Domain: GCP Self-Service Infra Deployment Pipeline

Objective	**As VDI/EAP/XCS/MC platform engineering team, I need the ability to deploy approved infrastructure resources (e.g. GCE, GCS) on GCP leveraging Citi approved and controlled environment of LS-Enterprise and Harness.**
Acceptance Criteria	Conditions required to be successful, you can think of any function or non-functional criteria here: • Ability for end user to specify which GCP project they intend to deploy into with the Application/LS Project. ○ **Dependency on LightSpeed** • Ability to identify which use case (VDI/EAP/XCS & MC) to define the IAM/SA permissions needs for said deployment. ○ **Dependency on IAM** • Ability to create resources in Terraform Enterprise and Vault for GCP use cases. ○ **Dependency on Vault** • Ability to define which applications are enabled to deploy into existing GCP projects. ○ **Dependency on Inventory Service** • Ability to end user to define pipeline with existing risk and controls applied. • Ability to deploy infrastructure into GCP through the strategic CI/CD suite from LightSpeed enterprise leveraging Tekton, Harness and Terraform Enterprise. • Runbook/documentation is available to users.
Stakeholders	All application users – CTI Service engineers, CISO, XCS, VDI, EAP & MC
Resourcing	5 – SDLC/TFE/Pipelines **Note**: User story and resourcing needs for Inventory service are not accounted for.
Milestones	***Dev* –** Feb 2025 • User can define their GCP environment and deployable regions through LightSpeed enterprise which in turn create the necessary Harness deployment resources (i.e. Environments, Services, Infra Definitions and tagging of the resources) • End user can onboard a GCP project to the self-service pipeline for one of the identified use cases through Cloud Hub • Beta version of the GCP Self-service pipelines available for infrastructure as code deployment for a subset of identified application teams leveraging LightSpeed Enterprise UAT (Tekton UAT and Harness UAT) and Cloud UAT ***PROD* –** Apr 2025 • General availability of infrastructure as code pipelines for stakeholders in production
Submitter	Daniel Poss

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Feedback	
Status	

Domain: GCP Self-Service – App Deployment

Objective	**As a XCS platform engineer, I would like to have a capability to deploy a given helm application to GCP to a specific GKE Cluster on a GCP project ID in controlled environment leveraging existing Citi Enterprise capabilities using LS-Enterprise and Harness**
Acceptance Criteria	• Ability for end user to specify which GCP project they intend to deploy into with the Application/LS Project. • Ability for end user to specify which GCP GKE Cluster and namespace they intend to deploy into with the Application/LS Project. • Ability to define which Applications are enabled to deploy into existing GCP projects. • Ability to define which Applications are enabled to into which GKE clusters and the available namespaces for the clusters. • Ability to end user to define pipeline with existing risk and controls applied. • Ability for end user to deploy helm charts into their predefined resources. • Solution should support deploy and rollback options for the container services. • Ability to support necessary ad hoc operations on the GKE cluster through the Harness control plane.
Stakeholders	All application users – CTI Service engineers, CISO, XCS, VDI and EAP
Resourcing	Same resources as story-1 ** ***Note***: User Story and Resourcing needs for Naas & Inventory service are not accounted for.
Milestones	• Tenant Service can provide a list of namespaces for a GKE cluster. • Harness Delegate is available in Tenant's GKE cluster and enabled to deploy Kubernetes resources into the Tenant's namespace. • User can define their GCP environment and deployable k8s resource and namespace in their project through LightSpeed enterprise which in turn create the necessary Harness deployment resources (i.e. Environments, Services, Infra Definitions and tagging of the resources). • End users can specify a harness deployment pipeline with their lower environment GCP project and region Harness UAT and subsequently trigger and deploy their Kubernetes manifests into their namespace which has been defined by their repository.

	• Promoting lower environment changes to production to enable full GCP adoption from self-service pipeline for containerized service deployment. Dev – Feb 2025 (Selected users will be able to deploy applications in GKE using LSE UAT/Harness UAT) Prod – April 20 25 : GA for tenants to deploy application in GKE clusters
Submitter	Vijay Rudra

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Feedback	
Status	

Domain: Terraform Module Publishing with LSE

Objective	**As a module development engineering, I would like to have the capability to certify and publish new Cloud services to be consumed through Terraform Enterprise leveraging existing Citi Enterprise capabilities which would be LS-Enterprise and Harness**
Acceptance Criteria	• The ability to onboard a LS Project to publish Terraform modules via LightSpeed pipelines to Terraform Enterprise through LightSpeed Enterprise. ○ **Dependency on LightSpeed** • The ability for my module to go through the existing controls as we do today with the LightSpeed Classic pipeline i.e. Linting, Terratest, BDD Behave testing, assurance level check. • The ability to control which modules are published for general consumption or to be consumed by internal Mission Control teams.
Stakeholders	All application users – CTI Service engineers, CISO, XCS, VDI, EAP & MC
Resourcing	1 – SDLC/TFE/Pipelines

Milestones	***Dev –*** April 2025 - RFI Submission - Publish Module to Terraform Enterprise Dev through LightSpeed Dev and Harness Dev - Terratesting available through Harness Dev pipeline - Python BDD Behave testing available through Harness Dev pipeline - Test with a handful of existing module development teams ***PROD –*** July 2025 - General availability of infrastructure as code pipelines for stakeholders in production and publishing to Terraform Enterprise Prod - Mission control teams can onboard additional modules - Migration of modules from LightSpeed Classic to LightSpeed Enterprise
Submitter	Daniel Poss

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Feedback	
Status	

Current SDLC – App Deployment Pipeline [Interim]

*Pending feedback from XCS if this is needed

Objective	**As XCS platform engineer, I would like to have a capability to deploy a given helm application to GCP on a GCP project ID to a specific GKE Cluster in a controlled environment leveraging existing Citi Enterprise capabilities on Lightspeed Classic and uDeploy**
Acceptance Criteria	- Solution must support deploy and rollback Helm Charts. - Solution must leverage existing deployment tech stack of LSC & uDeploy - Self Service Helm Capabilities are available to XCS developers and cloud ops. - Solution must adhere to approved Change Control validation on PROD /PROD like deployments

	• Runbook/documentation is available to users describing how to package and deploy Helm to target GCP project.
Stakeholders	XCS, Public Cloud Ops, UCD Enterprise Team, Risk & Controls/ Governance, CISO
Resourcing	2 SDLC Engineers
Milestones	• UCD Agent built out to support - Config logic on GCS • UCD Agent Helm Chart reference for UCD in Artifactory ▪ Platform team Provisions GKE Cluster with GCS ▪ UCD namespace created with UCD Helm Chart • On-Prem -> GCP Network connectivity whitelisted for UCD portal. • Public Cloud Processes to support Application deployments on GKE. • Branching and Release strategy to maintain both AWS/EKS and GCP/GKE UCD agents • Validation/Testing strategy ***Dev*** **–** Dec 2024 ***PROD*** **–** Mar 2025
Submitter	Manohar Medapalli

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Feedback	
Status	

Current SDLC - Infra Deployment Pipeline [Interim/LSC]

Objective	As VDI/EAP platform engineering team, I need the ability to deploy approved infrastructure resources (e.g. GCE, GCS etc.) on GCP in a controlled environment leveraging existing Citi Enterprise capabilities on Lightspeed Classic.
Acceptance Criteria	• Solution must be automated to create pipeline and required resources and remove manual touch points. • Availability of LS-Classic pipelines that can execute Terraform code. • Pipelines must be able to source SA credentials from Citi managed Vault platform. • Ability to deploy Infrastructure across multiple Environments leveraging the same source code. • Solution must adhere to approved Change Control validation on PROD or PROD like (UAT) deployments • Provide Support and Maintenance for Cloud Engineering and Tenant Teams for IAC pipeline
Stakeholders	VDI/EAP, Public Cloud Ops, Risk & Controls/ Governance, CISO
Resourcing	4 SDLC Engineers
Milestones	• GCP Project Automation to dynamically create Hardened Jenkins namespace to avoid manual creation of namespaces for GCP pipelines. • Discovery of pipeline requirements to support GCP Image Bakery process. • Light speed teams allow VDI, EAP CSIID to leverage 20D and 20P.
Submitter	Manohar Medapalli

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Feedback	
Status	

Current SDLC - Infra Deployment- Secret Management [Interim]

Objective	As a public cloud/VDI/EAP/XCS *Engineer,* I would like the secrets used within the pipeline to be secured in Citi approved secrets management system (Vault) while also improving the performance of the OpenShift cluster by reducing the footprint of secrets in OpenShift cluster.
Acceptance Criteria	• Existing pattern stores the long-standing Secrets leveraged by pipeline as K8 secrets on Openshift Clusters where the Hardened Jenkins is deployed. • These secrets are accessible to potential Internal actors which enhances the risk potential. Hence, ability needs to be built within the pipeline to source secrets from Citi Vault. • Runbook/documentation available on how to Onboard secrets to Vault. • Migrate the existing secrets to Vault • Ability within the Jenkins Pipeline to retrieve GCP secrets from Citi Vault. • Reduce the number of the secrets in the Openshift cluster to bring it under 80k (from 215k)
Stakeholders	VDI/EAP, Public Cloud Ops, Risk & Controls/ Governance, CISO
Resourcing	1 SDLC Engineer
Milestones	• POC to Migrate existing secret to Vault • Scale the solution to all possible existing secrets on openshift cluster to Citi Hashicorp Vault.
Submitter	Manohar Medapalli

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Feedback	
Status	

Terraform Enterprise – GCP Workload

Objective	As a *TFE Platform Engineer,* I would like *address performance concerns* on the *pipeline runs of Infrastructure deployments on GCP.*
Acceptance Criteria	• Pipeline run performance Metrics match the Benchmarking numbers/SLA’s which are set forth. • TFC Agents are also deployed to GCP to avoid network hops between CSP’s during Pipeline runs.
Stakeholders	Mission Control/Foundation teams, VDI/EAP & XCS, SDLC, Observability, Ops
Resourcing	1 – SDLC/TFE Engineer
Milestones	• TF Bundle moved to TF Private registry certified and implemented. • Potentially enabling TFE Agents on GKE to support GCP Builds. • Ability to Consistently measure and benchmark the GCP performance Metrics. • Ability to Monitor and Alert on defined GCP Thresholds. • Define Thresholds and Alerting Matrices.
Submitter	Manohar Medapalli

For Reviewers Use Only

Feedback	
Status	