Continuous Integration

Roundtable TSMS

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- Progress Technology Alliance Partner
- Roundtable TSMS
- Roundtable Team
- Roundtable Enterprise

appSolutions

- Tugboat Software Partner

- Roundtable sales, consulting and mentoring

- Progress Software Application and Consulting Partner

- Framework and tools integration with Roundtable

appSolute RTB Automation Tooolkit
OpenSource starter toolkit for RTB automation using RTB APIs, ABL and Apache Ant extensions

appSolute Deployment
Automation and Deployment processing toolkit for Roundtable TSMS

appSolute Management
Change Management application suite integrated with Roundtable TSMS

Session Agenda

- **Manual Processes**
- Software Configuration Management
- Roundtable TSMS
- Automation Strategies
- The Processes
- How We did it
- The Next Step
- Review/Questions

Routine / Manual Processes

- Daily Builds

- Code Freezes

- Baseline Promotions

- Schema Updates

- Deployments

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Session Agenda

- Manual Processes

- **Software Configuration Management**

- Roundtable TSMS

- Automation Strategies

- The Processes

- How We did it

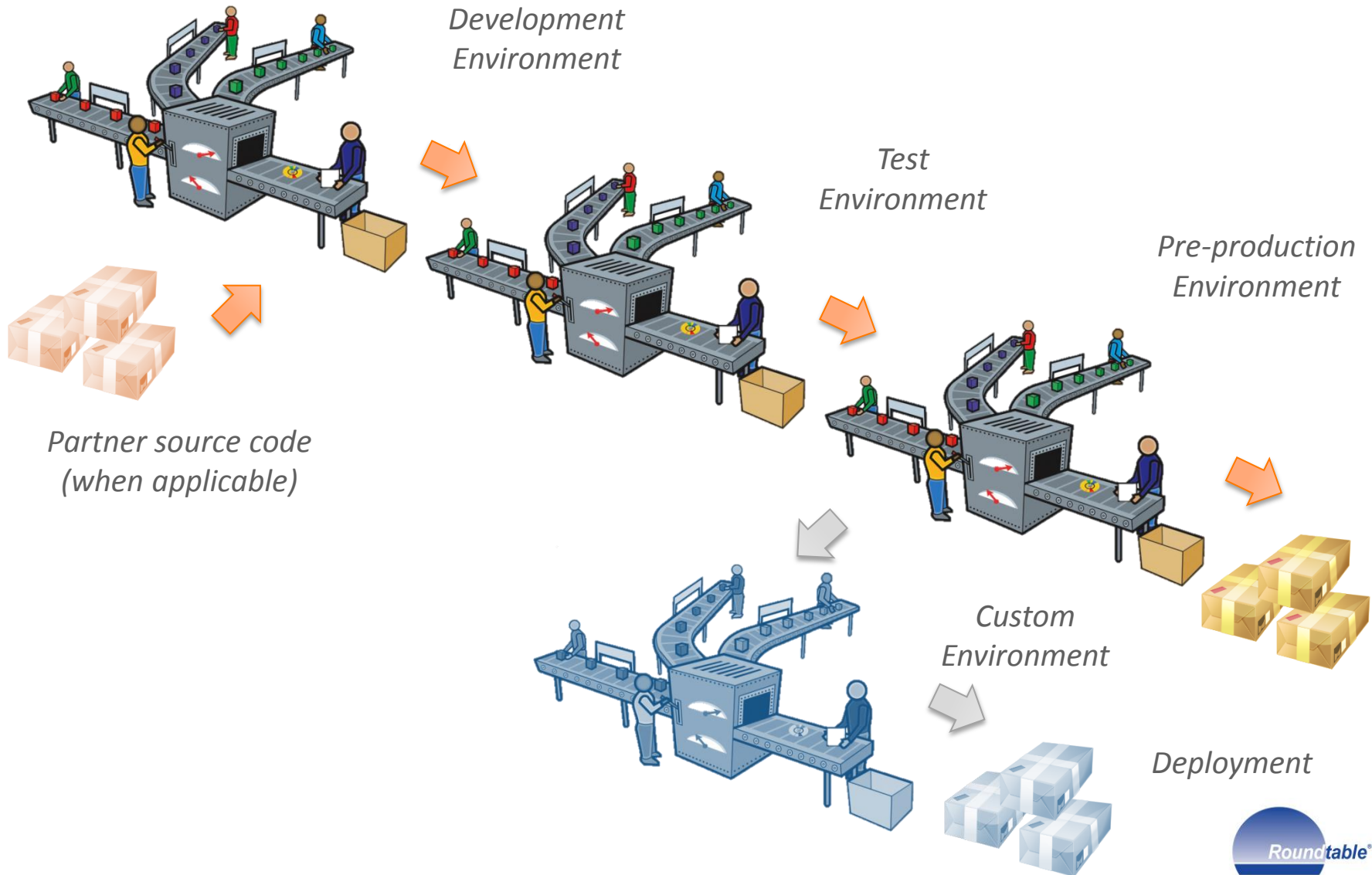- The Next Step

- Review/Questions

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Software Configuration Management is the discipline of managing the entire life cycle of a software project.

SCM Heartbeat

- Defines the process
- Applies controls
- Manages changes
  - Who?
  - What?
  - When?
  - Why?
  - Revert back.
- Audits results

... applied to every level

Development Environment

Test Environment

Pre-production Environment

Partner source code (when applicable)
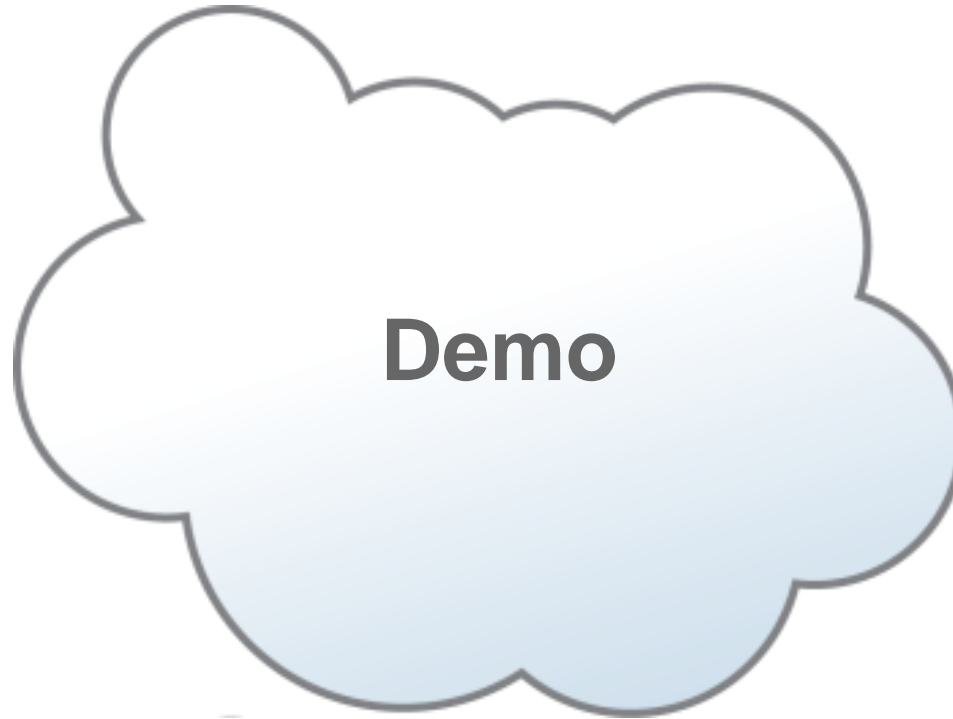
Custom Environment

Deployment

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Roundtable TSMS is a team-oriented extension for the OpenEdge Studio and OpenEdge Architect development environments that provides Software Configuration Management and developer productivity tools.

Roundtable TSMS

- Smart Compilation

- Workspace Release Management

- Workspace Imports

- Schema Management

- Deployment Management

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Demo

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- Eliminate manual processes

- Error Reduction

- Environment integrity checking

- Continuous Integration

- Customer Updates

- Iterative Deployments

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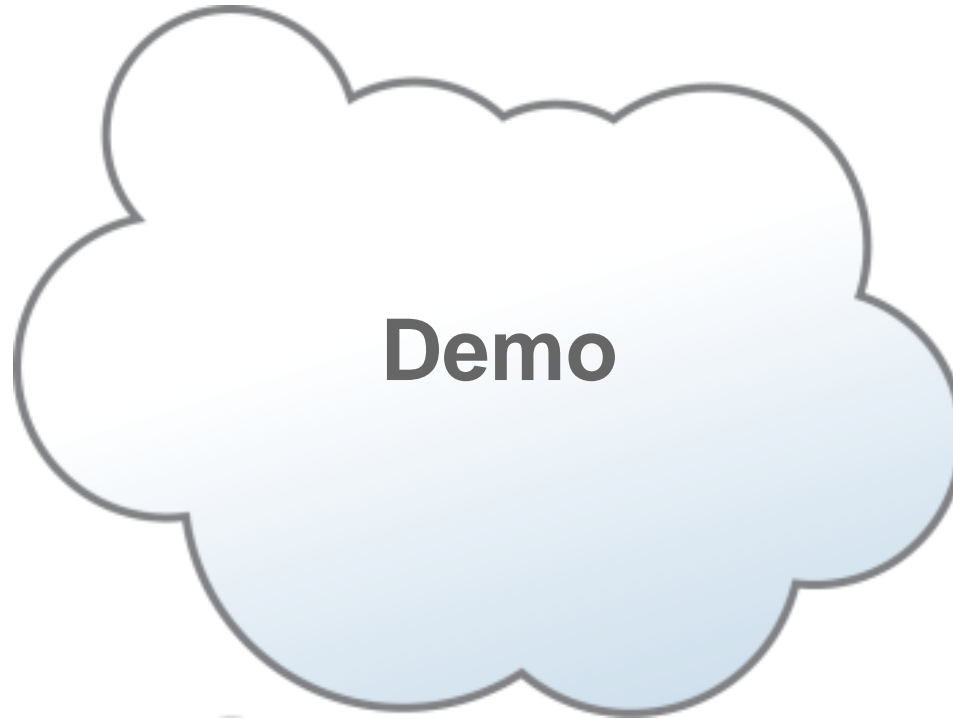# Automation Strategies

- **Roundtable API**

- **Roundtable Proxy Layer**

- **Scripting – Apache Ant & PCT**
  - Platform independent building blocks for executing ABL-based APIs and proxies

- **Custom ABL code**
  - Extensions of standard API and proxies to create wrappers for CI integration

- **Jenkins**
  - CI, dashboard, scheduling, workflows

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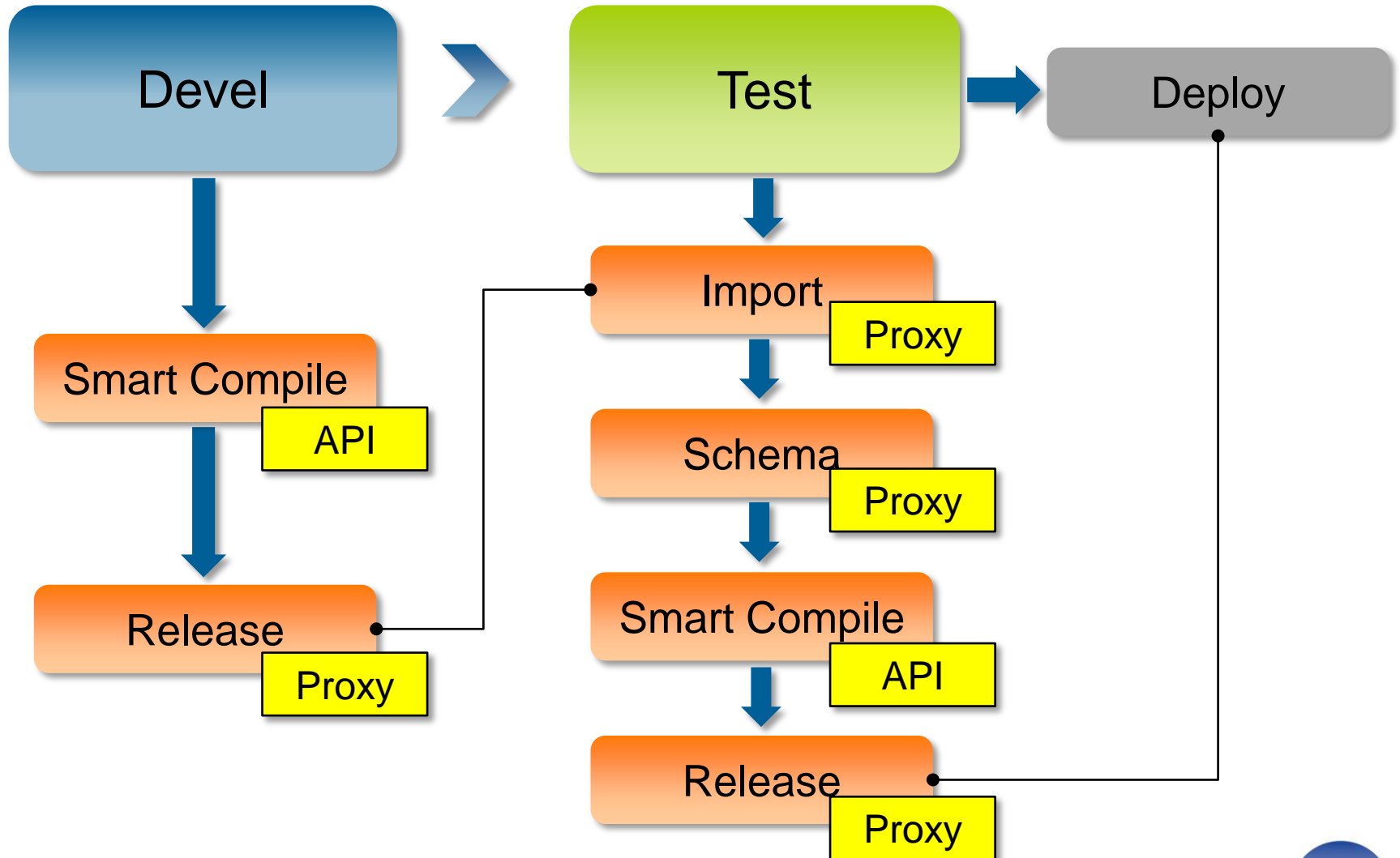
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The Processes
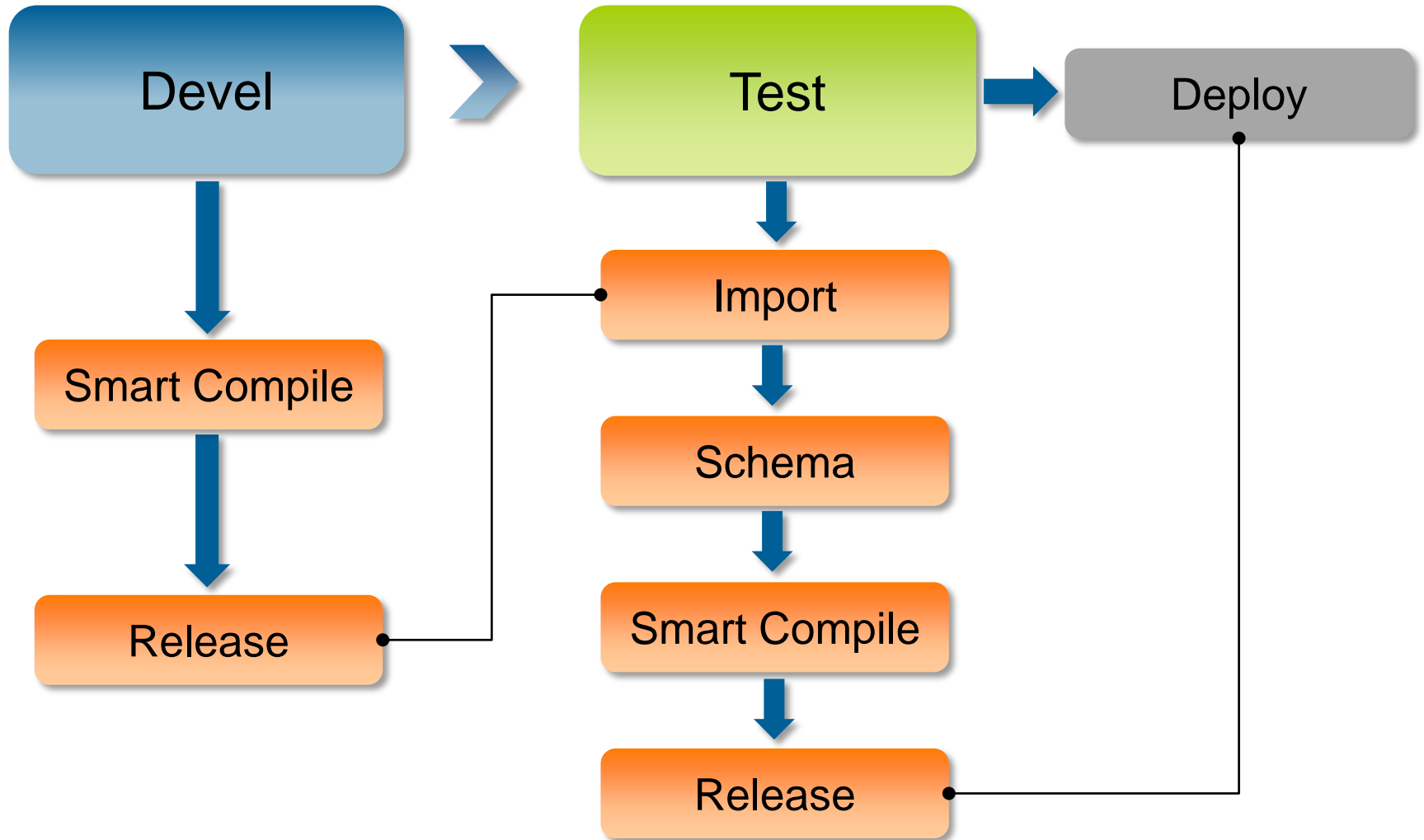
Demo

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How We Did It

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- **Extended API created**
  - appSolute.RTB.ADRTBApi containing workflows using API and Proxy usage

- **Wrapper ABL procedures**
  - Using Extended API as process building blocks provide "CLI functionality"

- **Process steps**
  - Executed from scripts or added as jobs to scheduling tools

How We Did It: API Wrappers

```
/* Standard variable definitions for RTB API usage */

…
cSessionParam = SESSION:PARAMETER.

ASSIGN
  gcRTBInstallPath = ENTRY(1, cSessionParam)
  gcWorkspace      = ENTRY(2, cSessionParam)
  gcUser           = ENTRY(3, cSessionParam)
  gcPassword       = ENTRY(4, cSessionParam).
…

RTBApi1 = NEW appSolute.RTB.ADRTBApi(SESSION:HANDLE).


RTBApi1:startAPIs(...).
…
```

Windows Script

```
prowin32.exe

-p appSolute/RTB/adrtb_createrelease.p
-param "C:\rtb112demo,dev,user,password,…"
```

Ant OpenEdge execution using PCT

Apache Ant script:

```
<PCTRun procedure="appSolute/RTB/Automation/adrtb_createrelease.p"
        dlcHome="${progress.DLC}"
        graphicalMode="true"
        cpstream="iso8859-1"
        failOnError="true"
parameter="${rtb.InstallPath},${input.rtb.release.wspaceId},${input.rtb.user},${input.rtb.password},${input.rtb.release.releaseNote},${input.rtb.release.OnlyWhenNeeded},${input.rtb.release.createReport}">
</PCTRun>
```

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Ant script execution

Devel

Release

```
ant

-file build_rtb_release.xml
-Dbuild.props=C:/Roundtable/demo112/config/devel-process.props
-Dbasedir=C:/Roundtable/demo112
```

Ant script execution

```
ant -file build_rtb_release.xml
    -Dbuild.props=C:/Roundtable/demo112/config/devel-process.props
    -Dbasedir=C:/Roundtable/demo112
```

```
# devel-process.props
# Properties needed for the ANT process automation

basedir=C:/Roundtable/demo112/demodata/test
build.root.dir=C:/Roundtable/demo112/demodata/test
build.script.dir=C:/Roundtable/demo112/ant

# Generic RTB properties
rtb.dbName=rtb
rtb.lgDbName=rtb
rtb.dbHostName=localhost
rtb.dbPort=8800
rtb.InstallPath=C:/Roundtable/rtb112demo
rtb.wspaceId=devel
rtb.user=sysop
rtb.password=
rtb.db.singleUser=false

# RTB Release settings
rtb.release.wspaceId=${rtb.wspaceId}
rtb.release.user=${rtb.user}
rtb.release.password=${rtb.password}
rtb.release.releaseNote=Auto Release ${start.DSTAMP}
${start.TSTAMP}
rtb.release.OnlyWhenNeeded=true
rtb.release.createReport=true
```

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Continuous Integration with Jenkins

- Automate Roundtable functionality

- Roundtable specific Source Code Management plugin not necessary

Source Code Management

- ○ CVS
- ○ CVS Projectset
- ○ File System
- ● None
- ○ Subversion
- ○ Use SCM from another project

Continuous Integration with Jenkins

- ## Job execution
  - Scheduled
  - Triggered
  - Manually started

Build Triggers

☐ Build after other projects are built

☐ Build periodically

☐ Build when a URL's content changes

☐ Build when another project is promoted

☐ Build when certain files are found

☐ Poll SCM

☐ Poll with a Windows Batch Command

☐ [FSTrigger] - Monitor files

☐ [FSTrigger] - Monitor folder

☐ [URLTrigger] - Poll with a URL

- Executing Ant scripts

Demo

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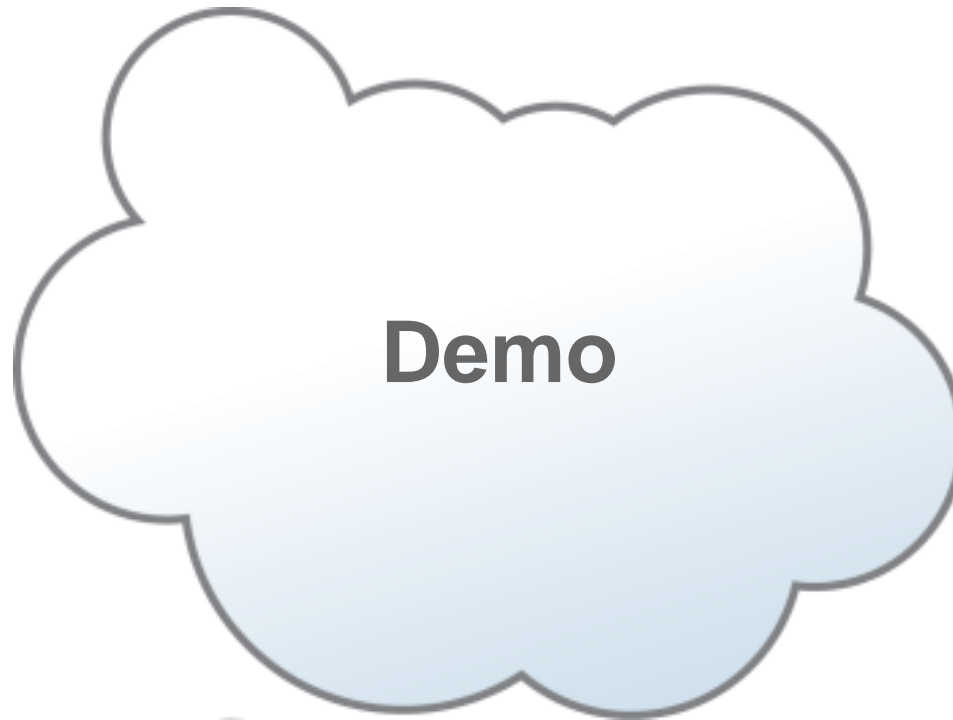
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The Next Step

- Review RTB APIs

- Get started with Apache Ant (1.8.4 or higher), PCT and Jenkins
  - http://ant.apache.org
  - http://code.google.com/p/pct
  - http://jenkins-ci.org

- Download the free appSolute RTB Automation Toolkit and get started!
  - http://www.roundtable-tsms.com/roundtable-downloads

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What Did We Learn?

- SCM is a key component of software development

- Roundtable provides SCM for OpenEdge

- Routine processes can be automated

- Third-party tools are available to extend automation beyond Roundtable

Questions

More Information

http://www.roundtable-tsms.com

www.app-solutions.com

Roundtable Sales and Services

http://www.app-solutions.com/EN/services_solutions/solutions/roundtable

appSolute Deployment
RTB TSMS Automation and Deployment processing
(built with appSolute RTB Automation toolkit)

http://www.app-solutions.com/EN/services_solutions/solutions/appsolute_deployment

http://code.google.com/p/pct