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ESKOM DELIVERS DEVOPS WITH RED HAT ON HPE SYNERGY

PARTNER SOLUTION OVERVIEW

The business value of Red Hat OpenShift and DevOps enablement[1]

531%
average five-year return on investment (ROI)

US$1.29 million
average annual benefits per 100 developers per year

66%
faster application development life cycles

35%
less IT staff time required per application developed

US$7.42 million
higher revenue per organization

38%
lower IT infrastructure and development platform costs per application

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INTRODUCTION

Organizations are under pressure to deliver high-quality applications and software updates at an increased rate to meet business demands. Modern software development techniques, like DevOps, can help. DevOps helps developers and IT operations work together to ensure quick iterations and reliable software builds through self-service and automation. Moving to a DevOps approach helps businesses keep customers happy and maintain a competitive edge.

Selecting the right products is critical for a successful DevOps environment. To develop and deploy software rapidly, businesses need highly flexible, automated platforms that simplify provisioning, provide agile scalability, and improve overall reliability. ESKOM, an IT outsourcing and solutions company, packages the HPE Synergy composable infrastructure platform with a specific combination of Red Hat® products to deliver an agile, fully automated, plug-and-play DevOps environment. ESKOM's Hybrid Cloud and DevOps Solution supplies all the components necessary to automatically deploy large-scale container environments, significantly reducing the amount of time it takes to transition to a DevOps architecture.

TRANSITION TO DEVOPS MORE QUICKLY

Previously, moving from a traditional waterfall software development process to DevOps was not an easy task. It could take weeks, or even months, to pull together the appropriate hardware and software, not to mention the time required for configuration. The ESKOM Hybrid Cloud and DevOps Solution accelerates this process by combining virtualization, containerization, and a composable infrastructure with Red Hat Ansible® Automation to deliver a complete, fully automated solution based on industry-leading products.

ESKOM packages the underlying operating environment, Red Hat Enterprise Linux®, with modern software tools, like Red Hat Ansible Tower and Red Hat OpenShift® Container Platform, to ensure the scaling and automation required for a successful DevOps deployment. Everything is preconfigured on HPE Synergy, a powerful, reliable infrastructure that delivers fluid pools of physical and virtual compute, storage, and fabric resources. The solution is fully automated through Ansible Playbooks and delivers all the compute, software, storage, virtualization, management, and networking components required. With the Hybrid Cloud and DevOps Solution, businesses can have a container-enabled DevOps environment in a matter of hours.

AN AUTOMATED APPROACH TO CONTAINERS

The Hybrid Cloud and DevOps Solution is designed to help enterprises adopt and deploy containers in production rapidly and at scale. The automation provided through Red Hat Ansible Tower and the systems management capabilities of Red Hat Satellite and HPE OneView allow the solution to deliver an easy-to-deploy DevOps environment. Red Hat Ansible Tower communicates with the HPE Synergy OneView application programming interface (API) to direct the configuration of the hardware and manage it. At the same time, Red Hat Satellite manages the installation of the operating system and other software on the HPE Synergy servers. Red Hat Satellite also provides the environment's domain name system (DNS) and dynamic host configuration protocol (DHCP) services.

1 Source: IDC: The business value of Red Hat OpenShift, October 2017. https://www.redhat.com/en/resources/The-Business-Value-of-Red-Hat-OpenShift

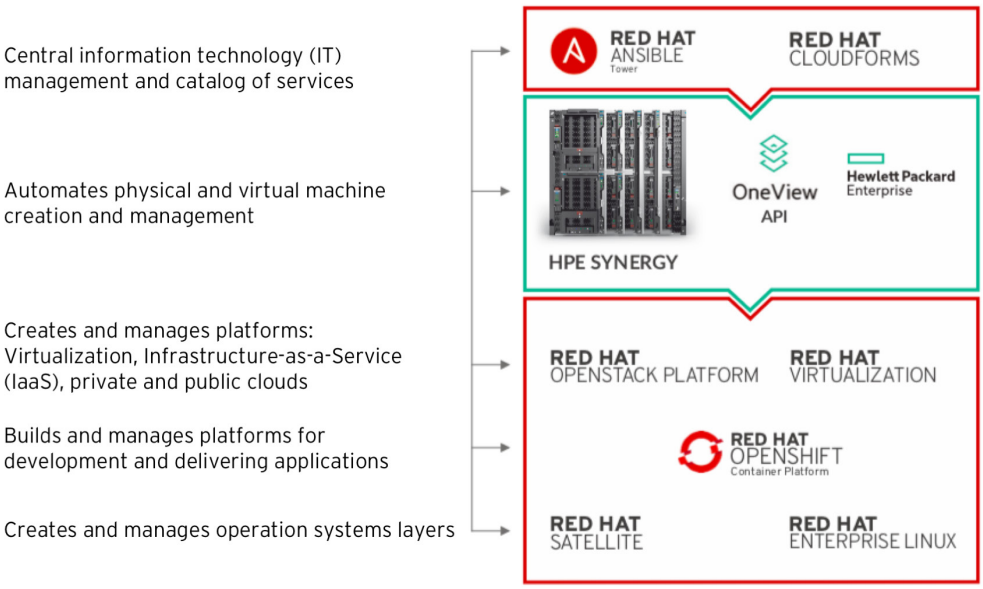

Figure 1. *Architecture for the ESKOM Hybrid Cloud and DevOps Solution*

As the system powers up, Red Hat Ansible Tower uses the HPE OneView RESTful API and Ansible Playbooks to automatically register the HPE Synergy servers with HPE OneView. HPE OneView applies server profiles for all the various server roles in the system, including Red Hat Virtualization, Red Hat OpenShift Container Platform, and Red Hat CloudForms®, and then deploys them.

Red Hat Virtualization splits the HPE Synergy physical server central processing unit (CPU) and random access memory (RAM) into smaller logical servers. This is completely orchestrated by Red Hat CloudForms. HPE OneView then continues to manage the firmware levels, monitor the health of the servers, and provide remote administration and access to the virtualized servers. To deliver the containers used for a DevOps deployment, the solution employs Red Hat OpenShift Container Platform.

With the Hybrid Cloud and DevOps Solution, ESKOM provides businesses the ability to:

- Reduce the time required for obtaining and deploying the operational infrastructure needed for DevOps.
- Improve the quality and reliability of applications.
- Modernize the development and deployment of applications.
- Enhance overall security and compliance with regulatory standards.

HPE AND RED HAT PRODUCTS

The HPE Synergy composable infrastructure helps businesses provision and scale resources with unprecedented agility. HPE Synergy combines hardware with software definition to precisely compose the resources needed to scale to your demands. An extensible platform, HPE Synergy enables a broad range of applications and operational models, including virtualization, hybrid cloud, and DevOps.

Red Hat Ansible Tower helps teams manage complex multitier deployments by adding control, knowledge, and delegation to Ansible-powered environments, ensuring consistency and compliance across the enterprise. It centralizes and controls IT infrastructure with a visual dashboard, role-based access control, job scheduling, integrated notifications, and graphical inventory management. Red Hat Ansible Tower's RESTful API and command-line interface (CLI) make it easy to embed Ansible Tower into existing tools and processes.

Red Hat Enterprise Linux provides enterprises the tools needed to modernize infrastructures, boost efficiency, and run datacenters securely. It offers the stability to take on today's challenges and the flexibility to adapt to tomorrow's demands, supporting virtualized, hybrid, public cloud, and on-site environments. Red Hat Enterprise Linux delivers military-grade security, 99.999% uptime, and support for business-critical workloads.

Red Hat OpenShift Container Platform brings Kubernetes to the enterprise. Regardless of your applications architecture, Red Hat OpenShift Container Platform lets you easily and quickly build, develop, and deploy in nearly any infrastructure, public or private.

Red Hat OpenStack® Platform is a cloud computing platform that virtualizes resources from industry-standard hardware, organizes those resources into clouds, and manages them so that users can access what they need—when they need it.

Red Hat Satellite is a system management solution that makes it easier to deploy, scale, and manage infrastructure across physical, virtual, and cloud environments. This tool helps businesses effectively manage the entire infrastructure—not just Red Hat Enterprise Linux systems—from a single console. Red Hat Satellite helps users provision, configure, and update systems to keep them running efficiently, securely, and in compliance with standards.

Red Hat Virtualization is a complete infrastructure solution for virtualized servers and technical workstations. Built-in Red Hat Secure Virtualization (sVirt) and Security-Enhanced Linux (SELinux) safeguard the virtualized environment. Integration throughout the Red Hat software stack provides increased performance, security, and value when other products, like Red Hat Enterprise Linux and Red Hat OpenShift Container Platform, are added.

Red Hat CloudForms offers unified management for hybrid environments, providing consistent processes and functionality across infrastructures. Its self-service ordering with automated provisioning and policy enforcement helps enterprises accelerate service delivery and gives IT managers complete operational and life-cycle control over deployed services.

ESKOM AND RED HAT STRATEGIC ALIGNMENT

ESKOM is a Red Hat Premier Business Partner and an HPE Platinum Partner. In 2017, ESKOM won the Red Hat Rising Star Partner of the Year award. The company works with Red Hat and HPE to provide a validated, fully automated DevOps solution that is simple to deploy and manage. ESKOM fully supports the Hybrid Cloud and DevOps Solution.

CONCLUSION

DevOps architectures help businesses deliver higher quality software faster. Through the alignment of people, processes, and technology, DevOps facilitates the ability to develop, test, and iterate code, while ensuring that the applications will work reliably once deployed. DevOps environments rely on agile hardware and software components, like those found in the ESKOM Hybrid Cloud and DevOps Solution, for rapid scaling and provisioning of resources to meet business demands.

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PARTNER SOLUTION OVERVIEW ESKOM delivers devops with Red Hat on HPE synergy

ESKOM's integration of Red Hat software with HPE Synergy composable infrastructure delivers a complete DevOps environment that automatically:

- **Creates virtual machines for new projects.** It eliminates the need for developers to request storage, networking, virtualization, and security for every new project.
- **Adds new nodes when required.** The solution automatically configures resources whenever necessary.
- **Manages the infrastructure.** It defines and provides access to resources as needed.

LEARN MORE

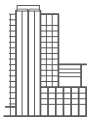
For more information, visit eskom.eu/devops. To contact ESKOM, email sales@eskom.eu or call +48 22 100 55 80.

ABOUT ESKOM

Since 2003, ESKOM has been providing IT services, including IT outsourcing and IT specialist outsourcing, implementing dedicated IT infrastructure solutions and IT security, and offering software development services.

ESKOM's service model adapts to customer needs. Its services range from specific field projects (selective outsourcing) to comprehensive IT services for companies, providing professional consultancy and cooperating with the companies' IT technicians and managers. ESKOM has a strong presence in the insurance and financial market sectors.

ESKOM values customer satisfaction. With its process approach and the application of expert experience in implementing solutions, ESKOM offers the highest level of quality with its IT services, adhering to the Integrated System of Quality and Information Security Management according to PN-EN ISO 9001:2015, ISO/IEC 27001:2013 standard.



ABOUT RED HAT

Red Hat is the world's leading provider of open source software solutions, using a community-powered approach to provide reliable and high-performing cloud, Linux, middleware, storage, and virtualization technologies. Red Hat also offers award-winning support, training, and consulting services. As a connective hub in a global network of enterprises, partners, and open source communities, Red Hat helps create relevant, innovative technologies that liberate resources for growth and prepare customers for the future of IT.

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