

INFRASTRUCTURE AS CODE DESIGN & IMPLEMENTATION SERVICE

Ten-week fast track to evolving agile development methodology

ESSENTIALS

First steps in constructing an autonomous platform and orchestrated process capable of building, configuring and validating basic environment provisioning services such as:

- Server creation
- Network configuration
- Storage attachment
- OS deployment and more

Business Challenges

Success is contingent on the amount of time it takes an organization 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 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, and couples them with automation capabilities. This service then maps them to new practices and processes for creating, updating, monitoring, and managing infrastructure services. By doing so, organizations will gain the benefits of public cloud, on their own private cloud infrastructure, maintaining security and cost control as they attempt to capitalize on emerging business opportunities. This 10-week service establishes the foundation for transforming IT's operating model.

Organizations can 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 using agile software development 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:

- Demonstrate an early stage continuous delivery and deployment pipeline
- Standardize and improve processes associated with pilot services
- Seed practices and values native to DevOps for software engineering principles and practices with Infrastructure/Operations teams at the customer
- Produce a product backlog with work items sequenced based on priority
- Define success criteria – referred to as “definition of done” in agile
- Discuss hosting environment pre-requisites and request/acquire the environment resources where shared Dell Technologies/Customer team will perform development work
- Evaluate current readiness and state of infrastructure service delivery and existing tool chain to identify and prioritize opportunities to improve speed and agility
- Identify Day One infrastructure / platform service offerings/blueprints and define target state end-to-end development lifecycle
- Identify and implement desired automation tool chain based on technical requirements and enterprise fit (e.g., Orchestration, Configuration Management, Version Control, Artifact Repository, etc.)
- Design and implement Infrastructure as Code framework that automates the build and deployment of Day One services using DevOps best practices
- Integrate and configure existing tools/services with workflow engine (e.g., Change Management, CMDB, etc.)
- Collaborate with the customer to develop, test and deliver Day One services through the IaC solution
- Develop and deliver Day One stakeholder documentation and supporting materials
- Infrastructure-as-Code offers unique attributes over traditional methods that your organization will value and can 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

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.



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