



Optimizing the core: Accelerating the Z System pipeline

Building Pipeline and Managing Value Stream

Transformation

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Agenda

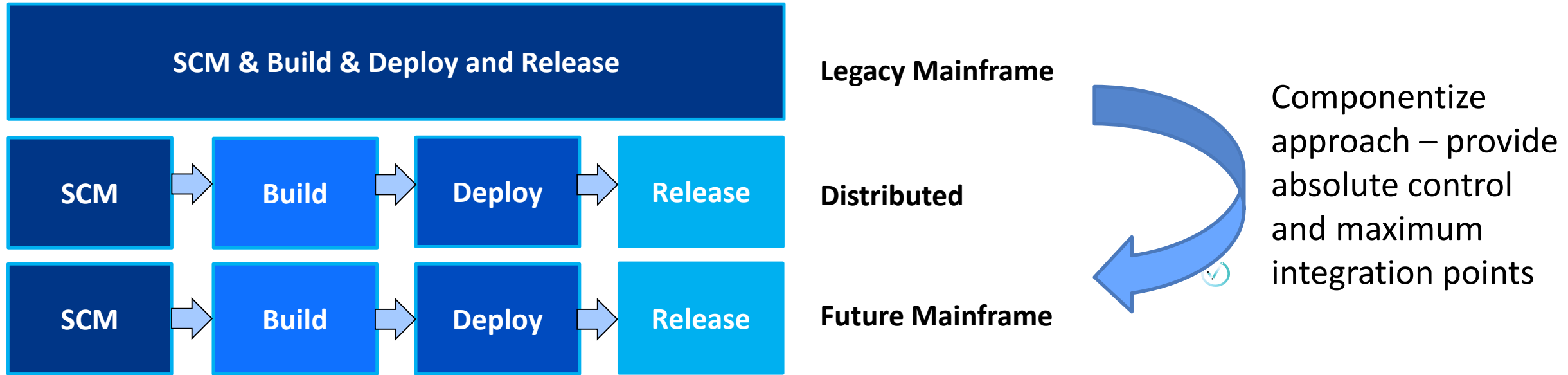
- Mainframe Challenges – Devops, Pipeline and Value Stream
- Current Environments / Processes
- Pipeline Framework, Processes and Software
- Building and Managing Value Stream
 - IBM UrbanCode Velocity
- IBM Product Overlay
 - UrbanCode Deploy
 - Rational Test Workbench
 - UrbanCode Build
 - UrbanCode Release

Challenges with DevOps on the Mainframe - Building Pipeline and Managing Value Stream

- ❑ Incremental changes not pushed independently
- ❑ Changes to application deployments are not version controlled
- ❑ Application deployments are not owned by the dev team
- ❑ Need unique skills to do deployments
- ❑ Mainframe teams are isolated and often work at different development pace than the distributed teams
- ❑ A Lack of Understanding of What's Possible
- ❑ It's Been Working for Years, Why Change?
- ❑ A lot of Rhetoric but no Commitment from Leadership
- ❑ Lack of Automation
- ❑ Constraints Within Tools

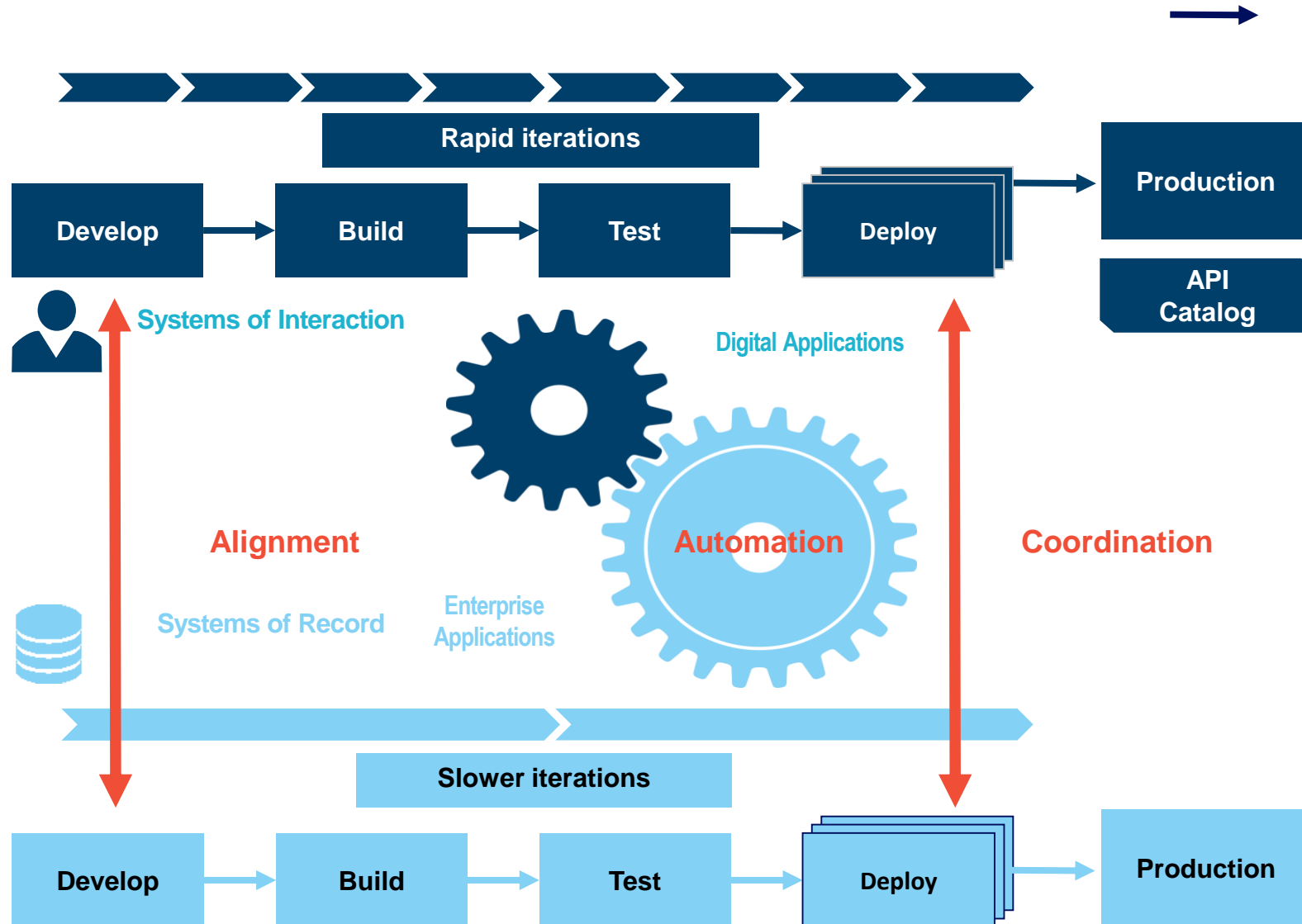


Must Gain Flexibility



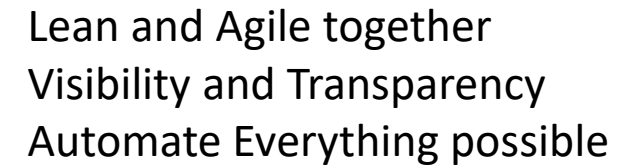
- Library is no longer associated with ONE environment and defined by your SCM promotion level; Build and deploy anywhere
- Target any number of environments for testing; separation supports multiple instances and aligns with support for provisioned on demand environments
- Parameterizing the deploy allows for validation of the deploy during execution in lower environments
- Ability to standardize approach to Build
- Ability to standardize approach to Deploy
- Ability to standardize approach to Release

Deploy and Release Challenges in a Multi-speed IT



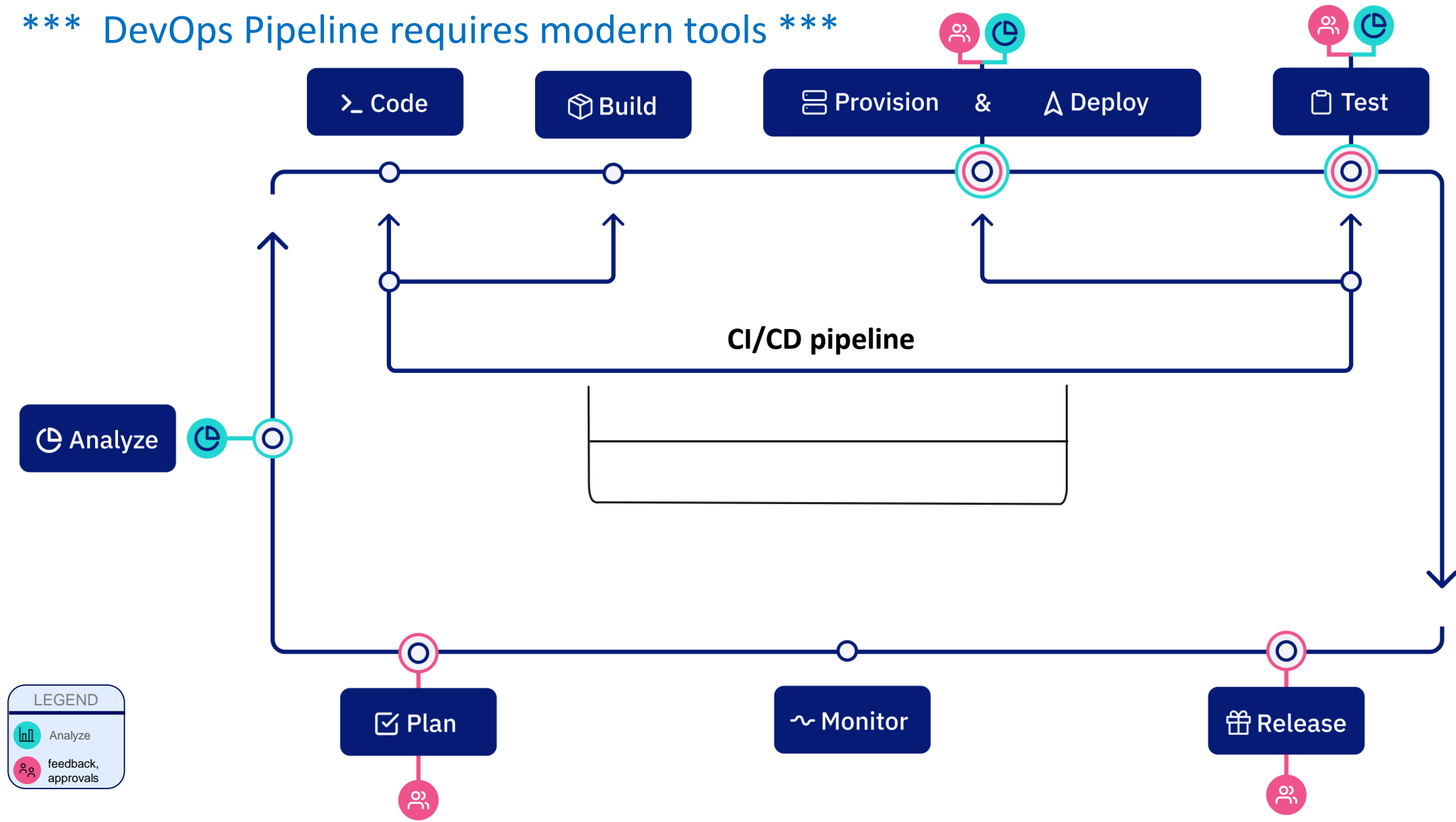


API Management

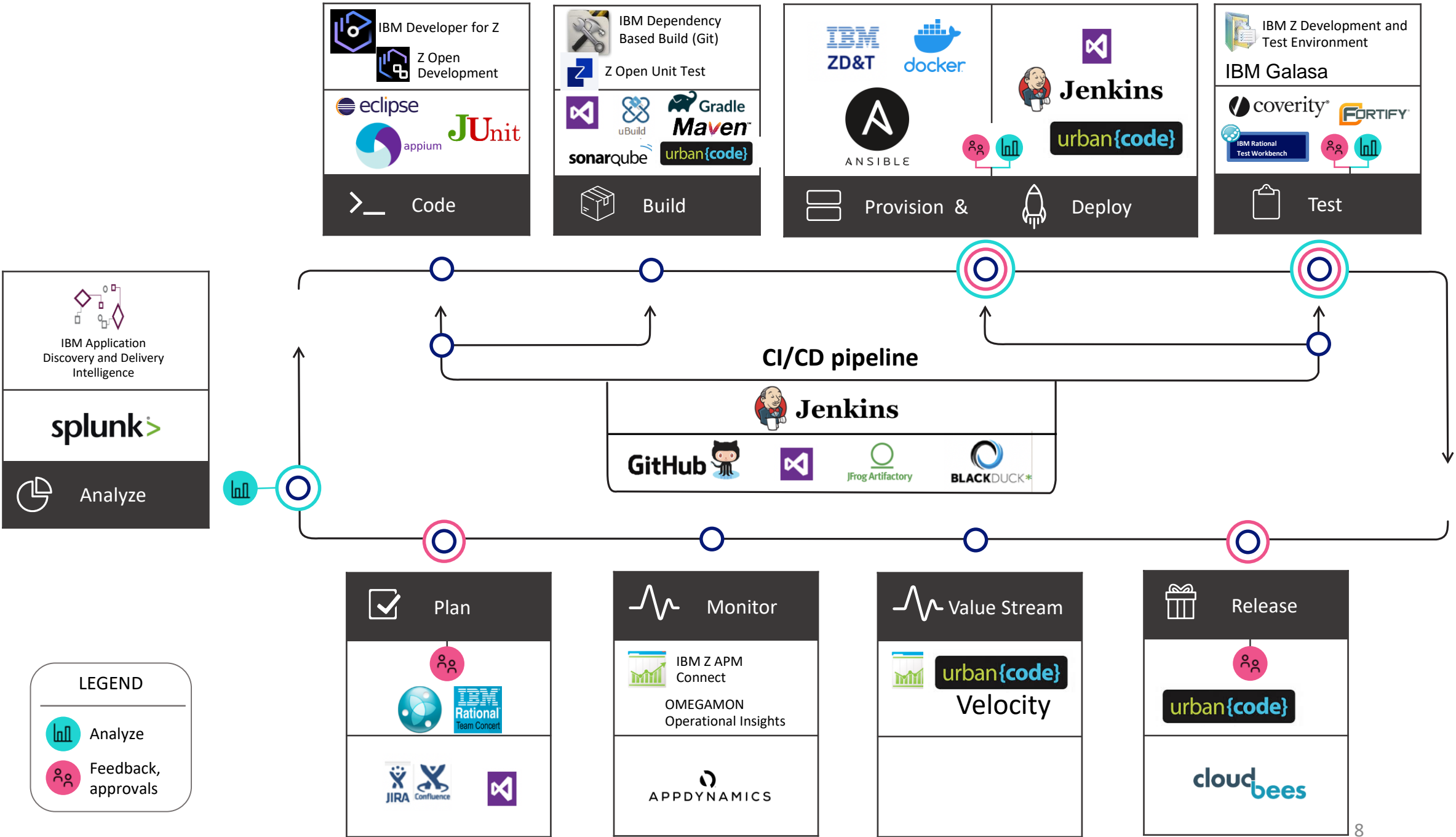


What makes up the pipeline

*** DevOps Pipeline requires modern tools ***



Integrated Pipeline Example



Treat the Mainframe as just another point on the pipeline

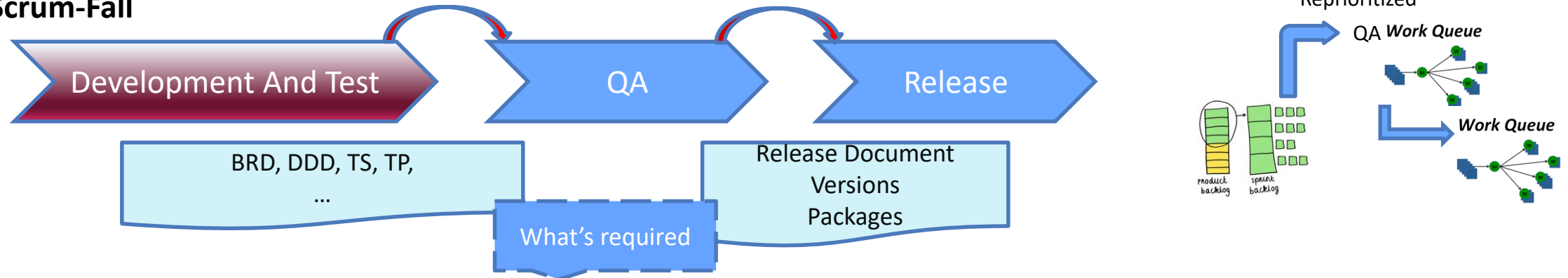
- ❑ **z/OS has been transitioning to remove the differences that serve no purpose.**
z/OS has a set of qualities of service that provide value, allow you to build applications that take advantage of the reliable hardware, but that does not mean the development and operations processes have to be different. Changes to application deployments are not version controlled
- ❑ **Open Source works on and for z/OS.** *Nothing about building COBOL, or PL/I makes it different than building any other language. Use the same core tools to break down the silos.*
- ❑ **DevOps is a culture that applies as well to any system and requires breaking down silos.** *Remove the silos between the mainframe and the rest of the organization by bringing the mainframe development to today from the 1980s. Mainframe teams are isolated teams and often work at different development pace than the distributed teams*

Making the transition

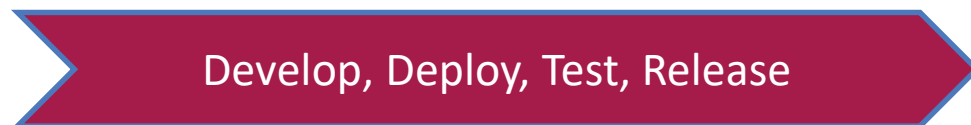
Waterfall



Scrum-Fall



DevOps – Agile and Lean



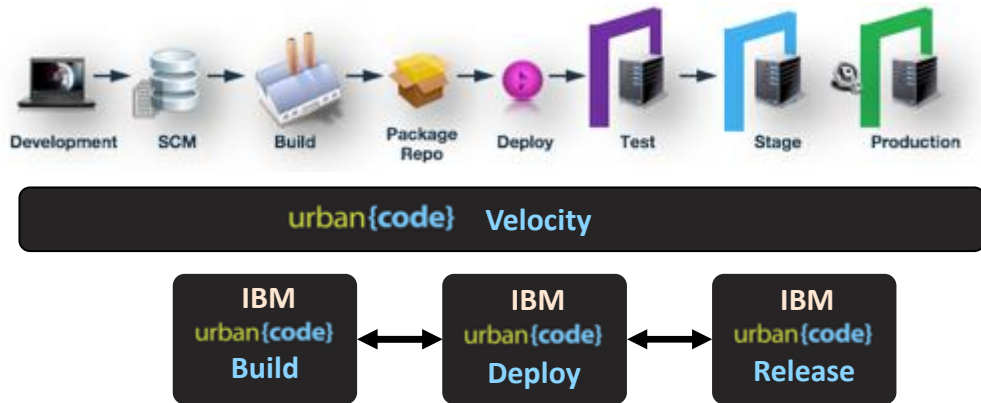
Transition: duplicate work; confused priority; introduce waste

Remove all queues – all handoffs. Remove the waste. Leverage tools for collaboration and documentation.

Move Culture to one team

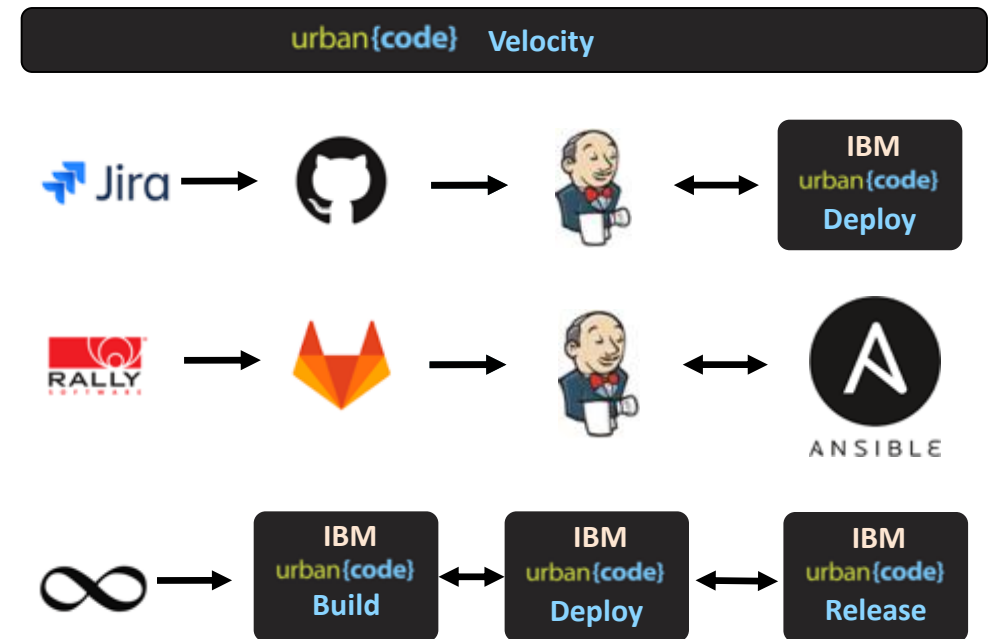
UrbanCode Provides Continuous Delivery with Flexibility

Integrated DevOps Platform



- **Velocity** orchestrates continuous delivery across the software value stream
- **Deploy** automates application deployments of many artifacts and integrates with many CI tools
- **Release** governs on top of Deploy and other pipeline tools for multi-application, enterprise releases
- **Build** integrates with many SCMs and produces artifacts to drive continuous integration

Separate tools so you can compose



UrbanCode makes open source better

UrbanCode Velocity enables Value Stream Management

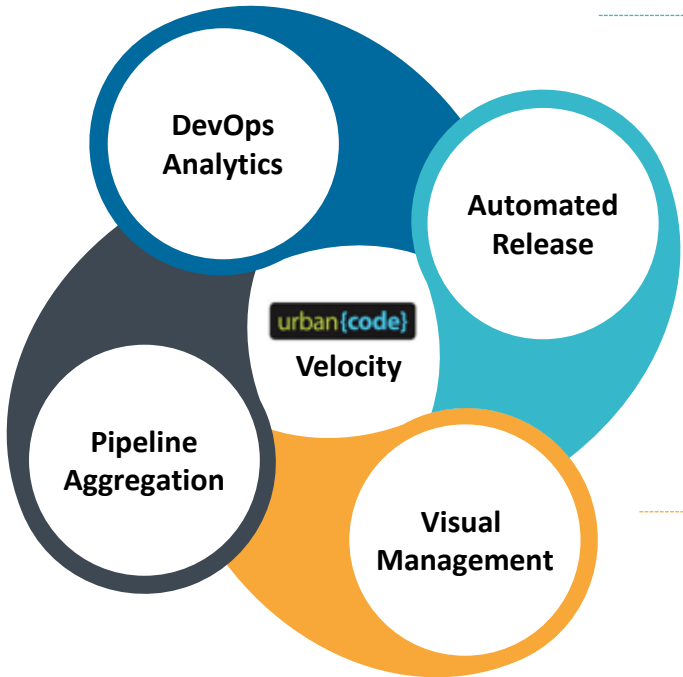
Transformation Leaders

Realize the value of hidden continuous delivery data by making it visible and actionable



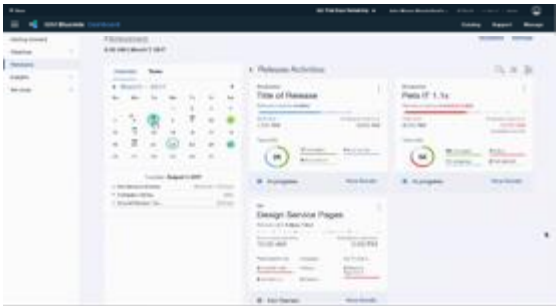
Development Teams

A single view for all of the team's Pipelines.



Release Teams

Move to more frequent releases with light-weight release management



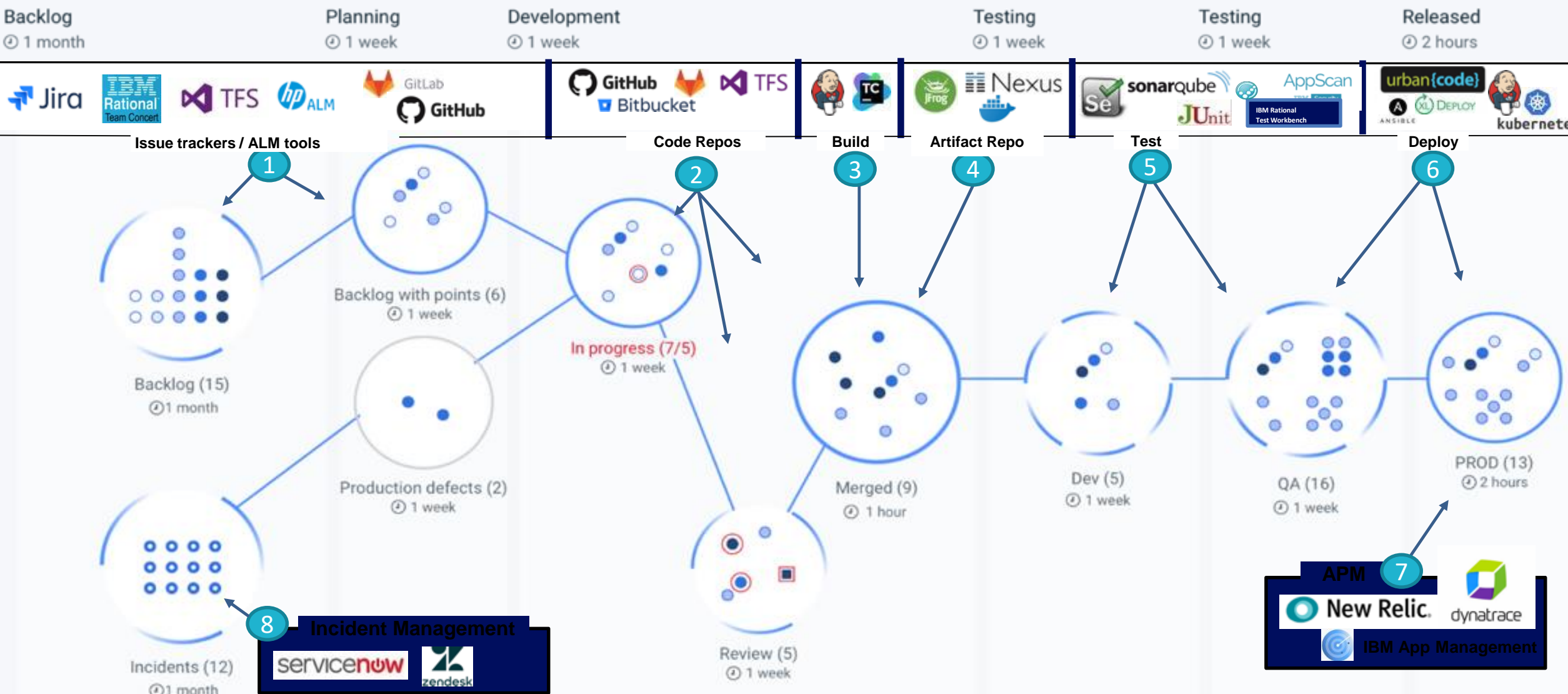
Delivery Team

Go beyond traditional Agile views to provide end-to-end value stream transparency











































Velocity integrates all your tools into a single, real-time Value Stream

Lead time: 35 days average (±18 days)

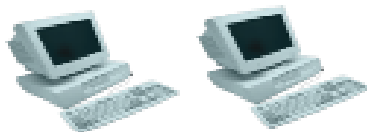
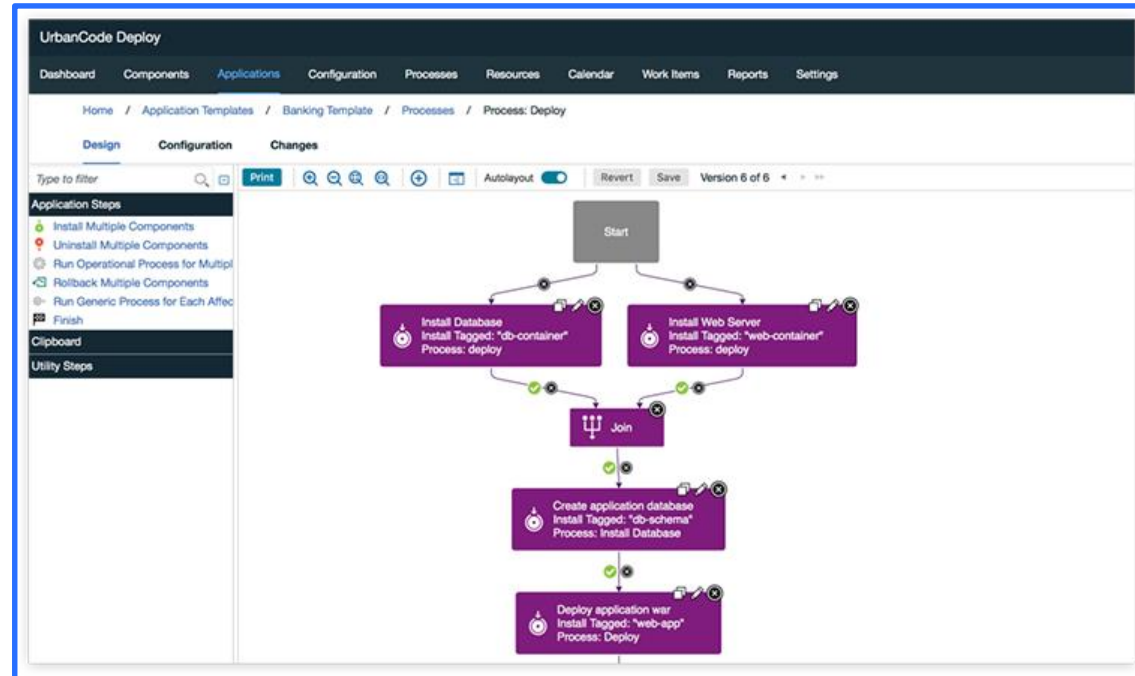


UrbanCode Velocity 2020 Plugins Roadmap

	AVAILABLE TODAY	Q1 – Targets(2020)
Work Item / Issue Tracking (Most strategic to VSM)	 Azure DevOps  TFS  GitLab  JIRA  RALLY SOFTWARE  IBM Rational Team Concert  servicenow (Incidents-Beta)	 IBM Rational  ClearQuest  VERSIONONE Agile Made Easier
Service Desk / Change Mgmt. / Incidents	 servicenow (Change Requests)	 salesforce
Source Control	 GitHub  Bitbucket  GitLab	 IBM Rational Team Concert
Build	 urban{code}  Azure DevOps  TFS	 GitLab
Testing / Code Coverage	 LCOV  JACOCO Java Code Coverage  Cobertura  MSTest  Rational Test Workbench  APACHE JMeter™  TestNG  JUnit  HCL OneTest	 Se  cucumber
Code & Security Scan	 AppScan  IBM Security  sonarqube  Twistlock	 CHECKMARX
Application Deployment & Infrastructure Automation	 urban{code}   ANSIBLE	 Azure DevOps

UrbanCode® Deploy - Automate application deployments across all your environments, deploying anything, anywhere.

- ✓ Multi-Tier Application Models
- ✓ Easy Process Designer
- ✓ Deploy to Public, Private, and Hybrid Cloud
- ✓ Track What is Where: Inventory
- ✓ Scalable Distributed Automation
- ✓ Quality Gates and Approvals



Distributed



MainFrame



SAP



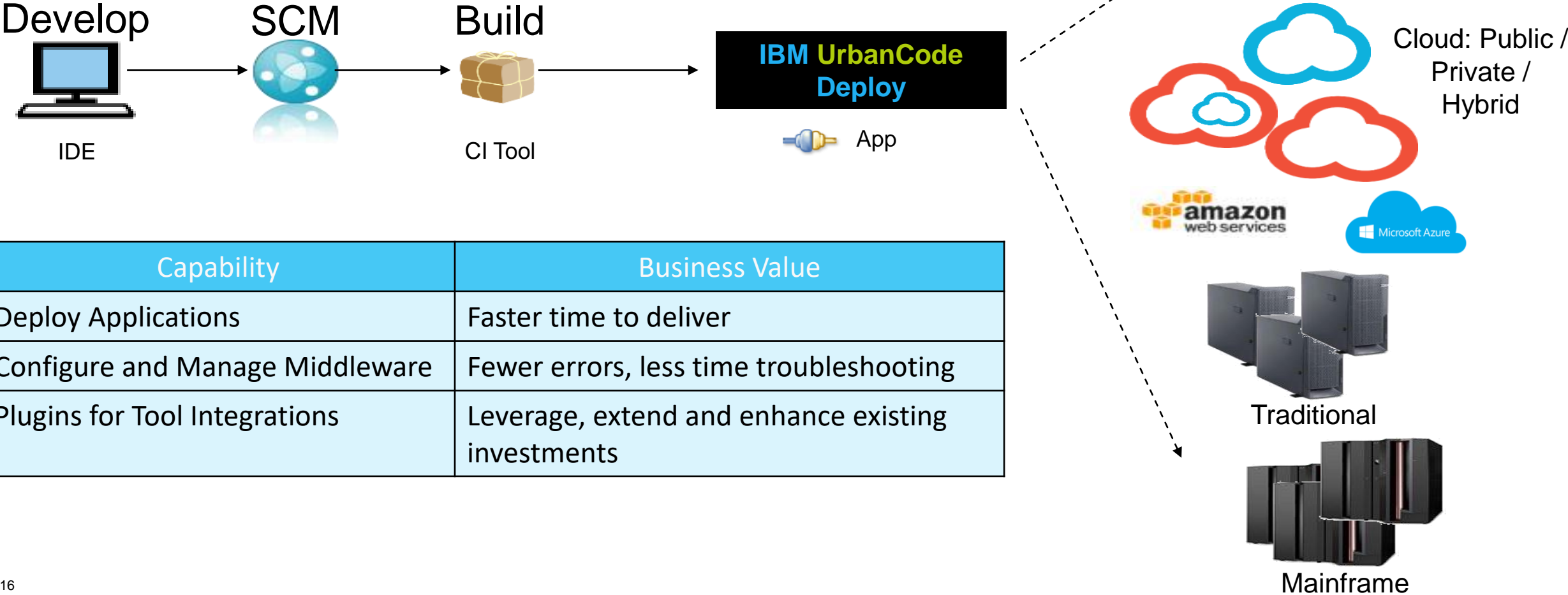
Mobile



Cloud

UrbanCode Deploy for Deployment Automation

FROM MAINFRAME TO DISTRIBUTED TO CLOUD-NATIVE



IBM Continuous End-to-End Testing

- **IBM Rational Test Workbench**

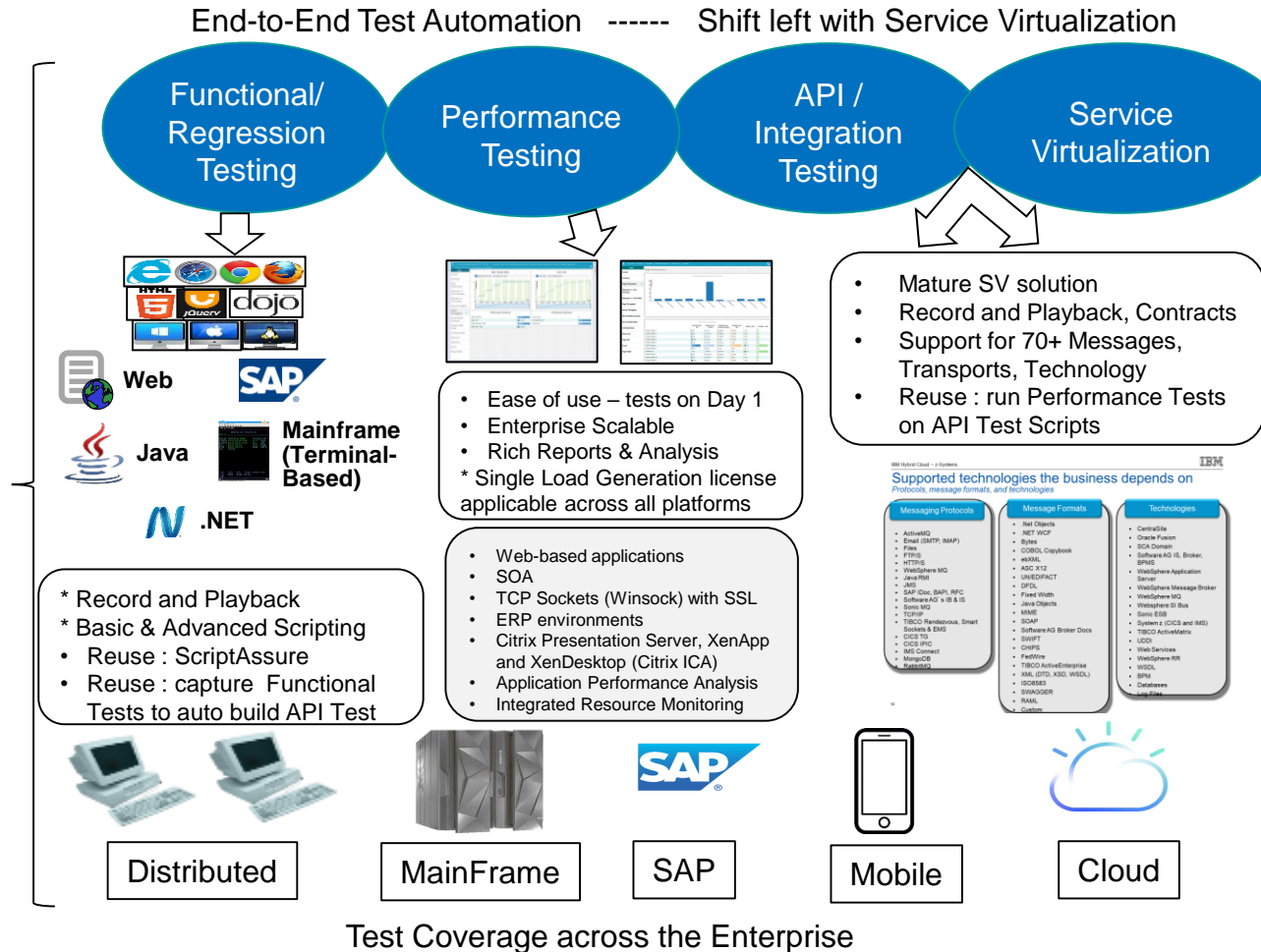
- Enable functional, performance and integration testing throughout your project lifecycle
- With a scriptless, wizard-driven test authoring environment and support for more than 70 technologies and protocols

- **IBM Rational Test Virtualization Server**

- Model real system behavior to eliminate test dependencies and simulate production,
- Accelerate testing and reduce the setup and infrastructure costs of traditional testing environments.

- **IBM Rational Performance Tester Virtual Test Pack**

- Save time and effort by reusing your functional integration tests for performance testing. New integration between RIT and RPT
- Combine your tests to model real-world scenarios and assess the impact of load on your integrated infrastructure.



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