Storage Strategie und Neuigkeiten

cimdata software AG
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Agenda

• Strategie
• Converged Lösung Versastack
• IBM Flash900 / V9000
• Neuigkeiten Storwize / SVC
• IT Industry is shaped by the quick proliferation of the “3rd platform” – the computing model powering Cloud, Analytics, Mobile and Social.

• Nearly all of IT spending growth in 2015 will be focused on 3rd Platform technologies, with spending on the 2nd Platform expected to slip into recession by the end of the year*.

• Datacenters will undergo a fundamental transformation as the majority of raw compute capacity and raw storage capacity moves to cloud-, mobile-, and big data-optimized hyperscale datacenters operated by cloud service providers*.

*Source: IDC top ten predictions for the worldwide information and telecommunications technology (ICT) industry in 2015

“The transformation of the storage industry continues, with new technologies and business models disturbing the market at the magnitude not seen since the invention of network storage.”

Storage-Wachstum in Zukunft:

Systems of Records

- Legacy systems
- Static
- Moderate growth
- Virtualization/automation
- Email- HR-CRM-DB...

Systems of Engagement

- New Workloads
- Scale and rapid pace
- Massive growth
- BigData, Mobile, Social...
Stay one step ahead with IBM Spectrum Accelerate™

By 2019, 70% of existing storage will be available as software only.

SDS from IBM = IBM Spectrum
IBM Spectrum SDS:

**CONTROLPLANE**
- Storage Management
- Policy Automation
- Analytics & Optimization
- Snapshot & Replication Management
- Integration & API Services
- Self Service Storage
- Data B/R

**DATAPLANE**
- Virtualized SANs
- Hyperscale Block
- Global Access File & Object
- Protect-Archive
- Spectrum Virtualize
- Spectrum Accelerate
- Spectrum Scale
- Spectrum Archive

**HW PLANE**
Top 4-Projekte:

1. **SDE und SDS:**
   Bis 2019 werden 70%-80% aller Disksysteme auf “low-cost HW” laufen, die mittels SW kontrolliert werden (SDS)

2. **Verschieben der Storage-Tiers (Tape, Disk, Flash)**
   Flash wird primärer Datenspeicher

3. **Hybrid Cloud:**
   „Cloudification“ des RZ, Object Storage, API

4. **HCS/CS (Hyperconverged/Converged Systems)**
Converged Lösungen

- IBM VersaStack
Integrierte Infrastruktur

Die Sicht der Analysten auf den Wechsel zur Integration der Systeme

“Zum Jahresende 2015 werden 35% der neu installierten Serversysteme integrierte Systeme sein.”

“2017 werden zwei Drittel aller Enterprise Infrastruktur Anwendungen als "Converged Solution" ausgeliefert.”

“2015 wird converged Infrastructure 9,5% des $64Mrd Markts mit Services, Software und Hardware beitragen.”

Der Markt für integrierte Systeme > $14Mrd in 2017 - IDC
VersaStack-Platform
Die Grundlage für das “Next Generation” Data Center

Workflows pre-defined: e.g. provisioning a LUN
Changing a LUN

Application Centric Infrastructure

Cisco Nexus und MDS

IBM Storwize Virtualization

IBM Storwize

VersaStack Lösung
Easy Deployment
Efficient Resource Utilization
Versatile Infrastructure & Use Cases

UCS Director

Business Continuity
Security Services

VersaStack-Platform

Cisco ACI Ready

Die Grundlage für das “Next Generation” Data Center

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Easy Deployment
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Die Grundlage für das “Next Generation” Data Center

VersaStack Lösung
Easy Deployment
Efficient Resource Utilization
Versatile Infrastructure & Use Cases
### VersaStack Beispiel

- Nexus 9396 Switches
- Nexus 9396 Switches
- MDS 9148S FC Switches
- MDS 9148S FC Switches
- UCS 6248UP Fabric Interconnects
- UCS 6248UP Fabric Interconnects
- UCS C Series Rack Servers (C-220)
- UCS C Series Rack Servers (C-220)
- UCS 5108 Blade Chassis with M3/M4 B-200 Blades
- UCS 5108 Blade Chassis with M3/M4 B-200 Blades
- Storwize V7000 Unified
- Storwize V7000 Unified
- Storwize V7000 SFF Control
- Storwize V7000 SFF Expansion

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Warum Cisco und IBM

Globale Unternehmen
- Umfangreiche Expertise in Schlüsseltechnologien und den Bereichen:
  - Big Data, Analytics, and Cloud
  - Healthcare, Banking, and Energy

Eine Geschichte der Zusammenarbeit
- > 25,000 gemeinsame Kunden
- 15 Jahre der Zusammenarbeit

Innovation basierend auf Industriestandards
- Cisco Unified Computing System
  - #1 in X86 blade Servers in Americas
- Cisco Nexus
  - #1 in DC Ethernet switching
- IBM Storwize: 15.000 customers
- Major contributors to OpenStack

“VersaStack”
- Einfache Installation
- Effiziente Ressourcenausnutzung
- Flexible Infrastruktur

Gemeinsames Partner-Ecosystem
- Hunderte gemeinsame Geschäftspartner
- Reseller sind die Grundlage für unser Geschäft
IBM Flash Lösungen
SSA unit shipments & petabytes delivered
with 33% of the total All-Flash Array market capacity

IBM’s flash journey so far

- 2012
  - IBM Acquires Texas Memory Systems (TMS)
  - 19th TMS product generation

- 2013
  - $1B IBM Flash Investment
  - FlashSystem 820/720 and 810/710
  - #1 Market Share*

- 2014
  - FlashSystem V840 and 840
  - IBM Data Engine for NoSQL (CAPI)
  - #1 Market Share*

- 2015
  - FlashSystem V9000
  - VersaStack with FlashSystem V9000

Third Anniversary of Texas Memory Systems Acquisition

IBM is investing to continue our flash leadership

- $1B investment in flash optimization
- 1000s of flash blocks tested from different manufacturers
- 4+ active IBM Research efforts related to flash optimization
- ~3x flash engineering staff since TMS acquisition
IBM FlashCore™

IBM research and engineering drives a robust solution…

- Industry standard interface
- Hardware accelerated I/O
- IBM MicroLatency™ module
- Advanced flash management
- Industry standard chip technology
FlashCore Technology vs. The Competition

IBM FlashCore Technology

• IBM MicroLatency Module
• True Active Active with fine grain striping of data across all flash
• Hardware accelerated I/O (no software in the data path)
• Two-dimensional HW RAID
• Advanced Flash Algorithm
• True End to End checking

The Competition

• Commodity SSDs
• Most likely using open source OS, open source SCSI layer, and off-the-shelf interfaces
• Many use software RAID which cripples RAID-5 performance
• Hard to add storage services without killing performance
• Marketing focus instead of engineering focus.
IBM FlashSystem family

IBM FlashSystem V9000

IBM FlashSystem 900

Designed for SVC (and other software-defined environments)

Powered by
IBM FlashCore™ Technology
IBM’s flash optimized solutions portfolio

IBM FlashSystem Family

IBM DS8000 & XIV

IBM Storwize Family

IBM Flash Adapters, Modules, SSDs

IBM Flash Optimized Storage Software
Elastic Storage, Virtualization, Management, Caching, Tiering

$1 Billion Investment

12 Flash Centers of Competency
Neuigkeiten SVC, Storwize
IBM Spectrum Virtualize Software Version 7.6

*Functionality delivered in IBM SVC, Storwize FlashSystem V9000*

- **Improved data security for data on existing storage**
  - Encryption now supports externally virtualized storage, adding value to existing storage *again* and eliminating need to buy new storage

- **Enhanced data protection and performance**
  - New distributed RAID technique similar to XIV enables rebuilds after failure 5-10x faster and with better performance

- **Simpler, easier to use high availability support**
  - New UI makes HyperSwap easier to use
  - IP quorum support eliminates need for storage and networking to third site

- **Tighter integration with VMware vSphere with vVol support**
  - Delivered in conjunction with IBM Spectrum Control Base Edition
  - Easier view of compression benefits with integrated Comprestimator
Vielen Dank!