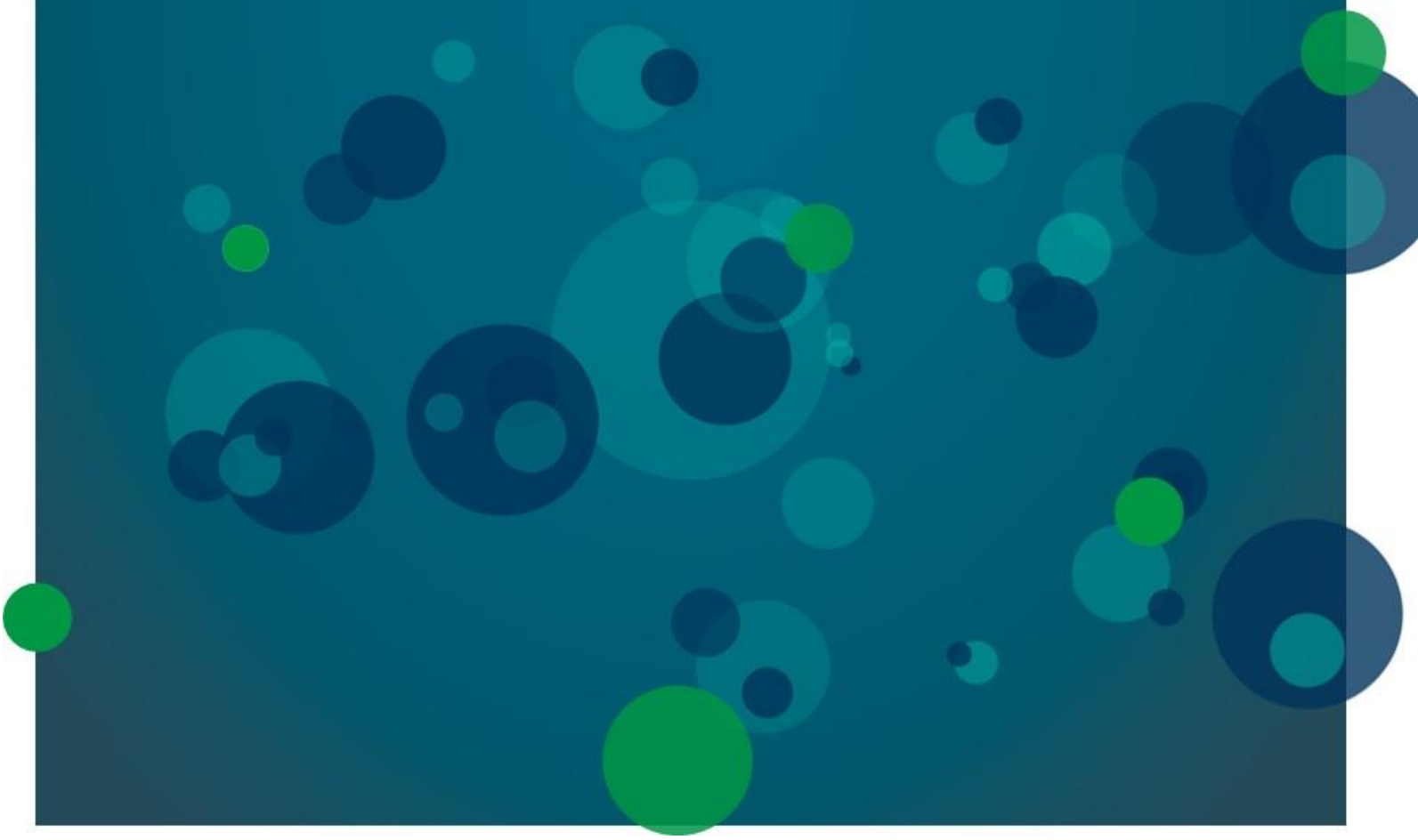
QlikTech Inc.

Report on QlikTech Inc.'s Qlik Cloud System Relevant to Security and Availability

System and Organization Controls® (SOC) 3 Report

For the Period October 1, 2021 through September 30, 2022



QlikTech Inc.

Report on QlikTech Inc.'s Description of Qlik Cloud System Relevant to Security and Availability

For the Period October 1, 2021 through September 30, 2022

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Section I.

Independent Service Auditors' Report Provided by KPMG LLP

KPMG LLP
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Independent Service Auditors' Report

The Management of QlikTech Inc.:

Scope

We have examined QlikTech Inc.'s accompanying assertion titled "QlikTech Inc.'s Assertion" ("Assertion"), that the controls within QlikTech Inc.'s Qlik Cloud system ("system") were effective throughout the period October 1, 2021 to September 30, 2022 to provide reasonable assurance that QlikTech Inc.'s service commitments and system requirements were achieved based on the trust services criteria relevant to security and availability ("applicable trust services criteria") set forth in TSP section 100, *2017 Trust Services Criteria for Security, Availability, Processing Integrity, Confidentiality, and Privacy (AICPA, Trust Services Criteria)*.

Service Organization's Responsibilities

QlikTech Inc. is responsible for its service commitments and system requirements and for designing, implementing, and operating effective controls within the system to provide reasonable assurance that QlikTech Inc.'s service commitments and system requirements were achieved. QlikTech Inc. has provided the accompanying Assertion about the effectiveness of controls. When preparing its Assertion, QlikTech Inc. is responsible for selecting, and identifying in its Assertion, the applicable trust services criteria and for having a reasonable basis for its Assertion by performing an assessment of the effectiveness of controls within the system.

Service Auditors' Responsibilities

Our responsibility is to express an opinion, based on our examination, on whether management's Assertion that controls within the system were effective throughout the period to provide reasonable assurance that the service organization's service commitments and system requirements were achieved based on the applicable trust services criteria. Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants (AICPA). Those standards require that we plan and perform our examination to obtain reasonable assurance about whether management's Assertion is fairly stated, in all material respects. We believe that the evidence we obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

Our examination included:

- Obtaining an understanding of the system and the service organization's service commitments and system requirements
- Assessing the risks that the controls were not effective to achieve QlikTech Inc.'s service commitments and system requirements based on the applicable trust services criteria
- Performing procedures to obtain evidence about whether controls within the system were effective to achieve QlikTech Inc.'s service commitments and system requirements based on the applicable trust services criteria

Our examination also included performing such other procedures as we considered necessary in the circumstances.

Service Auditors' Independence and Ethical Responsibilities

We are required to be independent and to meet our other ethical responsibilities in accordance with relevant ethical requirements relating to the examination engagement.

Inherent Limitations

There are inherent limitations in the effectiveness of any system of internal control, including the possibility of human error and the circumvention of controls.

Because of their nature, controls may not always operate effectively to provide reasonable assurance that the service organization's service commitments and system requirements are achieved based on the applicable trust services criteria. Also, the projection to the future of any conclusions about the suitability of the design and operating effectiveness of controls is subject to the risk that controls may become inadequate because of changes in conditions or that the degree of compliance with the policies or procedures may deteriorate.

Opinion

In our opinion, management's Assertion that the controls within QlikTech Inc.'s Qlik Cloud system were effective throughout the period October 1, 2021 to September 30, 2022 to provide reasonable assurance that QlikTech Inc.'s service commitments and system requirements were achieved based on the applicable trust services criteria is fairly stated, in all material respects if the subservice organization and complementary user entities applied the complementary controls assumed in the design of QlikTech Inc.'s controls throughout the period, and if those complementary controls assumed in the design of QlikTech Inc.'s controls operated effectively throughout the period

KPMG LLP

Philadelphia, Pennsylvania
November 29, 2022

Section II.

QlikTech Inc.’s Assertion

QlikTech Inc.’s Assertion

We are responsible for designing, implementing, operating, and maintaining effective controls for QlikTech Inc.’s Qlik Cloud system, throughout the period October 1, 2021 to September 30, 2022, to provide reasonable assurance that QlikTech Inc.’s service commitments and system requirements relevant to Security and Availability were achieved. Our description of the boundaries of the systems is presented in Attachment A and identifies the aspects of the system covered by our assertion.

We have performed an evaluation of the effectiveness of the controls within the system throughout the period October 1, 2021 to September 30, 2022 to provide reasonable assurance that our service commitments and system requirements were achieved based on the trust services criteria relevant to Security and Availability (“applicable trust services criteria”) set forth in *TSP section 100, 2017 Trust Services Criteria for Security, Availability, Processing Integrity, Confidentiality, and Privacy (AICPA, Trust Services Criteria).* Our objectives for the system in applying the applicable trust services criteria are embodied in our service commitments and system requirements relevant to the applicable trust services criteria.

The principal service commitments and system requirements related to the applicable trust services criteria are presented in Attachment A.

There are inherent limitations in any system of internal control, including the possibility of human error and the circumvention of controls. Because of these inherent limitations, a service organization may achieve reasonable, but not absolute, assurance that its service commitments and system requirements are achieved.

We assert that the controls within the system were effective throughout the period October 1, 2021 to September 30, 2022 to provide reasonable assurance that our service commitments and system requirements were achieved based on the applicable trust services criteria.

November 29, 2022

Attachment A

QlikTech Inc.’s Description of the Boundaries of its Qlik Cloud System and Principal Service Commitments and System Requirements

Overview of Company and Services

QlikTech, Inc's ("Qlik's" or "the Company's") vision is a data-literate world, where everyone can use data and analytics to improve decision-making and solve their most challenging problems. Qlik offers real-time data integration and analytics solutions, powered by Qlik Cloud, to close the gaps between data, insights, and action. Qlik serves more than 38,000 active customers in over 100 countries.

Description of Services Provided

Qlik's cloud-based service offering, Qlik Cloud, provides data integration and analytics products for integrating, analyzing, and visualizing data. Customer data is hosted in Qlik's Amazon Web Services (AWS) multi-tenant, production environment. Customers use Qlik Cloud to upload data and create analytic applications (dashboards). Qlik Cloud includes an array of analytics capabilities such as cataloging and dashboarding.

To use Qlik's Qlik Cloud service offering, customers start with a tenant onboarding email which includes entitlement to the product(s) they are trialing or have purchased. Once the Service Account Owner (SAO) has set up their tenant and their desired identity provider, additional users can be invited to the tenant so data can be uploaded and analytics content created.

Scope of the Report

The scope of this report is intended to provide specified parties with information about Qlik Cloud's design of internal controls that meet the criteria for the Security and Availability categories set forth in TSP Section 100, *Trust Services (AICPA, Trust Services Criteria)*. This report does not encompass all aspects of the services or procedures performed by Qlik as an enterprise.

Principal Service Commitments and System Requirements

Qlik designs its processes and procedures related to its Qlik Cloud environment to provide the end-to-end data management and analytics platform.

Security commitments to user entities are documented and communicated in customer solicitations and agreements, as well as in the description of the service offering provided online. Security commitments include, but are not limited to, the following:

- Use of encryption technologies to protect customer data both at rest and in transit.
- Security principles within the system are designed to permit system users to access the information they need based on their role in the system while restricting them from accessing information not needed for their role.
- Scheduled and monitored virus and vulnerability scans as well as penetration testing.

Availability commitments include, but are not limited to, the following:

- Qlik Cloud is available 24 hours, 7 days a week outside of outages or expected downtime, which is communicated to customers and also published on Qlik's external website at status.qlikcloud.com.
- Qlik maintains a disaster recovery plan (DRP) covering Qlik Cloud to help ensure continued availability. The DRP is tested at least annually to help ensure it is up-to-date.
- Data backups are managed by two separate service providers, AWS and Google Cloud Platform (GCP), to help ensure redundancy.
- System restoration occurs as soon as technically feasible for all functions. Restoration tests are performed on at least an annual basis to help ensure processes are up-to-date and backups are functioning appropriately.

Qlik establishes operational requirements that support the achievement of security and availability commitments and compliance with relevant laws and regulations, as well as other system requirements. Such requirements are communicated in Qlik's system policies and procedures and system design documentation. Information security policies define an organization-wide approach to how systems are protected. These include policies regarding how the service is designed and developed, how the system is operated, how the systems and networks are managed, and how employees are hired and trained. In addition to these policies, standard operating procedures have been documented on how to carry out specific manual and automated processes required in the operation and development of Qlik Cloud.

System Overview

Qlik has designed its processes and procedures based on its system requirements and service commitments to user entities, the laws and regulations that govern the provisioning of Qlik Cloud, and the financial, operational, and compliance requirements that Qlik has established for Qlik Cloud.

The system is designed and implemented to achieve specific business objectives in accordance with management-specified requirements. The purpose of the system, which includes the services and commitments outlined above, and the five components of the system are described below:

Infrastructure

The supporting infrastructure consists of the following infrastructure, applications, and databases:

Infrastructure	Description
AWS (Subservice organization)	AWS directs and controls operations for infrastructure and establishes, communicates, and monitors policies and procedures for all of the Qlik Cloud production environments. In addition, AWS operates, manages, and controls the components from the virtualization layer to the physical security of the facilities in which the Qlik Cloud components operate. Qlik assumes responsibility for, and management of, the operating system (including updates and security patches), application software and the configuration of the security group firewall provided by the service provider. Key AWS services utilized by Qlik include, but are not limited to: • Elastic Compute Cloud (EC2) • Simple Storage Service (S3) • Elastic Load Balancer (ELB) • Identity Access Management (IAM) • GuardDuty • Config • DynamoDB • CloudFront • AWS Backup
GCP (Subservice organization)	Qlik utilizes the Google Cloud Storage service within the GCP platform to perform nightly backups of the AWS environment.

Software

The software consists of the following applications and tools:

Software	Description
Change Management	
Jira	Jira is a ticketing application used to track and assign work items. Jira also provides a system for planning, scheduling, implementing, and tracking changes for Qlik Cloud.
GitHub	GitHub is a centralized source code control system. It is implemented internally for the management of code repositories.
CircleCI	CircleCI is a tool that supports continuous integration, a development practice software teams use to build, test, and deploy applications on multiple platforms.
Concourse	Concourse is a continuous deployment tool; it schedules builds and other deployment-related tasks, including testing where required.
Configuration Management	
Palo Alto Prisma Cloud Compute Edition (Twistlock)	Twistlock is a security tool deployed throughout the production environment that is used to monitor Kubernetes for compliance with Qlik-defined security hardening and configuration baselines.
Kubernetes	Kubernetes is an open-source system for automating deployment, scaling and management of containerized applications. It groups containers that make up an application into logical units for management and discovery.
Terraform	Terraform is a tool for building, changing and versioning infrastructure.
Docker	Docker is a tool that packages, provisions, and runs containers independent of the operating system.
Identity and Access Management	
Microsoft Active Directory® (AD)	Qlik's AD stores user accounts, group memberships, and account data, and is used to manage access to the Qlik corporate network. Internal users are required to have a Qlik AD user name and password to authenticate to the Qlik corporate network and the Qlik or enterprise production servers.
Multi-factor authentication (MFA) services	Access to production environments at Qlik requires strong MFA. Two MFA solutions are used at Qlik (OKTA, Inc. and Duo Security).
1Password	1Password is a password manager that restricts generic service accounts to appropriate personnel through the 1Password vault.

Software	Description
Hashicorp Vault	Hashicorp Vault stores encryption keys and other sensitive configurations.
People Resources	
Workday	Workday is a People Resources tool used to manage Qlik personnel's account and employment information.
Systems Monitoring	
Expel	Expel is a third -party service that monitors the Qlik Cloud environment 24 hours per day, 7 days per week. They investigate and respond to issues and provide transparent managed security.
GitHub advanced security	A GitHub add-on for monitoring GitHub public repositories for secret or sensitive data.
InsightCloudSec	A tool for monitoring the cloud security posture and notifying Qlik of abnormalities
Splunk	Splunk is a tool for collecting, analyzing, and indexing security logs, such as system audit logs, and reporting on Qlik-defined, critical system events.
PagerDuty	PagerDuty is a platform that is used for alert management.
Prometheus	Prometheus is a centralized availability monitoring tool used for enterprise services.
Training and Awareness	
Skillsoft Percipio	Skillsoft Percipio is used to deliver security training modules to Qlik personnel, collect completed module results and remind users and management of incomplete modules.
Vulnerability Management	
Nessus	Nessus is a vulnerability scanner used to perform vulnerability scans across Qlik's infrastructure. It is used to identify and report vulnerabilities based on severity.
Endpoint Management	
JAMF	JAMF is an endpoint protection platform responsible for Mac endpoints' anti-virus, data encryption, and data loss prevention.
Ivanti	Ivanti is an endpoint protection platform responsible for Windows endpoints' anti-virus, data encryption, and data loss prevention.

Software	Description
CrowdStrike	CrowdStrike is an endpoint protection platform for protecting endpoints' anti-virus, data encryption, and data loss prevention.
Web Application Firewall	
Signal Science	Signal Science is a web application firewall.
Incident Management	
FireHydrant	FireHydrant is a tool that is used as an incident management and response console.

Database	Description
Change Management	
MongoDB Atlas	MongoDB Atlas is a database that is used to store data used in Qlik Cloud.

People

Qlik is comprised of the following departments:

- The X-team (Executive Management) – Responsible for overseeing company-wide activities, creating corporate level VSGs (Vision, Strategies, and Goals), measuring goals, and overseeing objectives.
- Culture and Talent (C&T) – Responsible for working with teams to create an innovative culture. C&T is organized into Centers of Excellence teams, which include:
  - Recruitment
  - Talent Development
  - Total Rewards
  - Internal Communications
  - Business Partners
  - Systems and People Analytics
- Global Products Organization -– Responsible for directing business operations at a product-line level. This organization supports critical product business investments in the Company's data and analytics go-to-market strategy. The Global Products Organization is comprised of:
  - Product Management
  - Product Marketing
  - Go to Market Management

- Global Product Technology Organization – Responsible for designing and developing solutions to address customer needs via product requirements and ensuring that software and solutions meet the highest standards. The Global Product Technology Organization is comprised of:
  - Product Design
  - Engineering, i.e. Product Development
  - Quality Engineering, i.e. Product Testing
  - Site Reliability Engineering (SRE)
  - Product Architecture & Research
  - Software Services
  - Program Management & Compliance
  - Security & Compliance, i.e. Corporate Security and Compliance and Secure Software Development
- Finance – The Finance team is responsible for continuous oversight of the financial aspects of Qlik, including budgeting, payroll, and accounts payable and receivable, and is comprised of the following teams:
  - Accounting
  - Global Procurement & Real Estate
  - Revenue Assurance & Operations
  - Financial Planning & Analysis
  - Tax & Treasure
- Customer Success – The Customer Success team is responsible for gaining new customers, increasing customer satisfaction, and identifying additional solutions for current customers.
- Other teams include Chief Data Office, Office of Strategy Management, Sales, Legal, Global Marketing, and Global Solutions & Partners.

Procedures

Human Resources Hiring and Termination

Qlik has organizational charts in place to communicate the defined key areas of authority, responsibility, and lines of reporting to personnel. These organizational charts are updated as needed as the company expands. In addition, documented position descriptions are in place to define the skills, responsibilities, and knowledge levels required for all current positions and expected job openings.

Hiring procedures are in place to guide the hiring process and include verification that candidates possess the required qualifications to perform the duties outlined in the job description. As part of the hiring process, background checks are performed for potential employees (as allowed by country laws), and new employees are required to sign employment contracts. Further, employees are required to complete the Global Privacy and Information Security and Code of Conduct training upon initial hire and annually thereafter to understand their responsibilities to comply with legal and information security policies and procedures. In addition, SRE and Information Security team members are required to review Business Continuity Plan (BCP) and Incident Response (IR) documentation and developers are required to complete the secure coding training annually.

When necessary, Qlik follows an established termination process, where network access is revoked and off-boarding checklists are followed.

Access Authentication and Authorization

The production server operating systems and application are configured to enforce two-factor user authentication that requires a unique user account and password and a one-time passcode.

Passwords for production database administrator accounts are securely stored within a password-safe application. Administrative access privileges to the production server operating systems, production databases, application and VPNs are restricted to user accounts accessible by SRE personnel. Web servers utilize secure sockets layer (SSL) encryption for web communication sessions. Qlik has lockout policies configured to lock out a workstation after 10 minutes of inactivity and shut down a bastion session after 30 minutes of inactivity.

Access Requests and Access Revocation

Documented policies and procedures are in place to guide personnel when provisioning and de-provisioning access and conducting user access reviews.

User access requests are documented on a standard access request form and require the approval of a manager. Administrative access privileges to the production server operating systems, databases, application, and VPN are restricted to user accounts accessible by authorized personnel.

A termination checklist is completed and access is revoked for employees as a component of the employee termination process. SRE personnel review user access on at least a semiannual basis to help ensure that access to data and production systems is restricted and provides for appropriate segregation of duties.

Change Management

Release policies and procedures are in place to guide the Global Products Organization in the release and change management processes. Engineering personnel complete a Jira change ticket for all application updates (i.e. bug fixes, enhancements, and new development requests) and system changes. Both Engineering and Quality Engineering personnel perform tests prior to promoting any changes to production or release branches. Development of the system is not outsourced.

All changes must be approved by a peer reviewer with applicable domain knowledge prior to the migration of the changes into the production environment. Access privileges to develop code libraries and promote changes into the production environment are restricted to user accounts accessible by authorized Engineering personnel.

Monitoring tools are used to log application and system changes implemented into the production environment. For Qlik Cloud, GitHub, CircleCI and Kubernetes are used to promote new changes or roll back changes to a previous version.

The production environment is segmented from the development and staging environments.

Engineers promote changes upon completing checks agreed upon in the SRE Partnership Agreement. The agreement establishes the requirements for releasing code into a production environment.

Data Backup and Disaster Recovery

Automated replication and backup systems are in place to perform scheduled replication and backups of production databases (MongoDB) and customer data to AWS. The primary backup process backs up customer data stored in AWS Elastic File System (EFS) into AWS Backup nightly. The secondary backup process replicates/duplicates that data to another region in the same geographical area (GCP is used for AP region and AWS is used for EU and US regions). Failed backups are logged for investigation by the SRE team. Disaster recovery (DR) is tested at least annually and any deficiencies are documented for investigation, along with mitigation analysis. The latest annual DR test occurred in Q4 2021.

Incident Response

Documented policies and procedures are in place to guide the appropriate teams in identifying, reporting, and resolving failures, incidents, concerns, and other complaints. SRE personnel use Jira to document the identification, escalation, and resolution of security incidents.

Incidents that require a change to the system follow the change management process.

Security sprint meetings are held every two weeks to discuss incidents and corrective measures to ensure that incidents are resolved.

System Monitoring

Qlik utilizes AWS's CloudWatch service to monitor system changes and the availability of services and infrastructure. CloudWatch analyzes availability and change data and provides alerts to the SRE team. Usage for CPU and storage is handled by AWS as part of the services provided. Security alerts identified by CloudWatch and GuardDuty are documented and investigated by Expel and, if needed, escalated to SRE personnel.

Additionally, Qlik's monitoring tool, Prometheus, is used to monitor all service level indicators of services and infrastructure internally. Prometheus notifies the SRE team upon identification of latency issues that may affect Qlik Cloud. Security Operations reviews event logs on an ongoing basis and identified security incidents are formally documented for investigation. Alterations to the configuration of threshold alerts within Prometheus are secured within GitHub and follow the change management process. In addition, Qlik utilizes Twistlock for runtime protection and notifications. Twistlock uses machine learning to automatically build a model of every application. Models define all the known-good behaviors of hosts and containers across process, network, file system and system call sensors.

Vulnerability Management

Security Operations personnel perform internal and external vulnerability assessments of the production environment on a semiannual basis. Vulnerabilities that are identified are formally documented, along with mitigation strategies, for management review.

Data

Qlik Cloud

Location of Data

Qlik utilizes AWS to operate Qlik Cloud in four networked data centers: Dublin, Ireland; Northern Virginia, USA; Sydney, Australia; and Singapore.

Personal Data Collection

The only personal data that Qlik receives is user/authentication information, which is then used for authentication and other product-related purposes, such as customer support. Qlik also processes statistical data on the use of Qlik Cloud to assist with troubleshooting issues and, on an aggregate, anonymized basis, to ensure the quality of service and improve their products. Personal data (content of which is controlled by the customer) may also be present within a customer's content (e.g. Qlik Apps), if the customer so chooses.

Content Data Access and Use by Qlik

Qlik employees do not access customer data. Qlik employees can only view a user's unencrypted cloud content if the tenant administrator of that account invites the Qlik employee into their tenant (e.g. in a Support Services context). The configuration of the Qlik Cloud environment ensures that customer data is encrypted in transit, at rest and at the application layer. Only a specific, limited group of Qlik employees can access the operational encrypted data stores where individual user content is located, but would not be able to view it, as it can only be decrypted by the customer's unique encryption keys, to ensure access is limited to members of their tenant. In a break-glass scenario (e.g. for restoration purposes), for a Qlik team member to access these encrypted data stores they must be on the Qlik VPN or physically present in a Qlik office location. The team member must have access to a bastion environment which is the isolated entry point to the production environments, requiring multiple levels of authentication (including MFA), using their laptop or desktop only. Mobile access authentication into the production environment is not authorized.

Data Access

Qlik Cloud provides a platform that enables customers to upload, manage, and gain insight into data. The type of data varies and is controlled by each customer. Based on the nature and extent of the service offering, users of this report are responsible for ensuring user access to the data is appropriately limited. SRE works proactively to maintain the availability and security of customer data throughout its service and implements separation of management and production traffic.

System Incident or Personal Data Incident Disclosures

There were no identified system or personal data incidents noted during the examination period that prohibited Qlik from meeting their security and availability commitments.