

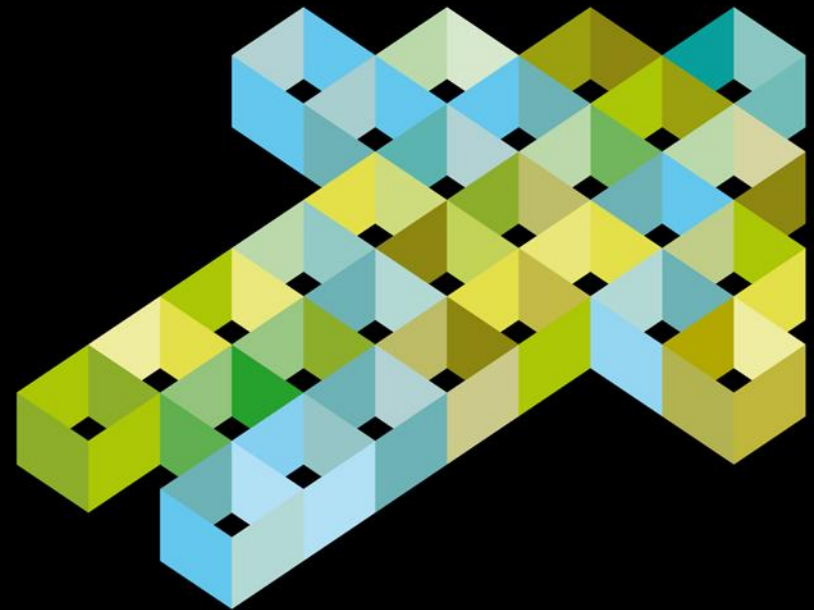
Das IBM PureApplication System

Ein Mitglied der IBM Expert Integrated Systems - Familie
der Pure Systems

Michael Sigmund

Teamleader SWG Channel Architects

25. Mai 2012



Komplexität in jeder Phase des IT Lebenszyklus



A word cloud of IT lifecycle phases. The words are arranged in a roughly circular pattern. The largest word is 'Spezifikation/Design'. Other prominent words include 'Maintenance', 'Skalierung', 'Management', 'Deployment', 'Integration', and 'Customizing/Tuning'. The colors of the words range from dark green to brown.

Maintenance
Skalierung
Customizing/Tuning
Management
Deployment
Spezifikation/Design
Integration

Kunden haben Herausforderungen . . .

Typical IT Project Time and Budget

Phase	Time (days)	Budget
Specify/design	73 - 96	14% - 16%
Procure	57 - 112	19% - 21%
Implement	74 - 93	12%
Configure/test	74 - 80	10% - 11%
Cluster & HA	66 - 104	11% - 12%
Backup	44 - 108	10%
Tune	89 - 98	9% - 10%
Management	67 - 110	9 - 10%

Top Causes of Project Delays

Hardware



Software



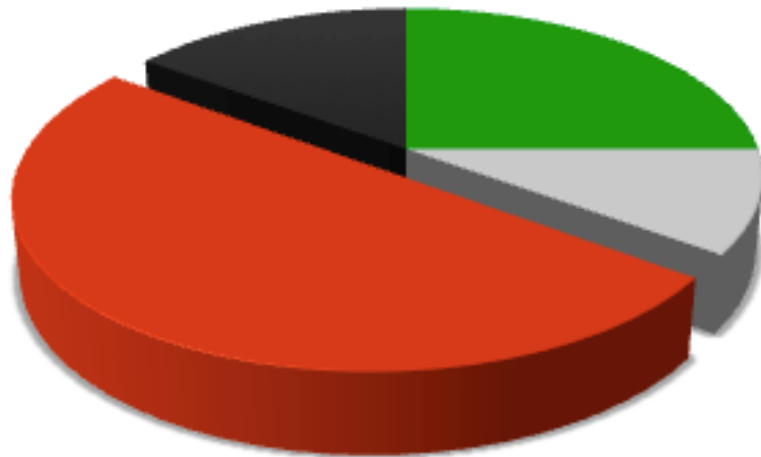
34% of new IT projects (US) *deploy late*

From a commissioned study conducted by Forrester Consulting on behalf of IBM

Herausforderungen an den IT-Betrieb

Management und Administration verursachen die höchsten Kosten

Prognostiziertes Wachstum in den nächsten drei Jahren



■ Innovation ■ Power / Cooling ■ Management / Admin ■ Server Investitionen

3-fache Anzahl Endgeräte

2-fache Anzahl VM's

6-fache Menge Daten

2-fache Anzahl Benutzer

IT Herausforderungen

Was wäre wenn ...

IT Komplexität **Verdoppelt**
sich alle 2 Jahre.

Die **Produktivität** der IT
Betriebsmannschaft **um 20%**
gesteigert werden könnte?

Weniger als **30%** des IT
Budgets ist für neue Lösungen
verfügbar

10% mehr des IT Betriebs-
Budgets für neue
Lösungen verfügbar wären?

2/3 aller IT Projekte
erfahren
Einführungsverzögerungen

Neue Lösungen innerhalb
von Tagen statt Monaten
eingesetzt werden können?

Infrastruktur Wartung führt in
50% aller Fälle zu
Betriebsunterbrechungen

IT System Wartungen
ohne Unterbrechungen
ausgeführt werden könnten?

Client tuned systems

Expert integrated systems

Appliances

PureSystems



**Systems (Power, z, x),
Storage, Networking,
Systems Management**

*Infrastructure
Systems*

*Platform
Systems*

*Business
Systems*

**Netezza: Analytics
Data Warehouse
DataPower:
Application
Integration
Cast Iron: Cloud
Integration**

**PureFlex
System**

**IBM
STG**

**PureApplication
System**

**IBM
SWG**

Coming soon

**IBM
???**

**Client-built with Optimized
Components**

**Integrated and
optimized
infrastructure to
work together by
design**

**Pre-integrated and
optimized application
platform for
database,
transaction, or web
applications**

**Pre-integrated
application platform
optimized for business
applications (e.g.,
Commerce, Enterprise
Resource Planning)
and industries (e.g.,
healthcare)**

**Appliances focused on
a single purpose**

**Supports broad range of
workloads**

**Supports broad
range of workloads**

**Multiple workloads
tuned at the factory**

**Select workloads
tuned at the factory**

**Specific workload for
most simplicity**

Das IBM PureFlex System (ein IBM STG Produkt)

IBM PureFlex System

Pre-configured, pre-integrated infrastructure systems with compute, storage, networking, physical and virtual management, and entry cloud management with integrated expertise.



Tivoli. software



Chassis
14 half-wide bays for nodes



Compute Nodes
Power 2S/4S*
x86 2S/4S



Storage Node
V7000
Expansion inside or outside chassis



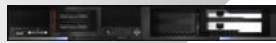
Management Appliance
Optional



Networking
10/40GbE, FCoE, IB
8/16Gb FC



Expansion
PCIe
Storage



FC #EFD1 IBM PureFlex System Express

- For smaller installations

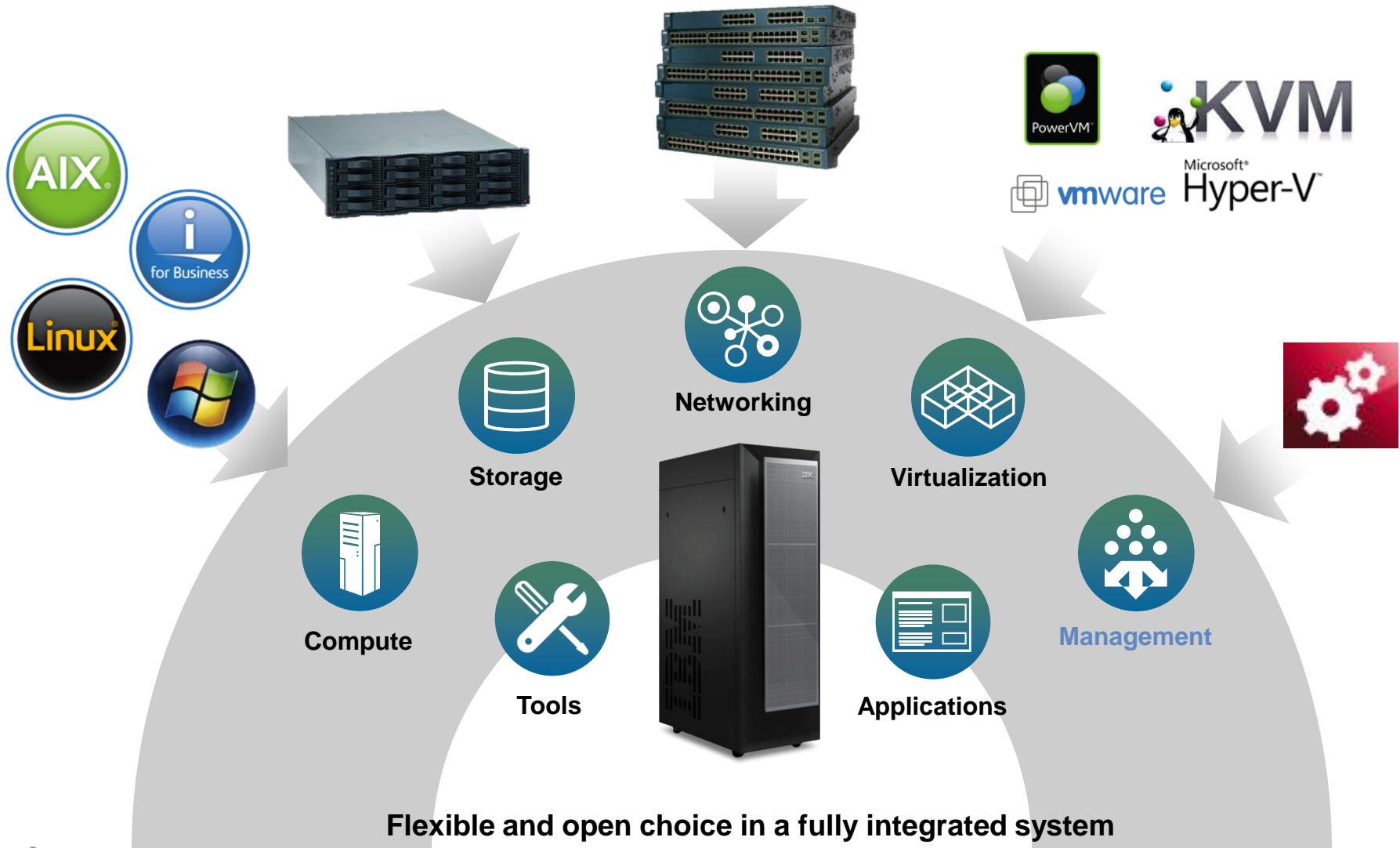
FC #EFD2 IBM PureFlex System Standard

- For application systems

FC #EFD3 IBM PureFlex System Enterprise

- For scalable cloud deployments
- Includes redundancy for resilient operation

Das IBM PureFlex System (ein IBM STG Produkt)



Das IBM PureFlex System aus IBM SWG Sicht

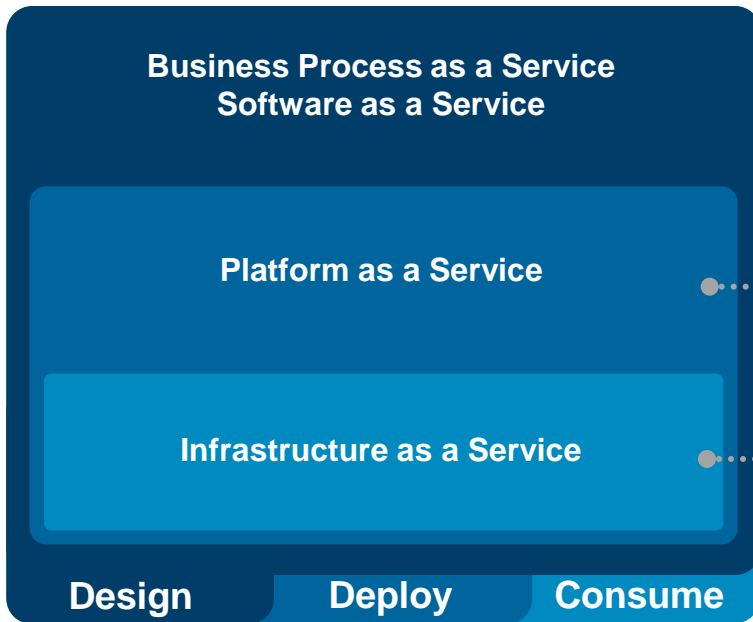


IBM PureFlex System

- **Hochintegrierter Server (IaaS)**
- **Betriebssysteme:**
AIX, i5OS, Linux, Windows
- **Virtualisierungstechnologien**
PowerVM, VMware, KVM, Hyper-V, VIOS
- **Zentrales Systems Management**
IBM Flex System Manager (FSM)
- **„Cloud ready“ (SmartCloud Entry)**
- **Optimierter Infrastruktur Server für alle SW**
- **Hypervisor Editions (HV) bringen weitere Produktivitätssteigerungen**
- **Einige Systems Management Funktionen beinhaltet**
- **Bestellung: IBM Hardware**

PureSystems aus Cloud-Sicht

IBM SmartCloud



IBM PureApplication System



100X faster deployment with application patterns expertise

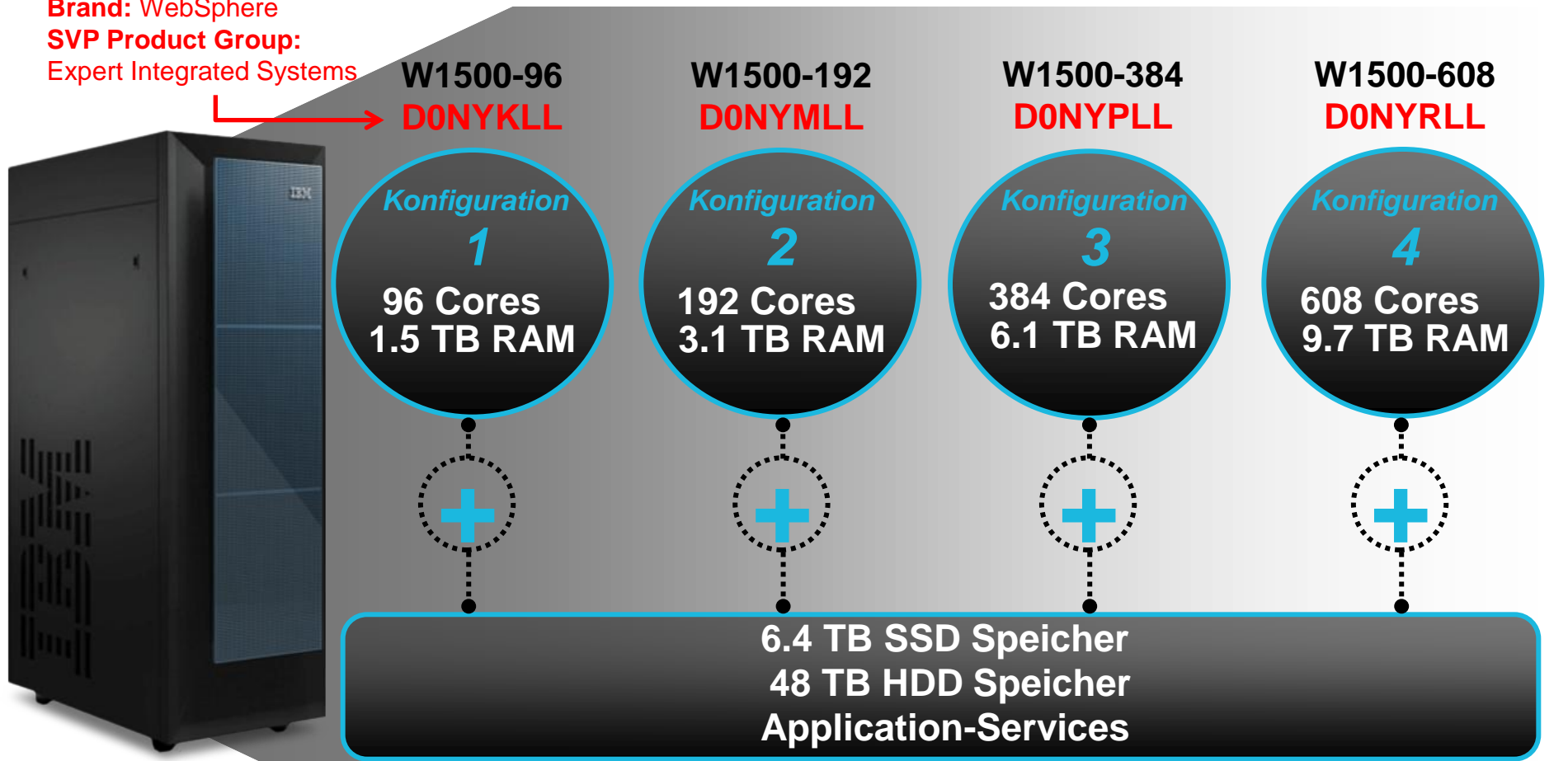
IBM PureFlex System



55% reduction in time/cost to manage your infrastructure with automation expertise

Das IBM PureApplication System (ein IBM SWG Produkt)

Brand: WebSphere
SVP Product Group:
Expert Integrated Systems

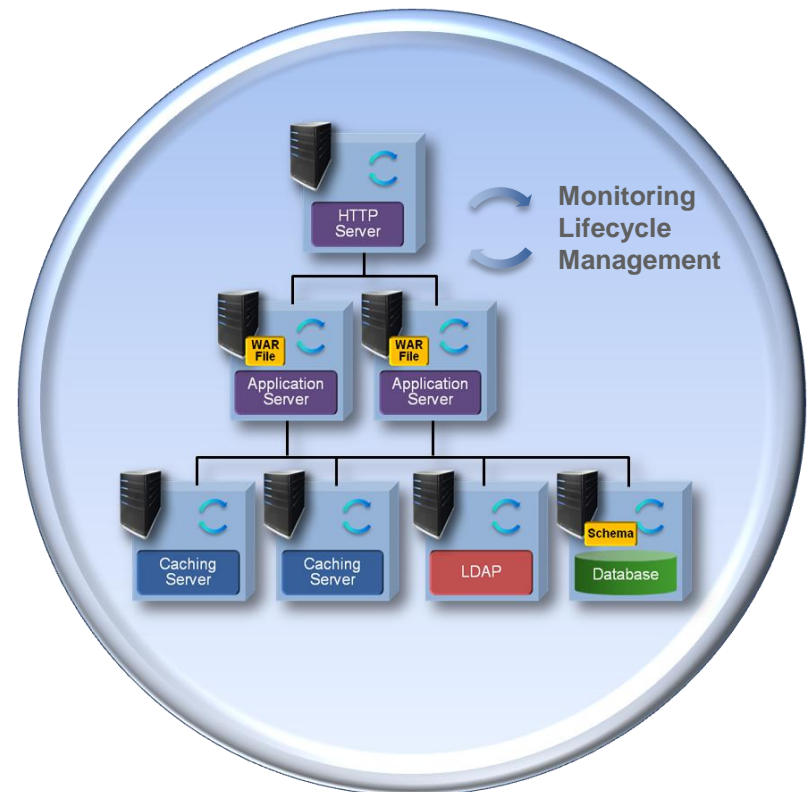


Upgrade auf größere Systeme ist ohne Unterbrechung möglich!

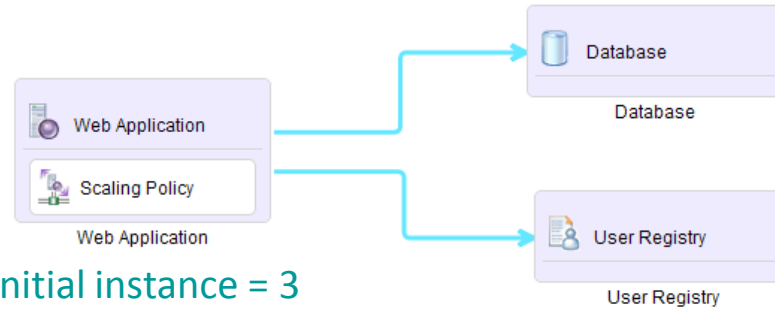
Patterns of Expertise: Proven best practices and expertise for complex tasks learned from decades of client and partner engagements that are captured, lab tested and optimized *into a deployable form*

What is a Pattern?

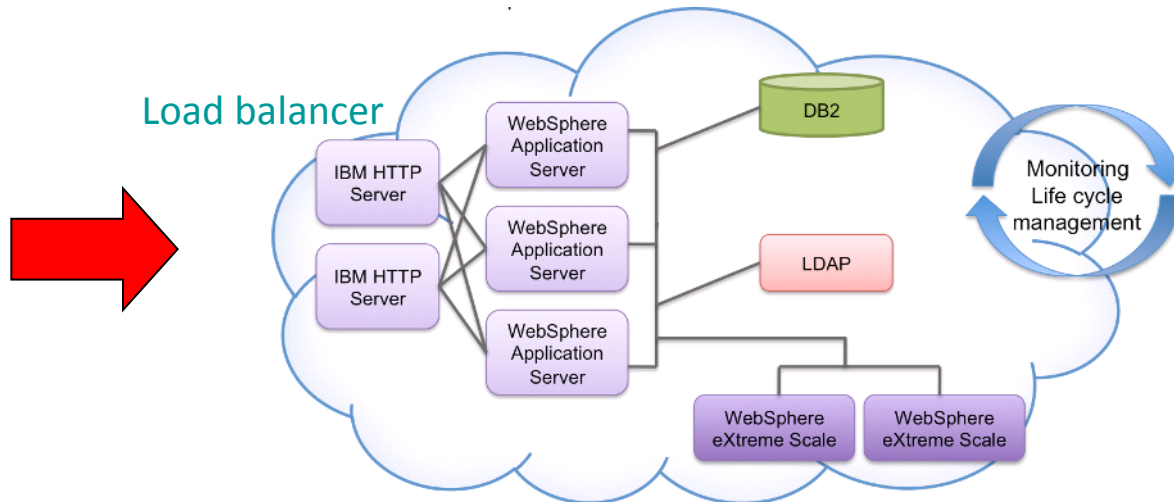
- The pre-defined architecture of an application
- For each component of the application (i.e. Database, Web Server, etc)
 - Pre-installation on an operating system
 - Pre-integration across components
 - Pre-configured & tuned
 - Pre-configured Monitoring
 - Pre-configured Security
 - Lifecycle Management
- In a **deployable form**, resulting in **repeatable deployment** with **full lifecycle management**
- **Delivering** superior results:
 - **Agility:** Faster time-to-value
 - **Efficiency:** Reduced costs and resources
 - **Simplicity:** Simpler skills requirements
 - **Control:** Lower risk and errors



Virtual Application Pattern



Initial instance = 3



WAS cluster configured with session replication

IBM PureApplication System - [Pattern Type: Web Application Pattern Type 2.0] Virtual Application Builder - [DayTrader]*

Diagram | List View | Source

Save | Save As | Layout | Undo | Redo

Assets

Asset name

- Application Components
 - Additional archive file
 - Enterprise Application (WebSphere Application Server)
 - Existing Web Service Provider Endpoint
 - Policy set
 - Web Application (WebSphere Application Server)
- Database Components
 - Data Studio web console
 - Database (DB2)
 - Existing Database (DB2)
 - Existing Database (Informix)
 - Existing Database (Oracle)
 - Existing IMS Database
- Messaging Components
 - Existing Messaging Service (WebSphere MQ)
 - Queue (WebSphere MQ)
 - Topic (WebSphere MQ)
- OSGi Components
 - Existing OSGi Bundle Repository
 - OSGi Application (WebSphere Application Server)
- Transaction Processing Components
 - Existing CICS Transaction Gateway
 - Existing IMS TM

Layers

Add policy for application

```

    graph LR
      subgraph TradeLite [TradeLite]
        EA[Enterprise Application]
        SP[Scaling Policy]
        RP[Routing Policy]
      end
      EA --- DB[(Database TradeDB)]
    
```

Enterprise Application (WebSphere Application Server)

- Name: TradeLite
- EAR file: artifacts/tradelite.ear (Edit Delete)
- Total transaction lifetime timeout (seconds):
- Async response timeout (seconds):
- Client inactivity timeout (seconds):
- Maximum transaction timeout (seconds):
- Interim fixes URL: Click select button to update (Select)
- Ignore inapplicable ifix updates:
- Maximum Session Count:

Scaling Policy (Web/Enterprise Application)

- Enable session caching:
- Maximum Session Cache Grid Size: UNCAPPED
- Scaling Type: Response Time Based
- Scaling in and out when Web response time is out of threshold range(ms):
 - Range: 1000 - 5000
 - Instance number range of scaling in/out: Range: 1 - 10
 - Minimum time (seconds) to trigger add or remove: 120

IBM PureApplication System - [Pattern Type: Web Application Pattern Type 2.0] Virtual Application Builder - [DayTrader] *

Diagram | List View | Source

Save | Save As | Layout | Undo | Redo

Assets

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 - Existing IMS TM

Layers

Enterprise Application (WebSphere Application Server)

Name:

Scaling Type

Response Time Based

Scaling in/out when Web response time is out of threshold range(ms):

0 10000

Range: 1000 - 5000

Instance number range of scaling in/out: *

1 50

Range: 1 - 10

Minimum time (sec) to trigger add/remove: *

120

* Minimum time (seconds) to trigger add or remove:

120

Deploy a Virtual Application

IBM PureScale Application System | System Console | Administrator | Help | About | Logout

Welcome | Instances | **Patterns** | Catalog | Reports | Cloud

Virtual Application Patterns

Name: WebApp Pattern Type 2.0

- Sample JEE web application
- Sample Web Application Only
- Secured JEE web application
- TradeLite Application**

TradeLite Application

Application ID: a-f621a783-f8f0-49a4-f8fd4-4

Description: DayTraderLite is a JEE web application simulating a stock trading system with WAS and DB2. Access DayTraderLite via http://[IP]:9080/tradelite/, where [IP] is the IP address of the deployed WAS VM.

Created by: cbadmin

Last Modified by: cbadmin

Created on: Oct 22, 2011 12:46:31 AM

Last Modified on: Oct 22, 2011 1:21:56 AM

Preview:

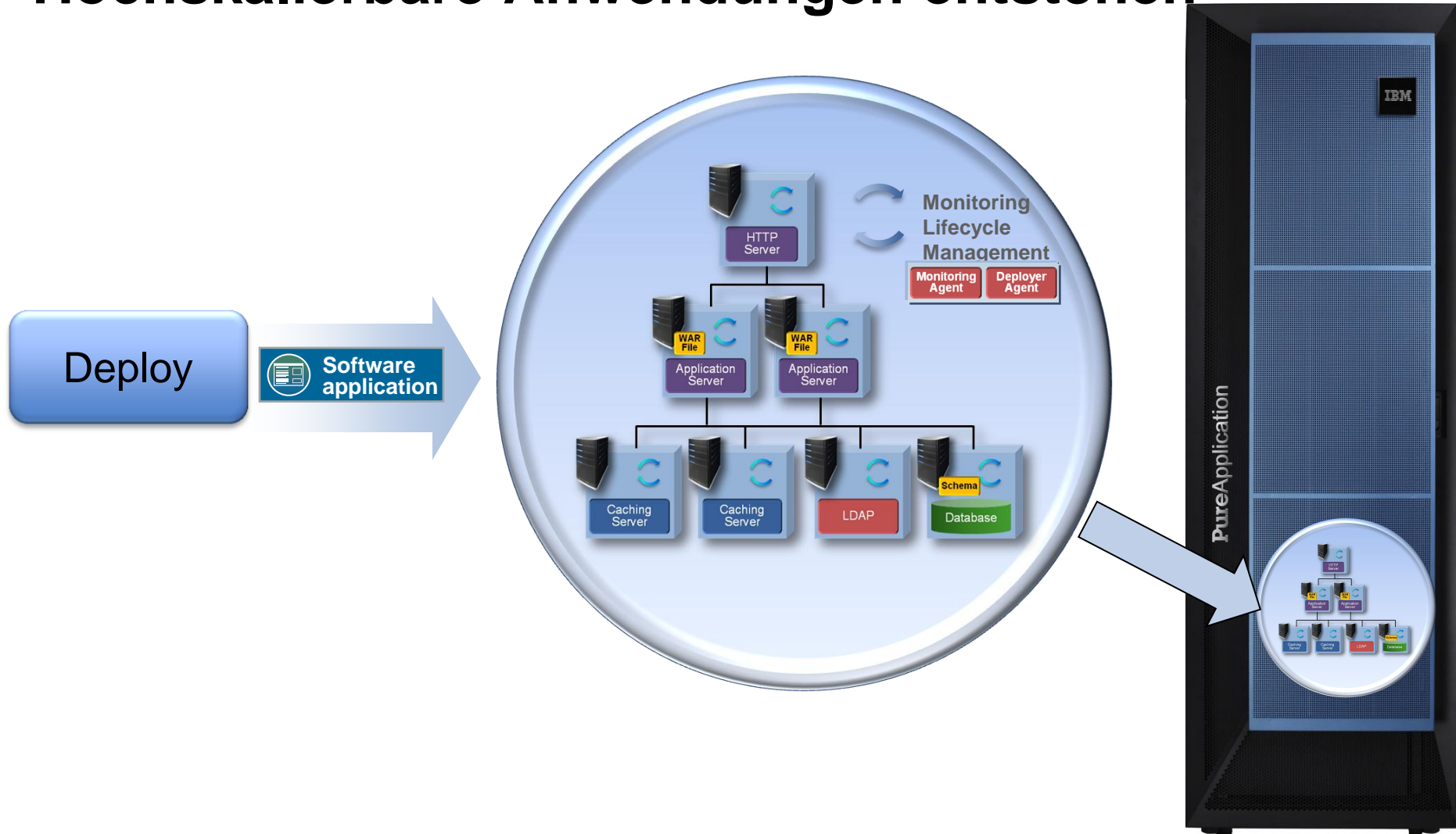
Access granted to: Administrator [owner]

Add more...

Deploy | Open | Export | Delete | Clone

Deploy the virtual application into the cloud

Hochskalierbare Anwendungen entstehen



Virtual Application Dashboard

System Console
Administrator | Help | About | Logout

Welcome Instances Patterns Catalog Reports Cloud

Virtual Application Instances

- Sample Web Application Only ■
- TradeLite Application ■
- TradeLite Application2 ▶

TradeLite Application2

Stop Delete Manage Refresh

Created by: cbadmin

Started on: Oct 22, 2011 1:35:36 AM

Access granted to:

Virtual application instance ID: d-0ec531f5-5b42-4ca4-99f8-6dc6055eaae9

Middleware perspective (2 in total)

▼ **DB2 (TradeDB-db2)** ▶ [Endpoint](#)

Name	Public IP	VM Status	Started on	Role Status
TradeDB-db2. 11319218536447	172.16.47.171	Running ▶ Log	Oct 22, 2011 1:35:50 AM	DB2 ▶

▼ **WAS (TradeLite-was)** ▶ [Endpoint](#)

Name	Public IP	VM Status	Started on	Role Status
TradeLite-was. 11319218536448	172.16.47.170	Running ▶ Log	Oct 22, 2011 1:35:50 AM	WAS ▶

Virtual machine perspective (2 in total)

+ History The virtual system has been deployed and is ready to use

Virtual Application Console: Monitoring VMs

IBM PureScale Application System
cadmin | Virtual Application Instance ID : d-b75ccb36-08e6-4654-8a92-5461bcbc8105 |

Monitoring | Logging | Operation

Virtual Machine Monitoring

Normal | Warning | Critical | Help

database-db2.113011700745	🟢
application-was.113011700745	🟢

Memory

Real-Time

Historical

☐ Memory Used

CPU

Real-Time(%)

Historical(%)

SystemCPU | UserCPU | Others | FreeCPU

Network

Bytes Transmitted Per Sec | Bytes Received Per Sec

Disk

Blocks Reads Per Second | Blocks Written Per Second

Virtual Application Console: Monitoring Middleware

IBM PureScale Application System

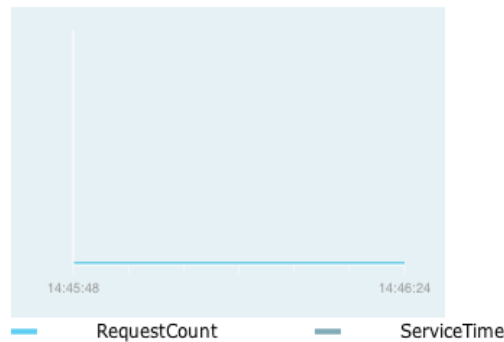
cbadmin | Virtual Application Instance ID : d-b75ccb36-08e6-4654-8a92-5461bcbc8105 |

Monitoring | Logging | Operation

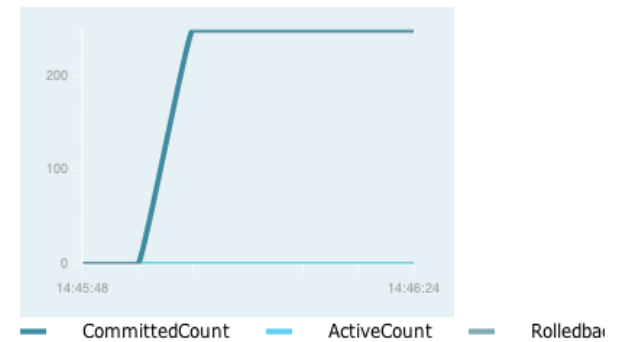
Role Monitoring

application-was.11301170074515.WAS

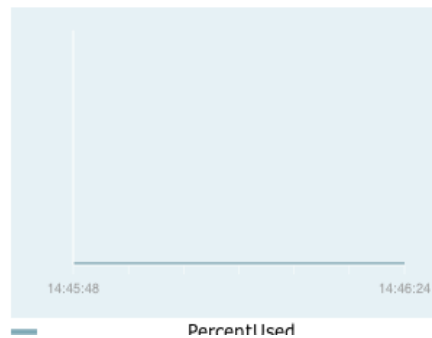
WAS WebApplications



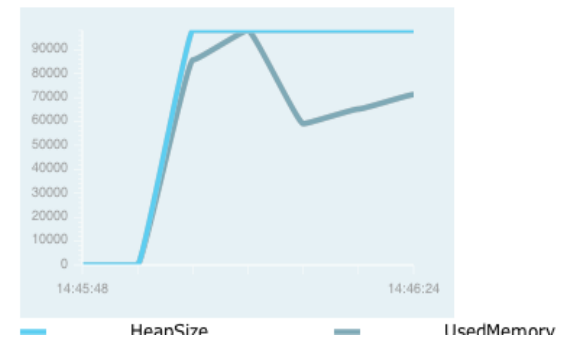
WAS TransactionManager



WAS JDBCConnectionPools



WAS JVMRuntime



Optional additional Monitoring

Name	Public IP	VM Status	Started on	Role Status
application-was. 11318525665645	172.16.66.11	Running → Log → Monitor	Oct 13, 2011 12:10:03 PM	WAS → Endpoint → Monitor
datab 11318				DB2 → Endpoint → Monitor

Launches a new browser Tab/window in context to Database Overview page.

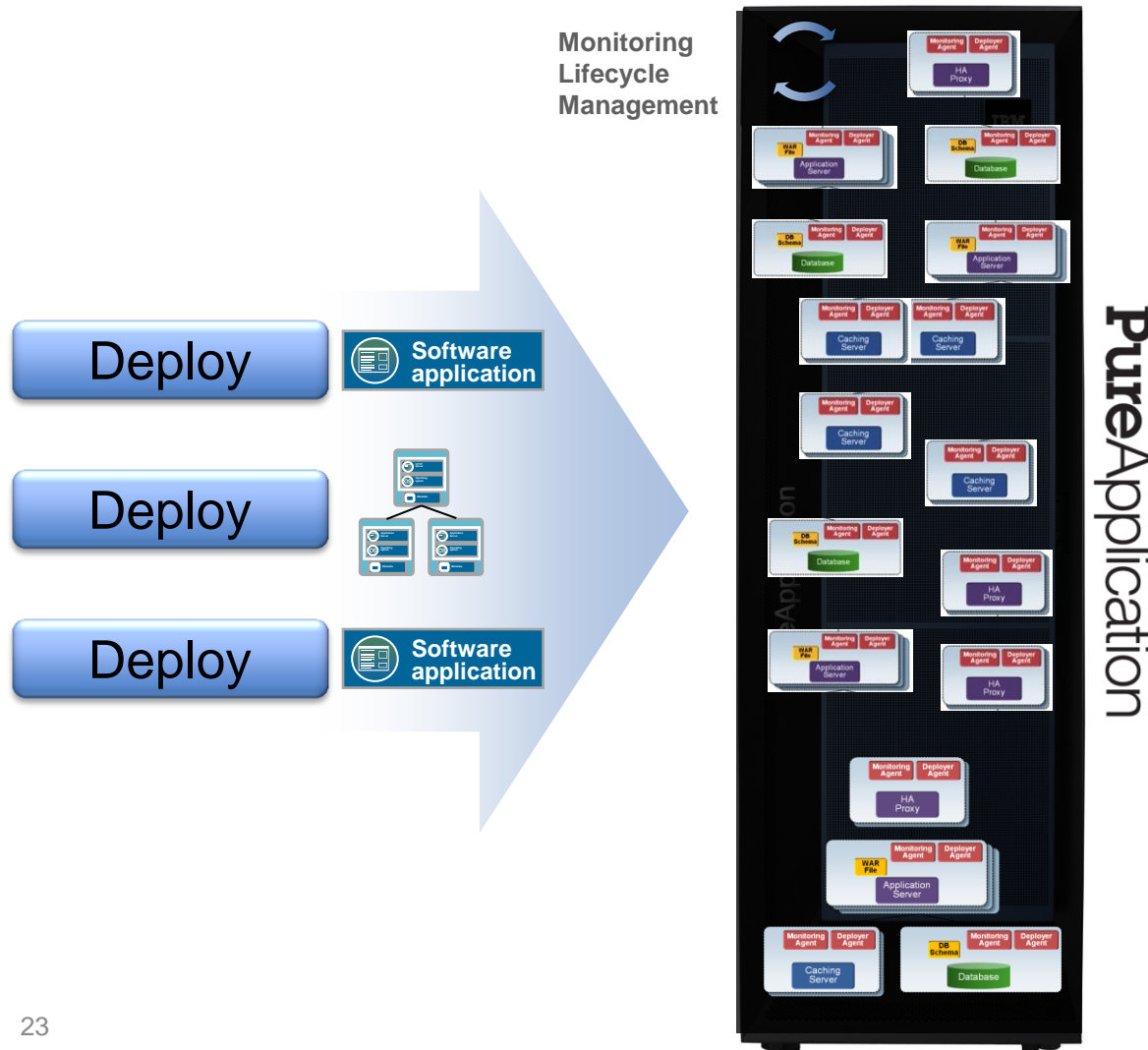
Drill Down into DB2

- Inflight Database **Memory** Dashboard
- Inflight **Rogue Query** Dashboard
- Inflight **I/O** Dashboard
- Inflight **Locking** Dashboard
- Inflight **Logging** Dashboard
- Inflight **Utilities** Dashboard
- Inflight **Throughput** Dashboard

The screenshots illustrate the following dashboards:

- Memory Dashboard:** Shows system memory usage, including total virtual memory, physical memory in use, and various buffers. It includes a 'Health overview for database memory' section.
- Rogue Query Dashboard:** Displays active SQL statements, including their start times, elapsed times, and CPU usage. It includes a 'Statement details' section for a selected query.
- I/O Dashboard:** Provides a detailed view of buffer pool activity, including hit ratios, read/write rates, and I/O performance metrics.
- Locking Dashboard:** Shows a table of locking information with columns for DB Workload, Max Wait Time, Max Block Time, Lock Wait Alerts, Deadlocks, and Timeslots. It also includes a 'Locking events' table.
- Logging Dashboard:** Details logging architecture, including log file usage, log buffer status, and log buffer activity.
- Utilities Dashboard:** Monitors various system utilities such as backup, restore, and recovery, showing their status and progress.
- Throughput Dashboard:** Displays connection information, including allowed connections, connection consumption, and statement throughput.

Autonome Optimierung



Application Optimization

- Policy-based placement
- Application level prioritization
- Dynamic scaling of applications and VM resources
- High Availability of applications and individual VMs
- Mobility of VMs for performance, management and maintenance
- Performance optimization
- Application level isolation
- System, Application and VM level monitoring
- Multiple applications and middleware

Workload Management

Auto Scaling

Managed environments scale up and down based on observed utilization of compute resources

Failover

Failed virtual machines are replaced with new VMs which are configured with the old VM's identity

Load Balancing

Requests coming into virtual application environments are load balanced

Security

ACLs for application sharing and management access, LDAP integration for application security

Monitoring

All components of virtual application environments are monitored by the System

Welche Patterns / Software sind beinhaltet

- **Clients have entitlement to run the following software on the Full Capacity of the System**
 - OEM Virtualization components (not accessible by clients):
 - VMware vSphere v5 Enterprise Plus
 - VMware vCenter v5
 - Virtual Systems:
 - IBM OS Image for Red Hat Linux Systems v1 (RHEL 64-bit v6.2)
 - IBM WebSphere Application Server Hypervisor Edition v7 (WAS 7.0.0.21)
 - IBM WebSphere Application Server Hypervisor Edition v8 (WAS 8.0.0.2)
 - DB2 9.7 FP5 Enterprise Server Edition HV
 - Automation Framework HV (for migrating applications)
 - Virtual Application Patterns:
 - Java Pattern v1 (64-bit Java 7 SDK)
 - IBM Workload Deployer Pattern for Web Applications v1 (with WAS v7)
 - IBM Web Application Pattern v2 (with WAS v8)
 - IBM Transactional Database for Cloud v1.1 (with DB2 9.7 FP5)
 - IBM Data Mart for Cloud v1.1 (with DB2 9.7 FP5)
- Any other software that clients run on PureApplication System is traditionally licensed (i.e. PVUs) on a sub-capacity basis

Geplante optionale Patterns/Software

- **IBM Virtual System & Virtual Application Patterns targeted for 2012:**
- WebSphere MQ Hypervisor Edition v7 & v8
- WebSphere Message Broker Hypervisor Edition v7 & v8
- Business Process Management Standard Hypervisor Edition v7.5
- Business Process Management Advanced Hypervisor Edition v7.5
- Cast Iron Hypervisor Edition
- SOA Policy Managed Gate Hypervisor Edition
- Portal Hypervisor Edition
- Informix Ultimate Hypervisor Edition
- Cognos BI for Cloud pattern (Virtual Application Pattern)
- Social Work pattern (Virtual Application Pattern)

Wie funktioniert License Management . . .

WebSphere Message Broker HV: **4000 PVUs**
MQ HV: **3000 PVUs**



300 PVUs
MQ HV



600 PVUs
MQ HV



2000 PVUs
MQ HV



**I need 600 PVUs
of MQ HV. Are
they available?**

Without license management, no single person knows the current license usage in a shared resource pool.

Wie funktioniert License Management . . .

IBM Workload Deployer Welcome, Joe Bohn | Help | About

[Welcome](#) |
 [Instances](#) |
 [Patterns](#) |
 [Catalog](#) |
 [Reports](#) |
 [Cloud](#) |
 [Appliance](#) |
 [Profile](#) |
 [Logout](#)

License awareness

Notify virtual image owners when license usage reaches the thresholds set below

IBM products

Below are the products that can be deployed from this appliance. The list is generated by checking the contents of your virtual images against the product list in the IBM Software Catalog. You can specify how many processor value units (PVUs) or SERVER licenses you own for each product. When enabled, license awareness will alert you when PVU or SERVER license usage approaches a given threshold.

Update IBM Software Catalog and Processor Value Unit (PVU) Table

Cloud capacity (PVU): 1360

Product	Product ID	License type	Enforcement	Licenses owned	Notify if usage reaches	Licenses in use	Licenses reserved	In the cloud now
IBM DB2 Express Edition Server Option	5724-E49	Server	Ignore	4	90.0 %	1	1	1 virtual systems
NOVELL SUSE LINUX ENTERPRISE SERVER FOR X86, AMD64, & INTEL EM64T (MAXIMUM 32 CPU) 1-YEAR SUBSCRIPTION WITH NOVELL STANDARD SUPPORT INCLUDING 12X5 UNLIMITED ELECTRONIC AND TELEPHONE SUPPORT	5724-L43	Server	Enforce	5	90.0 %	4	4	4 virtual systems
IBM WebSphere Application Server Hypervisor Edition	5724-X89	PVU	Warn	1000	90.0 %	1110	1260	13 virtual systems
IBM WS App Svr Hyper Ed for Novell SLES on Sys z-Novell Sub Not required	5725-A12	PVU	Ignore	0	90.0 %	0	0	0 virtual systems
IBM WebSphere Application Server Hypervisor Edition on AIX	5725-A25	PVU	Ignore	0	90.0 %	0	0	0 virtual systems
IBM WebSphere App Svr Hypervisor Edition for Red Hat Enterprise Linux Svr	5725-A26	PVU	Ignore	1200	90.0 %	1120	1310	14 virtual systems

Reporting

System Console

Administrator | Help | About | Logout



Welcome Instances Patterns Catalog **Reports** Cloud

Machine Activity

Search... ↑↓

- CPU Usage by Hypervisor 📈🔒
- CPU Usage by Virtual Machine 📈🔒
- Memory Usage by Hypervisor 📈🔒
- Memory Usage by Virtual Machine 📈🔒
- Storage Usage by Device 📈🔒
- IP Usage in the Cloud 📈🔒

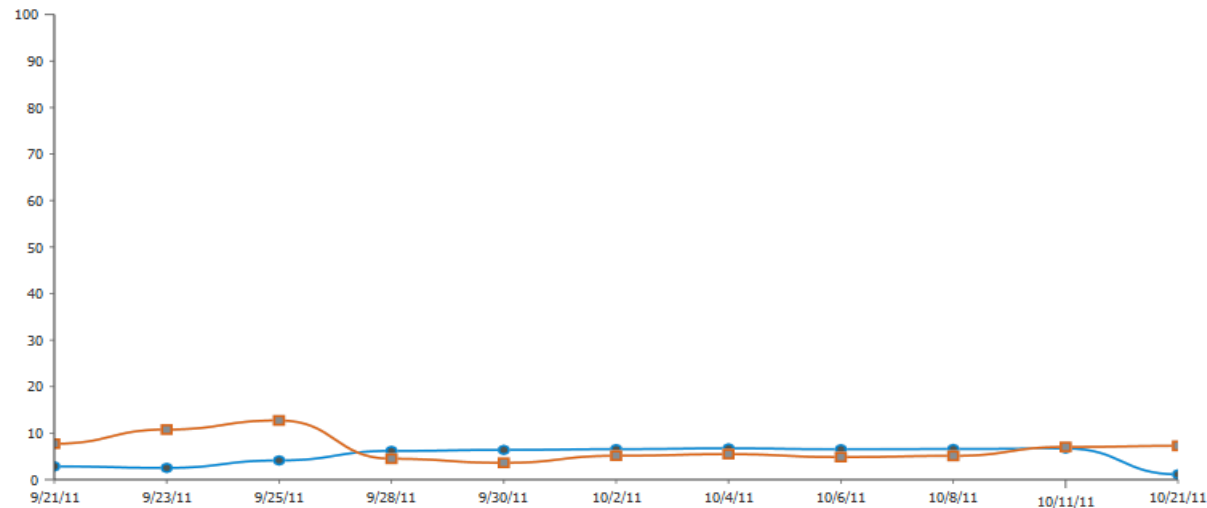
CPU Usage by Hypervisor

From: 9/22/2011 12:40:54 AM

To: 10/22/2011 12:40:54 AM

Update Reports

Average **Maximum**



Name	Average	Maximum
<input checked="" type="checkbox"/> 172 (1) ◆	6.74%	46.26%
<input checked="" type="checkbox"/> 172 (2) ◆	5.11%	33.39%

Reporting

Microsoft Excel - user-activity.csv

File Edit View Insert Format Tools Data Window Help

Type a question for help

Arial 10 B I U

A2 33

	A	B	C	D	E	F	G	H	I
1	id	username	active	cpu	memory	storage			
14	36	satebala@in.ibm.com	0	0	0	0			
15	26	bakeley@us.ibm.com	3	3	8192	76800			
16	161	bensohc@us.ibm.com	6	6	12480	136192			
17	37	danberg@us.ibm.com	7	7	17696	143391			
18	150	bizub@us.ibm.com	2	2	2048	49152			
19	38	blancett@us.ibm.com	1	1	2048	20480			
20	108	rringo@us.ibm.com	2	2	4224	24576			
21	39	rabone@us.ibm.com	0	0	0	0			
22	40	mchoumac@us.ibm.com	0	0	0	0			
23	123	carlw@us.ibm.com	0	0	0	0			
24	102	ccpaxton@us.ibm.com	0	0	0	0			
25	4	cls@us.ibm.com	1	1	2048	24576			
26	129	yeoche@sg.ibm.com	0	0	0	0			
27	41	pchitale@us.ibm.com	0	0	0	0			
28	153	chonglee@us.ibm.com	2	2	2048	49152			
29	72	chrslrk@us.ibm.com	1	1	1500	24576			
30	164	Chris.Phillips@uk.ibm.com	4	4	11264	104448			
31	127	clarisab@us.ibm.com	0	0	0	0			
32	12	imdonova@us.ibm.com	0	0	0	0			

user-activity

Ready

Audit and Metering Reports

Auditing

[Download all data](#)

Filter system activity data by selecting a date range.

Start date:

End date:

Time zone:

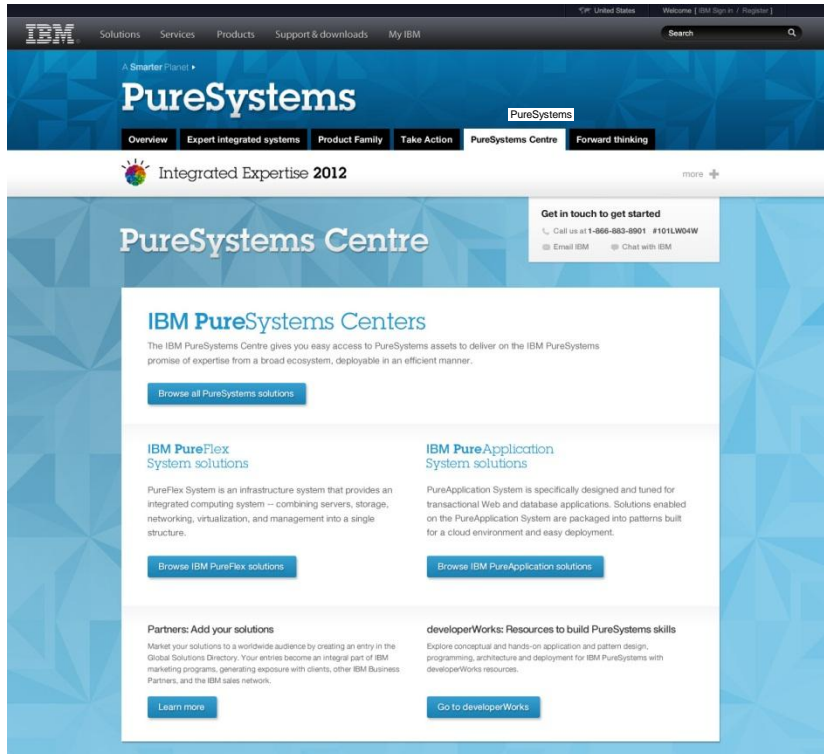
[Download filtered data](#)

	A	B	C	D	E	F	G	H	I
1	version	timestamp	resource	event	id	name	user	ip	
2	3.0.0.0-32825	2011-05-23 10:57:2	group	created	1	Everyone	CloudBurst	localhost	uid=g-
3	3.0.0.0-32825	2011-05-23 10:57:2	script	created	1	ILMT Agent Install Pa	CloudBurst	localhost	commar
4	3.0.0.0-32825	2011-05-23 10:57:2	accesscontrol	updated	1	ILMT Agent Install Pa	CloudBurst	localhost	member
5	3.0.0.0-32825	2011-05-23 10:57:3	script	created	2	Default add disk	CloudBurst	localhost	commar
6	3.0.0.0-32825	2011-05-23 10:57:3	accesscontrol	updated	2	Default add disk	CloudBurst	localhost	member
7	3.0.0.0-32825	2011-05-23 10:57:3	accesscontrol	updated	2	Default add disk	CloudBurst	localhost	member
8	3.0.0.0-32825	2011-05-23 10:57:3	script	created	3	Default raw disk	CloudBurst	localhost	commar
9	3.0.0.0-32825	2011-05-23 10:57:3	accesscontrol	updated	3	Default raw disk	CloudBurst	localhost	member
10	3.0.0.0-32825	2011-05-23 10:57:3	accesscontrol	updated	3	Default raw disk	CloudBurst	localhost	member
11	3.0.0.0-32825	2011-05-23 10:57:3	script	created	4	Default add NIC	CloudBurst	localhost	commar
12	3.0.0.0-32825	2011-05-23 10:57:3	accesscontrol	updated	4	Default add NIC	CloudBurst	localhost	member

	A	B	C	D	E	F	G	H	I
1	timestamp	productid	virtual system	virtual machine	virtual machine cpu count	physical cpu count	action	licensetype	components
2	1.3063E+12	5725-A25	test power	Standalone 0	1	0	Stop	PVU	
3	1.3063E+12	5725-A25	test power	Standalone 0	1	0	Stop	PVU	
4	1.3063E+12	5725-A25	test power	Standalone 0	1	0	Stop	PVU	
5	1.3063E+12	5725-A25	WAS dev cluster	DMGR 0	1	0	Stop	PVU	
6	1.3063E+12	5725-A25	WAS dev cluster	DMGR 0	1	0	Stop	PVU	
7	1.3063E+12	5725-A25	WAS dev cluster	DMGR 0	1	0	Stop	PVU	
8	1.3063E+12	5725-A25	WAS dev cluster	Custom Node 1	1	0	Stop	PVU	
9	1.3063E+12	5725-A25	WAS dev cluster	Custom Node 1	1	0	Stop	PVU	
10	1.3063E+12	5725-A25	WAS dev cluster	Custom Node 1	1	0	Stop	PVU	
11	1.3063E+12	5725-A25	WAS dev cluster	Custom Node 1	1	0	Stop	PVU	
12	1.3063E+12	5725-A25	WAS dev cluster	DMGR 0	1	0	Stop	PVU	
13	1.3063E+12	5725-A25	WAS dev cluster	DMGR 0	1	0	Stop	PVU	
14	1.3063E+12	5725-A25	WAS dev cluster	Custom Node 1	1	0	Stop	PVU	
15	1.3063E+12	5725-A25	WAS dev cluster	Custom Node 1	1	0	Stop	PVU	
16	1.3063E+12	5725-A25	WAS dev cluster	Custom Node 1	1	0	Stop	PVU	
17	1.3063E+12	5725-A25	WAS dev cluster	DMGR 0	1	0	Stop	PVU	
18	1.3063E+12	5725-A25	WAS dev cluster	Custom Node 1	1	0	Stop	PVU	
19	1.3063E+12	5725-A25	WAS dev cluster	Custom Node 1	1	0	Stop	PVU	
20	1.3063E+12	5725-A25	WAS dev cluster	Custom Node 1	1	0	Stop	PVU	
21	1.3063E+12	5725-A25	test power	sysp-001-048-Standalone-test poi	1	0	Stop	PVU	
22	1.3063E+12	5725-A25	test power	sysp-001-048-Standalone-test poi	1	4	Stop	PVU	
23	1.3063E+12	5725-A25	test power	sysp-001-048-Standalone-test poi	1	4	Stop	PVU	
24	1.3063E+12	5725-A25	WAS dev cluster	vm-010-065-DMGR-WAS dev clus	1	0	Stop	PVU	
25	1.3063E+12	5725-A25	WAS dev cluster	vm-010-064-Custom Node-WAS c	1	0	Stop	PVU	
26	1.3063E+12	5725-A25	WAS dev cluster	vm-010-066-Custom Node-WAS c	1	0	Stop	PVU	
27	1.3063E+12	5725-A25	test power	sysp-001-048-Standalone-test poi	1	4	Create	PVU	
28	1.3063E+12	5725-A25	test power	svsp-001-048-Standalone-test poi	1	4	Start	PVU	

	A	B	C	D	E
1	timestamp	productid	pvu allotment	pvu usage	licensetype
2	1.31E+12	5725-A27	0	0	PVU
3	1.31E+12	5725-D64	0	0	PVU
4	1.31E+12	5725-A26	0	0	PVU
5	1.31E+12	5724-X89	0	0	PVU
6	1.31E+12	5725-C00	0	0	PVU
7	1.31E+12	5725-A27	0	0	PVU
8	1.31E+12	5725-D64	0	0	PVU
9	1.31E+12	5725-A26	0	0	PVU
10	1.31E+12	5725-C04	0	0	PVU
11	1.31E+12	5724-X89	0	0	PVU
12	1.31E+12	5725-C00	0	0	PVU
13	1.31E+12	5725-A27	0	0	PVU
14	1.31E+12	5725-D64	0	0	PVU
15	1.31E+12	5725-A26	0	0	PVU
16	1.31E+12	5725-C04	0	0	PVU
17	1.31E+12	5725-A25	0	120	PVU
18	1.31E+12	5724-X89	0	0	PVU
19	1.31E+12	5725-C00	0	0	PVU
20	1.31E+12	5725-A27	0	0	PVU

PureSystems Center



Neues IBM PureSystem Center

- Zugang zu einem umfassenden Ecosystem von IBM und IBM zertifizierten Experten
- Optimierter Download, leicht einsetzbare Anwendungsmodelle von mehr als 100 führenden ISVs heute schon verfügbar.
- Suche auf Basis von Anwendungen, Branchen oder Systemen



Zielgruppe

- **Kunden, die eine große Zahl von Web- und Applikations-Servern betreiben.**
- **Kunden, die viele verteilte Anwendungen konsolidieren möchten (z.B. für Test- und Entwicklungssysteme).**
- **Kunden, die eine schnelle Bereitstellung von Anwendungen benötigen.**
- **Cloud Provider**
- **Managed Service Provider**
- **Rechenzentrums- Betrieb**
- **...**

Summary of Project Troy Application System

- Arrives **pre-integrated and pre-optimized** for faster time to value
- **Provides all the infrastructure and application services** needed for applications
- Is tuned to **unique characteristics of different workloads**
- Provides a **single point of management** to manage workload lifecycles intelligently
- Has built-in **workload elasticity** to handle changes in demand
- Designed with **open standards** to fit into your environment
- Includes **integrated optimized support** for a single point of contact



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