

# DELL EMC INFRASTRUCTURE AS CODE DESIGN & IMPLEMENTATION

## Five-week fast track to evolving agile development methodology

### ESSENTIALS

- Planning & Strategy Workshop
- Design System definitions and configurations in code
- Build Minimum Viable Products Toolchain to support target environment(s)
- Integrate automation & orchestration tooling into system administration practices and processes

### BUSINESS CHALLENGE

Success is contingent on the amount of time it takes an organizations to create value. It requires enterprises to achieve velocity at scale. For this, they must accelerate deployment services while simultaneously improving quality practices associated with building and maintaining these environments. Automation and scripting alone cannot solve the velocity paradigm. Enterprises need to look holistically at how infrastructure services are created, delivered, and managed. Continuing current practices, such as manual provisioning complicated by different interpretations of imprecise instructions, will continue to lead to snowflake architectures and brittle systems. Organizations must modernize, or replace, this existing infrastructure to exploit cloud architectures, implement true platforms, and actualize the promise of cloud.

### SERVICE DESCRIPTION

The Dell EMC® Infrastructure as Code Design & Implementation service builds the requisite tool chain and delivery pipeline to manage infrastructure and changes to infrastructure using best practices from software development and release management disciplines. This service introduces new tools common to software development, like version control, couples them with automation capabilities, and then maps them to new practices and processes for creating, updating, monitoring, and managing infrastructure services. This five-week service establishes a foundation for transforming IT's operating model.

Organizations are able to define their desired state of infrastructure resources in code. This code can be deployed and managed in a repeatable, reliable, and consistent manner. Organizations will gain valuable infrastructure service design automation skills. Customers will build capabilities to define and manage IT services and realize practical advantages of a cloud-optimized operation. Using code to define the server configuration means that there is greater consistency between servers. By the conclusion of the engagement, we will have seeded agile processes, methods and technical approaches needed to evolve a DevOps culture.

This service demonstrates the potential for more responsiveness to the business through the use of agile methodology, the reduction of bottlenecks and inefficient processes; and defines stable operating environments. This service will help you understand the opportunities for automation, software development & IT operations agility, and efficient use of labor, which frees up staff to pursue value added work.

## OBJECTIVES

Our approach to Infrastructure-as-Code (IaC) customer engagements begins with the following objectives:

- Define and create up to two single virtual machines and one multi-machine definition in either a VMware® vSphere® endpoint, vCloud® Air instance, or OpenStack instance
- Map end-to-end development lifecycle for infrastructure and design desired tool chain to support targeted configuration
- Integrate and configure existing tools with workflow engine where applicable, such as source code control, artifact repository, unit testing, and security scanning
- Establish a cross-functional design and build team, and provide guidance and coaching to seed a DevOps culture within Infrastructure/Operations team
- Implement Configuration Management and Version Control systems, like Git, Artifactory, Puppet; and Converged Infrastructure/Continuous Delivery with Jenkins, that support the IaC solution
- Create manual process stubs and notifications for workflow steps not linked to automated tooling

Infrastructure-as-Code offers unique attributes over traditional methods that your organization will value, and will significantly shift how your IT organization works. While you may be using some degree of scripting and/or version control systems today, IaC can fully script deployment of infrastructure and applications in an environment where all infrastructures are managed in version control systems. This aids with compliance and audit as every change to your configuration can be both logged and traced. In addition, software development practices are applied to infrastructure build and operate procedures. Your infrastructure will self-monitor system configuration, providing you with notifications of changes in your environment. It will now be able to self-heal changes to system configuration based on declared known-good state or versions.

## SUMMARY OF BENEFITS

Dell EMC's Infrastructure as Code Design & Implementation service will reduce the overall time required to evolve an agile infrastructure, using agile development and Systems Development Lifecycle principles, in your organization. Importantly, using configuration code makes changes safer, enabling upgrades of applications and system software with less risk. Faults can be found and fixed more quickly. If your organization is struggling to transform its culture to practice lean and agile processes this service will provide you with real world experience and approaches that will help your workforce cross the chasm to build a cloud-native infrastructure environment.

## ABOUT DELL EMC SERVICES

Dell EMC Services accelerates the software-defined enterprise through world-class technical expertise and service capabilities that deliver well-run hybrid clouds, big data solutions, empower ITaaS providers, and enable new digital-era applications. Our 16,000+ services experts worldwide, plus global network of partners, have the skills, knowledge, and experience organizations need to get the maximum value from their Dell EMC technology investments—with an unending commitment to an exceptional total customer experience through service excellence.



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