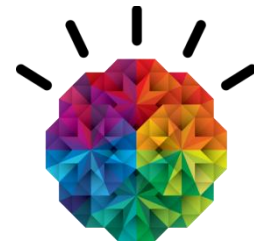# IBM PureSystems

How to deliver revolutionary Performance Management business results !

Gregory Verlinden – Software PureSystems Benelux Business Leader

Smarter systems that meet your challenges by …

| Reducing complexity	Accelerating time to value	Improving IT economics
The entire system lifecycle is simplified from acquisition to retirement	**Management expertise is built in** each system and ready for immediate use	**Each system tuned for the different needs** of different workloads
IT	**Business**	**Financial**

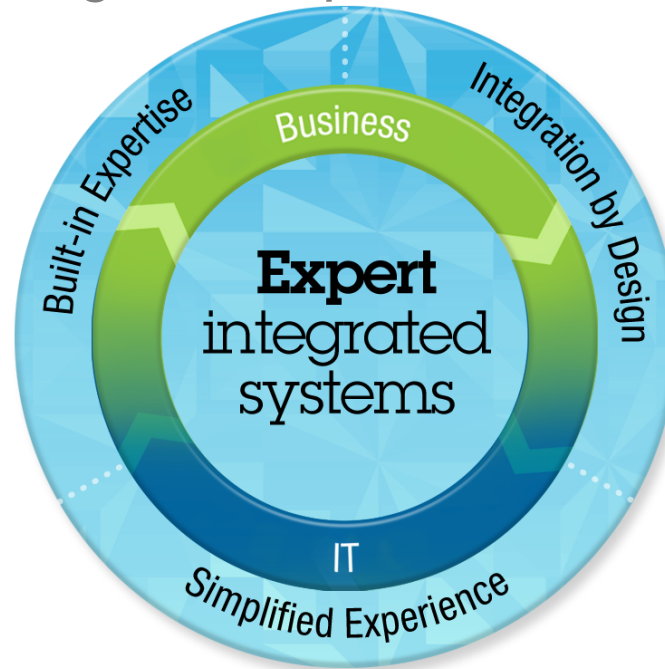# Benefits grow when more we increase the level of simplicity
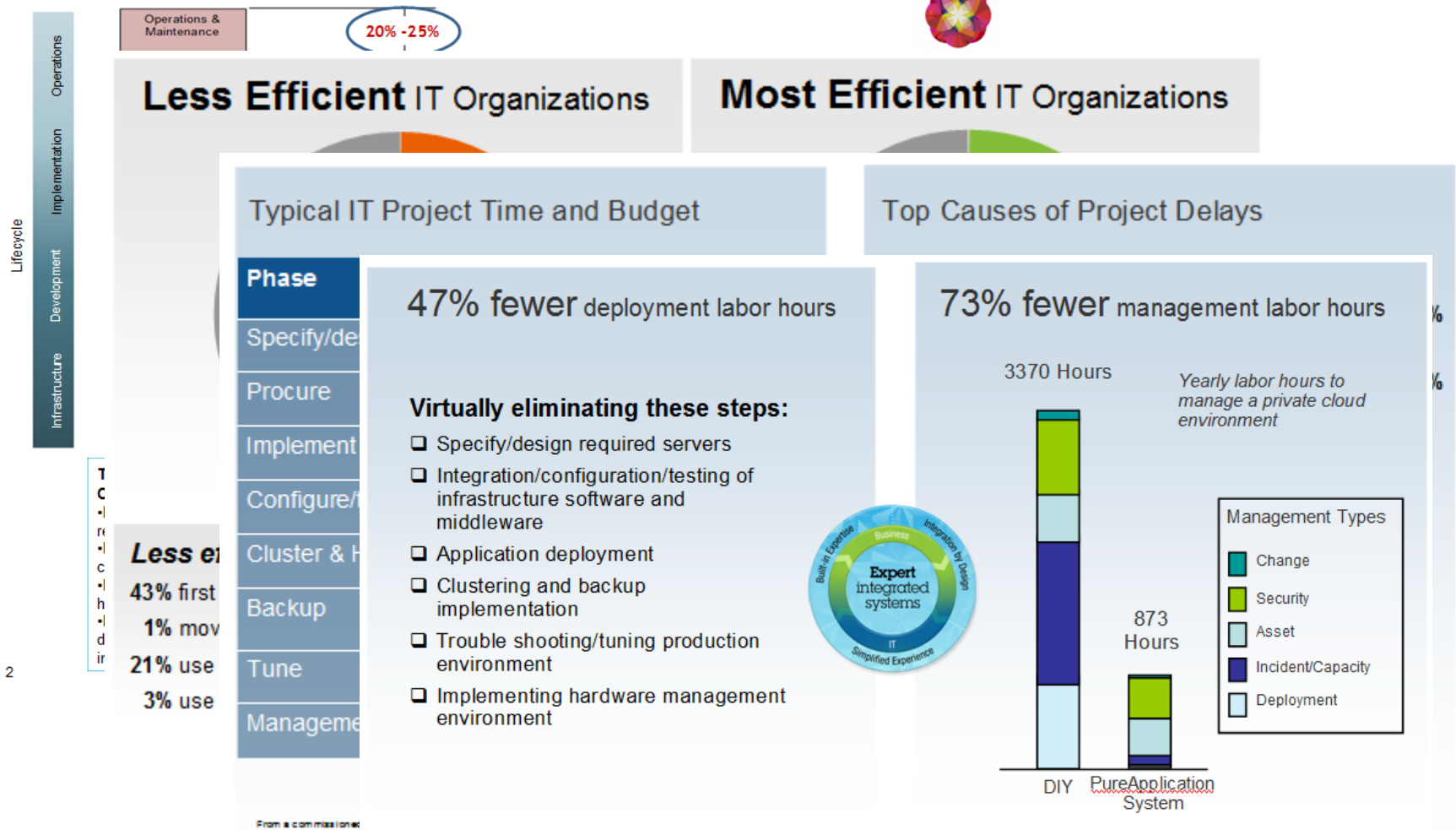
In April, IBM announced a new family of expert integrated systems:

PureSystems

Systems with integrated expertise and built for cloud

Built-in Expertise

Capturing and automating what experts do – from the infrastructure patterns to the application patterns

Integration by Design

Deeply integrating and tuning hardware and software – in a ready-to-go workload optimized system

Simplified Experience

Making every part of the IT lifecycle easier - *with integrated management of the entire system and a broad open ecosystem of optimized solutions*

Introducing the IBM PureSystems Family

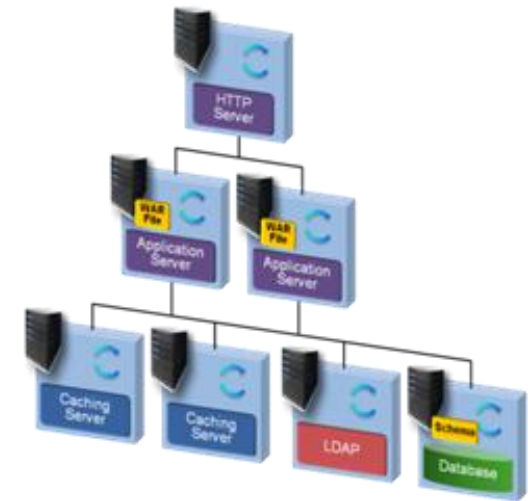**Patterns of Expertise: Proven best practices and expertise for complex tasks learned from decades of client and partner engagements that are captured, lab tested and optimized** *into a deployable form*

What is a Pattern of Expertise ?
- 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

© 2012 IBM Corporation

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 and then built into the system

Application Patterns
Available patterns from IBM and Partners

100+ ISV business applications
Business intelligence
Business process management
Web experience (Portal)

Available through PureSystems Centre

Platform Patterns
Expertise across the middleware and infrastructure

Web application deployment
Database deployment
Cloud platform management

Built-in with flexibility

Infrastructure expertise
across the compute resources

Scalability   Provisioning
Upgradability   Storage optimization

Through *unmatched expertise* in: System design * Infrastructure management * Application deployment * Data management * Datacenter management * Application management * High availability and scalability * Security * Storage optimization * Networking * Cloud

Add **third-party** application patterns of expertise

Use **IBM** patterns of expertise throughout the system

Capture **your own** expertise:

- Image Construction & Composition Tool allows you to create your own custom virtual images

- Pattern Development Kit allows you to create your own virtual application patterns.

- Capture existing expertise for operating system and middleware installation

- Dynamically combine pre-defined components to build new image packages

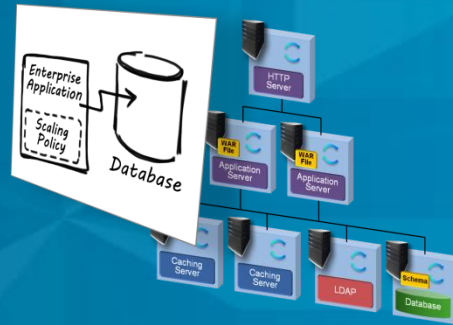- Create a standard VM format in Open Virtual Format

Capture 80% of today's workloads

PureFlex   **Pure**Application   **Pure**Data
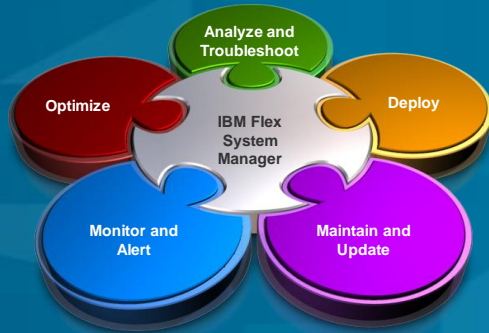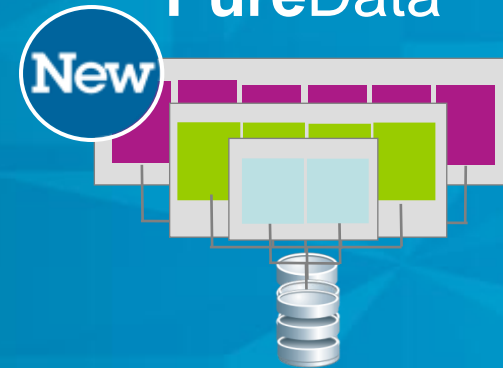
for **Infrastructure as a Service**   for **Platform as a Service**   for **Data as a Service**

The IBM **PureFlex System** is an infrastructure system with expertise for sensing and anticipating resource needs to optimize a client's infrastructure.

Factory integrated and **optimized system infrastructure**, **Management integration** across physical and virtual resources, **Automation and optimization expertise** and **Built for cloud**, as a foundation for Infrastructure as a Service offering

The IBM PureFlex System supports both POWER7 and x86 environments, and is GA

IBM PureFlex System: Integrated Infrastructure, built for cloud
Flexibility to run your choice of applications and middleware

Expert integrated:

- Flexible infrastructure
  - Compute (x86 & POWER)
  - Storage
  - Networking
  - Management **(Flex System Manager)**
  - Security
- Unified infrastructure management
- Built-in expertise - Infrastructure patterns

PureFlex

Infrastructure

Delivering Infrastructure Services

200% increase
in performance of critical applications

66% faster
setup time

Days to minutes
for virtual machine deployment time

72% lower
systems costs over 3 years

PureFlex   **Pure**Application   **Pure**Data

New

Analyze and Troubleshoot

Optimize   IBM Flex System Manager   Deploy

Monitor and Alert   Maintain and Update
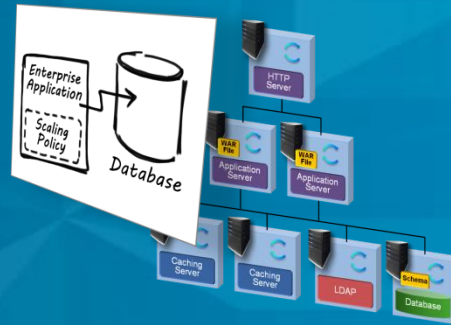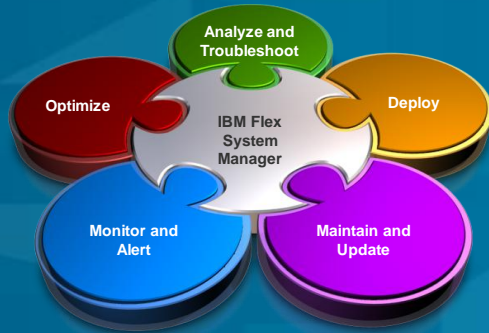
for
Infrastructure
as a Service

for
Platform
as a Service
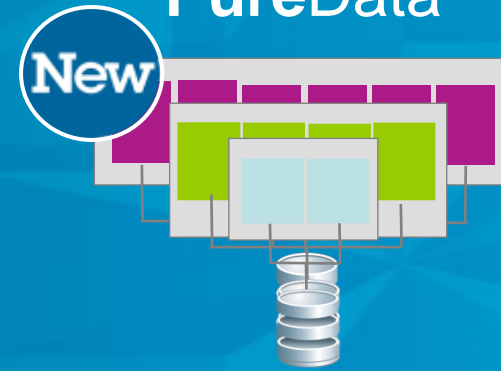
for
Data
as a Service

IBM **PureApplication System** is a platform system, **built for cloud, offering simplicity**, **efficiency, flexibility and control** - serving as a virtualized application platform that optimizes application workloads and accelerates time to value.
PureApplication leverages much of PureFlex System infrastructure.

Key attributes include: **Built-in expertise pre-optimizes application,** Web and database, and application workloads, with **elastic scalability**, **Repeatable self-service provisioning,** on a **resilient, secure, scalable infrastructure**, **Simplified platform management with a single integrated console**

11

What is PureApplication System

Application patterns from IBM and partners

Patterns of Expertise
- 100+ ISV business applications
- Business intelligence
- Business process management
- Web experience (Portal)

Integrates an application platform optimized for enterprise applications

Application Platform

- Application Optimization
- System wide Management
- Automation & Scaling
- Caching & Elasticity
- Application Centric Provisioning
- Usage Metering

- Security
- Monitoring
- App Lifecycle Management
- License Management
- Self-service
- Data management

Inherits the capabilities of **PureFlex System**

System Infrastructure

- Integrated Server, Storage, Network
- Power Management
- Storage & VM Optimization
- Virtualization
- Integrated System Management

- Provisioning
- Security
- Monitoring
- IT Lifecycle Management
- System design

PureApplication System adds deep application-aware value to its PureFlex foundation!

Continuous application level Optimization and Management

PureApplication

Monitoring
Lifecycle
Management

Deploy — Software application

Deploy

Deploy — Software application
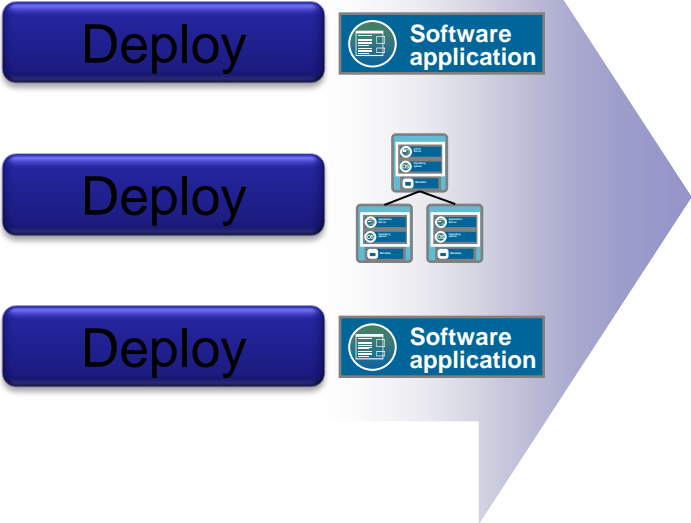
Application Optimization

- Policy-based placement
  - Minimize license cost
  - Minimize energy
  - Maximize resiliency
  - Maximize performance

- Application level prioritization

- Dynamic scaling of applications and VM resources

- High Availability of VMs & apps

- Mobility of VMs for performance, management and maintenance

- Performance optimization

- Application level isolation

Application

←Scaling→

Database

HTTP
Server

WAR
File

Application
Server

WAR
File

Application
Server

Caching
Server

Caching
Server

LDAP

Schema

Database

Monitoring
Lifecycle
Management

HTTP Server
HTTP Server
HTTP Server
HTTP Server

WAR File — Application Server
WAR File — Application Server
WAR File — Application Server
WAR File — Application Server
WAR File — Application Server
WAR File — Application Server
WAR File — Application Server
WAR File — Application Server

Caching Server
Caching Server
Caching Server
LDAP
Schema — Database

Monitoring
Lifecycle
Management

Auto Scaling	**Managed environments scale up and down based upon business SLAs you specify**
Failover	**Failed virtual machines are replaced with new VMs which are configured with the old VM's identity**
Load Balancing	**Web requests are automatically load balanced across multiple virtual application servers**
Security	**ACL's for application sharing and management access; LDAP integration for application security**
Monitoring	**All components of virtual application environments are monitored by PureApplication System**
Lifecycle Management	**Built-in components are pre-configured, tuned, and tested to enable efficient, minimal click deployment**

Diagram | List View | Source

💾 Save | 💾 Save As | ⬛ Layout | ↩ Undo | ↪ Redo   ≑ Hints

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

IMS Existing IMS Database

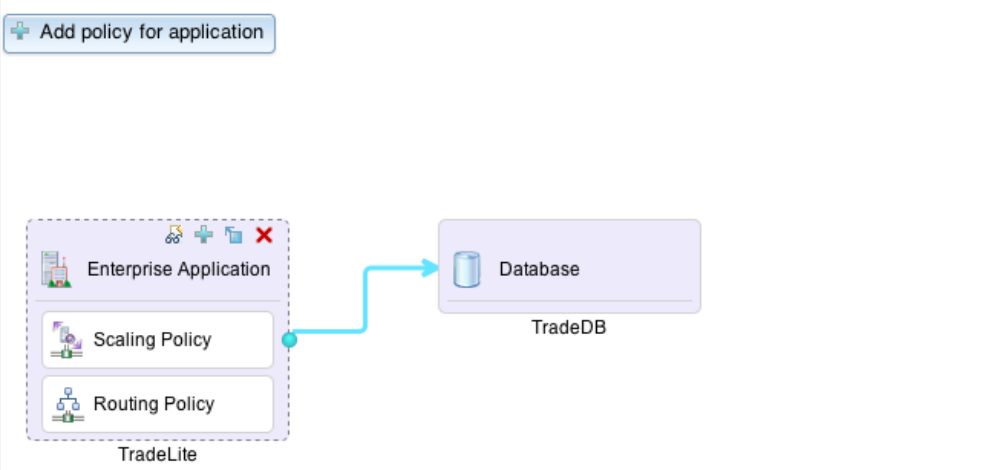▾ Messaging Components

✉ 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 ⚠

IMS Existing IMS TM

➕ Add policy for application

Enterprise Application
Scaling Policy
Routing Policy
TradeLite

→ 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):

0   10000

◀ |———▮———▮———————| ▶
Range: 1000 - 5000

* Instance number range of scaling in/out:

1   50

◀ |—▮—▮——————————| ▶
Range: 1 - 10

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

Diagram | List View | Source

💾 Save | 💾 Save As | 🗐 Layout | ↩ Undo | ↪ Redo | ⤒ Hints

Assets

Asset name

▼ Application Components

  📄 Additional archive file

  📄 Enterprise Application
    WebSphere Application Server

  📄 Existing Web Service Provider Endpoint

  🔒 Policy set

  📄 Web Application
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▼ Database Components

  🛢 Data Studio web console

  🛢 Database
    DB2

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    DB2

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  🛢 Existing Database ⚠
    Oracle

  📄 Existing IMS Database

▼ Messaging Components

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    WebSphere MQ

  ✉ Queue
    WebSphere MQ

  ✉ Topic
    WebSphere MQ

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    WebSphere Application Server

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➕ Add policy for application

▼ 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

🗐 **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):

0   10000

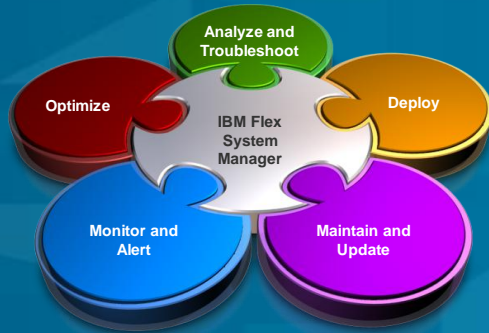◀ [━◇━━◇━] ▶

Range: 1000 - 5000

* Instance number range of scaling in/out:
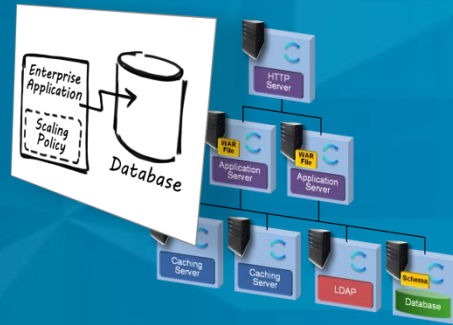
1   50

◀ [━◇━━] ▶

Range: 1 - 10

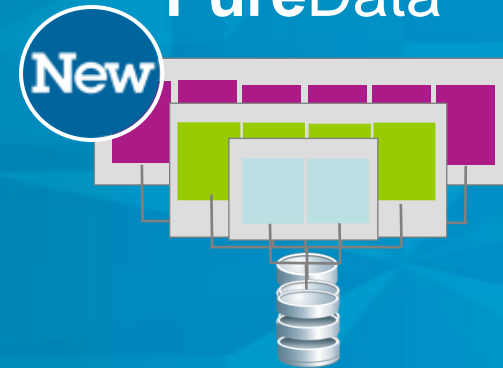* Minimum time (seconds) to trigger add or remove:

PureFlex

for
Infrastructure
as a Service

PureApplication

for
Platform
as a Service

PureData

New

for
Data
as a Service

With the volume, velocity and variety of data growing by the minute, IBM is extending the characteristics of its new family of expert integrated systems (Built-in expertise, Integration By Design, Simplified Experience) to ease the challenges associated with **Big Data**.

PureData, the newest addition to the PureSystems family, helps clients quickly analyze the influx of data that is being created every day and intelligently use those insights to support specific business goals across their organization – including marketing, sales and business operations. PureData is an integrated stack of hardware and software with built in expertise. It will deliver greater simplicity to organizations as they look for new, cost-effective ways to find insight in masses of information.

Today's big data challenges for both transactions and analytics are increasing demands on data systems
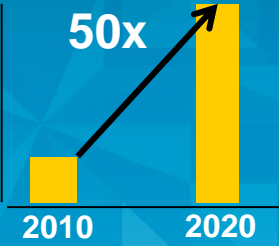
Mobile   *Commerce*   *Social*   *Analytics*   *Big Data*   *Cloud*

Increasing
Volume of data
requires growing capacity

50x
35 ZB
by 2020
2010   2020

Increasing
Velocity of data
requires higher performance

Millions of transactions per second
Telco subscriber activity logging

Increasing
Variety of data
requires new techniques

Billions of devices & sensors
Smart Meters, RFIDs, GPS…

A smarter approach to meeting data challenges is required to:
Reduce complexity ▪ Accelerate time to value ▪ Improve IT economics

IBM PureSparta System models optimized for different data services

PureData System
for Transactions

Optimized system delivering data services for transactions

New

PureData System
for Analytics

Optimized system delivering data services for analytics

New

Powered by Netezza technology

PureData System
for Operational Analytics

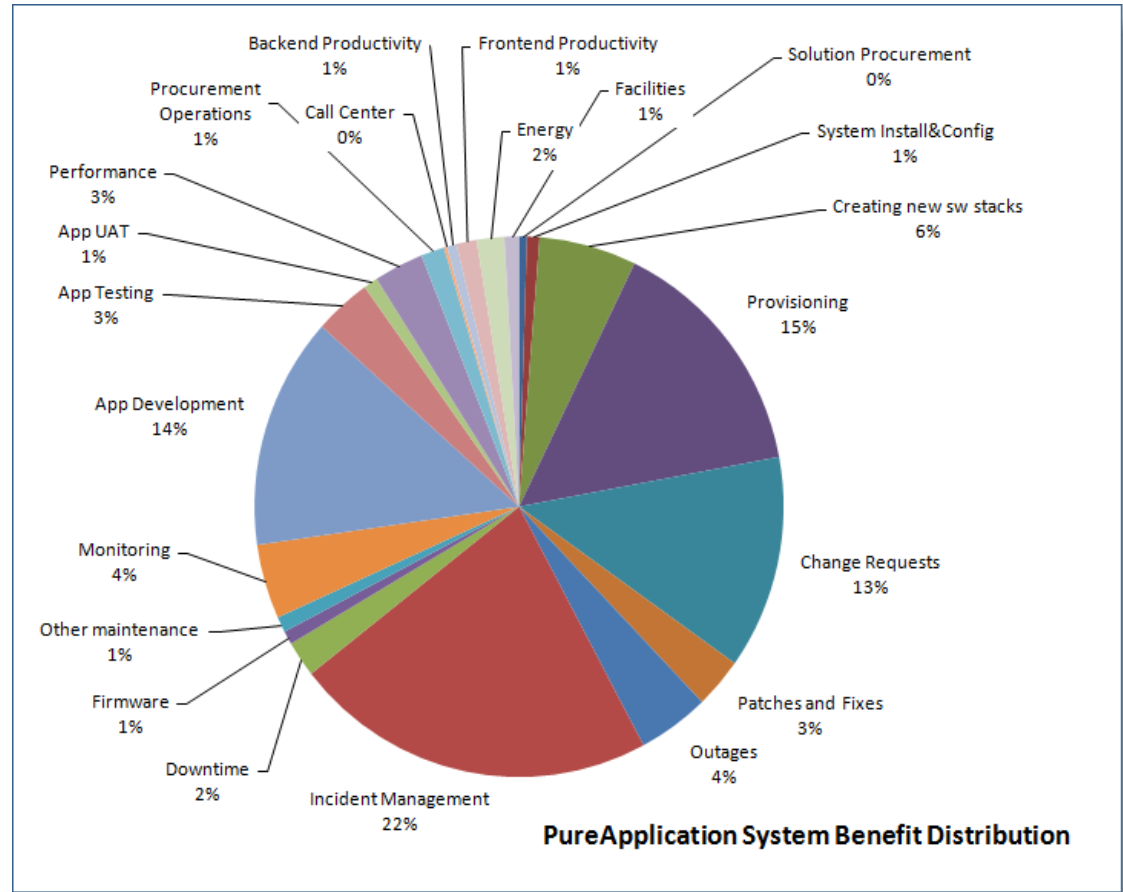*Optimized system delivering data services for operational analytics*

New

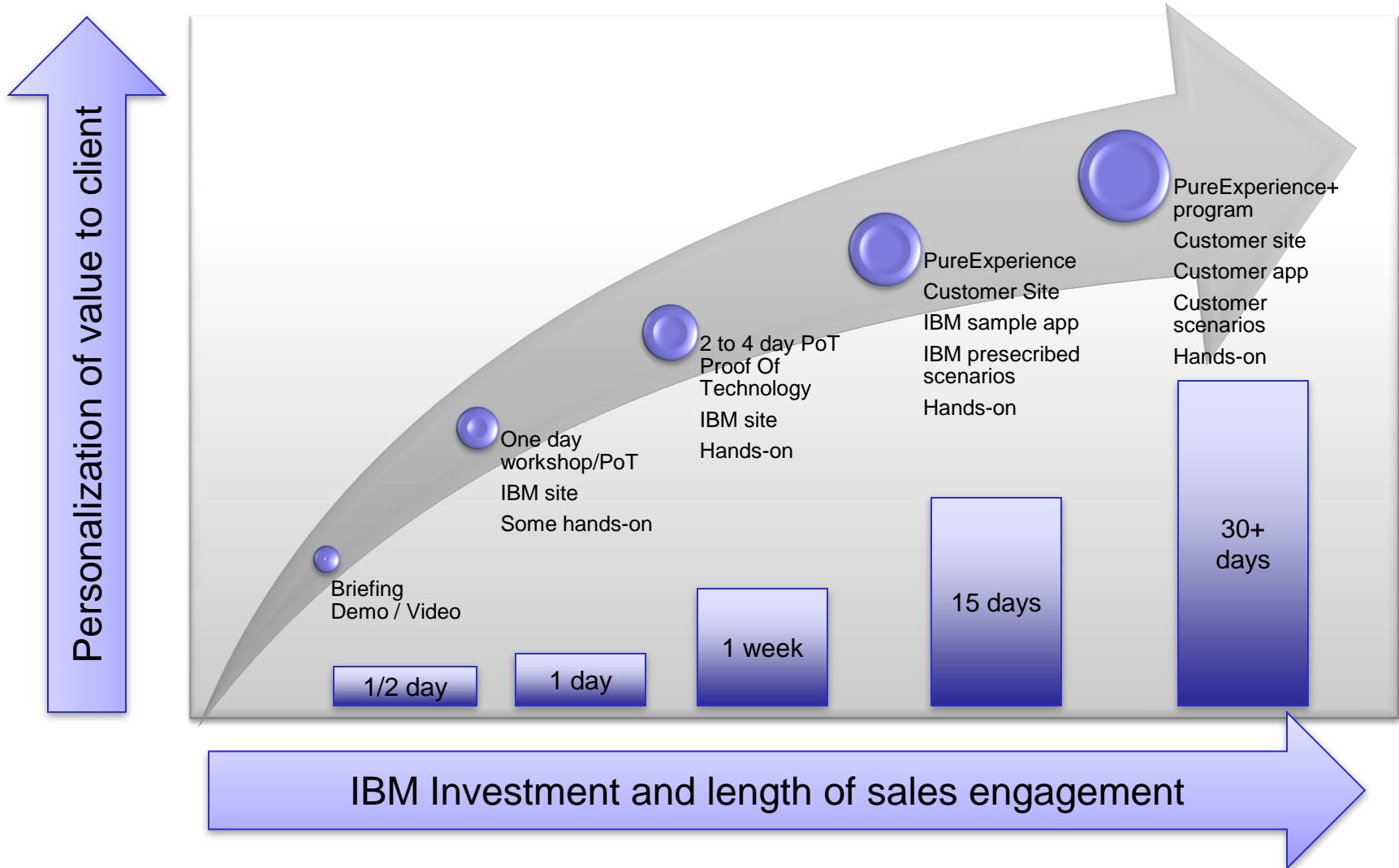*For both traditional and cloud environments*

Benefits will vary by customer

Expert Integrated Systems lowers the cost of operations…

- *Hardware and software costs are reduced through consolidation, increased utilization*

- *Maintenance and administration costs are reduced through improved monitoring and automated, policy-driven resource management*

- *Intelligent health management capabilities reduce business-impacting outages and incidents*

- *Pattern-based provisioning simplifies upgrades and migrations, patching, testing*

…while accelerating application development that enables project-driven cost reduction, quicker realization of productivity and revenue benefits

PureApplication System Benefit Distribution

Backend Productivity 1%
Frontend Productivity 1%
Solution Procurement 0%
Procurement Operations 1%
Call Center 0%
Facilities 1%
System Install&Config 1%
Energy 2%
Performance 3%
Creating new sw stacks 6%
App UAT 1%
App Testing 3%
Provisioning 15%
App Development 14%
Change Requests 13%
Monitoring 4%
Other maintenance 1%
Patches and Fixes 3%
Firmware 1%
Outages 4%
Downtime 2%
Incident Management 22%

Ask for explore Pure to youre sales representative

Personalization of value to client

IBM Investment and length of sales engagement

Briefing
Demo / Video

1/2 day

One day
workshop/PoT
IBM site
Some hands-on

1 day

2 to 4 day PoT
Proof Of
Technology
IBM site
Hands-on

1 week

PureExperience
Customer Site
IBM sample app
IBM presecribed
scenarios
Hands-on

15 days

PureExperience+
program
Customer site
Customer app
Customer
scenarios
Hands-on

30+
days

PureExperience: IBM's investment to *prove it*

IBM PureExperience
Offers the following at no charge:

1. On-site installation of PureApplication System and guided demonstration of business value

2. Execution of a 10 day on-site service engagement

3. Use of the PureApplication System for 30 days

4. Lab advocate for usage questions and advice

5. Single point of IBM support and maintenance