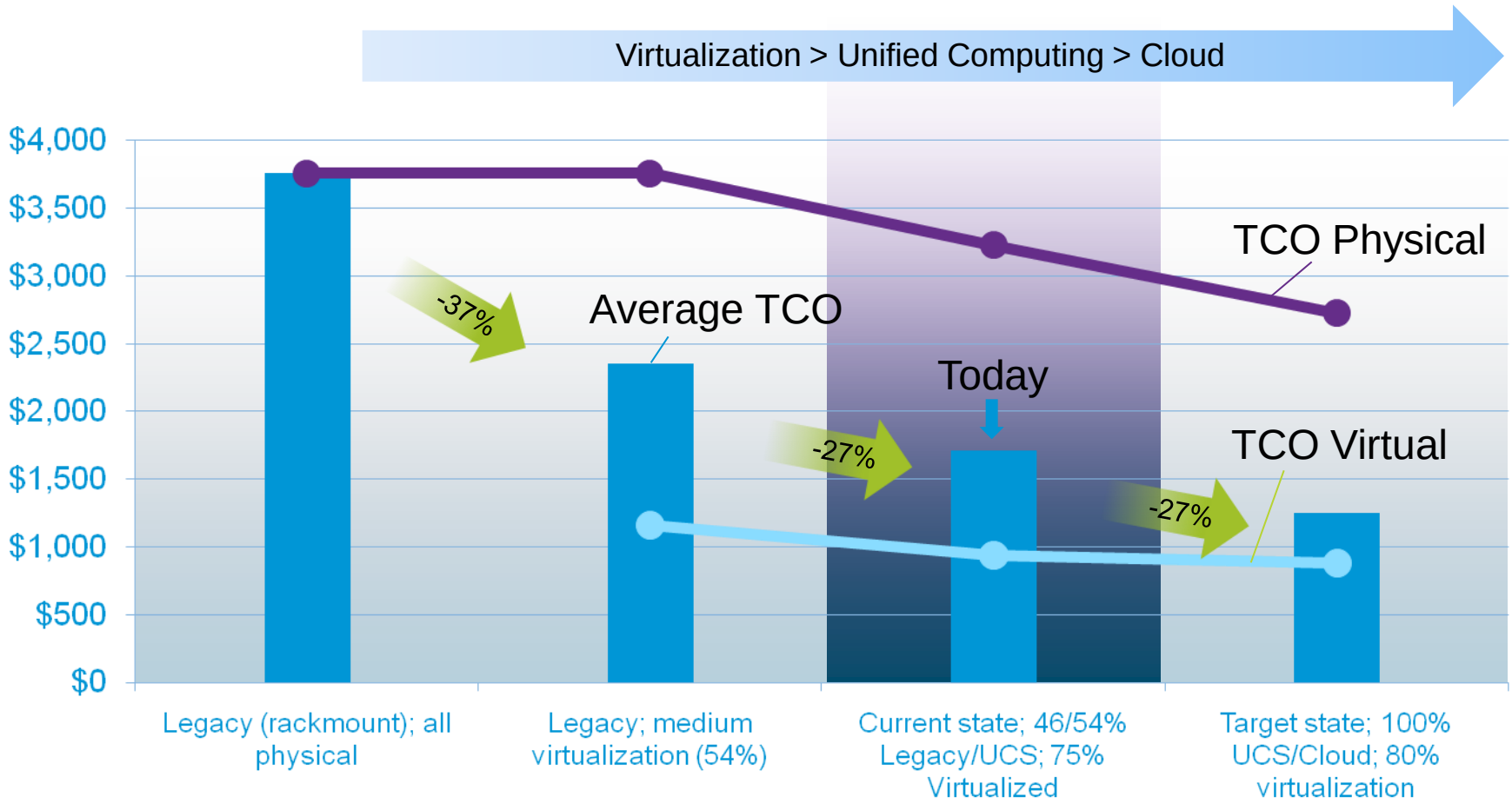
CITEIS TCO and Provisioning Times

Cloud Brings Agility and Cost Benefits



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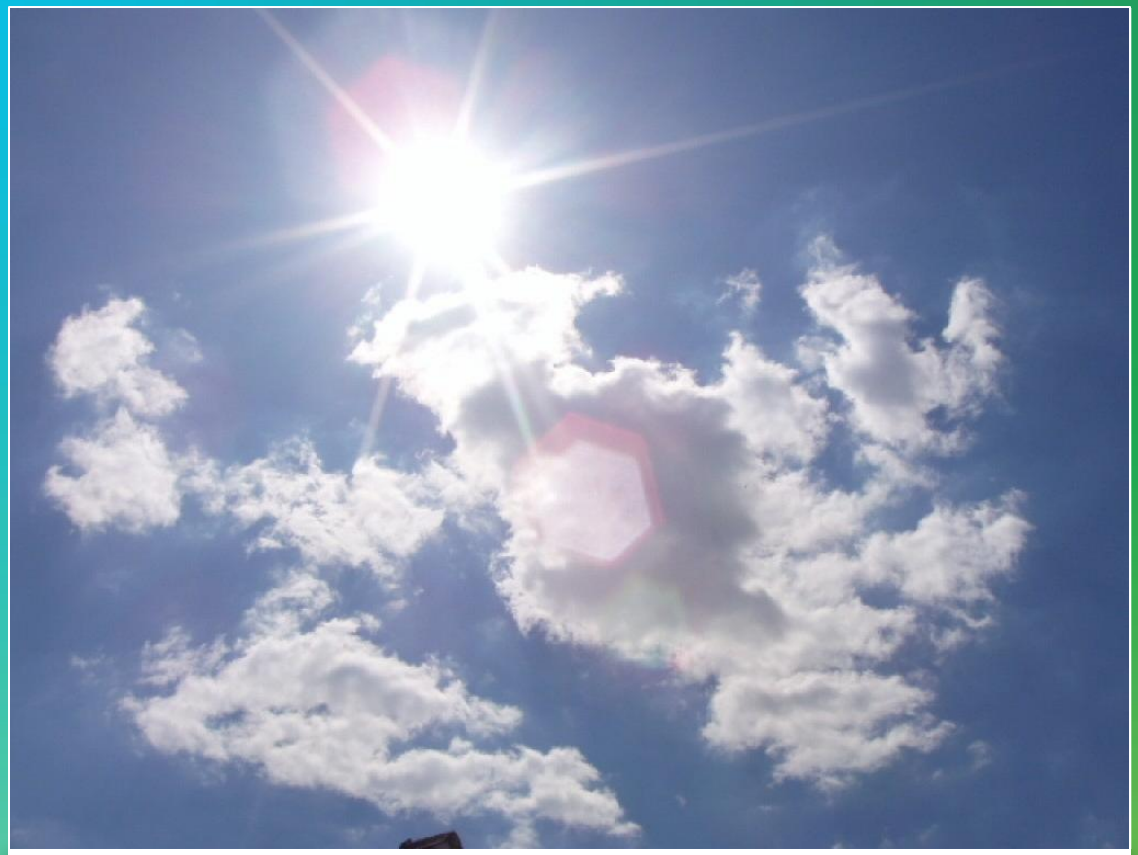
Abschluss

- Unternehmen → Strategie
- IT → Job Profile
- Wissenschaft → Forschung und Ausbildung



Fragen?

http://www.cisco.com/go/cloud

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Thank you.