Cloudreach Cost Control

Product Specification: Version 1.5

Prepared by Gary McGilvary | April 2018

Product Specification

Service Name:	Cloudreach Cost Control
Service Summary:	Cloudreach Cost Control is a product that helps Enterprise clients with detailed showback and reporting, cost optimisation and financial governance across multiple providers.
Service Level Hours:	24x7 Weekday
Unit of Charge:	% of AWS and/or Azure Spend
Prerequisite Cloudreach Services:	Not Applicable
Supported Cloud Platforms:	AWS and Azure
Product Code	CO-COST-CONTROL
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The Small Print

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Definitions

The definitions for all capitalised terms used throughout this Product Specification are set out below. Any capitalised terms used but not defined shall have the meaning prescribed to them in the Order Form.

"ASG" means the service provided by Amazon Web Services LLC known as Autoscaling Group which triggers the creation or shutdown of EC2 Instances based upon performance metrics.

"Aurora" means the service by AWS which provides relational databases within AWS.

"AWS" means Amazon Web Services LLC.

"**Business Hours**" means 9am to 6pm GMT Monday to Friday.

"**Billing Dashboard**" means an online portal providing visibility into cloud usage, performance, spend as well as financial optimisations.

"**Cost Allocation Group**" means the logical grouping of resources where costs can be allocated to.

"**CSD**" means the Cloudreach service desk and comprises of a team of Cloudreach personnel providing support to Customers..

"**EBS**" means the service provided by AWS known as the Elastic Block Store which provides block level storage volumes for use with Amazon EC2 Instances.

"**EC2**" means the service provided by AWS known as Elastic Compute Cloud which provides resizable compute capacity in the cloud.

"**Exchange Rate**" means the mid-market exchange rate as quoted by xe.com, on the date on which Cloudreach invoices Customer in accordance with an Order Form + 4%. For example if the quoted rate is 1 USD = 0.622886 GBP, then Cloudreach will exchange currency at a rate of 1 USD = 0.647801 GBP.

"**Instance**" means a virtual server in AWS or Azure which allows a user to boot and run an Operating System.

"**Linked Account**" means the Provider Accounts linked to a master account as part of an AWS organization billing relationship.

"**Onboarding**" means the Cloudreach processes for bringing a Customer environment under Cloudreach operational management.

"**Provider Account**" mean an AWS Account and/or Azure Subscription (as applicable).

"**RDS**" means the service provided by AWS known as Relational Database Services which provides relational databases within AWS.

"**Redshift**" means the service provided by AWS known as Redshift for data warehousing.

"**Reserved Instance**" or "**Reservation**" means AWS Reserved Instances allowing the Customer to make a commitment to AWS to utilize specific Instance types, in return for a discount on the Customer's compute costs.

"**Rightsizing**" means the migration of a service to an alternative resource specification more accurately matching the capacity requirements of the hosted workload.

"**S3**" means the service provided by AWS known as the Simple Storage Service which provides online storage within AWS.

Contents

Executive Summary

Cloudreach Cost Control is designed to address and overcome many of the challenges that enterprises face with public cloud billing and usage insight, financial optimisation and financial governance.

Usage Insight and Reporting

- Cloudreach provides access to a Cloudreach portal to gain ultimate visibility of Cloud Provider spend.

- Cloudreach provides detailed showback capabilities by breaking down cloud spend data as per defined cost allocation policies.

- Cloudreach offer detailed reports based on a number of facets of billing data and common breakdowns. Customers can also customise reports through the Cloudreach portal or via Cloudreach upon request.

- Budget Tracking and Alerting monitors expenditure and provides monthly reporting of budget allocation performance and alerting when actual and predicted spend exceeds defined thresholds.

Financial Optimisation

With the aim of reducing monthly spend, Financial Optimisation provides actionable, phased and validated optimisation measures specific to customer requirements. This includes:

- AWS EC2 and Azure Virtual Machine rightsizing-reservation roadmaps;

- AWS RDS, ElastiCache and DynamoDB reservation roadmaps;

- AWS and Azure orphaned resource removal;

- AWS and Azure underutilised resource removal;

- AWS EC2, ASG, RDS, Aurora, Redshift or Azure VM scheduling to customer defined schedules.

Financial Governance and Accountability

In order to produce more effective and accurate billing and optimisation reports, established accountability tagging policies are monitored and managed from automated resource tagging through to tagging policy enforcement.

Dedicated Support

The Cloudreach Cost Control service is supported by a team of dedicated billing and cost optimisation experts (***"Cost Control Delivery team"***) to assist with queries and service customisation all delivered under a Service Level Agreement (SLA).

Usage Insight and Reporting

Detailed Showback

Cloudreach will present the Customer with multiple showback reports based on their cloud spend:

- The Customer will define the required Cost Allocation Groups. These Groups can represent breakdowns for sub-organisations, business units or services the Customer offers.

- The Customer shall notify Cloudreach in writing of the Cost Allocation Group stakeholders, business units or sub-entities (and appropriate contact, address and tax information) who will receive showback reports for each Group.

- The Customer will agree the format of each invoice in either PDF or CSV.

Changes to the defined Cost Allocation Groups, stakeholders or other details will be submitted by the Customer to the Cloudreach Service Desk, as a Billing and Optimisation Support Request, following the Incident raising process described in the Support section further below.

Reporting

Cloudreach will provide detailed reporting based on a number of facets of billing data. Cloudreach shall provide the predefined reports listed below in "Standard Reports" using common report criteria as well as a custom reporting tool for the Customer to use to generate reports requiring information not captured in the dashboard reports. The billing data for the reports is updated daily. Report data can be presented in a number of different formats, including as graphs and as CSV for ingestion into the Customer's business systems. Note that as tax is added by the cloud provider when a Customer's monthly cloud spend has been finalised, all reports will exclude tax.

Management of the Customer Billing Dashboard

The Cloudreach Cost Control Delivery team will:

- Configure and setup a Billing Dashboard on behalf of the Customer, implementing all requirements as captured within a billing workshop, including:
  - Standard reports;
  - Custom reports;
  - Budget alerts.

- This setup will comply with any limits of the Product as outlined in Appendix A to this Product Specification.

The Cloudreach Cost Control Delivery team will manage the Billing Dashboard by:

- Configuring, maintaining and updating any email alerts and distributing reports to key Customer stakeholders as agreed in writing with the Customer;

- Configuring customer access to the Billing Dashboard as and when requested;

- Configuring custom dashboards for the Customer.

- Reviewing cloud consumption and usage with the Customer on a monthly basis;

- Updating the permissions to the cloud Provider Accounts to ensure the necessary cost, performance and usage data is being ingested into the Billing Dashboard.

- Utilising the Billing Dashboard to obtain resource performance and financial optimisation data to feed into Cloudreach processes to develop optimisation roadmaps.

Training

The Cloudreach Cost Control Delivery team will provide training to the Customer on how to access and use the Billing Dashboard.

These training sessions will cover:

1. An overview to the Billing Dashboard;

2. Configuring a custom dashboard and generating custom reports;

3. Cost allocation and reallocation;

4. Rightsizing, AWS Reserved Instances and cost optimisation;

5. Accountability management;

6. Resource scheduling and cloud automation.

Standard Reports

The following standards reports will be generated daily, weekly or monthly (as applicable) and available to view by the Customer:

For AWS:

Report Name	Description
Per Cost Allocation Group	Daily report showing spend in each Cost Allocation Group
Per AWS product (e.g. EC2, S3)	Daily report showing spend for each AWS product
Per AWS tag (e.g. where tag=value)	Daily report showing spend for each tag value
Product-per-time-period	Reports by week and month showing spend for

(e.g. EC2 spend per day/week/month)	each AWS product
Product-per-usage-type (e.g. spend per m3.large EC2 instance)	Daily report showing spend for each instance type in EC2
Product-per-resource-placement (e.g. spend in eu-west-1a)	Daily report showing spend for each AWS product in each region or availability zone
Spend-per-purchase-option (e.g. spend by Reserved Instance)	Daily report showing spend for on-demand instances vs spend for reserved instances

For Azure:

Report Name	Description
Per Cost Allocation Group	Daily report showing spend in each Cost Allocation Group
Per Azure product (e.g. VMs, Blob storage)	Daily report showing spend for each Azure product
Per Azure tag (e.g. where tag=value)	Daily report showing spend for each tag value
Product-per-time-period (e.g. VM spend per day/week/month)	Reports by week and month showing spend for each Azure product
Product-per-usage-type (e.g. spend per Basic_D6 VM)	Daily report showing spend for each VM sub-category
Product-per-resource-placement (e.g. spend in West Europe)	Daily report showing spend for each product in each region

During Onboarding, the Customer can choose to receive these reports by email. Access can also be provisioned by logging in to a Billing Dashboard.

Reports can be delivered in a number of different formats:

Format	Details
PDF	Graphs and summaries only
CSV	Tabulated data only, without graphs

Custom Reporting

The Customer may independently configure and generate reports based on a wider range of facets including:

- Billing period (e.g. 1st October - 30th November)
- Aggregation period (e.g. Daily)
- Cost Allocation Group (e.g. development accounts)

- Provider Account (i.e A single cloud provider Account)
- Service (e.g. EC2, Azure Virtual Machines, etc)
- Usage type (e.g. AWS m4.large, Azure Standard_F1, etc)
- Tag (e.g. BU="IT Services")
- Resource placement (e.g. AWS eu-west-1, Azure North Europe, etc)

Once configured, these reports shall be delivered to the Customer in accordance with a delivery plan (e.g. daily, weekly, etc) of their choosing, or can be accessed by logging in to the Billing Dashboard. Additionally, custom reports can be created in the Billing Dashboard by the Cost Control Delivery Team.

Budget Tracking and Alarms

Cloudreach shall help allocate annual budgets and monitor expenditure for the Customer's Provider Accounts by providing a monthly summary to each invoice stakeholder illustrating the spend to date compared with the budget provided by the Customer. The summary will show:

- Cost Allocation Group name
- List of Provider Accounts
- Annual budget
- Budget starting month
- Actual spend this month
- Actual spend since start of budget period
- Budget rate of spend graph

Cloudreach will assess the costs compared to the budgeted amount for each Cost Allocation Group on a daily basis. During Onboarding, the Customer can choose to have a notification sent by email in the event that the costs reach either one of two thresholds defined by the Customer.

The notification email will show:
- Invoice Group name;
- Alarm name;
- Current percentage of budget.

Example thresholds:

Alarm name	Threshold
Warning	80% of pro-rated annual budget
Critical	95% of pro-rated annual budget

Financial Optimisation

Cloudreach will generate a monthly financial optimisation report consisting of phased Rightsizing and Reservation recommendations, identifying orphaned and underutilised for AWS EC2 and/or Azure Virtual Machine resources and performing AWS cloud resource scheduling.

Phased Rightsizing and Reservation Recommendations

As part of the monthly financial optimisation report, Cloudreach will produce a cost and performance-based phased rightsizing and reservation roadmap detailing:

- AWS EC2 Instance or Azure Virtual Machine reservations that could be repositioned to ensure optimal use of reservation spend, nature of the recommended repositioning and approximate savings to be made by repositioning;
- AWS EC2 Instances or Azure Virtual Machines currently receiving benefit from existing reservations, with preference for optimally sized Instances;
- Where performance-based utilisation criteria are available, AWS EC2 Instances or Azure Virtual Machines that are optimally sized and not receiving benefit from reservations which are above reservation break-even points and are targets for immediate reservation and approximate savings to be made by reserving;
- Where performance-based utilisation criteria are available, AWS EC2 Instances or Azure Virtual Machines that are potential targets for rightsizing and subsequent reservation, and approximate savings to be made by by rightsizing and reservation;
- Where performance-based utilisation criteria are available, AWS EC2 Instances or Azure Virtual Machines that are potential targets for rightsizing only, and approximate savings to be made by rightsizing;
- (AWS-only) Elasticache Instances which are potential targets for reservation, and approximate savings to be made by reserving;
- (AWS-only) DynamoDB tables which are potential targets for capacity reservation, and approximate savings to be made by reserving; and
- (AWS-only) RDS Instances which are potential targets for capacity reservation, and approximate savings to be made by reserving.

Cloudreach will attempt to identify the owner of resources identified in the monthly optimisation report plan either by Customer-defined rules mutually agreed during Onboarding, or by tag (if applicable) if the Customer has implemented a tag containing an email address identifying the resource owner. In such cases, Cloudreach will liaise with Customer resource owners to validate the recommendations identified in the optimisation plan against constraints on implementation, to include:

- Capacity planning affecting the resource
- Technical constraints affecting the resource
- Lifecycle of the resource

Upon validation of the recommendations identified in the monthly report, Cloudreach can liaise with Customer resource owners to help them implement recommendations, or directly implement the validated recommendations of the monthly optimisation plan.

Orphaned and Underutilised Resource Termination

As part of the monthly financial optimisation report, Cloudreach will include details of:
- (AWS-only) Orphaned EBS volumes that can be decommissioned and the approximate savings to be made by decommissioning;
- (AWS-only) Orphaned, aged or excessive number of EBS snapshots in relation to customer defined snapshot limits or backup policies that can be deleted and the approximate savings to be made by deletion.
- (AWS-only) Orphaned Elastic IPs which can be deleted and the approximate savings to be made by deletion.
- Underutilised EC2 instances or Azure Virtual Machines that are candidates for stopping/terminating and approximate savings to be made by stopping/terminating.

Cloudreach will attempt to establish the owner of resources identified in the monthly financial optimisation report either by Customer-defined rules mutually agreed during Onboarding, or by tag (if applicable) if the Customer has implemented a tag containing an email address identifying the resource owner. In such cases, Cloudreach will liaise with Customer resource owners to validate the recommendations identified in the financial optimisation report against constraints on implementation, to include:

- Capacity planning affecting the resource
- Technical constraints affecting the resource
- Lifecycle of the resource

Upon validation of the recommendations identified in the monthly report, Cloudreach may liaise with Customer resource owners to help them implement recommendations, or directly implement the validated recommendations of the monthly optimisation plan.

Cloud Resource Scheduling

Cloudreach will deploy scheduling tooling within the Customer's AWS or Azure environment and will configure up to five custom scheduling rules as agreed with the Customer during Onboarding. Additional scheduling rules may be implemented by the Cost Control Delivery team subject to the limits in Appendix A below.

Each scheduling rule is customisable in the following manner :

- Combination of one or more tags and associated values which will trigger scheduling events;
- Shutdown time and days of week for Instances matching the scheduling rule;
- Optional restart time and days of week for Instances matching the scheduling rule;
- Optional opt-in tag key which will flag Instances not meeting the normal tag criteria to be included in scheduling events;

- Optional opt-out tag key which will flag Instances not meeting the normal tag criteria to be excluded from scheduling events; and
- Optional inclusion of auto-scaling groups in the scheduling rule.

Cloudreach-deployed tooling will run scheduling events as follows for Instances:

- IF
  - an Instance meets the Customer-specified tagging criteria for a scheduling rule;
  - OR an Instance contains the optional opt-in tag key for a scheduling rule;
  - AND the Instance does not contain the optional opt-out tag key for a scheduling rule;
  - AND the Instance is not already shut down at the time of rule evaluation
- THEN
  - the Instance will be stopped at the Customer-specified shutdown time on the Customer-specified days.
  - AND if an optional restart time has been specified by the Customer, the Instance will be restarted at the Customer-specified restart time on the Customer-specified days.

Cloudreach-deployed tooling will run scheduling events as follows for AWS ASG:

- IF
  - an AWS ASG meets the Customer-specified tagging criteria for a scheduling rule;
  - OR an AWS ASG contains the optional opt-in tag key for a scheduling rule;
  - AND the AWS ASG does not contain the optional opt-out tag key for a scheduling rule;
- THEN
  - the AWS ASG Instances will be scaled to zero Instances at the Customer-specified shutdown time on the Customer-specified days
  - AND if an optional restart time has been specified by the Customer, the AWS ASG will be scaled up at the Customer-specified restart time to the number of AWS ASG Instances currently in service at time of the prior scale-down event on the Customer-specified days.

Cloudreach-deployed tooling will run scheduling events as follows for RDS, Aurora and Redshift Resources:
- IF
  - a Resource meets the Customer-specified tagging criteria for a scheduling rule;
  - OR a Resource contains the optional opt-in tag key for a scheduling rule;
  - AND the Resource does not contain the optional opt-out tag key for a scheduling rule;
- THEN
  - the Resource will be shut down at the Customer-specified shutdown time on the Customer-specified days.
  - AND if an optional reinstantiate time has been specified by the Customer, the Resource will be restarted at the Customer-specified restart time on the Customer-specified days.

Optimisation and Insight Reporting

In addition to the monthly optimisation reports and cloud spend invoices, Cloudreach will include a high-level headline report, identifying spend hot-spots, including:

- Identifying the delta in overall spend in terms of percentage increase or decrease in spend since the previous month.

- Identifying the primary cloud services that contributed to the increase or decrease in spend since the previous month.

- Identifying any subsets of total spend (for up to two Customer-nominated tag keys) where the delta in spend for the subset varies by more than or equal to a customer-nominated minimum variance value.

- Providing a breakdown of usage corresponding to their respective budgets.

Additional Customer custom reports may be added by the Cost Control Delivery Team.

Training

Cloudreach will provide to Customer one "Financial Optimisation Day" every quarter. This Financial Optimisation Day will:

- Provide basic information on the key concepts of public cloud billing and financial optimisation to key Customer stakeholders.
- Discuss customer progress in financial optimisation.
- Review and identify new opportunities for ongoing financial optimisation activities.
- Provide a strategy/roadmap for financial optimisation efforts moving forward.

The Optimisation Day will be delivered remotely/virtually.

Financial Governance and Accountability

Governance and Accountability Monitoring

Cloudreach will monitor the tagging status of AWS EC2, EBS, RDS and S3 resources plus Azure Resource Groups, Virtual Machines, Storage Accounts, SQL Servers and SQL Databases and on a four-hourly schedule will:

- Implement up to five custom tag alerting schedules as agreed with Customer during Onboarding. Additional tag alerting schedules may be implemented by the Cost Control Delivery team subject to the limits in Appendix A below.

- Each alert schedule is customisable in the following manner:

- ○ Combination of tags to be monitored;

- ○ Exception criteria (presence/absence, format of tag value);

- ○ Audience to receive alert, which may be one or more Customer-supplied email addresses;

- ○ Frequency of re-alerting in event of continued non-compliance (in hours, days or weeks, with a minimum frequency of 6 hours); and

- ○ Action to be taken in the event of an alert (Instance shutdown / Instance termination / alert only).

Governance and Accountability Enforcement (AWS-only)

In order to enable effective cost allocation against EC2 Instance child resources, Cloudreach will apply EC2 Instance and EBS volume tagging enforcement policies and if required, enable automated hierarchical tagging of EC2 child resources on a four-hourly basis which will:

- Update the tags of all AWS EBS volumes associated with an EC2 Instance to include Customer-nominated tags associated with the Instance; and

- Update the tags of all AWS volume snapshots associated with an AWS EBS volume to include the Customer-nominated tags associated with the AWS EBS volume.

Limits

Cloudreach imposes the soft limits set out in Appendix A (the "**Limits**") in respect of Cloudreach Cost Control. If Customer exceeds the Limits, Cloudreach shall notify Customer and work with Customer to understand the reason for exceeding the limits and attempt to find a solution or workaround. If Customer consistently and regularly exceeds the Limits, as determined by Cloudreach, Cloudreach shall be entitled to charge customer an additional fee for the exceeding of Limits.

Onboarding Process

Workshop

In order to commence Onboarding, the Cost Control Delivery Team will conduct one remote/virtual billing workshop (the **"Onboarding Workshop"**). This Onboarding Workshop will:

- Gather information necessary from the Customer for the setup of Cloudreach Cost Control.

- Provide basic information on the key concepts of public cloud billing and financial optimisation to key Customer stakeholders.

- Provide information on how to access the Cloudreach Operations Team, including the Cost Control Delivery Team.

- Provide an overview to the Onboarding process, including agreement with Customer on the timeframe for Onboarding.

- Give the Customer the opportunity to ask Cloudreach any questions regarding the initiation of Cloudreach Cost Control.

Billing and Financial Optimisation Manual

Following the delivery of Onboarding, the Cost Control Delivery Team will capture the Customer's answers and produce a "Billing and Financial Optimisation Manual". This will capture all information provided to Cloudreach during Onboarding, including a brief summary of key concepts of public cloud billing and financial optimisation.

Should the Customer wish to make any customisations (e.g. additional reporting, cloud resource scheduling rules, etc) these must be made in writing to the Cost Control Delivery Team. The Cost Control Delivery Team will review customisation requests and if approved, will capture the requests in the Billing and Financial Optimisation Manual. Upon implementation of the customisation requests, the changes will be recorded in the Customer's corresponding Customer "Change Log".

Support

Customer will have access to the Cost Control Delivery Team who will provide Customer with support for Cloudreach Cost Control. The Cost Control Delivery Team is accessible via the Cloudreach Support Desk.

The Cost Control Delivery Team shall:

- Configure a series of standard reports following Onboarding, which will be supplied to the Customer by email or accessible via a Billing Dashboard;

- Provide reactive assistance, with an SLA (as detailed below) in the configuration of custom reports;

- Provide reactive support, with an SLA (as detailed below), to answer any billing or financial optimisation queries.

- Provide proactive management of Customer's Cloud environment through preparing a report for monthly reviews. These reviews will encompass both a summary of usage over the preceding billing period and optimisation and accountability recommendations as set out in this Product Specification.

- Manage the configuration of a Billing Dashboard for the Customer.

- Assist with the training of a Billing Dashboard or "Web Portal", which provides key Customer stakeholders with visibility of their public cloud usage in real time and the ability to access and export all billing reports.

- Manage the administration of Customer's AWS account(s) including provisioning new AWS accounts; bringing existing AWS accounts under Cloudreach's master account; and purchasing Reserved Instances at Customer's request.

If Customer wishes to seek the assistance of the Cost Control Delivery Team, such assistance will be provided in accordance with the SLA set out below.

Service Level and Multi-Language Support

All Incidents and support requests raised and logged with the CSD and Cost Control Delivery Team in the appropriate manner, will be processed pursuant to this section.

Incident Prioritisation

The Customer shall, acting in good faith and using good commercial business sense, categorise any issue affecting the availability or performance of Cloudreach Cost Control or support request ("**Incidents**") as P1, P2, P3, P4 or P5 (as defined in table below). Incidents should be raised as a "Billing and Optimisation Support Request" to the CSD in order to direct the requests to the appropriate team effectively.

Priority Level	Cloudreach Cost Control Examples of Cloudreach Cost Control Specific Issues
P1	- Invoices or billing reports not received. - Optimisation reports and recommendations not received.
P2	- Daily reports are not available for viewing. - Automated tagging service not functioning.
P3	- Unable to access the Cloudreach Cost Control portal. - Cloudreach Cost Control portal is not working as expected (visible errors, incorrect data, etc).
P4	- Query related to content of an invoice or billing report. - Changes to product configuration items like Invoice Groups, Budget Alarms, Financial Management and Optimisation queries and implementation - Request for account provisioning
P5	General technical guidance provided to the Customer

Incident Management

Cloudreach shall, acting in good faith and using good commercial business sense, respond to Incidents raised by the Customer according to the steps detailed below:

- All Incidents raised by Customer will be logged with Cloudreach and will be categorised as per the Priority supplied by the Customer. In the event that Cloudreach determines, in its sole discretion, that the categorisation of an Incident is incorrect, Cloudreach will re-categorise the Incident and notify the Customer.
- Cloudreach Cost Control availability:
  - The CSD and the Cost Control Delivery Team can assist with and provide support for Incidents during Business Hours only.

- - Notwithstanding the above, Customer may contact and log an Incident with Cloudreach at any time.
  - For all Incidents except P1, an Incident can be logged with the CSD either through:
    - (i) the web by logging in to support.cloudreach.com using login details provided by Cloudreach; or
    - (ii) calling [UK] 0800 612 2966,   [Overseas] +44 207 183 3991 or [US/Canada] (212) 335-0700.
  - For P1 Incidents only, Incidents shall be logged by telephone only by calling UK 0800 612 2966 or +44 207 183 3991 if overseas. P1 Incidents cannot be logged online
  - Customer shall only access and log Incidents through the CSD and the Cost Control Delivery Team through a designated Customer employee(s) ("**Customer Personnel**").
  - When logging an Incident, Customer will provide the following diagnostic information:
    - Detailed description of the issue
    - Customer Incident number (if applicable)
    - If available and reproducible, step by step instructions to reproduce the reported Incident
    - If available, date and time (and timezone) when Incident occurred
  - Cloudreach is under no obligation to respond to requests made in a manner that does not comply with the process set out in this section and in accordance with the order form (if applicable).

Response Times

The table below shows the target response times for each Incident priority. **"Response"** is defined as Cloudreach acknowledging the Incident by providing a reference number either electronically or verbally to the Customer as documented by Cloudreach. CSD and/or the Cost Control Delivery Team will use commercially reasonable endeavours to find a solution or a workaround to the Incident.

Priority	Target Response Time (during Business Hours)
P1	15 minutes
P2	1 hour
P3	4 hours
P4	8 hours
P5	1 Day

Customer Responsibilities

Customer shall:

- Provide a list of Customer Personnel who will have access to CSD and the Cost Control Delivery Team. Customer is responsible for keeping the list accurate and up to date.
- Log an Incident in the manner prescribed above in order to receive support.
- Following the logging of an Incident, Customer shall be available via email or telephone to answer questions and assist the CSD and/or the Cost Control Delivery Team as appropriate.

- Provide telephone or email access to the end users to facilitate troubleshooting Incidents.
- In a timely manner, provide access to such personnel and resources as required to allow Cloudreach to provide Cloudreach Cost Control including without limitation: programmatic access to AWS detailed billing data as required by Cloudreach for performance of Cloudreach Cost Control; and console access to raise cases in AWS Support Center for all relevant AWS accounts.

Product Development

Customer acknowledges and agrees that Cloudreach continually invests in enhancing its product offerings and therefore reserves the right to change these Product Specifications at any time provided always that changes to the Product Specifications shall be notified to the Customer as determined in an order form.

Change Log

Date	Author	Description
01/05/2018	Gary McGilvary	V1.5 created
14/02/2018	Gary McGilvary	V1.1 created
11/07/2017	Gary McGilvary	V1.0 created

Appendix A - Soft Limits

Service	Limit
Onboarding Workshops	1 three hour session delivered remotely/virtually.
Training sessions on the Billing Dashboard. Additional training sessions can be delivered upon mutual agreement between the Customer and Cloudreach and may be subject to additional charges.	6 one hour sessions.
Billing Dashboard User Accounts. Additional User Accounts can be delivered upon mutual agreement between the Customer and Cloudreach and may be subject to additional charges.	30
Monthly Reviews	1 to be delivered remotely/virtually - this will be scheduled subject to the finalisation of usage and billing data provided by the Cloud Provider.
Provider Accounts, not including AWS Master Billing Accounts. Additional Provider Accounts shall be mutually agreed between the parties subject to the charges in an order form.	50
Budget Alarms. Additional Budget Alarms shall be mutually agreed between the parties subject to the charges in an order form.	15
Additional custom **Billing and Financial Optimisation Reports** prepared by the Cost Control Delivery team. Additional reports shall be mutually agreed between the parties subject to the charges in an order form.	5 reports per month via the Billing Dashboard
Cloud Resource Scheduling rules. Additional Cloud Resource Scheduling rules shall be mutually agreed between the parties subject to the charges in an order form.	5
Tag Alerting Schedules. Additional Tag Alerting Schedules shall be mutually agreed between the parties subject to the charges in an order form.	5