Domain: Data and Storage

Objective	**Express the product capability at the highest possible level from an end user perspective in the following format.** As an EAP platform owner, I need a Cloud SQL database with **My SQL** engine to be able to store and retrieve metadata for Cloudera in a secure, compliant, and performant way.
Acceptance Criteria	**Conditions required to be successful, you can think of any function or non-functional criteria here:** • Be able to read/write data from Cloud SQL • Ability to replicate data from one region to another • Automated Backup & Recovery capabilities available • Capability to use least privilege roles to access Cloud SQL cluster • Solution is certified to be used in Prod environment with required ISRP assurance level achieved • Solution is integrated with firm's inventory systems (Cloud Inventory, DSP, DRIFT, ServiceNow SaaS) • Solution is integrated with Citi Marketplace (CMP) and Login Management System (LMS) for user/role management • Solution is integrated with Web Automated Information System (WAIS) for break-glass privileged access. • Support authentication for Cloud SQL databases (Confirm what type of auth is required for EAP use cases) • Integrate with Vault for secret management with rotation capabilities • Integrate with Enterprise Entitlement Review System (EERS) to satisfy compliance requirement for joiners and leavers • Metrics for Cloud SQL are captured and surfaced in standard observability stack • Query logs and error logs available in standard observability stack • Database auditing data (e.g. access to databases and administrative operations) is fed into firm's database audit system (e.g. SonarG) • Security logs are ingested into security guardrail environment and controls are built based on identified threats
Stakeholders	**Any known stakeholders that should be consulted on the user story goal and value. This is not dependencies and rather the user population that may have explicitly asked for feature or will be impacted by the outcome.**

	EAP
Resourcing	**High level engineering time expressed in hours. This excludes dependencies like threat modelling, but includes CISO support required such as network security, IAM, etc.** • 5 engineers from public cloud. • IAM and Vault support. • Standard Manifold pod needed for service enablement of Cloud SQL • Support from CMP, LMS, GERS, DSP, IDEAS teams
Milestones	**Describe what can be reasonably delivered by March and any future milestones** By March, we can finalize architecture and testing of Cloud SQL. What may be possible with respect to threat modeling/guardrail development depends on Manifold capacity. Vault key-value store may be used to store username/password, which do not have rotation capabilities. Integration with CMP may not be in place due to dependency on CMP team – we may manage users & roles tactically. We may not be able to implement database auditing by March (this may be ok since we are looking at dev cluster initially). WAIS integration also has an external dependency – if not delivered by March users won't be able to request privileged access. We may need to consider providing one admin with temporary privileged access until WAIS integration is in place. This may be acceptable since EAP is looking to migrate one dev cluster by March. No data migration supported at this stage.
Submitter	Yelena

Objective	**Express the product capability at the highest possible level from an end user perspective in the following format.**

	As a VDI platform owner I need a Cloud SQL database with **MS SQL** engine to be able to store and retrieve data for Horizon and App Volumes vendor solutions in a secure, compliant, and performant way.
Acceptance Criteria	**Conditions required to be successful, you can think of any function or non-functional criteria here:** • Be able to read/write data from Cloud SQL • Ability to replicate data from one region to another • Automated Backup & Recovery capabilities available • Capability to use least privilege roles to access Cloud SQL cluster • Solution is certified to be used in Prod environment with required ISRP assurance level achieved • Solution is integrated with firm's inventory systems (Cloud Inventory, DSP, DRIFT, ServiceNow SaaS) • Solution is integrated with Citi Marketplace (CMP) and Login Management System (LMS) for user/role management • Solution is integrated with Web Automated Information System (WAIS) for break-glass privileged access. • Support authentication for Cloud SQL databases (Confirm what type of auth is required for VDI use cases) • Integrate with Vault for secret management with rotation capabilities • Integrate with Enterprise Entitlement Review System (EERS) to satisfy compliance requirement for joiners and leavers • Metrics for Cloud SQL are captured and surfaced in standard observability stack • Query logs and error logs available in standard observability stack • Database auditing data (e.g. access to databases and administrative operations) is fed into firm's database audit system (e.g. SonarG) • Security logs are ingested into security guardrail environment and controls are built based on identified threats
Stakeholders	**Any known stakeholders that should be consulted on the user story goal and value. This is not dependencies and rather the user population that may have explicitly asked for feature or will be impacted by the outcome.** VDI
Resourcing	**High level engineering time expressed in hours. This excludes dependencies like threat modelling, but includes CISO support required such as network security, IAM, etc.** **Same resources can be used for both Cloud SQL MySQL and MS SQL service enablement** • 5 engineers from public cloud. • IAM and Vault support.

	• Standard Manifold pod needed for service enablement of Cloud SQL • Support from CMP, LMS, GERS, DSP, IDEAS teams
Milestones	**Describe what can be reasonably delivered by March and any future milestones** By March, we can finalize architecture and testing of Cloud SQL. What may be possible with respect to threat modeling/guardrail development depends on Manifold capacity. Vault key-value store may be used to store username/password, which do not have rotation capabilities. Integration with CMP may not be in place due to dependency on CMP team – we may manage users & roles tactically. We may not be able to implement database auditing by March (this may be ok since we are looking at dev cluster initially). WAIS integration also has an external dependency – if not delivered by March users won't be able to request privileged access. We may need to consider providing one admin with temporary privileged access until WAIS integration is in place. This may be acceptable since EAP is looking to migrate one dev cluster by March. No data migration supported at this stage.
Submitter	Yelena

Objective	**Express the product capability at the highest possible level from an end user perspective in the following format.**

	As a VDI platform owner I need GCP NetApp, a file storage service in GCP offering high-performance, scalable storage optimized for enterprise applications that supports Common Internet File System (CIFS)
Acceptance Criteria	**Conditions required to be successful, you can think of any function or non-functional criteria here:** • Solution is certified to be used in Prod environment with required ISRP assurance level achieved • Replication strategy is in place for software packages from on prem to file storage in relevant GCP cloud regions • Solution supports required IOPS and storage requirements for VDI use case • Software packages and user profiles are retrieved from NetApp in a performant manner • Solution is integrated with firm's inventory systems (Cloud Inventory, DRIFT, ServiceNow SaaS) • Support required authentication for NetApp • Metrics and logs are captured and surfaced in standard observability stack • Security logs are ingested into security guardrail environment and controls are built based on identified threats
Stakeholders	**Any known stakeholders that should be consulted on the user story goal and value. This is not dependencies and rather the user population that may have explicitly asked for feature or will be impacted by the outcome.** VDI
Resourcing	**High level engineering time expressed in hours. This excludes dependencies like threat modelling, but includes CISO support required such as network security, IAM, etc.** • 4 engineers from public cloud. • IAM • Standard Manifold pod needed for service enablement of NetApp • Support from CMP, IDEAS teams
Milestones	**Describe what can be reasonably delivered by March and any future milestones** By March, we can finalize architecture and testing of NetApp. What may be possible with respect to threat modeling/guardrail development depends on Manifold capacity. We should be able to capture standard logs and metrics. We may not require a big data migration, but will require to move at least one package to NetApp. Additional details are TBD.
Submitter	Yelena

Objective	**Express the product capability at the highest possible level from an end user perspective in the following format.**

	As an EAP or VDI platform owner, I need to be able to replicate or migrate data into Cloud Storage or Cloud SQL in a secure, controlled, and performant way
Acceptance Criteria	**Conditions required to be successful, you can think of any function or non-functional criteria here:** • Design pattern exists and is certified to support replication or migration of data from on prem to Cloud Storage and Cloud SQL in GCP • Sufficient network bandwidth exists to support data ingestion use case for EAP and VDI • Data catalog solution exists to register any data made available in GCP • Data is encrypted at rest and in transit • Logs and audit trail of all data movement and access is available • Compliance with data retention policies • Automated checks exist for data consistency, completeness, and accuracy during ingestion • Data lineage exists to ensure all movements and transformations of data are tracked
Stakeholders	**Any known stakeholders that should be consulted on the user story goal and value. This is not dependencies and rather the user population that may have explicitly asked for feature or will be impacted by the outcome.** VDI and EAP
Resourcing	**High level engineering time expressed in hours. This excludes dependencies like threat modelling, but includes CISO support required such as network security, IAM, etc.** • 4 engineers from public cloud. • IAM • Standard Manifold pod may be needed for any certification associated with data movement • Support from on prem Data Services, Cloud Network
Milestones	**Describe what can be reasonably delivered by March and any future milestones** By March, we may not need to migrate any data to Cloud SQL (to be double confirmed with EAP and VDI). We do need to migrate data for EAP dev cluster into Cloud Storage. Cloud Storage solution is already certified at Citi. By March, we should be able to deploy Cloud Storage all the way to Prod. We will need to identify a Data Catalog to capture metadata about EAP data. We'll need to come up with a data control pipeline for data ingestion. We may not be able to implement data quality or data lineage. We expect to have enough network bandwidth to support EAP MVP use case.
Submitter	Yelena