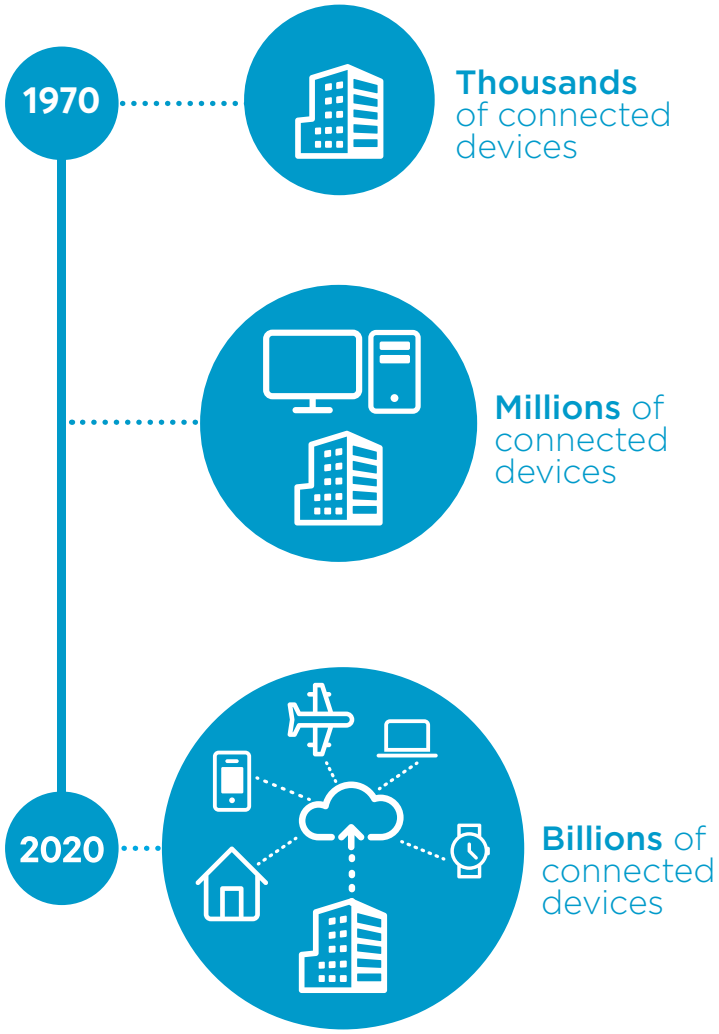
A Broadcom Company

ca technologies

Optimize to Modernize

Enterprise Application Release Automation



Introduction

The third wave of computing has begun. Welcome to the Internet of Things: 50 billion connected devices and applications powering the global economy.

It's a world where applications are king. They are changing the way we live, work and play. Today applications support the business. Tomorrow they will be the business.

Modern business leaders are more technology aware than ever before. They are now steering the CIO agenda. And if their expectations are not met, they turn to shadow IT. Information technology has become business technology.

> Existing business applications are on the front line. But they were built for a different age—the on-premises age. Costing millions to implement and maintain, they now prove inflexible and rigid. As a result, they are unable to cope with the pace of change.

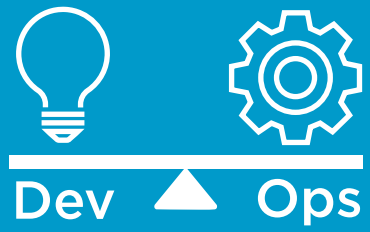
Businesses cannot afford the cost or risk of ripping and replacing these systems. But they need flexible ERPs that can adapt to changing business models and ensure the business capitalizes on new opportunities. Speed to market delivers competitive advantage.

Application owners are being forced to adopt new techniques to meet demand. Along with development and operations teams, they are changing their working practices to facilitate growth, innovation and maintain compliance.

DevOps Challenges

Change doesn't come without conflict. Development and operations teams—those directly responsible for deploying new applications and functionality—have opposing priorities:

- **Developers are creative by nature.** They continually seek new ways to remove bottlenecks, better their previous code and produce the next breakthrough. Agile methodologies have replaced waterfall approaches. Tools—version control, automated build servers, bug tracking software, etc.—have been forged so application code can be developed faster than ever.
- **Operations crave quality and stability.** By standardizing tools, builds and platforms, they strive for business continuity and SLA adherence. Configuration management tools have been adopted to manage environments across physical, virtual and cloud infrastructure. Environment provisioning times have improved but are still not synchronized with development.



New methodologies and tools have helped but haven't addressed the key challenge of delivering quality application deployments at speed. DevOps—teams unified by delivery rather than job function—was born to solve this issue.

DevOps combines developers and operations staff in a single team focused on faster application deployments. Continuous delivery—micro releases at high frequency—are the north star for DevOps teams.

A founding principle of continuous delivery is automation. Ad hoc, opportunistic approaches have been adopted. Scripts have been written and configuration management tools have been customized in an attempt to meet the DevOps objective.

Yet continuous delivery remains elusive. Unaware of their production counterparts, these complex ad hoc automation ecosystems have led to increased risk. They rely on industry experts and lack the necessary process automation capabilities resulting in silos of knowledge, manual handoffs and errors.

As the world becomes hyper-connected, daily releases give way to micro or nano releases that need to be made more frequently. Coordinating all the moving parts and subject matter experts in a single process becomes a prerequisite for true continuous delivery.

But the desire to go faster must be balanced with visibility, control and governance.

Failure Is Not An Option

Application owners have embraced the concept of continuous delivery, but need to ensure this is combined with the proper mechanisms to manage all the moving parts involved in the application release life cycle. Speed without the proper controls leads to outages, customer dissatisfaction and lost revenue.

The past few years have seen numerous technology "glitches" making front page news around the world. In just one week multiple failures made the headlines. Amazon, NASDAQ, Shanghai Stock Exchange, Goldman Sachs and United Airlines were among the casualties. The cost of these public failures has run into the millions. In the case of Knight Capital, it broke the business, resulting in a buyout from their biggest competitor.

Application owners and DevOps teams are seeking ways to reduce the risk of outages and minimize manual interventions by adopting application release automation platforms. These platforms coordinate all the people, processes and technology involved in releases. Specifically, they provide the ability to:

- Deploy actual data, application code or artifacts
- Deploy specific configuration settings for each individual environment (such as development, test, quality assurance, staging and production)
- Design process workflows for automation tasks, people steps or both
- Model environments and/or provision binaries (such as middleware, database and application servers)
- Audit and ensure approved changes were actually implemented

When application functionality impacts a business's ability to gain market share, the end-to-end application release processes becomes as critical as other core business processes.

The ability to coordinate releases with other critical business processes is a fundamental requirement of any application release platform. Ensuring releases do not impact or have any negative consequence to business as usual is paramount.

A Platform to Enable DevOps

Automation is fundamental to continuous delivery. But for continuous delivery to flourish and deliver business value, a new approach is required—one that considers all the requirements of the business but can be adopted incrementally. This systematic approach assesses two key disciplines:

- Execution of all core application and infrastructure processes that support core business processes with minimal human intervention
- Execute and automate core application release and deployment functions to deliver new products and services to market at speed but with control

Achieving these disciplines through systematic automation demands a platform that delivers an agnostic view of processes and provides the below capabilities:

- **User Interface:** Reusable templates and objects enable easy drag-and-drop workflow modeling, reducing time and effort to build processes. Reporting dashboard to monitor health of workflows.
- **Automation Engine:** A clustered automation engine that utilizes a central, secure data repository. Infinitely scalable to support the most complex of environments. External APIs for integration to existing processes.
- **Distributed Execution Framework:** Distributed agents' technology for connection to application and infrastructure solutions—whether on-premises or in the cloud.

To ensure success in the digital age, application owners need to leave their opportunistic automation practices of the past behind and adopt a systematic approach. They need a platform that supports their application deployment and release requirements to enable continuous delivery for the entire IT portfolio.

To ensure that business-as-usual operations are not impacted by releases, an application release automation platform should be integrated as part of a comprehensive business automation solution.

The Automic® One Automation Platform

As the Internet of Things accelerates, businesses will feel under increasing pressure to implement application changes faster than ever to meet market opportunities. This will put pressure on existing application release processes. By adopting a systematic automation platform, they can deliver the speed and agility that is required without disturbing business as usual.

We provide a systematic business automation platform that executes core business, application and infrastructure processes across on-premises, cloud and hybrid environments. It delivers a unified, flexible approach to automation that can be adopted incrementally, providing end-to-end visibility across the entire business.

Automic® Workload Automation

- **Business Process Automation:** Execution of core business processes through self-service catalog. Reporting dashboard for monitoring process health.
- **Application Automation:** Workflow templates for critical activities for key business applications—including Oracle and SAP. Automation of Hadoop environments. Key workflow templates for MapReduce, Pig, Sqoop, and Hive. Integrated file transfer support for FTP, SFTP, FTPS, and FTPES to ensure timely delivery of data for application processing.
- **Infrastructure Automation:** Manage time, event and user-based workload and process automation across on-premises and cloud-based environments. Workflow templates to support all major operating systems, database types, hypervisors, Web services, message queues and cloud stacks—AWS, OpenStack, Microsoft AZURE, and so on.

Automic® Continuous Delivery Automation

- **Application Release Automation:** Centralized coordination and approval of all people, process and technologies involved in the application release lifecycle.
- **Automic Deployment Automation:** Workflow and action templates to support common deployment tasks reducing manual intervention, time, and cost. Full deployment model and rollback support.

For more information or product demonstration please visit ca.com/automation.

For product information and a complete list of distributors, visit our website at: broadcom.com

CS200-339265-0519 June 10, 2019