



Cisco Workload Automation Customer Advisory Community Webinar – Cloud and Big Data October 2016

Welcome Everyone!

Your Cisco Workload Automation Team

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Workload Automation Market Drivers

Digital Disruption is Impacting Business

40%

Of incumbents are at risk of being displaced in the next 5 years

\$14T

Of digital value at stake across private industries between 2013-22

26%

How much more profitable are organizations that master digital

Creating New Priorities for Digital Organization



Transform Processes
and Business Models

Innovations
Faster Time to Market



Empower Workforce
Efficiency and Innovation

Increased Productivity
Better Retention



Personalize Customer/
Citizen Experience

Increased Loyalty
Greater Insight

Mobility

Mobile traffic will exceed
wired traffic by 2017

IoT

IoT devices will
triple by 2020

Analytics

75% of companies planning
to or investing in big data

Cloud

80% of organizations will
primarily use SaaS by 2018

And New Workloads that Must Be Automated



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and Business Models

Innovations
Faster Time to Market



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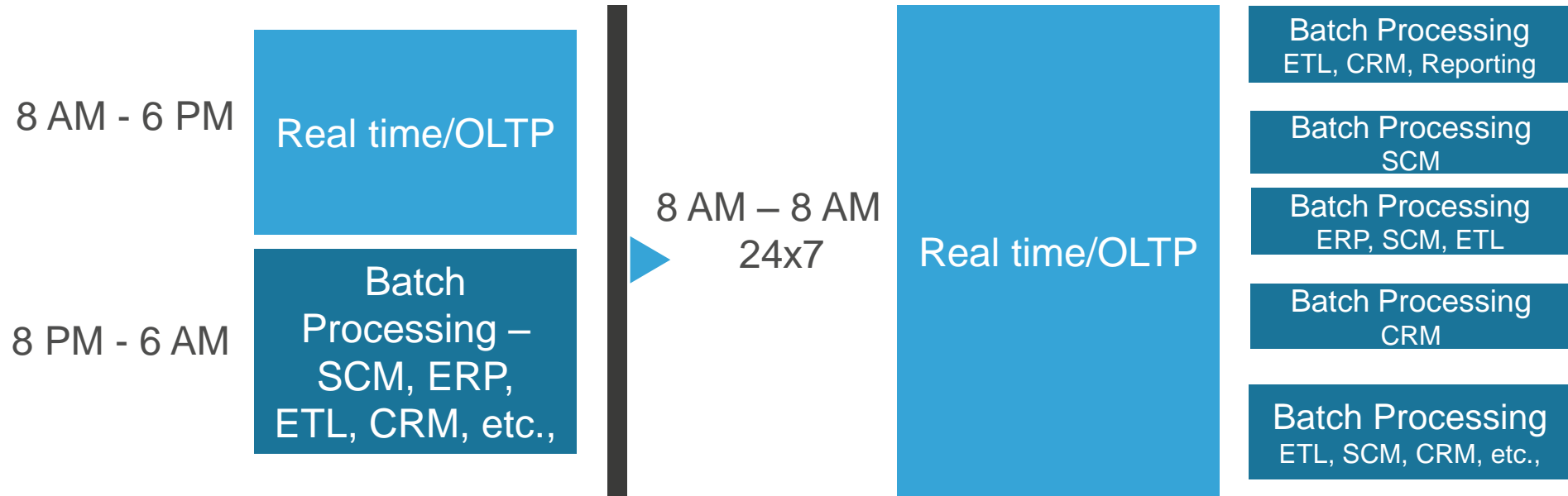


Personalize Customer/
Citizen Experience

Increased Loyalty
Greater Insight

Workload Automation is More Important than Ever

Workload Automation Requirements Are Getting Redefined



Cloud Support in Workload Automation

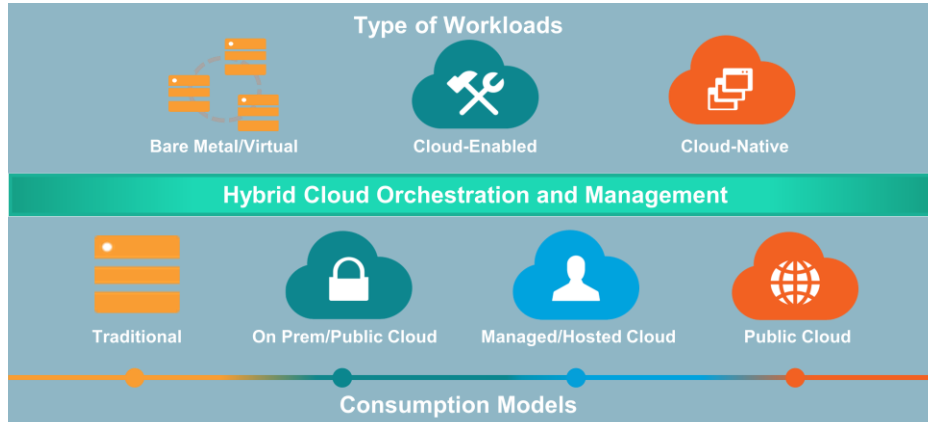
Cloud Adoption

According to Gartner by 2017

- 18% of software deployments will be in traditional on-prem model
- 37% of software deployments will be on Private Clouds
- 13% of software deployments will be on Hosted Private Clouds
- 26% of software deployments will be in Public Cloud

Source: Gartner's Survey Analysis: Buyers Reveal Cloud Application Adoption Plans Through 2017

Cloud Adoption



Workloads would fall into one of the following 4 major categories:

- Apps that are not going to migrate to cloud and would stay as-is
- Apps that will stay on prem but will be cloud enabled for agility
- Apps that will be re-written to be pure cloud native apps leveraging SaaS
- Apps that will move to public cloud

Cisco Workload Automation for Private and Public Cloud

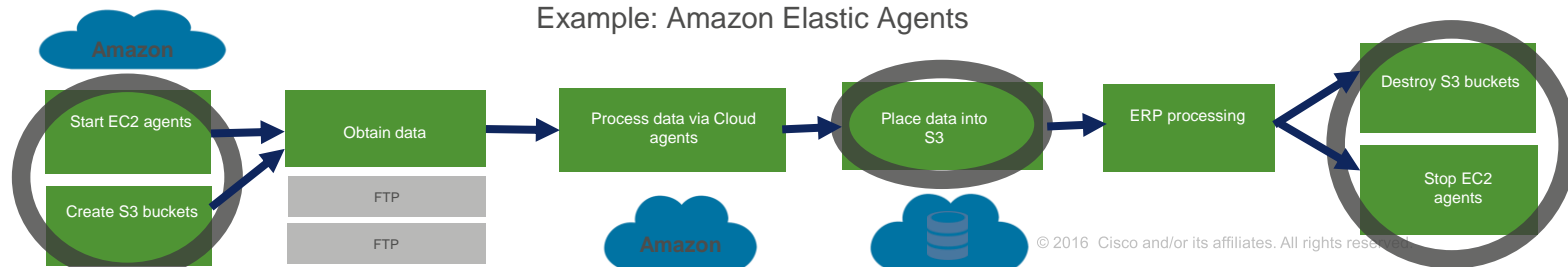
Private Cloud – VMware Adapter

- Manage the Virtual Machine State (On/Off/Reset/Delete/Suspend)
- Manage the Virtual Applications (On/Off/Suspend/Delete)
- Snapshot Management
- Host Management (Power up/down/maintenance)
- Configuration of VMs (CPU, memory, disk, clone VMs, migrate, relocate)

Public Cloud – AWS Adapter

- Manage EC2 AMIs (Start/Stop/Terminate/Copy/Snapshot)
- Move data into/out of S3 using DataMover
- Manage S3 Buckets (Create/Update/Delete)
- Manage Objects in S3 Buckets (Update/Rename/Restore/Move/Copy/Delete)

Example: Amazon Elastic Agents



Workload Automation Strategy for Cloud

Validated Deployment Architecture

- Master running in Local Data Center controlling apps in Hybrid environment
- Master running in Cloud and controlling apps in Hybrid environment
- Master running and controlling apps in Cloud

Support for different types of workloads in workflows

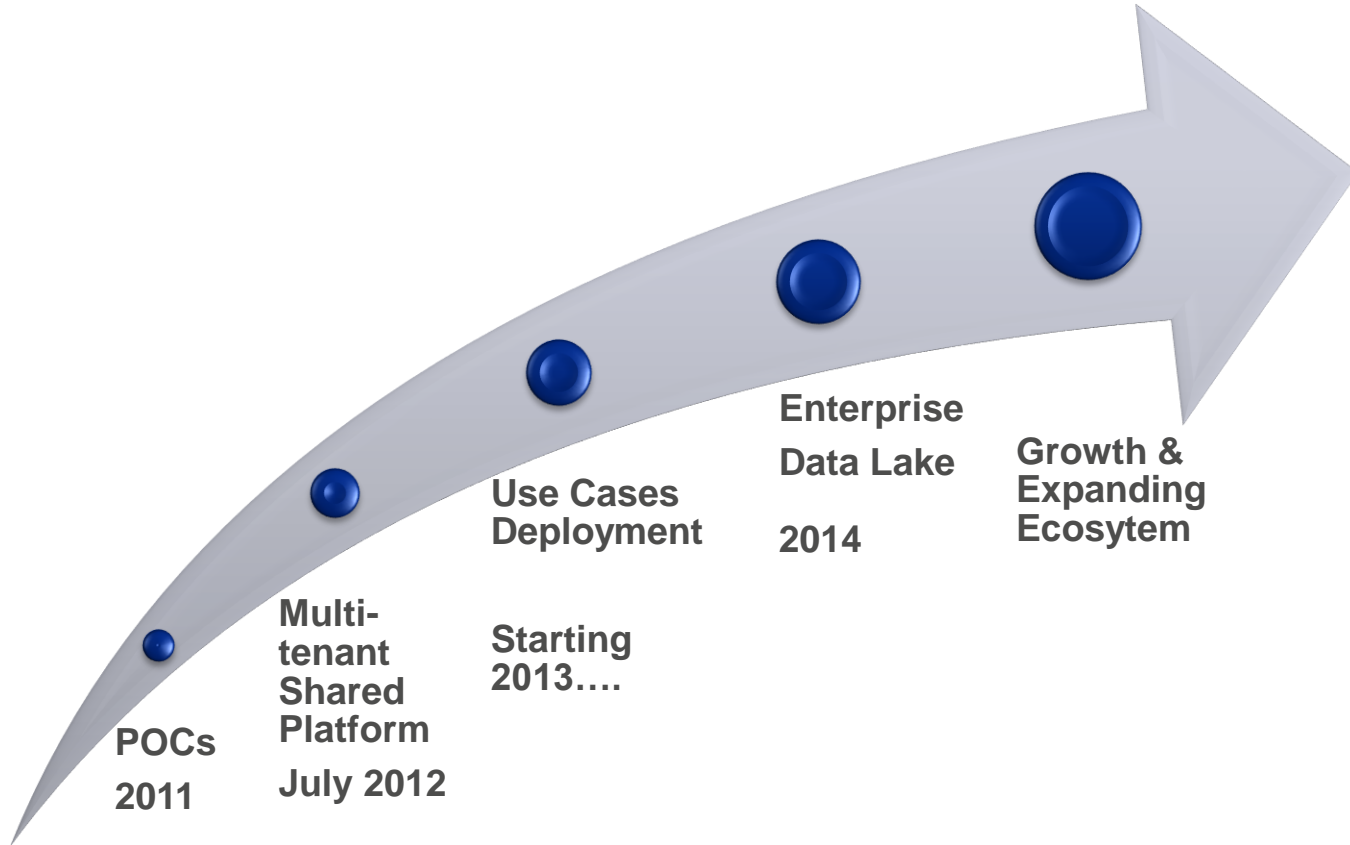
- Traditional/Virtual Systems
- Cloud Enabled – turn on/off required private/public instances as part of a workflow
- Cloud Native – leverage micro services as part of your workflow

Workload Migration and Dynamic Placement

- Discover jobs from Cron and import into CWA as private/public cloud agent jobs
- Policy based placement of workloads across private and public clouds

Hadoop Support in Workload Automation

Hadoop Journey in Cisco IT



Lessons from Technology Journey

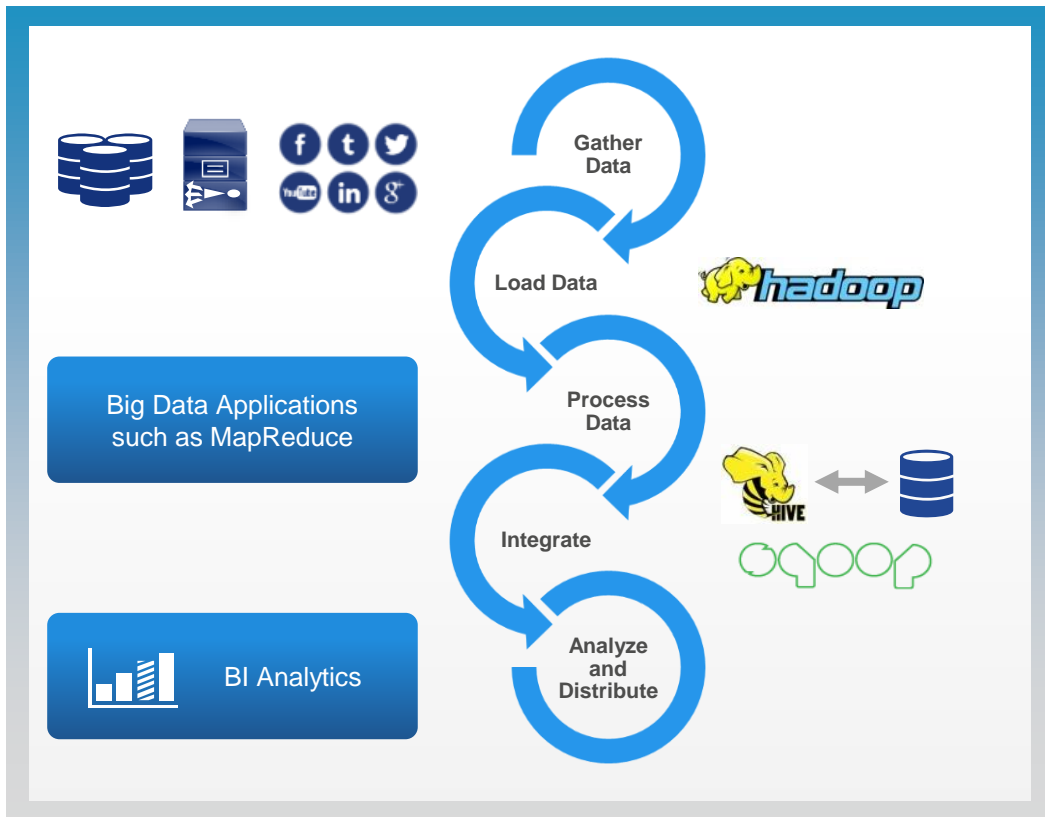
- Architecture Choice (s)
 - Multi-tenant
 - Mission critical features
 - Start Small & Grow
- Support: Open Source or Distribution
- Leverage Skills. Use components that help users leverage the existing skills like Informatica and SQL
- Tiered Integrated Architecture to manage data across multiple platforms

Lessons from Technology Journey

- Hive doesn't support ANSI SQL
 - Reusable UDFs for Hive were created
- Tidal Enterprise Scheduler allowed for easy workload management and error handling
- Hadoop scales linearly and our platform grew 100% in the first year. Invest in architecture that allows you to grow.

Cisco Workload Automation Hadoop Adapters

DataMover, MapReduce, Hive and Sqoop



Provides a platform for defining end-to-end Hadoop workflows and Scheduling Operations

Allows developers to focus on building Hadoop applications without having to worry about integration challenges

Improves productivity through easy workflow modifications for new experimentations

Workload Automation Strategy for Hadoop

Queuing and Resource Management

- Visibility on Hadoop cluster utilization for better workload planning
- Sophisticated queue handling capabilities to maximize utilization
- Job interception and re-queuing

New Adapters

- Continue to add new adapters for batch-based technologies like SPARK, Flink, etc.,

Roadmap & Cautions: Important

Some of the features described herein remain in varying stages of development and will be offered on a when-and-if-available basis. This roadmap is subject to change at the sole discretion of Cisco, and Cisco will have no liability for delay in the delivery or failure to deliver any of the products or features set forth in this presentation.

Cisco Terminology:

Shipping: Feature/functions currently available in the GA version

Committed/Beta: Execution Commit Gate Passed

Planning: Refining requirements, high level design is in progress

Radar: Gathering requirements, discussing with analysts & customers

Any dates indicated may change at Cisco's sole discretion

Roadmap Items

Core Functions

- DevOps support (**CWA 6.3**)
- Reporting and Dashboard (**H1CY17**)
- Single Sign-On (**CWA 7.0**)
- 64 bit Agent (**CWA 7.0**)
- Cross-Master Dependencies (**CWA 7.0**)
- Self Service (**CWA 7.0**)

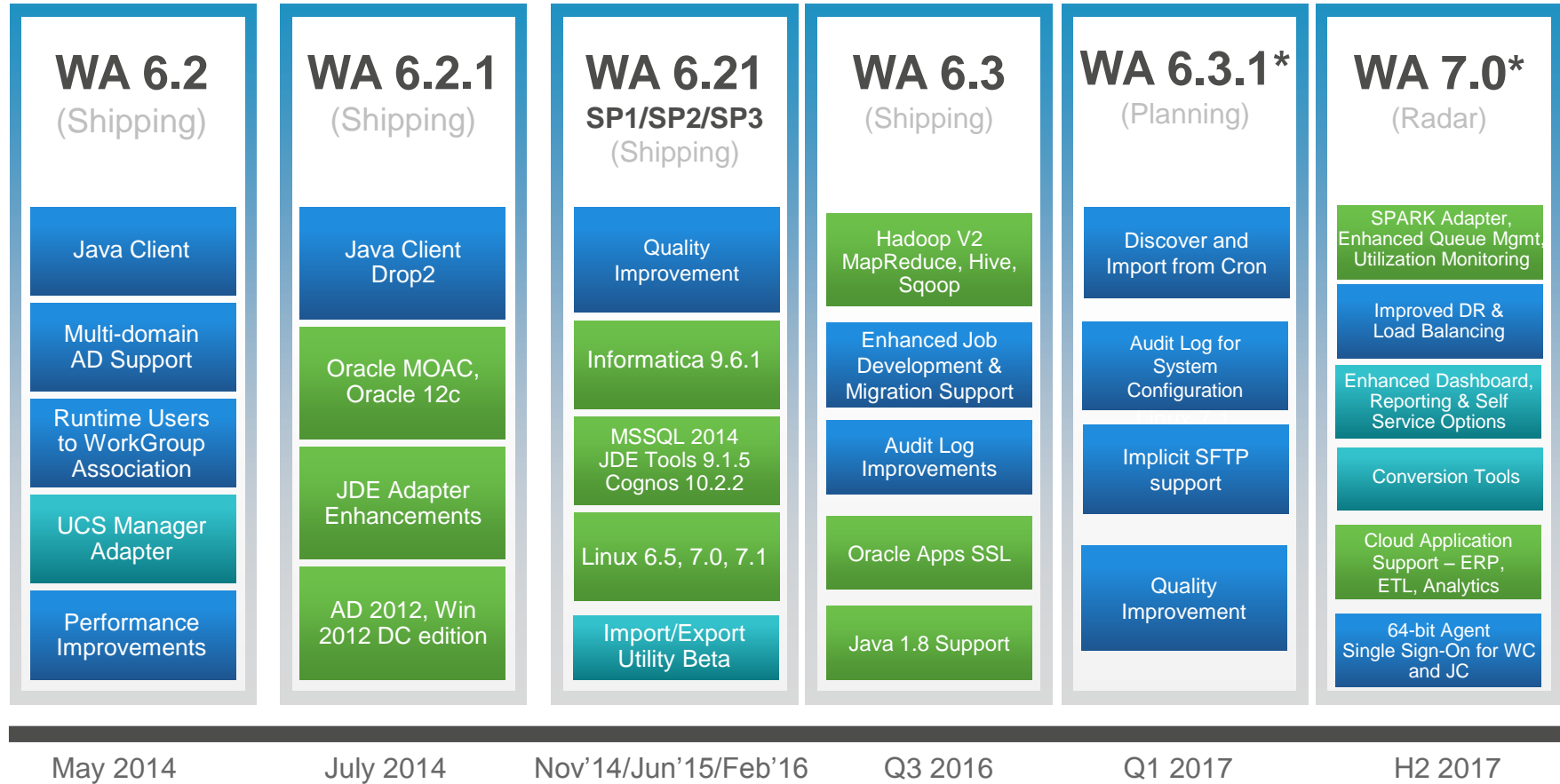
Cloud Support

- Discovery of local cron jobs and converting them into agent jobs (**CWA 6.3.1**)
- Validated Deployment Architecture to support Hybrid Workloads (**H1CY17**)
- New Adapters for Cloud Applications (**CWA 7.0**)
- Container Integrations (**Radar**)

Hadoop Support

- HadoopV2 (**CWA 6.3**)
- Enhanced Queue Control (**H1CY17**)
- SPARK Adapter (**CWA 7.0**)

Cisco Workload Automation Roadmap



References

Datasheet

- [Cisco Workload Automation Data Sheet](#)

Cloud

- [Cisco Workload Automation VMware Adapter Guide](#)
- [Cisco Workload Automation Amazon EC2 Adapter Guide](#)
- [Cisco Workload Automation Amazon S3 Adapter Guide](#)

Hadoop

- [Cisco Workload Automation MapReduce Adapter Guide](#)
- [Cisco Workload Automation Hive Adapter Guide](#)
- [Cisco Workload Automation Sqoop Adapter Guide](#)

Q&A, Wrap Up and Survey

