

1 Complementary Services for GCP - PaaS & Serverless

1.1 Overview

This service description covers the management of Microsoft PaaS & Serverless services, and is an add-on to Managed GCP Core Services. *NTT Public Cloud Management - Managed GCP - Core Services* must also be in scope in the SOW.

Managed PaaS & Serverless Services cover the following:

- (a) Pub/Sub
- (b) App Engine
- (c) Cloud Functions
- (d) Databases Services

As Public Cloud technology evolves at such a rapid pace, it is not possible to maintain a fully up-to-date list of supported features and services as such NTT may revise this service description from time to time in its sole and absolute discretion.

The exact scope of the solution being delivered to the Client and related charges are stated in the Statement of Work (SOW).

Category	Managed Element	Supported Services
Compute	Cloud PaaS App	. App Engine
	Cloud Serverless Function	. Cloud Functions
Database Services	Cloud Database	. Cloud SQL . Memorystore . Cloud Spanner
Integration, Data & Analytics Services	Cloud Data (Integration)	. Eventarc
	Cloud Data (Processing)	. Cloud Pub/Sub

Table 1 GCP PaaS and Serverless Summary

1.2 Compute Services

(a) Cloud PaaS Apps

(i) Overview

This element of the service covers the configuration, monitoring and management of Cloud PaaS Applications. Charges are based on the number of instances present in the environment.

(ii) Supported Technologies

- App Engine

App Engine	
Overview	Serverless application platform for apps and back ends.
Setup Activities	. Setup App Environment . Grant access to the app engine to the different roles . Map custom domain . Upload SSL certificates . Configure Scaling Type . Enable security elements . Deploy the App after developer test
Client Request	. Change Scaling Type . Upgrade an app .Traffic Migration from source to target version
Available Monitors	.CPU Usage & Utilization . Disk read and write bytes

App Engine	
	<ul style="list-style-type: none"> . DoS Intercepts . Http raw data . Http Responses . Instances (active, idle, loading) . Sent and Received Memcache (bytes, operations, utilization) . Memory . Network (bandwidth, sent & received bytes) . Reserved Cores . Status . Denials quota <p>Client, must select the specific Monitors form the above list in order to obtain alerts, otherwise no monitoring will be provided.</p>
Service Limitation	<ul style="list-style-type: none"> . App Engine Flexible environment is not supported . Developers activities are not included

Table 2 App Engine

Any other requests other than the Client Requests are out of scope.

(b) Cloud Serverless Function

(i) Overview

This element of the service covers the configuration, monitoring and management of Cloud Serverless Function. Charges are based on the number of functions present in the environment.

(ii) Supported Technologies

- Cloud Functions

Cloud Functions	
Overview	Platform for creating functions that respond to cloud events.
Setup Activities	<ul style="list-style-type: none"> . Deploy the function (uploading the functions code provided by the customer developers) . Test functions . Set the triggers . Configure Networking and VPC . Secure the function
Service Request	<ul style="list-style-type: none"> . Delete temporary files frequently . Retrying event-driven functions
Available Monitors	<ul style="list-style-type: none"> . Execution Count . Network egress <p>Client, must select the specific Monitors form the above list in order to obtain alerts, otherwise no monitoring will be provided.</p>
Service Limitation	<ul style="list-style-type: none"> . creation of Function code is not part of this service

Table 3 Cloud Serverless Funtion

Any other requests other than the Client Requests are out of scope.

1.3 Managed Database

(a) Cloud Database

(i) Overview

This element of the service covers the configuration, monitoring and management of Cloud Databases. Charges are based on the number of instances present in the environment.

(ii) Supported Technologies

- Cloud SQL
- Memoristore
- Cloud Spanner

Cloud SQL	
Overview	Managed database for MySQL, PostgreSQL, and SQL Server.
Setup Activities	<ul style="list-style-type: none"> . Create cloud SQL instance . Configure the Cloud SQL instance parameters databases, user and access controls, and the specific quantity shall be specified in the SOW as in Scope. . Enable high availability (Mysql) . Configure the backup for instances
Service Request	<ul style="list-style-type: none"> . Optimize performance with indexes and query optimization . Clone instances . start, stop and restart instances . Create/ delete databases . Create replicas . Backup / restore instances . Export / Import
Available Monitors	<p> auto_failover_request_count_raw cpu_reserved_cores_raw cpu_usage_time_raw cpu_utilization_raw database_uptime_raw disk_bytes_used_raw disk_quota_raw disk_read_ops_count_raw disk_utilization_raw disk_write_ops_count_raw memory_quota_raw memory_usage_raw memory_utilization_raw mysql_innodb_buffer_pool_pages_dirty_raw mysql_innodb_buffer_pool_pages_free_raw mysql_innodb_buffer_pool_pages_total_raw mysql_innodb_data_fsyncs_raw mysql_innodb_os_log_fsyncs_raw mysql_innodb_pages_read_raw mysql_innodb_pages_written_raw mysql_queries_raw mysql_questions_raw mysql_received_bytes_count_raw mysql_replication_seconds_behind_master_raw mysql_sent_bytes_count_raw network_connections_raw network_received_bytes_count_raw network_sent_bytes_count_raw postgresql_num_backends_raw postgresql_transaction_count_raw </p> <p>Client, must select the specific Monitors form the above list in order to obtain alerts, otherwise no monitoring will be provided.</p>
Service Limitation	

Table 4 Cloud SQL

Any other requests other than the Client Requests are out of scope.

Cloud Memorystore	
Overview	Memorystore automates tasks for open source Redis and Memcached like enabling high availability, failover, patching, and monitoring

Cloud Memorystore	
Setup Activities	<ul style="list-style-type: none">. Create a Cloud Memorystore instance. Configure the instance; Redis databases, users, access controls, and the specific quantity shall be specified in the SOW as in Scope.. Configure network setting. Setup backup and replication for the memorystore. Setup security measures like SSL encryptions, access controls and firewall rules.. Configure high availability (on tiers that allow this configuration). Set a maintenance windows
Service Request	<ul style="list-style-type: none">. Optimize performance based on memory usage and caching. Scale instances. Upgrade redis versions (once a year). Manual failover. importr and export data
Available Monitors	cacheHitRatio clientsBlocked clientsConnected commandsCalls commandsTimePerCall commandsTotalTime connectionsAccepted connectionsRejected CPUUtilization keysEvicted keysExpirable keysExpired keyspaceAvgTTL keyspaceHits keyspaceMisses keysStored memoryMaximum memoryUsage memoryUsageRatio networkTraffic pubsubChannels pubsubPatterns replicationBytesLagging replicationBytesPending replicationMasterByteOffset replicationNodeRole replicationReplicaByteOffset serverUptime systemMemoryOverloadDuration systemMemoryUsageRatio
Service Limitation	

Table 5 Cloud Memorystore

Any other requests other than the Client Requests are out of scope.

Cloud Spanner	
Overview	Managed relational database with unlimited scale, strong consistency
Setup Activities	<ul style="list-style-type: none">. Create a spanner instance. Create database

Cloud Spanner	
	<ul style="list-style-type: none">. Create schema. Configure access controls. Setups security measures; like SSL encryption, access controls and firewall rules. configure backup
Service Request	<ul style="list-style-type: none">. Optimize performance. Insert and modify data. Import and export data. Create Backup. Restore Backup
Available Monitors	<div>bytesSent</div> <div>CPUUtilization</div> <div>CPUUtilizationSmoothed</div> <div>queryCount</div> <div>requestCount</div> <div>requestLatencies</div> <div>requestRate</div> <div>sessionCount</div> <div>storageUsed</div>
Service Limitation	

Table 6 Spanner

Any other requests other than the Client Requests are out of scope.

1.4 Integration, Data & Analytics Services

(a) Cloud Data (Integration)

(i) Overview

This element of the service covers the configuration, monitoring and management of Integration services. Charges are based on the number of number of services present in the environment.

(ii) Supported Technologies

- Eventarc

Eventarc	
Overview	Cloud Eventarc is a fully-managed event ingestion
Setup Activities	<ul style="list-style-type: none">. Create a trigger. Create a target. Configure access controls. Test the trigger and target
Service Request	<ul style="list-style-type: none">. Scaling event resources

Table 7 Cloud Eventarc

(b) Cloud Data (Processing)

(i) Overview

This element of the service covers the configuration, monitoring and management of Cloud Data Processing. Charges are based on the number of number of services present in the environment.

(ii) Supported Technologies

- Cloud Pub/Sub

Cloud Pub/Sub	
Overview	Google Cloud Pub/Sub provides messaging between independent applications in GCP.
Setup Activities	<ul style="list-style-type: none"> . Create a pub/sub topic; named resource to which messages can be sent by publishers . create Pub/sub subscription . Create schemas . Configure access control . Configure message delivery; setting options such as delivery type, acknowledgement mode, and retry policy. . Create a publisher . Create a subscriber . Configure message encryption . Configure message storage policies <p>The specific quantity shall be specified in the SOW as in Scope.</p>
Service Request	<ul style="list-style-type: none"> . Create new topics / subscriptions . configure message delivery . change access controls . optimize resource utilization <p>The specific quantity shall be specified in the SOW as in Scope.</p>
Available Monitors	<p><u>pub/sub snapshots:</u></p> <ul style="list-style-type: none"> . backlog_bytes . config_updates_count . num_messages . oldest_message_age <p><u>pub/sub Topic:</u></p> <ul style="list-style-type: none"> . AckedMessagesOldestRetained . AckedMessagesRetained . AckedMessagesRetainedBytes . ByteCost . ConfigUpdatesCount . SendMessageOperationCount . SendRequestCount . Status . UnackedBytes . UnackedMessages . UnackedMessagesOldestRetained <p><u>pub/sub Subscriptions:</u></p> <ul style="list-style-type: none"> . byteCost . configUpdateCount . messageCountAck . messageCountModAckDeadline . messageCountOutstanding . messageCountSent . messageOperationCountModAckDeadline . messageOperationCountPull . messageOperationCountPullAck . messageOperationCountStreamingPull . messageOperationCountStreamingPullAck . messageOperationCountStreamingPullModAckDeadline . messageRetainedCountAcked . oldestUnackedMessageAge . requestCountModAckDeadline

Cloud Pub/Sub	
	<ul style="list-style-type: none">. requestCountPull. requestCountPullAck. requestCountPush. requestCountSeek. requestCountStreamingPullAck. requestCountStreamingPullModAckDeadline. responseCountStreamingPull. retainedAkedBytes
Service Limitation	Client must provide all policies, schema, options, controls or any other configuration items.

Table 8 Cloud Pub/Sub

Any other requests other than the Client Requests are out of scope.