

CA Workload Automation

Session 12B

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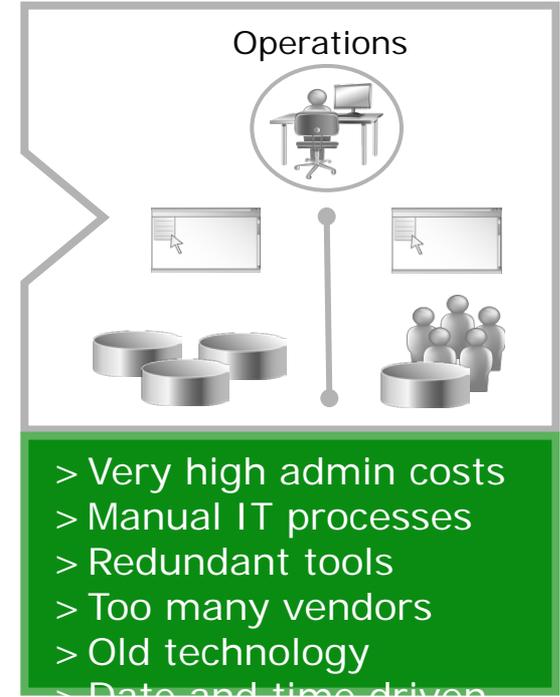
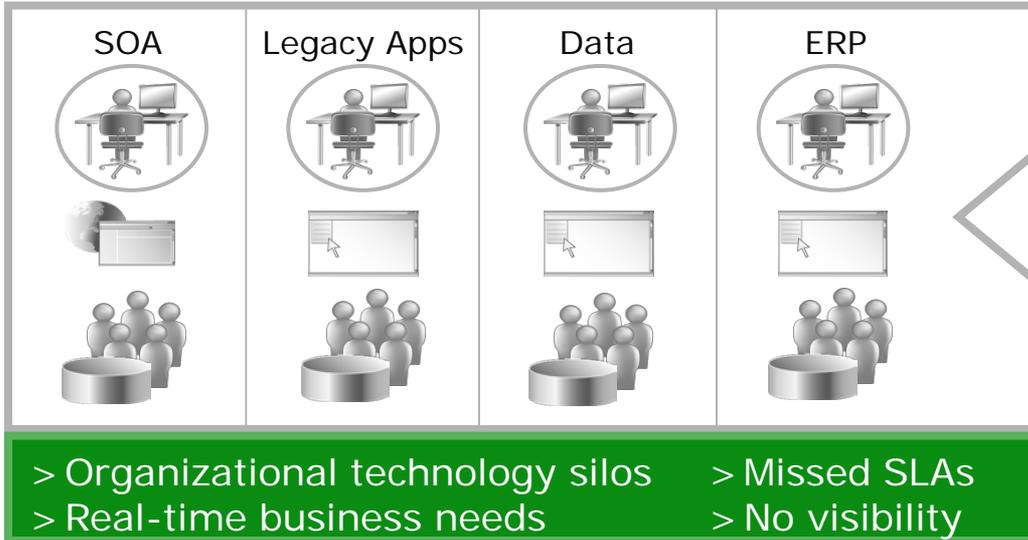
What are we talking about?

- Workload automation for IBM i has traditionally been handled by IBM batch scheduling facilities—or-solutions focused on IBM i.
- Workload automation for other CA 2E/Plex platforms is a mixed bag in many cases.
- What happens when your environment becomes complex – with many OS targets?
- One solution: CA D-Series Automation with i5 agent

Agenda

- Background
- The CA D-Series Solution
- The i5/OS agent

CA Workload Automation: The Challenge

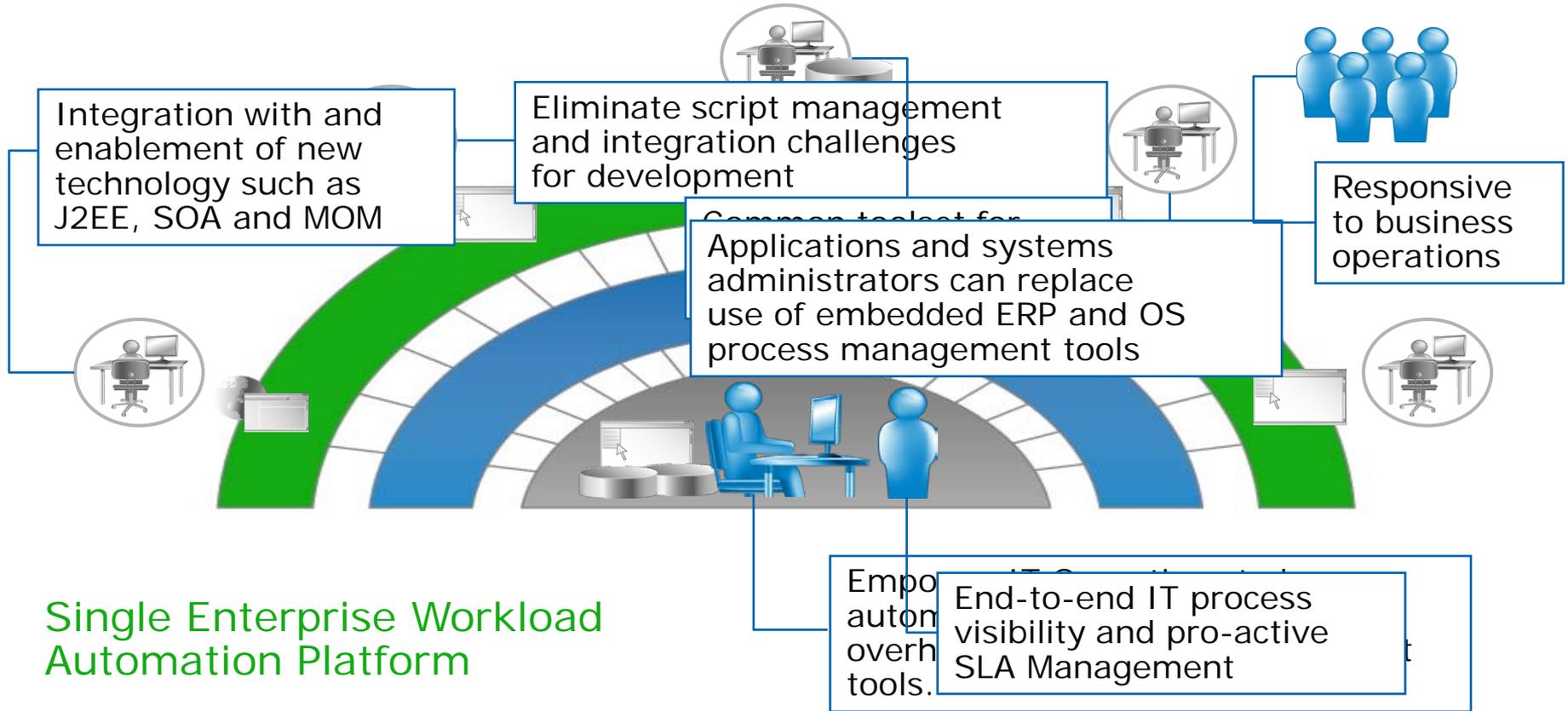


TOO MANY IT Process Management Tools

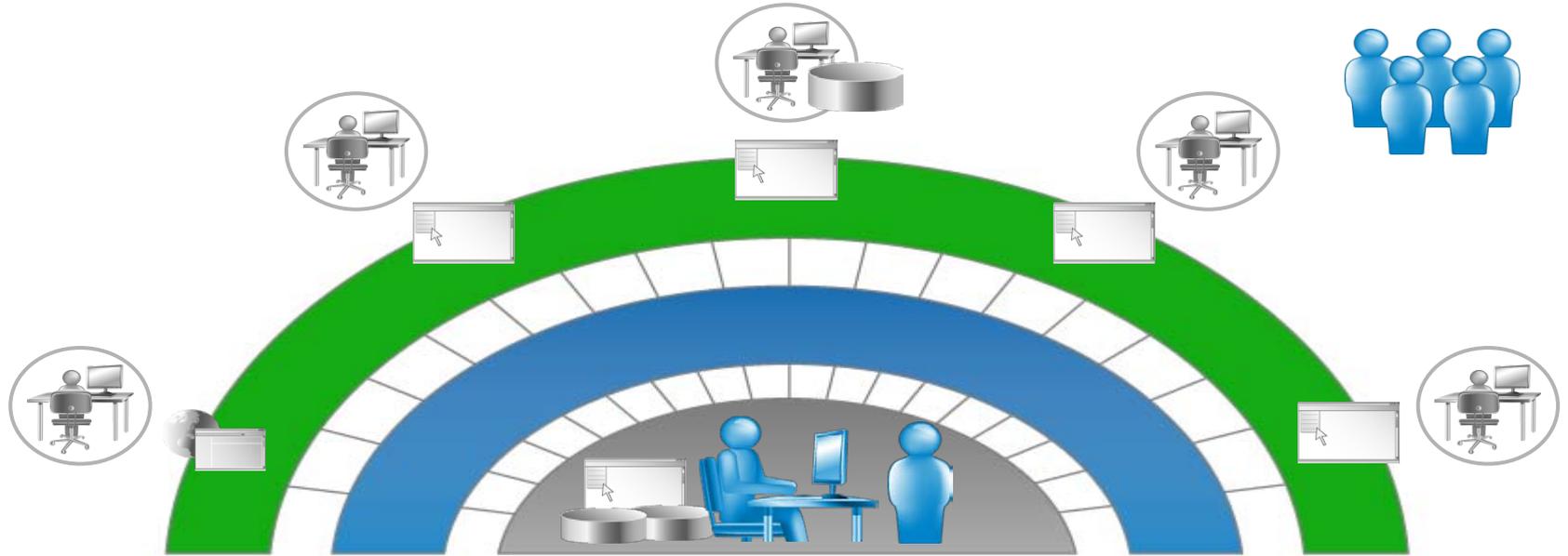
Multiple third party mainframe schedulers
 Multiple third party distributed schedulers
 Add-on Batch Process Monitoring Products
 Operating System Schedulers
 ERP Scheduling Tools
 Database Scheduling Tools
 File Transfer Middleware
 Grid scheduling

Manual Processes
 Message Brokers
 Batch ETL, Backup, Storage Management
 Runbook Automation
 Database and Application Scripting
 SLA Management
 Transaction Processing

CA Workload Automation: The Solution



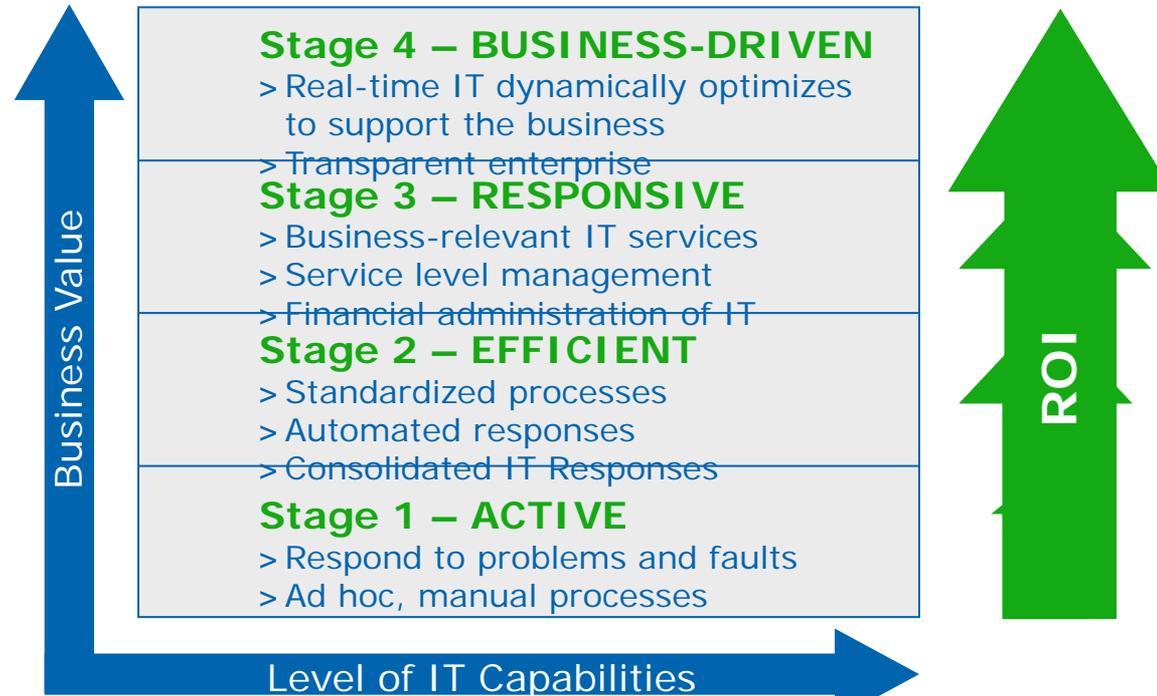
CA Workload Automation: Business Value



- > Much lower operating costs
- > Integration between systems, databases and applications
- > IT workload processes mimic business ones
- > End to end visibility and pro-active SLA Management

- > IT Operations manages workload more efficiently
- > Other departments can build workflows and dependency triggers
- > IT Organization standardized on a single solution
- > Resource usage optimized

You Need an Automation Maturity Strategy



Every step you take in the maturity model increases the ROI and Business Value of your Workload Automation Implementation!

-
- > End-to-end IT Process Management
 - CA dSeries
 - Workload
 - Automation

What is CA dSeries Workload Automation?

> Data and Message-Driven IT Workload Automation

- More than just a Job Scheduler
- Trigger Workload in real-time based on granular business events

> Single point of Workload Management

- From Definition of Workload Process through Execution
- For all workload regardless of platform, operating system, processing object or geographical location

> Wide Breadth of Workload Types

- Utilizes a full array of Event Triggers and Sensors
- Integrates with Next Generation Technology
- Provides complete End-to-End Workload Automation for your real-time Enterprise

What is CA dSeries Workload Automation?

> Event-based automation and real-time triggering

- Schedule based on Operating System event sensors:
 - UNIX Processes and Windows Services
 - Disk and CPU capacity
 - Windows Event Log
- Text file contents
- IP connectivity
- File Monitors (create, update, delete and more)
- FTP activity
- Database Events such as Database Triggers and Monitors

> Leverage automation capabilities beyond basic scheduling:

- ERP's, Web Services, J2EE-type jobs

Why CA dSeries Workload Automation?

- > Easy to Deploy and Realize Value-savings
- > Breadth of Job Types
- > Workflow-Centric Approach
- > Intuitive Drag-and-Drop User Interface
- > Intuitive Scheduling Criteria & Calendaring
- > Granular Event-Driven processing
- > Dynamic Critical Path Monitoring
- > Simulation & Forecasting
- > Variable Substitution & Scripting
- > Role-Based Security

> End-to-end IT Process Management

CA dSeries
Workload
Automation
Architecture

CA Workload Automation Architecture

MANAGEMENT
AND CONTROL



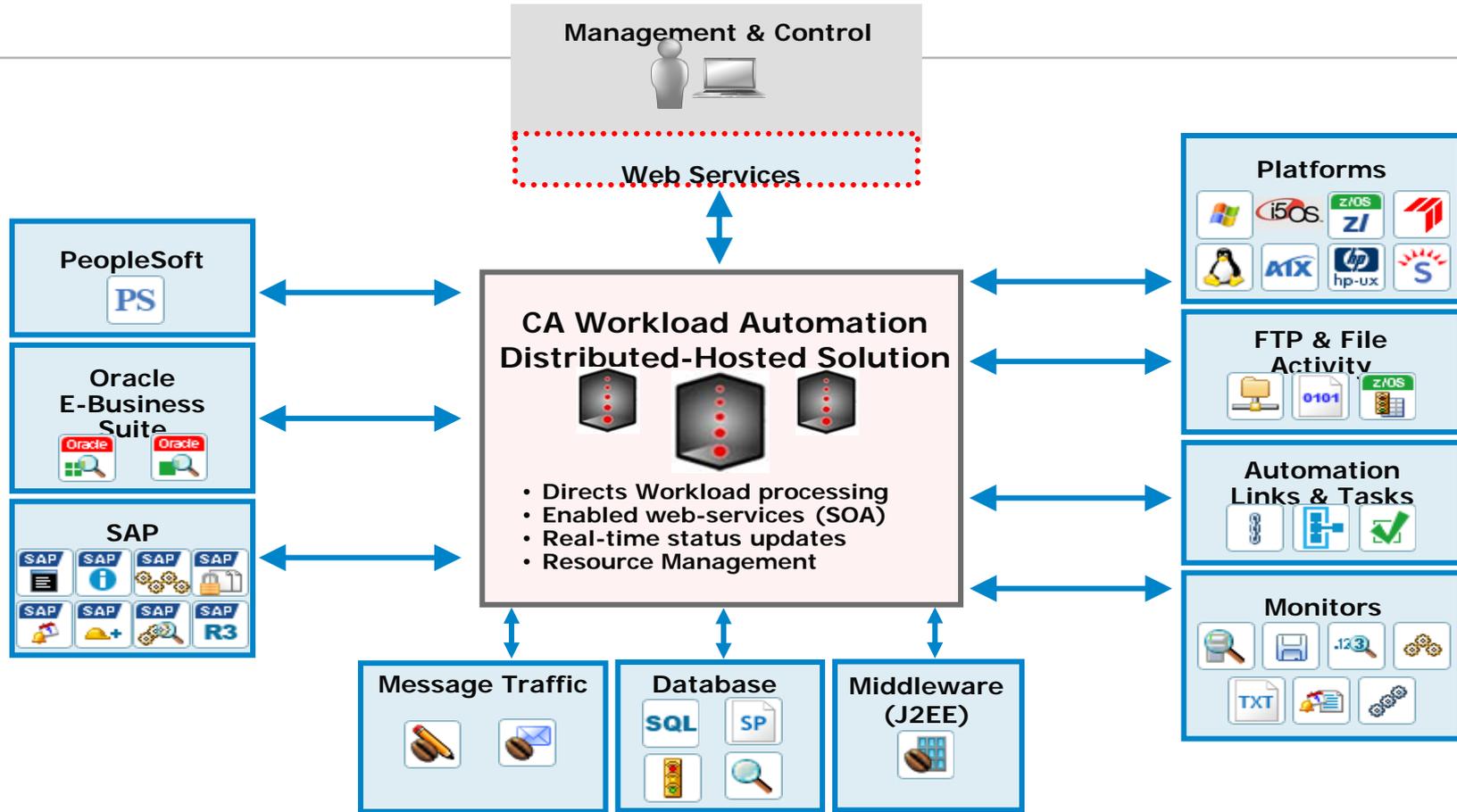
WORKLOAD AUTOMATION
SERVER



AGENTS AND
INTEGRATIONS



CA dSeries Workload Automation Architecture



CA dSeries Workload Automation Capabilities

- > Enterprise
Scheduling and Event
Automation

Ease of Installation and Orientation

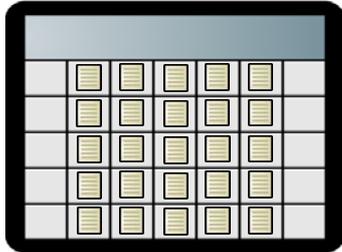
- > Quick Install, get up and running in an hour
 - Disk Space, RDBMS
 - No other 3rd Party or Companion Products Required
- > Installs via Install Anywhere, character-based or graphical installation options
- > Verification procedure to validate that all components are functioning properly

Scheduling & Calendars

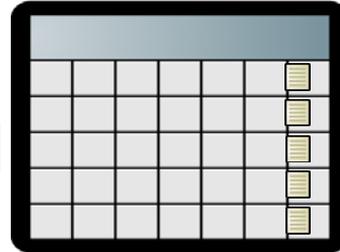
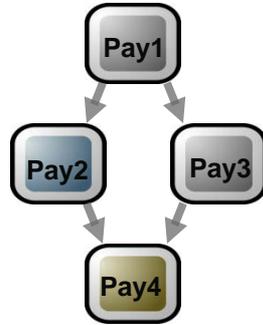
- > Built-in Common Scheduling Terms
- > English-based Syntax for Defining Workload
 - Run Daily
 - Run Last Workday of Month
 - Run Yesterday Plus 3 Workdays
- > Limits Dependency on Calendars
 - Calendars are for special days and periods
 - Calendars are perpetual, with no maintenance

Traditional Workload Approach

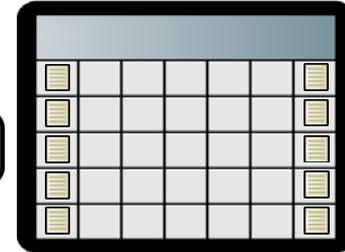
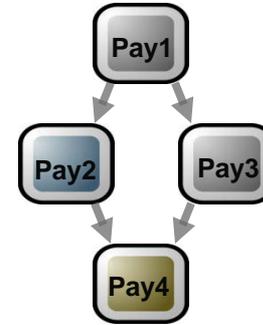
Multiple Definitions for Different Scenarios



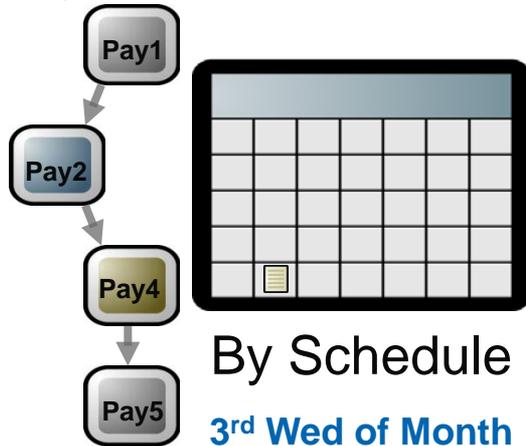
By Platform
UNIX, Windows etc.



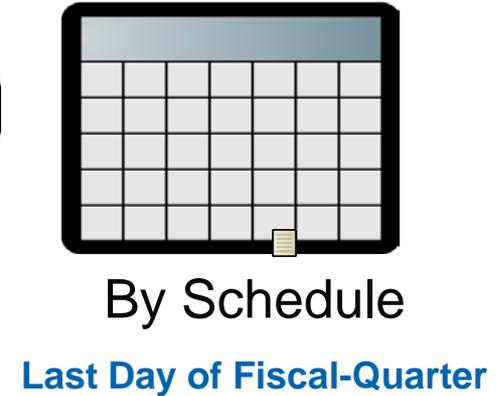
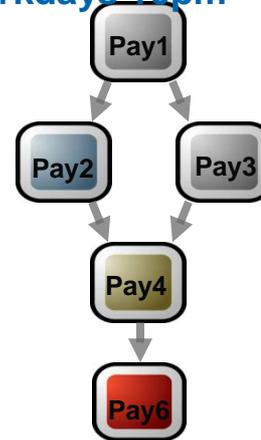
By Start Time
Workdays 10pm



By Start Time
Weekends 8pm



By Schedule
3rd Wed of Month



By Schedule
Last Day of Fiscal-Quarter

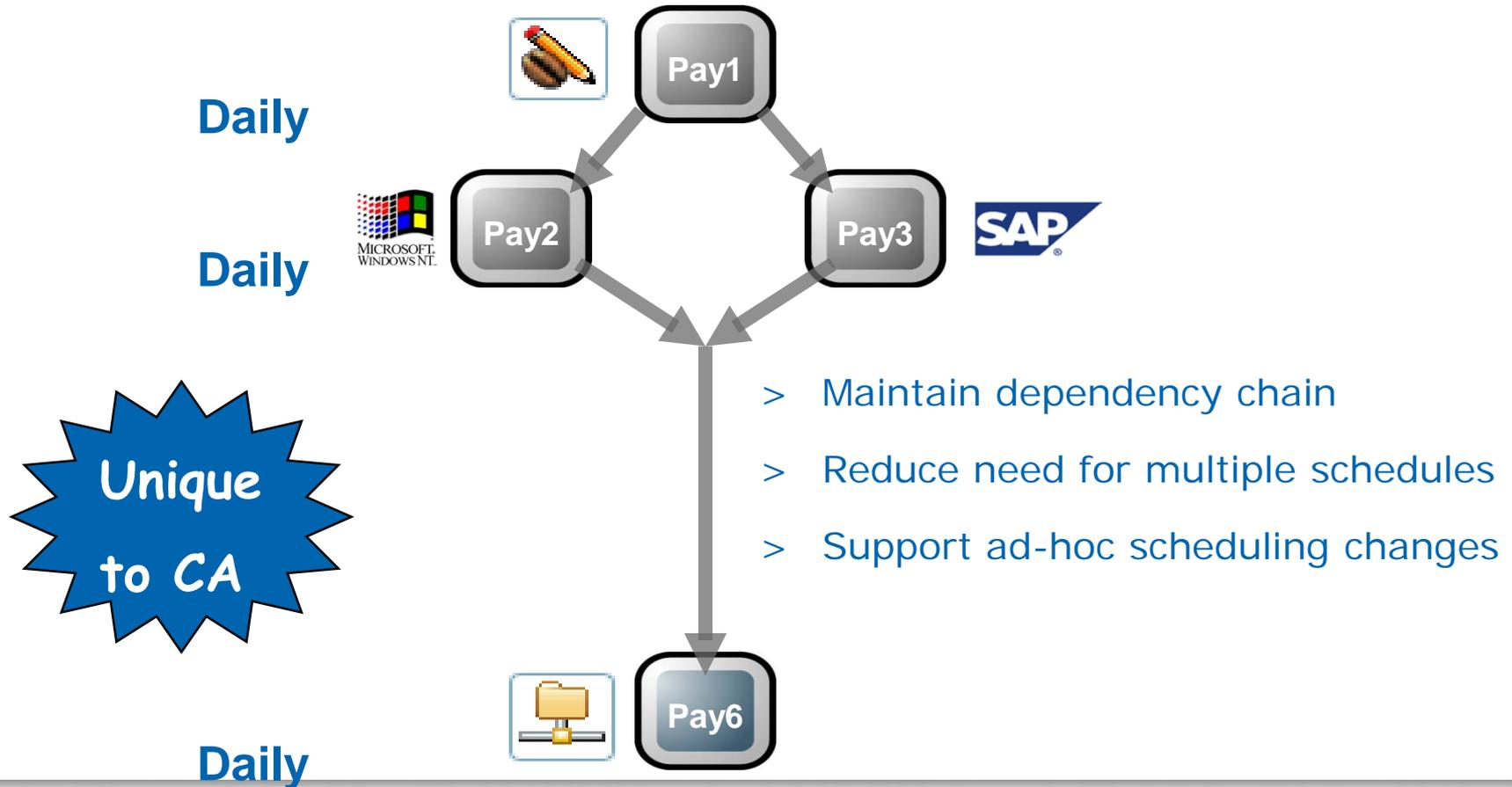
Enterprise Workload Process Definition

One Definition for All Scenarios



Inherited Dependencies

Simplify Definition Process



Many Workload Object Types

Legacy Jobs

-  z/OS Objects
 -  z/OS dataset
 -  z/OS manual
 -  z/OS job
-  File Trigger
-  FTP Transfer
-  Microfocus
-  OpenVMS
-  OS400
-  Tandem
-  Link
-  Task
-  Windows
-  Unix/Linux

ERP Jobs

-  Oracle Apps
 -  Request Set
 -  Single Request
-  Peoplesoft
-  SAP
 -  Batch Input Sessions
 -  B/W Infopackages
 -  B/W Process Chain
 -  Data Archiving
 -  SAP Event
 -  SAP Job Copy
 -  SAP Process Monitor
 -  SAP R3

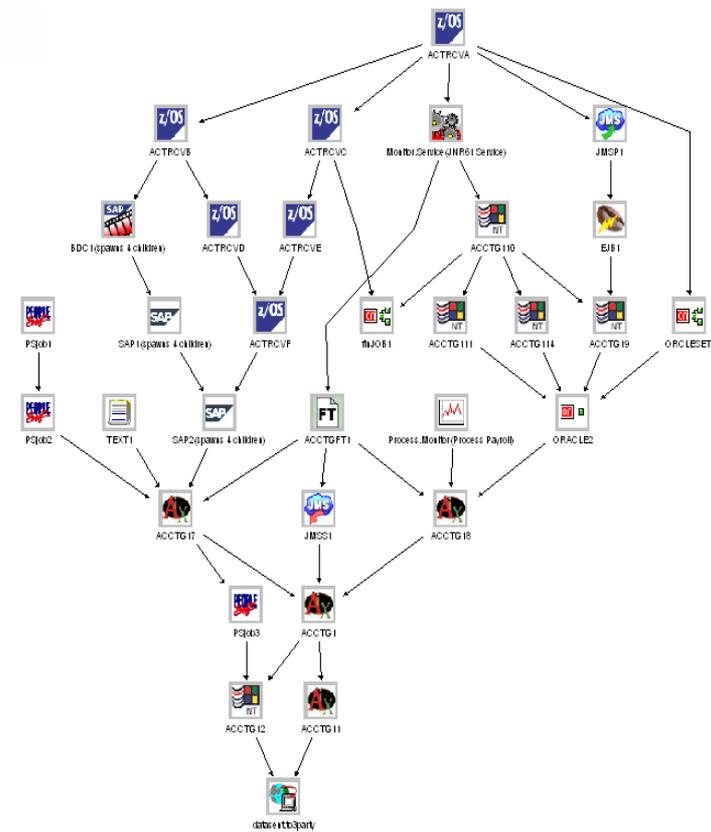
Advanced/Emerging Tech

-  J2EE
 -  EJB
 -  JMS Publish
 -  JMS Subscribe
-  Database
 -  Database Monitor
 -  Database Stored Procedure
 -  Database Trigger
 -  SQL Query
-  Monitoring
 -  CPU Monitoring
 -  Disk Monitoring
 -  IP Monitoring
 -  Process Monitoring
 -  Text File Monitoring
 -  Windows Eventlog Monitoring
 -  Windows Service Monitoring

Value of Event-sensors

Use Case Scenario

- > Events can be unexpected **i.e. a credit card is stolen or lost**
- > JMS Message could be initiated by logging onto a web site and filing a report, or calling the Credit Card help center
- > Data processing to activate theft detection and fraud alert happens *immediately*
- > Variety of workload object capabilities ease the integration needs to communicate with other processing systems, i.e. Billing, Credit Bureaus, Law Enforcement, etc.
- > Offering instant theft deterrents could be a Differentiating Advantage for the consumer



Workload Definition

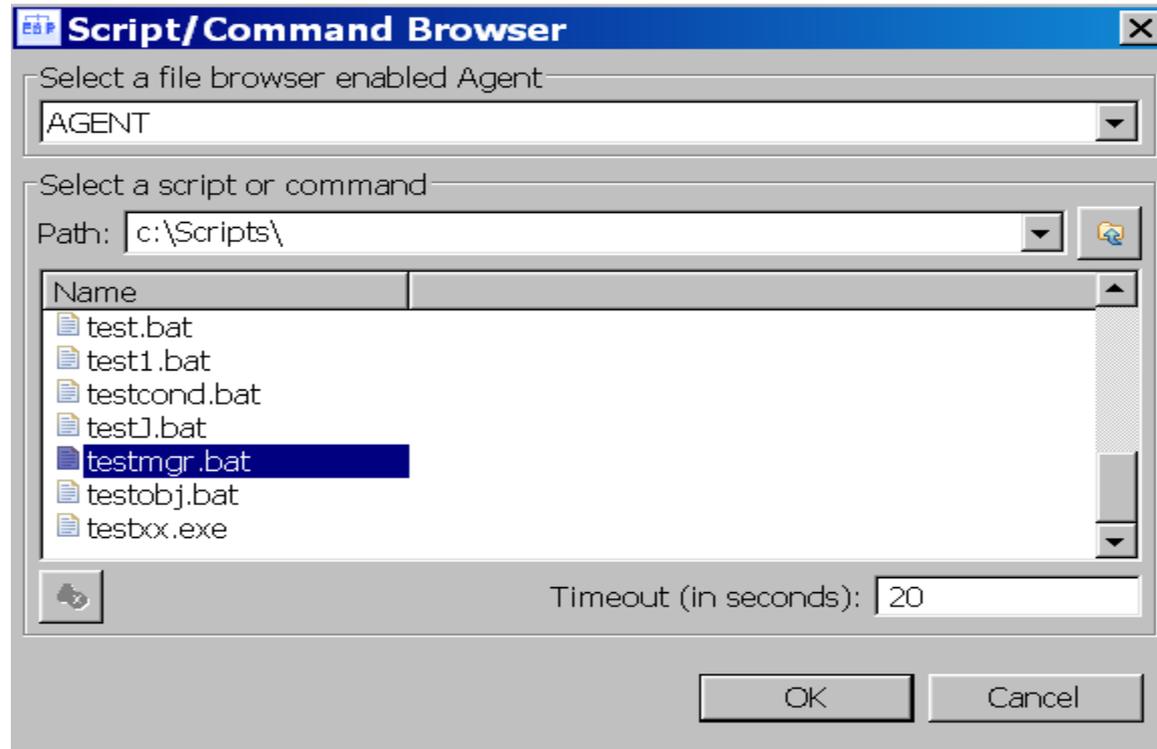
Workflow-Centric, Drag-and-Drop

The UI and Workload Object lists can be customized to show only the types of workload in your environment

The screenshot displays a software interface for defining workloads. On the left, there are two vertical panels. The top panel, titled 'Event Triggers', lists: Date-Time/Manual, File Trigger, z/OS Dataset Trigger, and JMS Subscribe. The bottom panel, titled 'Workload Objects', lists various categories and their sub-items: Database (DB Monitor, DB Stored Procedure, DB Trigger, sql SQL), External-Other Scheduler, External-Same Scheduler, File Trigger, FTP, J2EE, Link, Micro Focus, Monitoring (CPU Monitoring, Disk Monitor, IP Monitoring, Process Monitoring, Text File Reading and P, Windows Event Log Mo, Windows Service Monit), VMS OpenVMS, Oracle Apps, OS/400, PeopleSoft, SAP, Tandem NSK, Task, Windows, UNIX, and z/OS. Above the main workspace, there are four icons in red boxes: '0101', a coffee cup, a 'S' logo, and a '1' icon. The main workspace contains a complex workflow diagram with nodes and connecting lines. The nodes are labeled with alphanumeric strings and icons, representing different workload components. At the bottom, a toolbar includes buttons for: Show/Hide, Jobs, Dependencies, Select, Zoom In, Zoom Out, Layout, Fit in Window, Overview, Locate, and subApplication.

Script Browser

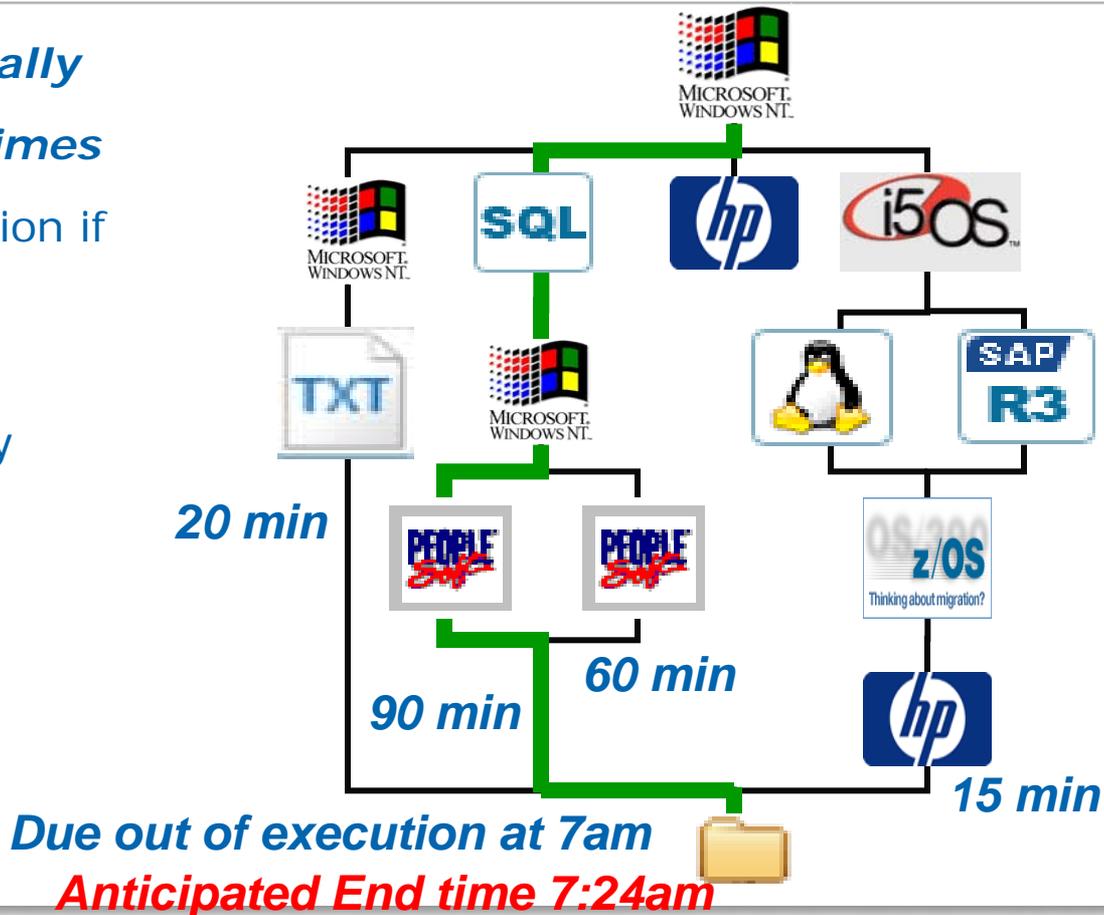
- > Allows you to select the actual script from the source location



Management and Control

Dynamic Critical Path Analysis

- > Show Critical Path *Graphically*
- > Display *Anticipated End times*
- > Notify or take exception action if overdue
- > Real-time updates
- > Due-out times automatically propagated
- > Manage SLA's proactively



Real-time Adaptive Scheduling

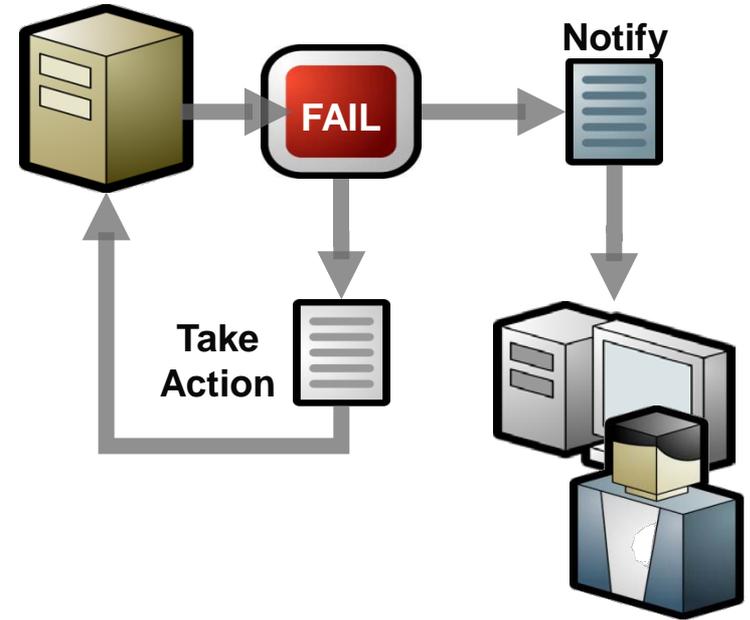
Dynamic Exception Processing

> Monitor for change in job status

- Job Start
- Job End
- Failure
- Overdue
- Exceed Min/Max Runtime

> Take Action

- Execute system commands
- Launch script or other executable
- Send Email to User or Group
- Trigger more workload
- Send SNMP trap
- Launch Additional Applications



Advanced Management Capabilities Simulation

> Eliminate definition errors

> Simulate many “what-if” scenarios

- Which jobs will be selected on a holiday?
- What will it look like in the event of a disaster?
- What was scheduled last month end?
- Look for syntax errors
- Look for scheduling errors
- Validate expected results

> Preventing Production Outages

Advanced Management Capabilities

Forecasting

- > Forecast Reports for any time period in the future
- > 24-hour and 7-day forecasts (Out-of-the-box)
- > Can be customized for any criteria
 - Start and End Time
 - Application Name
 - Event Name
- > Both table view and Gantt view of forecasted workload

Role-Based Security

- > Internal Security Manager
- > Allows you to define Users and Groups
 - Pre-defined Groups
 - Can Clone Permissions from Users/Groups
- > Granular to object level
 - Calendars, Applications, Events, etc.

Summary – CA dSeries provides:

- > Ease of Use
- > Ease of Deployment
- > Breadth of Integrations
- > Workflow-Centric Approach
- > Scheduling Criteria & Calendaring
- > Business-Driven Events
- > Dynamic Critical Path Monitoring
- > Simulation & Forecasting
- > Variable Substitution & Scripting
- > Role-Based Security

CA ESP Workload
Automation
System Agent R7
for i5/OS
(OS/400)

i5/OS Agent Functionality

- > Brand new iSeries (i5/OS) agent
- > Written entirely in Java and based on the R7 System Agent

i5/OS Agent Functionality

> File Monitoring

- Support for both root and QSYS.LIB file systems
 - File monitoring in root looks and feels the same as other Unix agents
 - File monitoring in QSYS.LIB looks and feels similar to the V2 OS/400 agent

> Object Monitor, File-browser, FTP, SNMP, Health Monitor, and Multiple Managers are all supported

i5/OS Agent Functionality

> Filebrowsing

- Supports both root and QSYS.LIB file systems

> Object Monitoring

- Standard monitor types

> FTP

- Compression and SSL support
- Support for ASCII and EBCDIC text transfers
- Code page support

Differences From V2 OS/400 Agent

> File monitoring

- Fully supported in the same fashion as the other R7 agents with the same restrictions. This lifts some of the restrictions of the V2 agent.

> Logging

- The agent log files are now in the log subdirectory (in ASCII text) of the product just like the other agents.

> OS Support

- Minimum OS release support is now V5R2M0 (V2 continues to be V4R4M0).

Differences From V2 OS/400 Agent

> Exit Codes

- Job ending and severity codes are now supported from both the job and any exit program specified by CCEXIT
- Old 0 and 4001 codes can be used instead if desired

> Error Messages

- iSeries error messages will propagate through to the interface where appropriate (usually on submission or failure errors)

Questions

- <http://adcaustintech.com>
 - Product Information