What's new for end-to-end workload automation to support new technologies

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Workload Automation key for new technology success

- Workload Automation in era of Cloud, Big Data, Mobility

- Value of Workload Automation for new technologies

  - Overview of IBM Tivoli Workload Automation

  - Challenges and needs in the new era

- Workload Automation addresses key challenges

  - Simplification

  - Business process integration hub

  - Central management capabilities

- Opportunity created with workload automation

  - Elastic provisioning of resources

  - Self-service dashboards

  - IBM Workload Automation SaaS

Workload Automation in era of Cloud, Big Data, Mobility

Cloud, Big Data, and Mobility are profoundly changing the game...

Cloud

Big Data

Mobility

Challenges

IBM Workload Automation
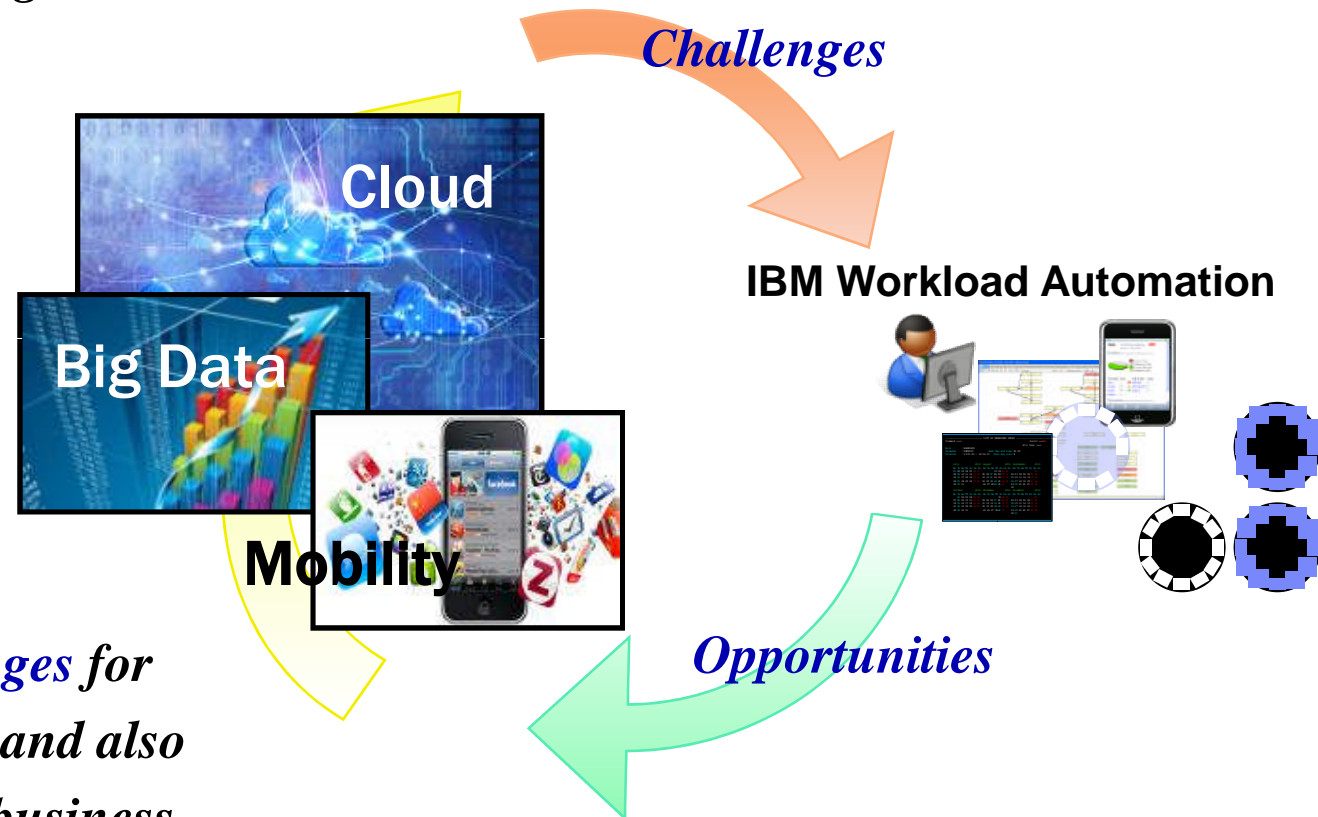
Opportunities

... creating new challenges for Workload Automation, and also new opportunities, for business agility and costs saving
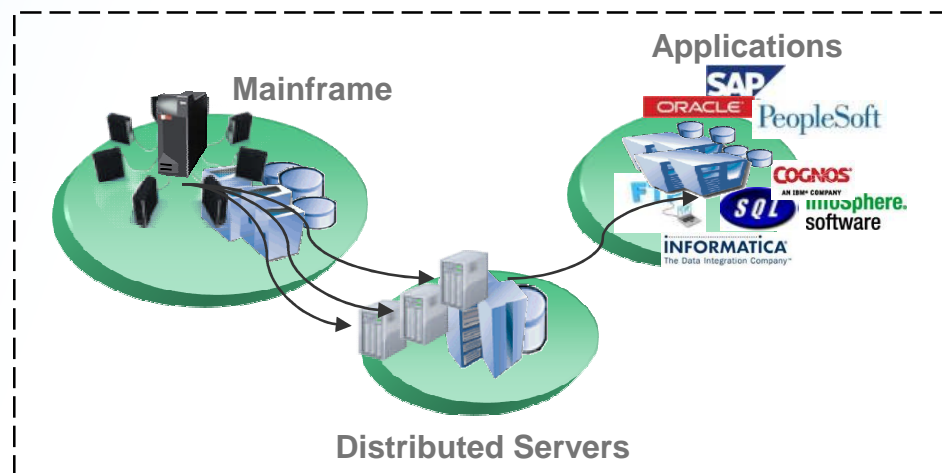
How new technologies are challenging Workload Automation

Introduction to IBM Tivoli Workload Automation (TWA) portfolio

- Automates SLA-driven and policy-driven end-to-end workloads running in support of business services

Applications

Mainframe

Distributed Servers

Portfolio components:

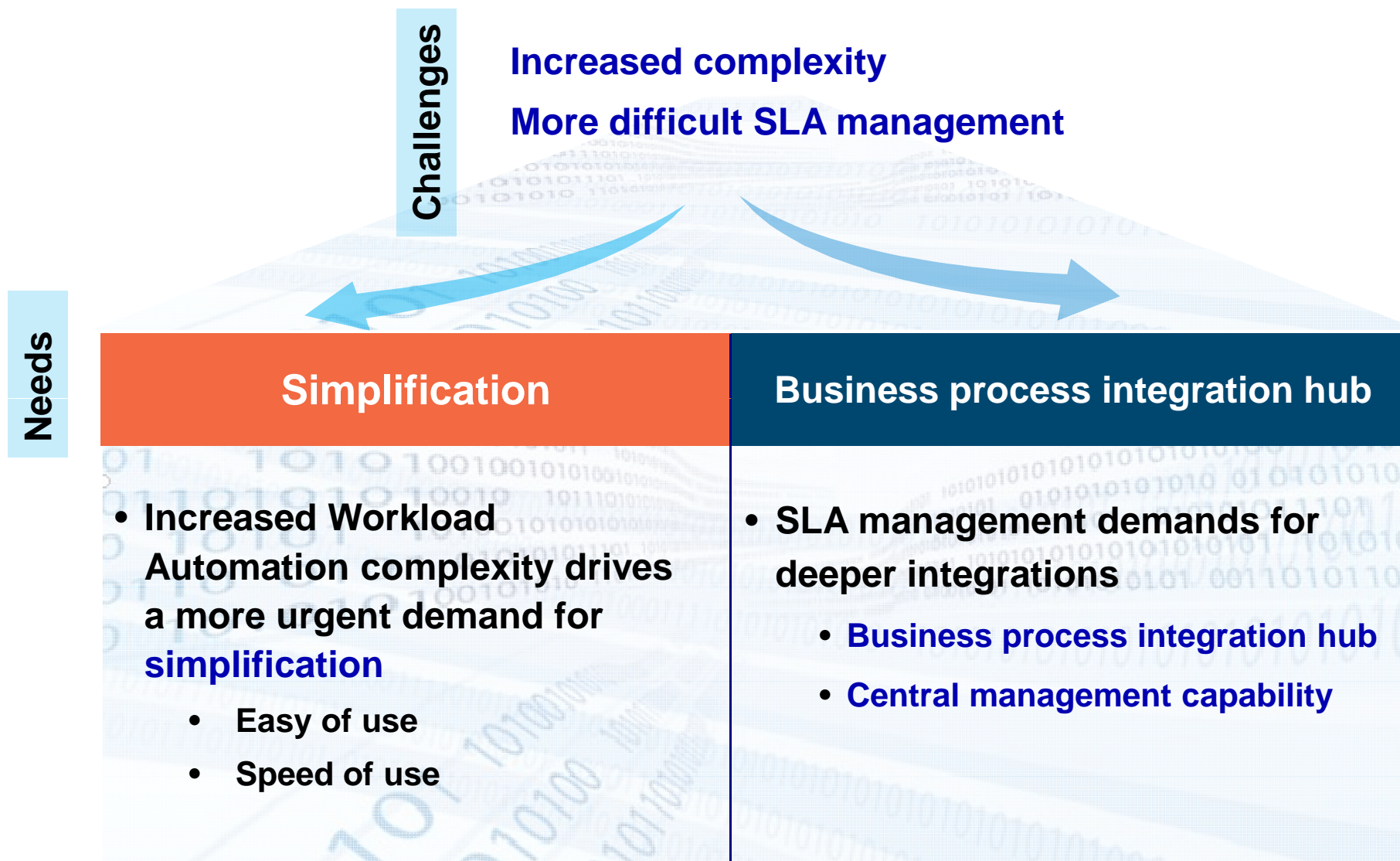*IBM Tivoli Workload Scheduler (TWS)*

IBM Tivoli Workload Scheduler for z/OS (TWSz)

IBM Tivoli Workload Scheduler for Applications (TWSxApps)

IBM Workload Automation (IWA)

IBM Workload Automation SaaS (IWA SaaS)

Challenges and needs in era of new technologies

Challenges

Increased complexity

More difficult SLA management

Needs

Simplification	Business process integration hub

• **Increased Workload Automation complexity drives a more urgent demand for simplification**
   • Easy of use
   • Speed of use
	• **SLA management demands for deeper integrations**
	   • **Business process integration hub**
	   • **Central management capability**

Value of IBM Tivoli Workload Automation (TWA) for new challenges:

- Simplification
- TWA as integration hub
- Central management capabilities

Save time and money with TWA simplification

TWA team puts great effort in simplification, and works together with Clients to measure improvements


Simplification in V9.x

- **Easy of use**
  - *Tivoli Dynamic Workload Console usability enhancements*

- **Speed of use (reduce manual effort)**
  - *Tivoli Dynami Workload Console quick filters in task results*
  - *Submit job from Workload Design*
  - *Graphical view of pre-production plan*
  - *Monitoring task query line*
  - ***New Run Cycle Groups***
  - *TWSz Additional matching criteria*
  - *TWSz Mandatory dependency*
  - *TWS Generic branch job*
  - *TWSz two MLOG dataset*
  - *TWSz System Automation workstation enhancement*
  - *Heartbit check mechanism for zCentric agents*

Tivoli Dynamic Workload Console ehnancements

Core scheduling enhancements

End-to-end enhancements
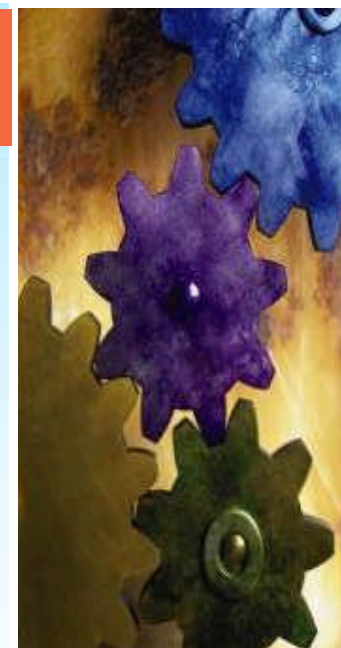
An example: New Run Cycle Groups

Marnie

Application Developer

My collegue John, the application developer, creates always new applications, and asks me to schedule them with more and more complicated rules!

Scheduler

Scenario

Marnie has to create 2 monthly runs
- One falling on the last Friday of the month
- The other falling on the last working day of the month
- Sametime they coincide and make the job overrun
- Marnie wants to exclude non-critical jobs automatically when they coincide

Before Run Cycle Group

Marnie could stop job running
- creating periods / calendars to handle manually

Easier design of scheduling rules

With Run Cycle Group

Marnie can use a single run cycle group
- Use negative rule against an AND of run cycles
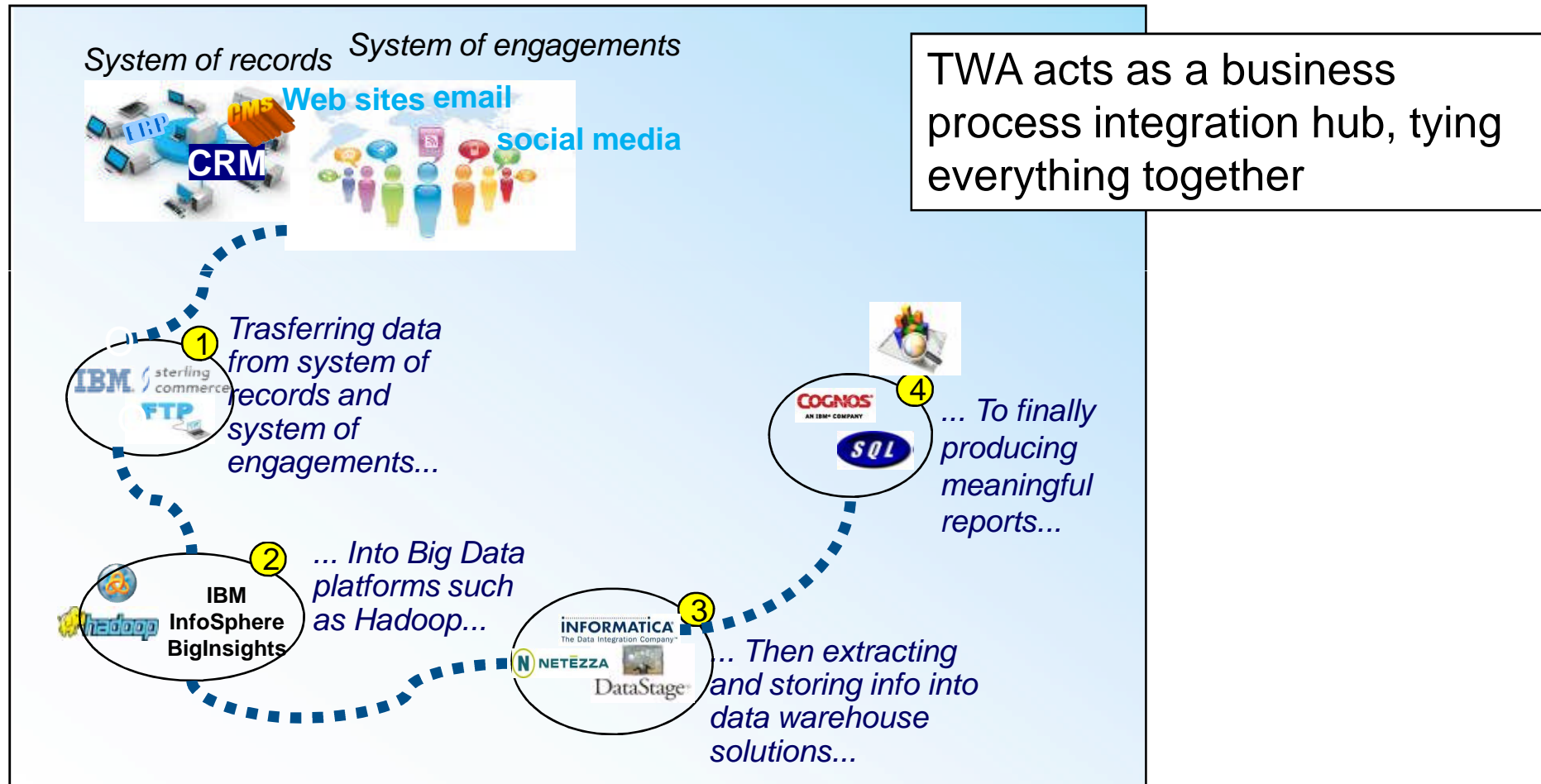
Big Data challenges addressed with TWA

- Big Data projects are triggering the rolling out of additional applications

  - For example: **Datastage, BigInsight, Netezza, Cognos**, …

  - Those applications generate complex environments with multiple connections

- TWA has the primitives to help you **get rid of complexity**, as it helps clarifying and coordinating dependencies between applications in multi-parts solutions

Example of Big Data project

Big Data projects often require the orchestration of multiple systems and applications

System of records *System of engagements*

Web sites email
CRM **social media**

TWA acts as a business process integration hub, tying everything together

1 *Trasferring data from system of records and system of engagements...*

IBM sterling commerce
FTP

4 *... To finally producing meaningful reports...*

COGNOS
AN IBM COMPANY
SQL

2 *... Into Big Data platforms such as Hadoop...*

IBM InfoSphere BigInsights
hadoop

INFORMATICA
The Data Integration Company™
NETEZZA
DataStage

3 *.. Then extracting and storing info into data warehouse solutions...*

TWA as business process integration hub

▸ **Modular automation**

▸ **Extensible framework**

  ▸ **Out-of-the-box adapters**

  ▸ **User adapters (SDK toolkit)**

▸ **Eliminate the need for scripts**

Big Data applications

Datastage

BigInsights

Distributed Servers

Mainframe
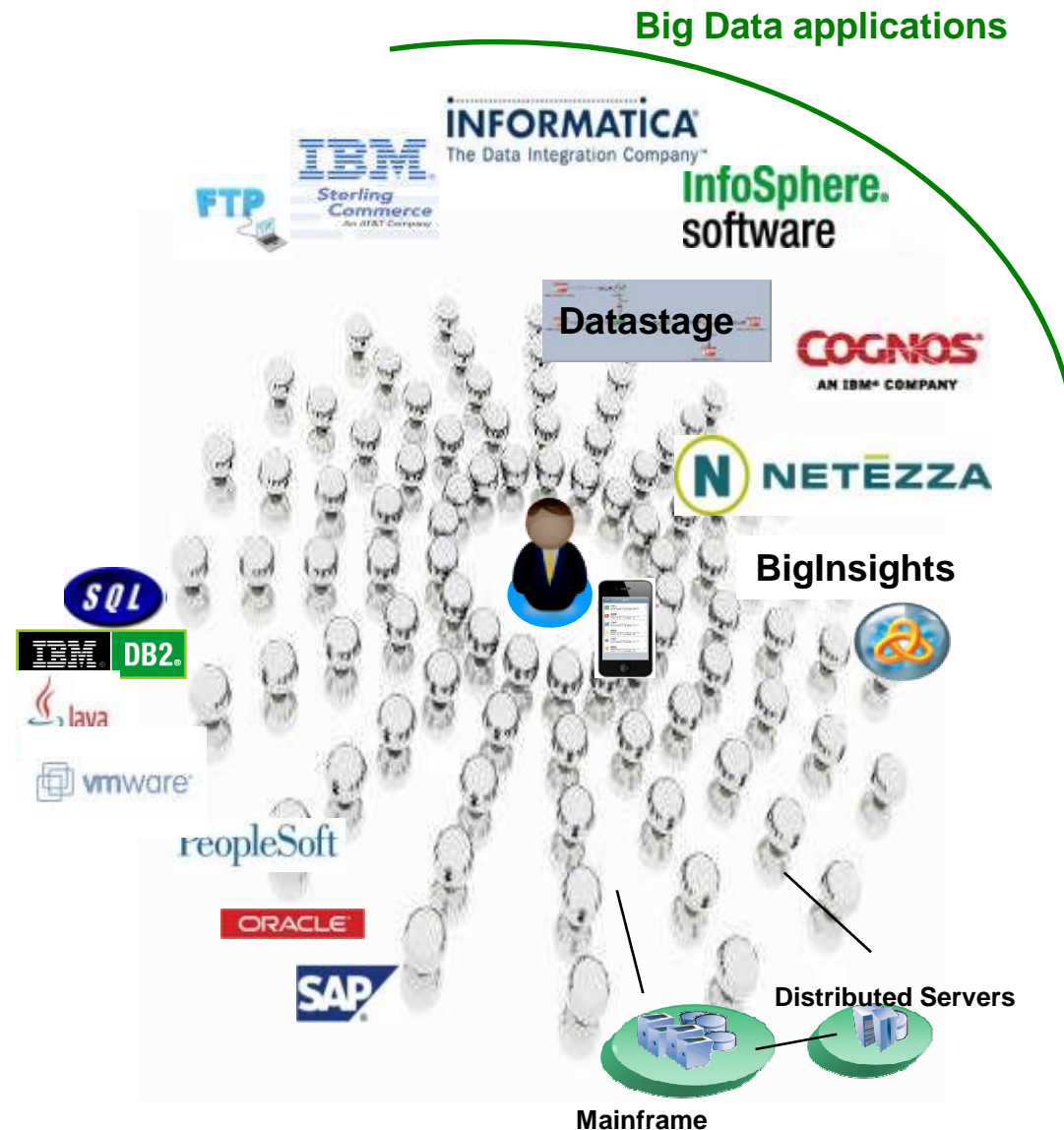
Centralized Operations and Management capabilities

TWA enhances central management capabilities:

- Central management of end-to-end workloads
- Central management of TWA-related information

Integrations in V9.x

- **Central management of end-to-end workloads**
  - *Promotion of zCentric jobs for enhanced SLA*
  - *Event Driven Workload Automation support in zCentric*
- **Central management of TWS-related information**
  - ***Job failure auto-ticketing***
  - ***Integration with IBM Tivoli Output Manager***
  - *Automatic provisioning of cloud resources*
  - *Simplify integration of jobs and applications running on Windows*
  - *Worklaod Applications*

Example: Job failure auto-ticketing

Jason
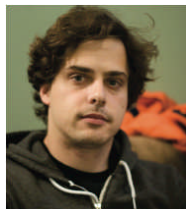
If a job fails, I'll get a ticket automatically opened for me

Operator

Scenario

When Jason gets the office in the morning, he has to search for failed jobs and opening tickets. He may escape some failures though.....

Before auto-ticketing

1. TWA operator opens a ticket for a failing job
2. Help desk operator assigns the ticket to TWA admin
3. TWA admin search for the failing job
4. TWA fixes the problem and submits the job again
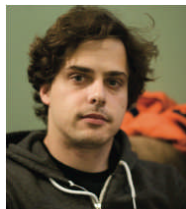
No manual ticketing

With auto-ticketing

1. **Automatic**
2. Help desk operator assigns the ticket to WA admin
3. **Automatic**
4. TWA admin fixes the problem and submits the job again

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Example: Integration with IBM Tivoli Output Manager (ITOM)

Jason

I'll be able to easily and quickly access historical job information to perform problem analysis (e.g., research current and previous exceptions)

Operator

Scenario

Jason needs to look at historical job runs, to do troubleshooting and analysis

Before integration

- Jason had to submit a request to the ITOM administrator to get job historical information

No need to submit a request to ITOM staff

With integration

- Jason can access job historical information on his own from within TWS z/OS

Tivoli Workload Automation captures opportunity created by new technologies

Exploiting new opportunities

IBM Workload Automation not only responds to the challenges created by new technologies, but also captures opportunities
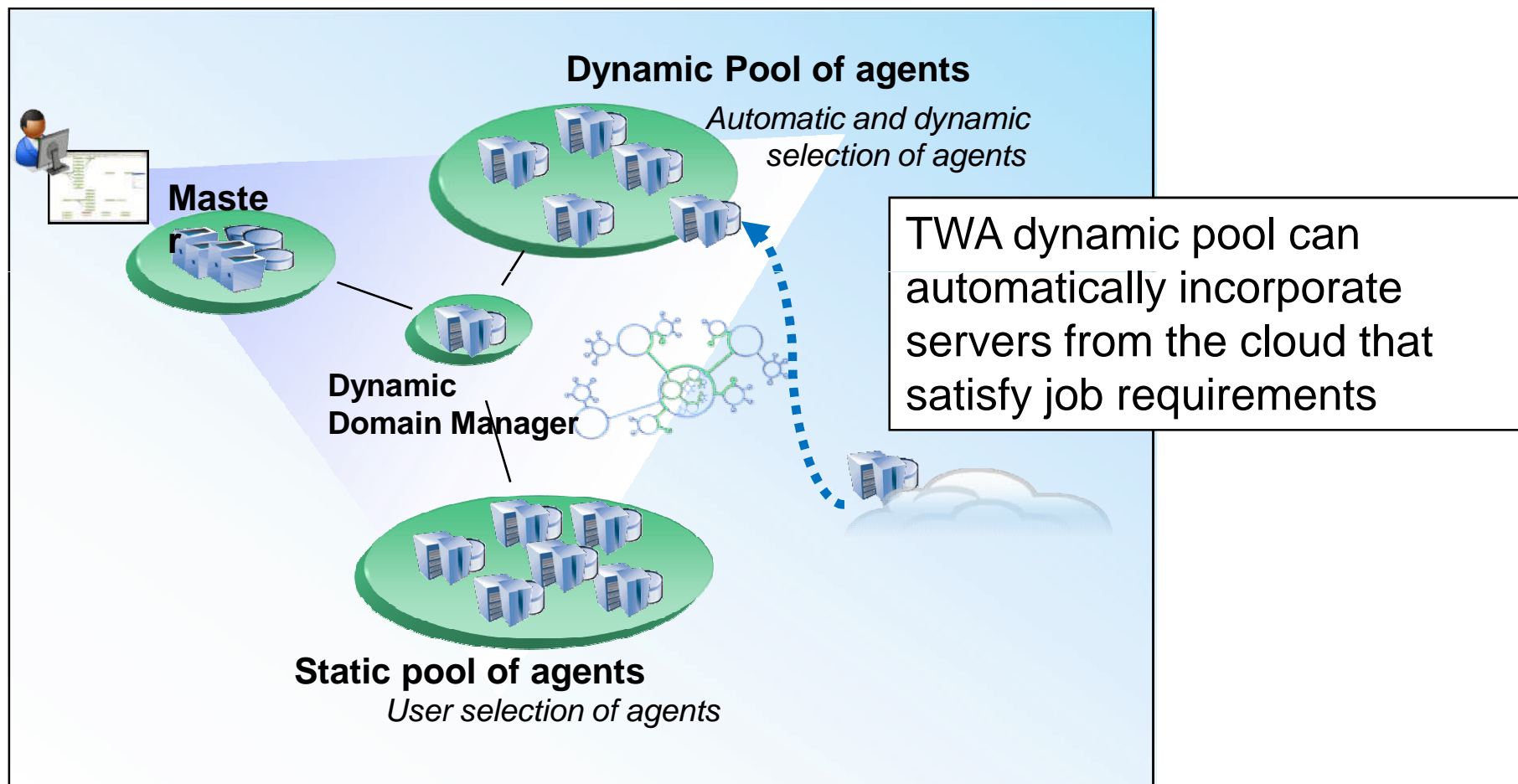
Innovation in V9.x

- **Exploiting cloud computing models**
  - **Elastic provisioning of cloud resources**
  - **New workload applications**
  - *Simplified deployment of dynamic agents in complex networks or across internet*

- **Access from mobile**
  - *Enhanced Self-Service catalog*
  - **New Self-Service Dashboard**

Dynamic capability enable cloud resource optimization

Tying workloads to pools of servers rather than individual servers enable Cloud resource optimization scenarios

Dynamic Pool of agents
Automatic and dynamic selection of agents

Master

Dynamic Domain Manager

TWA dynamic pool can automatically incorporate servers from the cloud that satisfy job requirements

Static pool of agents
User selection of agents

Elastic provisioning of cloud resources

| Planned provisioning (& de-provisioning)	Event-driven provisioning (& de-provisioning)
★ *Expected peak loads* ★ End-of-a-quarter processes ★ *Applications subject to high demand for a short period of time* ★ Concert ticketing system	★ *SLA risks* ★ Elastic provisioning triggered by SLA alerts ★ *Unexpected peaks* ★ Elastic provisioning triggered by peak alerts

Benefits

★ *Cloud elasticity minimizes fixed costs*

★ *Investment levels aligned to changing business needs*

★ *Minutes to bring up a complete TWA stack*

Provisioning jobs

Workload Applications
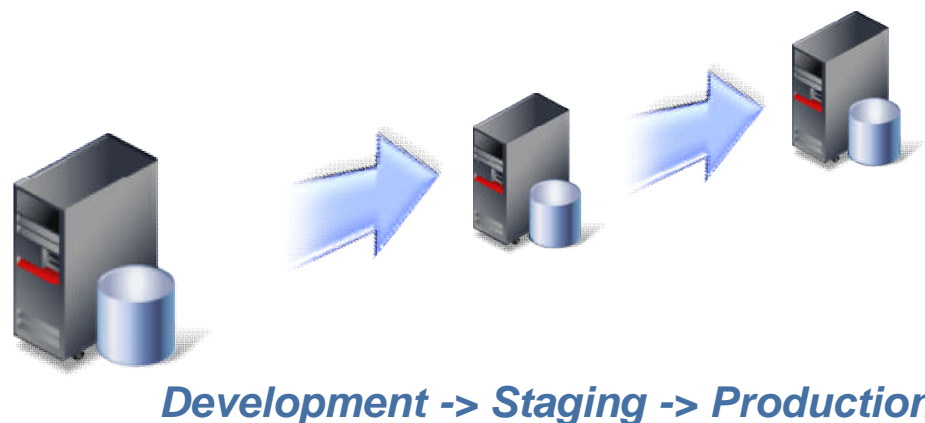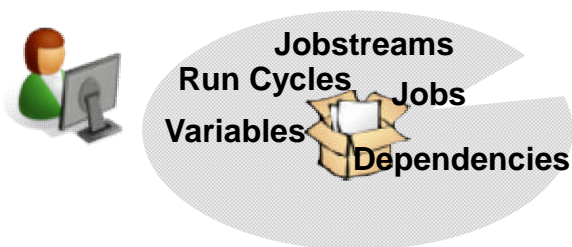
TWS agent

Virtual Machine
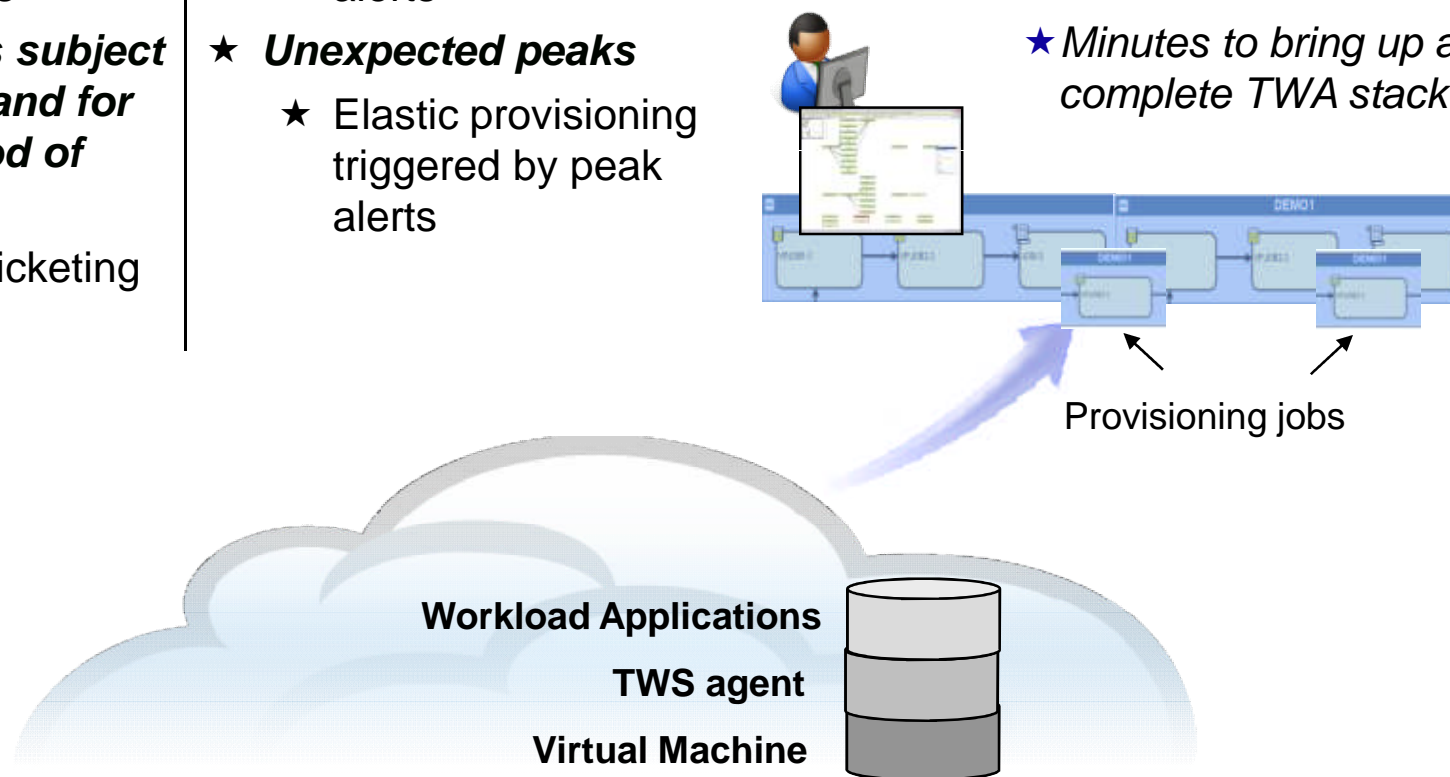
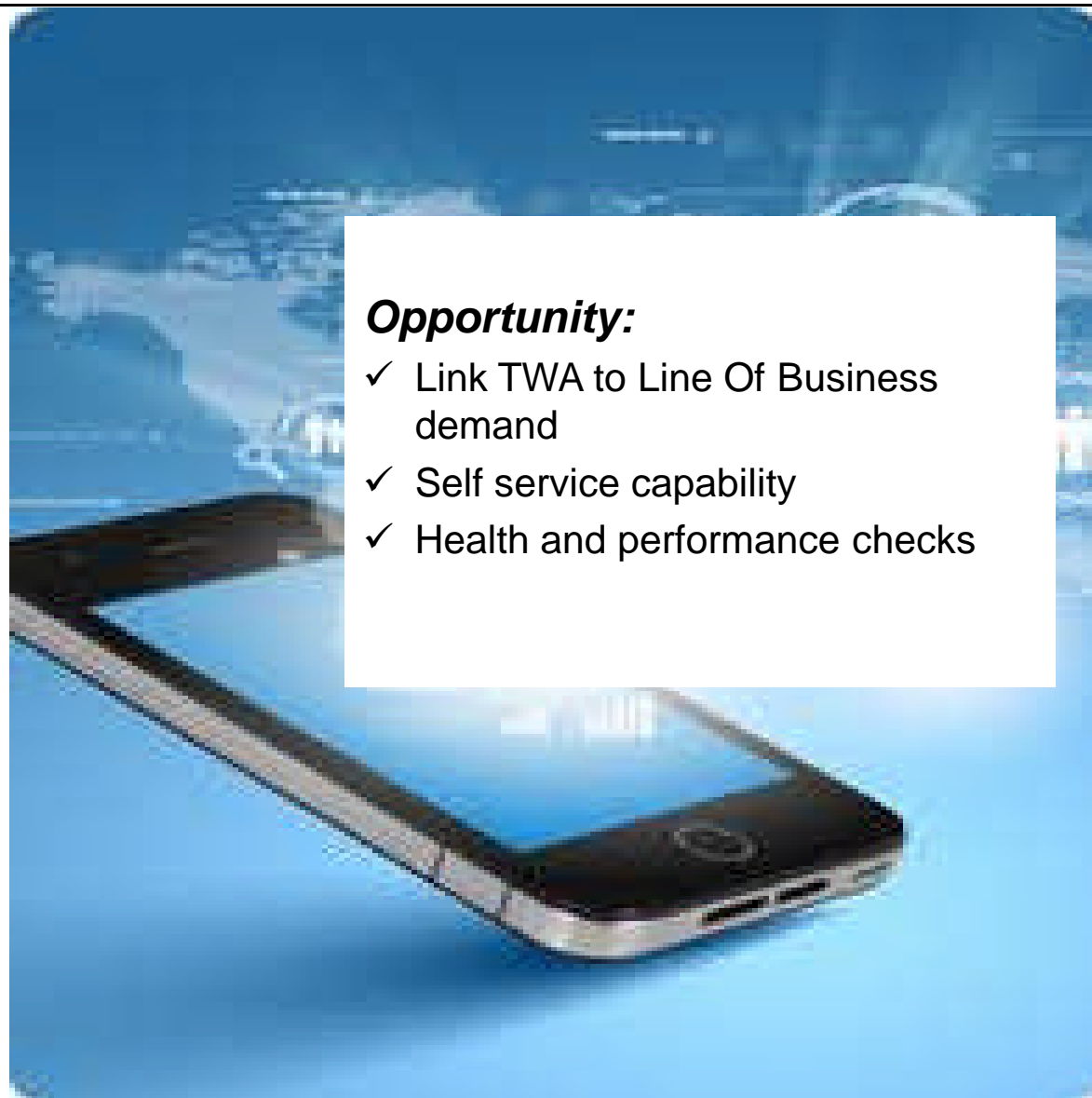# New workload applications enhance cloud resource scenarios

- New TWS (distributed) "workload application" object

- Acts as a container for all TWS assets (jobs, job-streams, run-cycles, variables, dependencies, …) needed to run a TWS solution

- Import/export of workload application templates

Benefits

- Improved TTV through asset reuse, standardization and sharing across user communities

- Re-use patterns with built-in user experience

Development -> Staging -> Production

Jobstreams
Run Cycles
Jobs
Variables
Dependencies

Mobility and Workload Automation

Opportunity:

✓ Link TWA to Line Of Business demand

✓ Self service capability

✓ Health and performance checks

Self-service dashboards improve operations

David

Tim

Line of Business Owner

IT director

Scenario

Tim: my collegue David owns the Insurance branch in the Bank. He has a maniacal focus on the SLA that the bank has established as turnaround time for clients requests. That's why he always asks me to check for the status of the workloads running in support of his branch. Sometimes he accesses the service on his own.

Before self service dashboard

- Tim and David ask the operator for the Lind of Business health check
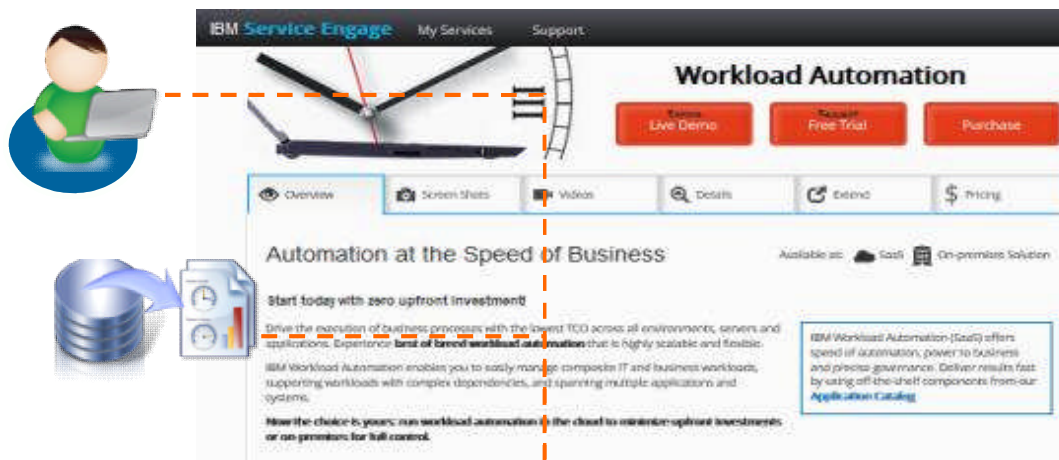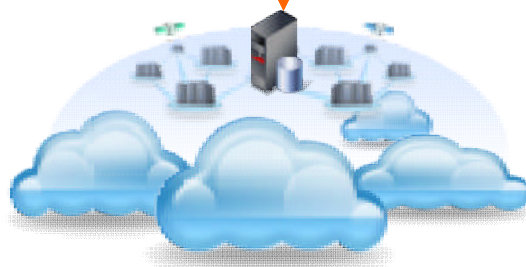- Operator specifies filters and turns out info for the director

Skip some steps

With self service dashboard

- Tim and David access self-service dashboard by their own
- Natural language
- Focus on their own Line of Business
- Fast and reliable turnaround

TWA offers SaaS opportunities to get started quickly

Host your TWS
server on Softlayer

✓Only agents onpremise

✓Secured and only outbound communication

Key points

1. You can host host your workload automation solution in a cloud environment (Softlayer) and save 50% or more

2. Ideal for Line of Business looking for a quick time to value solution, with no frills and limited customization capabilities but with shorten time to deploy

3. Provides value to **all** clients

   1. You can get started **with zero upfront investments (free trial)**

   2. **Optimized end-to-end experience (learn - live demo - try – buy)**

Workload Automation supports entire Enterprise

Developers

Self-service model easy to consume

Framework to develop new business products

Lines of Business

SaaS for launching
pre-defined tasks
Standard asset for
reuse

Mobile

Cloud

Big Data

IT Operations

Simplification

Increased efficiency

Reduced Total Cost of Ownership
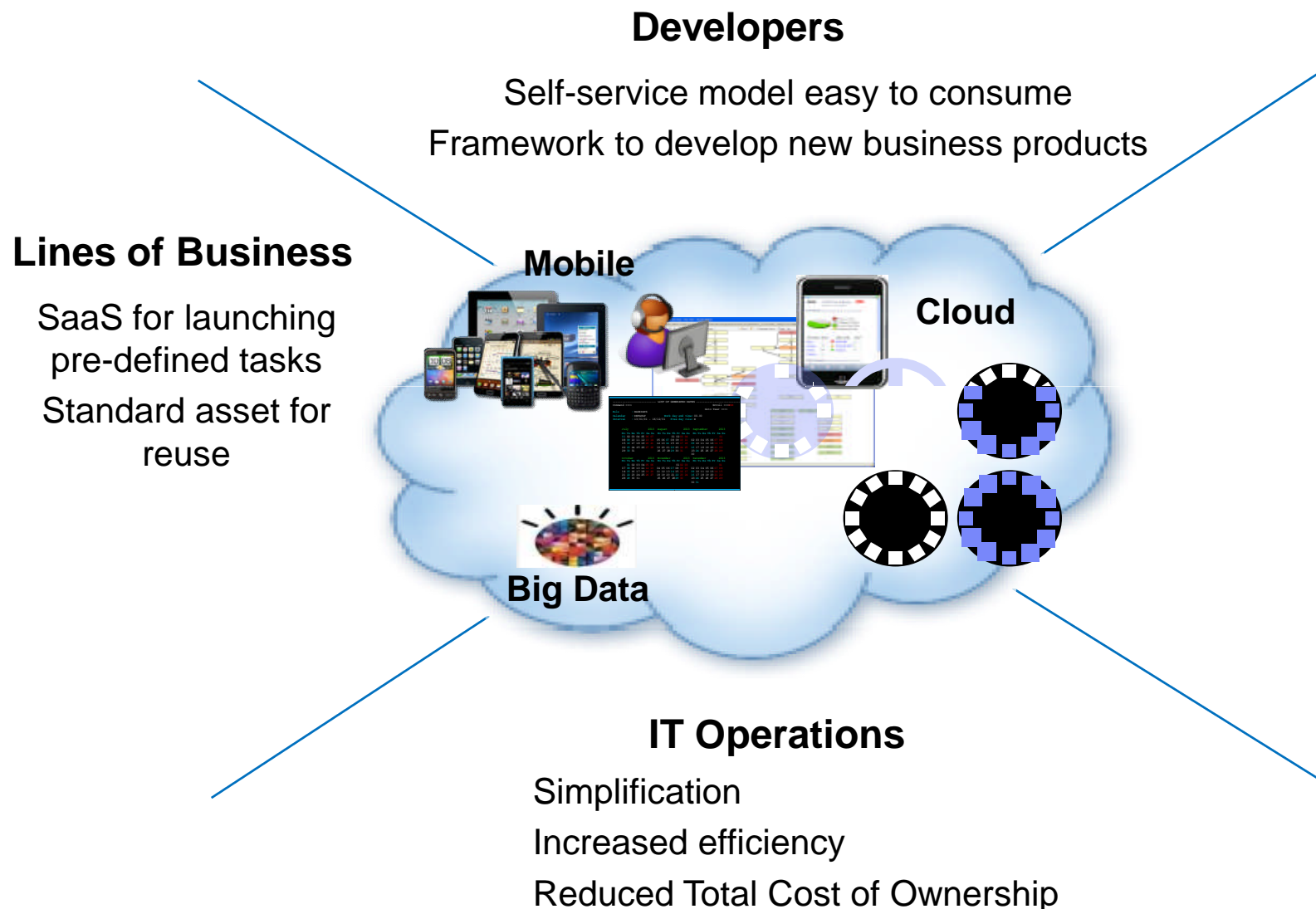
Tivoli Workload Automation key component for Cloud, Big Data and Mobile success

IBM®

- Workload Automation key support to successfully implementing new technologies

- Simplify operations and decrease costs when implementing new applications and services

- Support key new capabilities like elastic provisioning, self-service provisioning and SaaS
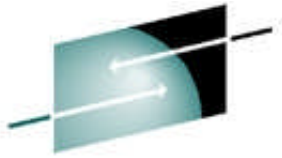
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