BSH ENHANCES APPLICATION LIFECYCLE USING CLOUD PLATFORM

Infosys enabled DevOps way of working for seamless delivery of applications

Client overview

BSH Hausgeräte GmbH, the largest home appliances manufacturer in Europe, operates a global network of ~ 80 sales, production, and service companies. BSH manufactures appliances for leading brands, including Bosch and Siemens.

Challenges

BSH sought an auto-scaling infrastructure and a consolidated integration platform to support

- 24 micro web applications and 16 large-scale applications
- Build, test and release automation across domains and platforms
- Thousands of users in Europe and China

Outcomes

- Environment provisioning time reduced by 70%
- Manual deployment time decreased by 95%
- Average failure rate declined from 11% to 1%

Scope

BSH undertook a program spanning code consolidation and migration of on premise applications across global IT Application Centers (ACs) to Amazon Web Services (AWS) cloud. The company wanted to streamline service delivery, improve governance of storage and compute resources, and accelerate customer onboarding across regions and industries. The manufacturer wanted to leverage process automation as a tool for seamless application deployment, infrastructure optimization, and engineering cost rationalization. A team of cloud computing experts implemented the program at BSH.

Infosys solution

Infosys combined rich experience in DevOps and Agile development methodologies which are a part of Infosys Cobalt to integrate the application portfolio. Infosys in partnership with BSH, defined the operating model, consolidated processes, and created a roadmap to drive adoption of the largescale DevOps program across global ACs. We automated several elements: repeatable tasks to improve Mean Time to Detect (MTTD) failure as well as lead time for changes, build and deployment of pipelines to boost service delivery, and tracking and metrics generation to minimize failure rates and manage fixes.

Solution highlights

Complementary Tooling for Mature Delivery

Infosys team used a complex tool stack to design Continuous Integration / Continuous Delivery (CI/CD) pipelines and manage workflow: Atlassian Bamboo (CI), Bitbucket (source code), Datical (database), and JFrog Artifactory (repository management). In addition, we leveraged AWS CloudFormation for infrastructure management, SonarQube for code quality, and Ansible and AWS OpsWorks for configuration management. We integrated Selenium Grid and Cucumber test suites with CI/CD build agents for parallel execution in the distributed agile framework.

We deployed the automated CI/CD pipelines and web applications on AWS Elastic Beanstalk. Our team provided support services for the Amazon PaaS platform, Docker-based projects, and Kubernetes systems.

Key Pillars

Technology

Infosys engineering, development and operations teams used DevOps and automation tools for continuous integration, configuration management and infrastructure deployment. A cross functional Scrum team was established for communication and collaboration between team members managing the portfolio of Java, Node.js, .NET, AngularJS, SAP Hybris, and mobile applications.

We adopted Infrastructure as Code (IaC) tools across the service lifecycle to provision and manage the production environment. It also helped us initiate automatic builds and deploy resources on AWS cloud. Automation scripts enabled us to configure, provision and deploy the environment for use within 30 minutes across any regions within AWS.
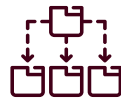
Process

Created standard infrastructure blueprints (Virtualization) and implemented continuous delivery to ensure all the environments are identical.

The consistent environments eliminated bottlenecks and enabled BSH to implement projects faster. Process automation rationalized costs and ensured traceability across the release cycle.

We addressed the challenges in server orchestration, server management, policy-based change management, and communication between on-premise, and cloud-based applications through a phased adoption of the Ansible platform and IT scripting frameworks. We created a centralized binary repository to store and reuse artifacts. Our team used JIRA to track product iterations and delivery sprints.

People

Infosys with BSH instituted a centralized CI/CD DEV team to align effort, services, applications, and infrastructure for a stable delivery. AWS Chime facilitated collaborative development and implementation by onsite and offshore teams across time zones.

We provided 'Training-as-a-Service' to new team members and diverse stakeholders. Our knowledge management programs included training to cross-skill resources in emerging technologies, and workshops to promote Agile and DevOps practices. Our innovative 'Agent-as-a-Service' initiative enabled sharing of build agents. It helped BSH process ~ 60,000 build and deployment jobs across domains and platforms within two months, without investment in build agents.

The Infosys CI/CD DEV team delivered consistent throughput during the project. The cloud transformation enabled BSH to manage the portfolio of 24-micro and 16 large-scale applications with zero downtime even during peak load.
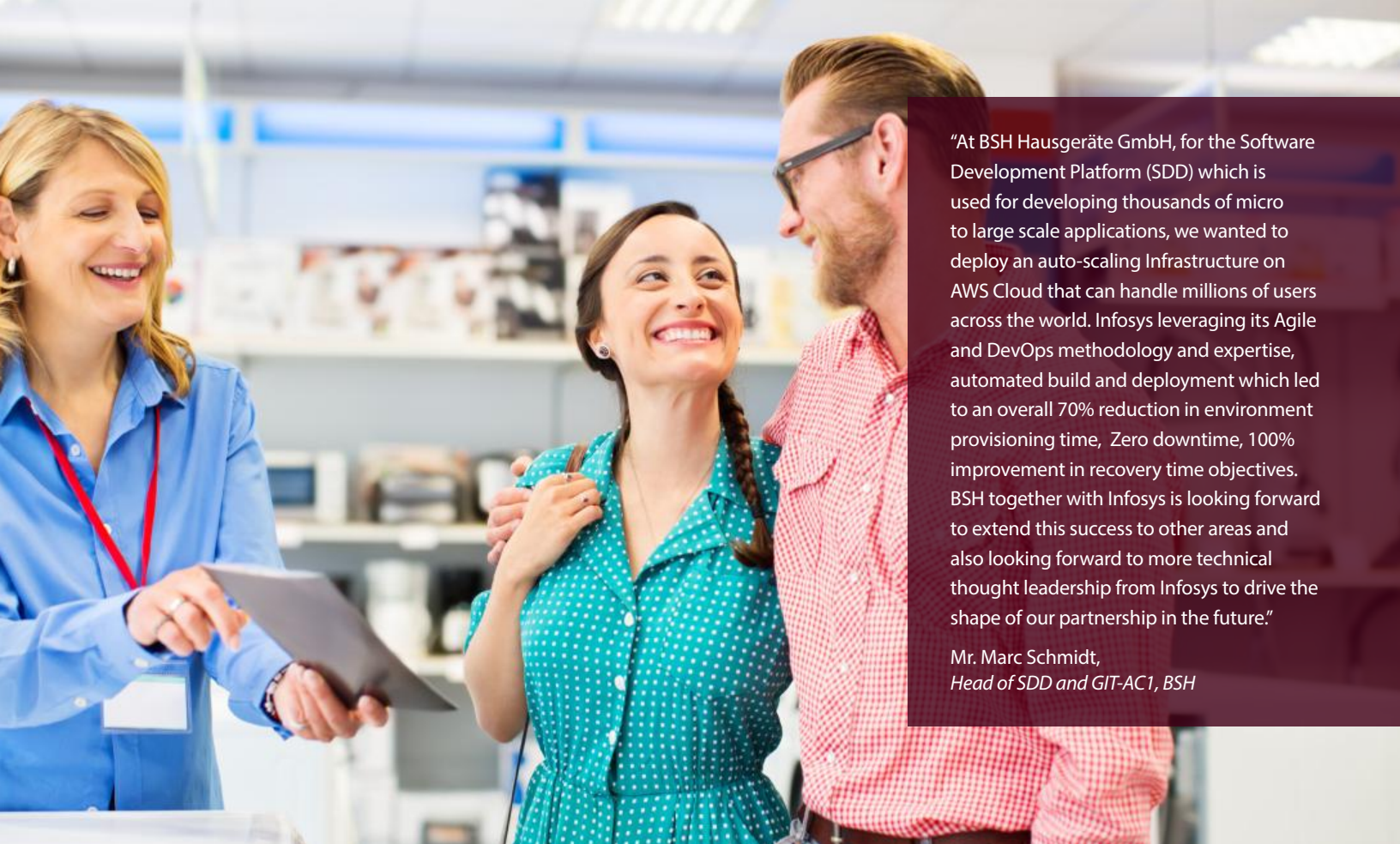
> "At BSH Hausgeräte GmbH, for the Software Development Platform (SDD) which is used for developing thousands of micro to large scale applications, we wanted to deploy an auto-scaling Infrastructure on AWS Cloud that can handle millions of users across the world. Infosys leveraging its Agile and DevOps methodology and expertise, automated build and deployment which led to an overall 70% reduction in environment provisioning time, Zero downtime, 100% improvement in recovery time objectives. BSH together with Infosys is looking forward to extend this success to other areas and also looking forward to more technical thought leadership from Infosys to drive the shape of our partnership in the future."
>
> Mr. Marc Schmidt,
> *Head of SDD and GIT-AC1, BSH*

Benefits

*The below benefits have been achieved for specific projects.

- Backup and Recovery Time Objectives (RTO): 100%
- Lead time and deployment speed for ~15 daily production deployments: 3.9 minutes
- Production deployment frequency: 33 per day

- Environment provisioning and deployment cycle time: from 3 months to 15 minutes
- Infrastructure provisioning time due to server replication: from 12 hours to less than 15 minutes
- Server infrastructure provisioning time due to automation: from 40 hours to ~ 15 minutes

Infosys Cobalt is a set of services, solutions and platforms for enterprises to accelerate their cloud journey. It offers over 14,000 cloud assets, over 200 industry cloud solution blueprints and a thriving community of cloud business and technology practitioners to drive increased business value. With Infosys Cobalt, regulatory and security compliance, along with technical and financial governance comes baked into every solution delivered.

For more information, contact askus@infosys.com

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