



## Service Organization Control 3 (SOC 3) Report

Report on Software AG's  
Alfabet Cloud Enterprise Edition System  
Relevant to Security and Availability  
Throughout the Period of  
April 1, 2017 to September 30, 2017



# SECTION I

## Independent Service Auditor's Report

## Independent Service Auditor's Report to the Management of Software AG

To the Board of Directors of Software AG:

We have examined the effectiveness of Software AG Alfabet Cloud Enterprise Edition system controls over Security and Availability throughout the Period of April 1, 2017 to September 30, 2017, based on the criteria set forth in the American Institute of Certified Public Accountants (AICPA) TSP section 100, Trust Services Principles and Criteria for Security, Availability, Processing Integrity, Confidentiality, and Privacy. Software AG's management is responsible for maintaining the effectiveness of these controls. Our responsibility is to express an opinion based on our examination.

Because of the nature and inherent limitations of controls, Software AG Alfabet Cloud Enterprise Edition's ability to meet the aforementioned criteria may be affected. For example, controls may not prevent or detect and correct error or fraud, unauthorized access to systems and information, and failure to comply with internal and external policies or requirements. Also, the projection of any conclusions based on our findings to future periods is subject to the risk that changes made to the system or controls, the failure to make needed changes to the system or controls or deterioration in the effectiveness of controls may alter the validity of such conclusions.

In our opinion, Software AG Alfabet Cloud Enterprise Edition maintained, in all material respects, effective controls over the security and availability of the Alfabet system to provide reasonable assurance that the Alfabet Cloud Enterprise Edition system was protected against unauthorized access (both physical and logical) and was available for operation and use as committed or agreed during the period of April 1, 2017 through September 30, 2017 based on the AICPA Trust Services security and availability criteria.

*Aprío, LLP*

Atlanta, GA

October 31, 2017

# SECTION II

## Management Assertion and System Description

## Management of Software AG's Assertion regarding its Alfabet Cloud Enterprise Edition System

**For the period of April 1, 2017 to September 30, 2017**

**October 31, 2017**

Software AG maintained effective controls over the security and availability of its Alfabet Cloud Enterprise Edition System as defined by the following system description to provide reasonable assurance that:

- the system was protected against unauthorized access, both physical and logical, and;
- was available for operation and use as committed or agreed

during the period of April 1, 2017 through September 30, 2017 based on the AICPA trust services security and availability criteria set forth in the AICPA's TSP Section 100, Trust Service Principles and Criteria for Security, Availability, Processing Integrity, Confidentiality, and Privacy.

Our attached system description identifies the aspects Alfabet system covered by our assertion.

**Emily Ryan**

Managing Director SAG Cloud GmbH

**Gerd Schneider**

Head of Cloud Security

## Management of Software AG Description of its Alfabet Cloud Enterprise Edition System

### ***Software AG Overview***

Software AG helps organizations combine existing systems on premises and in the cloud into a single platform to optimize business and serve customers. The Software AG Alfabet Cloud Enterprise offering can rapidly build and deploy digital business applications to exploit real-time market opportunities. Get maximum value from big data, make better decisions with streaming analytics, achieve more with the Internet of Things, and respond faster to shifting regulations and threats with intelligent governance, risk and compliance. Software AG helps organizations achieve their business objectives faster. The company's big data, integration, business process, IT planning, portfolio and architecture management technologies enables customers to drive operational efficiency, modernize their systems and optimize processes for smarter decisions and better service. Building on over 40 years of customer-centric innovation, Software AG is fueled by core product families such as Adabas-Natural, Alfabet, Apama, ARIS, Terracotta, and webMethods.

### ***Alfabet Cloud Enterprise Edition Overview***

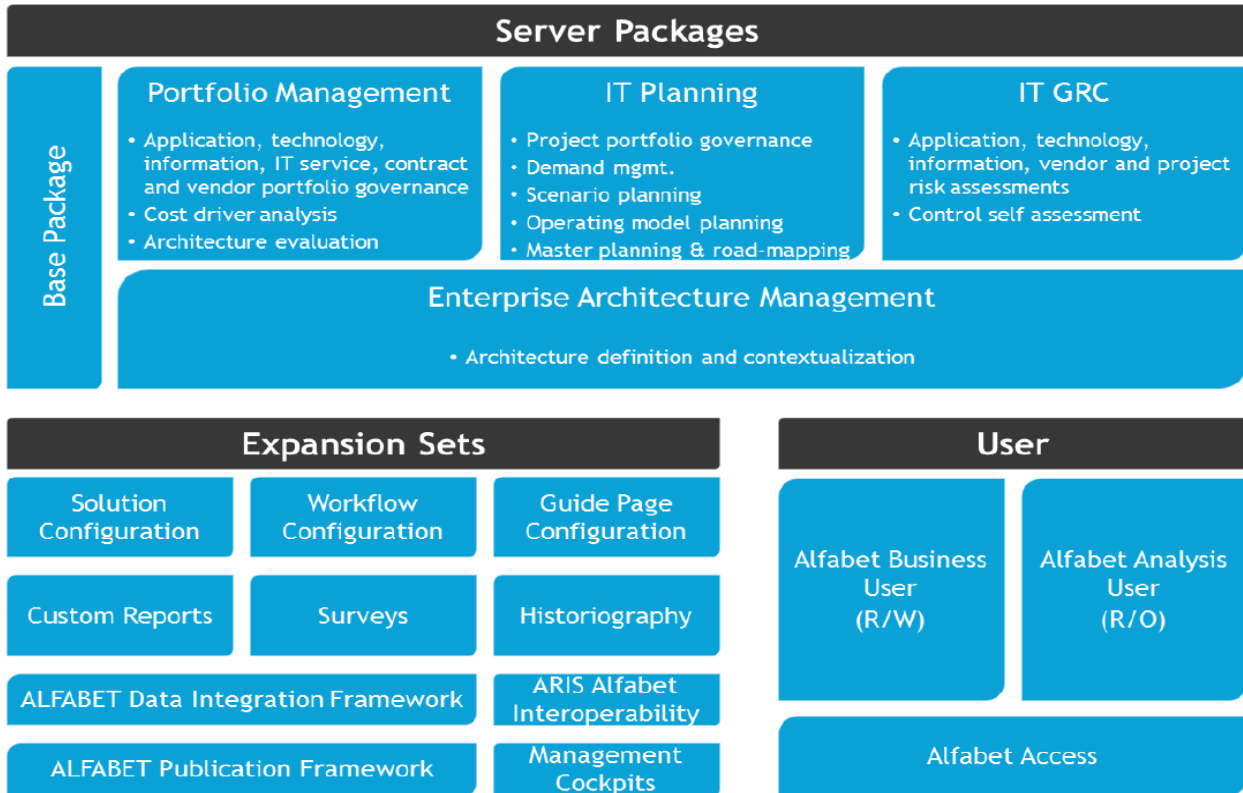
Alfabet helps organizations in making better IT investment decisions and reduce transformational risks by understanding the suitable parameters to make changes to their IT portfolio. It links the interdependent perspectives of IT, business, finance, and risk for “whole view” analysis of how IT can support business change. Enterprise architecture capabilities build the necessary foundation with an accurate, real-time picture of the IT landscape – including all applications and technologies, the inter-relationships between them, the information they exchange as well as the business capabilities and processes they support. Alfabet’s portfolio management capabilities support independent decision-making for optimization of individual portfolios as well as portfolio-level strategy modelling to incorporate all portfolios into strategy formulation. Its collaborative planning platform enables all stakeholders to interface, communicate and consider multiple perspectives when making transformation decisions as well as prioritize project proposals based on alignment with business strategy. Alfabet is available as an on-premise or SaaS solution.

#### **Benefits:**

- Well-founded and sustainable decisions on IT transformation based on accurate, current and complete information on the IT landscape;
- IT structures aligned with business objectives and processes to ensure that IT transformation goes hand-in-hand with business transformation;
- Streamlined IT portfolios that increase Information Technology’s agility in implementing business initiatives faster thus improving time to market for new business products;
- Lowered project, application and data risk to safeguard IT project investment, ensure business continuity, and increase compliance with regulatory requirements;
- Improved IT governance across federated environments through definition and enforcement of standard EA, IT planning and portfolio management processes.

**Core Features:**

With the Base Package, as pre-requisite for all other packages, organizations can implement individual packages in a stand-alone mode according to the organization’s needs.



Server packages follow a level-by-level build up approach. Please refer to the pre-requisites listed at the end of each server package description.

**Base Package:**

The Base Package provides the necessary foundational infrastructure for using the Alfabet functional packages. It comprises features that are relevant and important to all of the functional packages, including user management functions, the workflow engine, monitors and assignments and other basic underlying functionality. The Base Package includes features that streamline data collection and navigation through the inventory such as:

- Web interface for quick access to the inventory;
- Simple editor screens for data entry;
- Wizard-driven interfaces for defining objects including infrastructure to perform input validation through configurable complex rules;
- Data collection templates using Microsoft Excel;
- Assignment of update responsibilities to named individuals;
- Display of sent assignments for keeping track of the progress on assignments;
- Display of all objects that a user is responsible for as well as all profiles defined for a user;
- Data-centric, hierarchical navigation of inventory content using explorers;

- Simple and hierarchical search facilities to retrieve objects;
- Automatically generated reports in flexible formats for the relevant objects in the inventory;
- Usage of Treemaps, Layered Diagrams, Matrix Diagrams, Kiviati Diagrams, Pivot Tables, Lane Diagrams, Geomaps, Portfolio Charts, Waterfall Charts, Multi-level Pie Charts, Area Charts, Circular Roadmaps and other visualizations showing object dependencies, relationships, rankings and KPIs. The Custom Reports; expansion set is a pre-requisite to configuration of these reports;
- Bookmarks for linking to a particular page view in the software;
- Glossaries including a full-text search across a glossary;
- Sending of web links to share information with peers and stakeholders.

Additionally, the Base Package provides functionality for collaboration, customer-specific configuration and administration.

- Monitors, workflows and streams support stakeholder collaboration;
- Configuration meets customers' specific needs;
- Administration functions support product implementation;
- Mandate support for federated enterprise architecture;
- Alfabet mobile portfolio manager.

#### **Enterprise Architecture Management Package:**

The Alfabet Enterprise Architecture Management (EAM) server package in Alfabet is used to describe complex IT systems in terms of their business, application, information and technical layers, and to develop standards for change. It helps enterprise architects align the IT landscape with the business to guide competitive transformation.

##### **Includes the following BITM capabilities:**

- Application Architecture Definition;
- Information Architecture Definition;
- Technology Architecture Definition;
- Business Process Definition;
- Technical Service Definition;
- Organization Definition.

#### **IT Governance, Risk and Compliance Package:**

The Alfabet IT Governance, Risk and Compliance (GRC) server package helps enterprises identify and assess threats and risk more effectively and achieve greater efficiencies in compliance control. It provides greater insight into risk exposure to be able to understand which, e.g., IT systems, technology components, or projects carry risk due to direct and indirect threats, what the implications of the risk are, and what kind of mitigation measures are



needed. It also supports the processes necessary for compliance management: definition of control sets, evaluation of objects for specific controls, reporting and auditing. In anchoring control processes and objectives into the IT architecture, organizations can better keep up with the on-going demands for controls assessment in the evolution of a corporation's IT landscape. Data retention policies for business data ensure data retention is compliant, cost-effective and supports information needs.

**Includes the following BITM capabilities:**

- Application Risk Management;
- Project Risk Management;
- Information Risk Management;
- Compliance Management;
- Threat Management.

**Portfolio Management Basic Package:**

This package provides the means to view the enterprise in the context of business capabilities as a common basis for evaluating how well IT is supporting the enterprise's business requirements. They enable evaluation and identification of which business capabilities are core and where improvement in one or the other of the portfolios is needed. Portfolio governance capabilities enable the organization to organize the information needed to optimize portfolios, improve agility, and set the pace for changes. Tightly integrated portfolios deliver impact analyses to reduce planning errors and improve synergies between the portfolios.

**Includes the following BITM capabilities:**

- Business Capability Management;
- Application Portfolio Governance;
- Information Portfolio Governance;
- Technology Portfolio Governance;
- Architecture Evaluation.

**Portfolio Management Advanced Package:**

The Portfolio Management Advanced package enables IT managers to use a portfolio approach to assess assets, returns and risks in the IT landscape in order to reduce operating expenditure. The contract management capability lets organizations associate contractual terms and conditions with related architecture elements to understand change implications in order to minimize planning risk and avoid unnecessary costs. Cost driver analysis helps organizations associate costs to architecture elements and aggregate costs for individual business services, processes, and domains to understand exactly where costs accrue. This enables organization in making rational decisions without the risk of losing IT support for business due to cost drivers.

**Includes the following BITM capabilities:**

- Contract & Vendor Management;
- Cost Driver Analysis;
- Opex Optimization.

### **Portfolio Management Complete Package:**

The Portfolio Management Complete package includes “service product portfolio management” as an integrated portfolio management approach. In a portfolio management concept, the service product portfolio can be optimized for greater performance, standardization, and simplification which lead to a higher agility in delivering on business demand. Additionally, users can analyze the impact of changes to application and technology portfolios on IT services in terms of availability and SLA-conformity. Also, this will enable users to better understand the consuming and sponsoring parties of IT services. Further, users can coordinate the analysis and planning of changes to IT services with the projects delivering on those changes. Finally, this package includes Service Product Portfolio Management BITM capabilities.

### **IT Planning Basic Package:**

The IT Planning Basic package supports the definition of the various dimensions of the business model of the enterprise including its market products, sales channels, customer segments, markets, and brands. For Business/IT Synchronization, Alfabet’s patented master planning functionality is a keystone in translating business strategy into IT tactics. This function shows the usage of applications supporting business operations, i.e. business processes and executing organizations. Business supports managed in the master plan allow the strategic planners to define and communicate the rollout plans of application assets through dedicated lifecycle definitions. Providing IT organizations with a clear overview of the relevant aspects of the IT landscape in order to understand how strategic decisions impact the IT’s tactics and direction over time. Using master planning, IT strategy planners can explore tactical options and ensure that flexibility in the IT architecture is accommodated. The master plan is a highly condensed representation of the strategic plan, easy to comprehend, and is a single point of reference. Therefore, it is an excellent medium for discussion at decision boards. Finally, IT Planning Basic is suitable for planning roll-outs of applications along organizational or business structures and for communicating such plans.

#### **Includes the following BITM capabilities:**

- Business Model Definition;
- Business IT Synchronization;
- Target Architecture Design;
- Road-mapping.

### **IT Planning Advanced Package:**

The IT Planning Advanced package transforms new services demands from operational business divisions into effective IT services by systematically capturing, assessing, and evaluating new IT demands with their underlying business motivation. Demand Management helps business analysts and IT identify the context and scope of each demand to be able to better understand the business need and potential architectural effect of its realization. This package helps in filtering the profusion of incoming demands into a manageable list that can be evaluated and translated into project proposals. The Project Portfolio Governance capability provides functionality for the definition, planning, assessment, and prioritization of project proposals and programs. Those capabilities are used to assign defined projects to programs and conduct architecture analysis, risk assessment, and validation of skill availability. The Project Portfolio Governance process in Alfabet informs decision-makers of the value, architecture alignment, and risk across a number of possible IT investment alternatives. The governance process is used to prioritize project proposals on the basis of strategic and technical alignment, resource priorities and risk.

**Includes the following BITM capabilities:**

- Demand Management;
- Project Portfolio Governance.

**IT Planning Complete Package:**

The IT Planning Complete package ensures that IT planning is performed and executed with full understanding of the enterprise's strategic and operational goals. The alignment of IT investments with business strategy is essential for revealing the actual value of IT services, enable informed decision-making and continuously improve service quality. Business Strategy Validation provides a framework for systematically deriving IT initiatives from business strategies. Operating Model Planning is the business foundation for enterprise transformation. This model is used to describe, evaluate and plan the company's business operating model and relate it to the IT architecture for planning the necessary changes to the enterprise landscape.

**Includes the following BITM capabilities:**

- Business Strategy Validation;
- Operating Model Planning;
- Scenario Management;
- Project & Release Design;
- Investment Optimization.

**Expansion Sets:**

Alfabet's expansion sets provide functionality for configuring solutions for organizations' individual needs and for greatly enhancing the user experience with products. The Base Package is a pre-requisite for using any of these expansion sets. Configuration of Alfabet with these expansion sets is conducted by specially trained solution designers in a networked development environment, i.e., networked non-production instance, or a local installation, i.e., non-networked presentation instance, as licensed by the customer. Changes to configurations are applied to the relevant production instance using the Alfabet Administrator application and a specifically created file comprising the configuration changes by the customer's administrative personnel.

- **Custom Reports:**

Custom Reports expansion set enables customers to complement standard reports, diagrams, and analysis views available with Alfabet with customer-specific visualizations, diagrams and analysis views.

- **Alfabet Data Integration Framework (ADIF):**

ADIF is a configurable mass update facility for high performance import, export and manipulation of large data volumes.

- **Guide Page Configuration:**

With Guide Page Configuration, the user can create a look and feel matching corporate design or preferences, for example, the background and navigation tree. It allows definition of role-specific navigation through Alfabet as well as instructional text and shortcuts into the solution. This includes a configurable search for fast and targeted access to specific information. This expansion set is a

configuration license. Customers can use guide pages without licensing this expansion set but cannot configure guide pages themselves without licensing this expansion set.

- **Solution Configuration:**  
 Solution configuration enables the customer to own the configuration of the solution for its community of users based on the standard reports and object profiles defined for Alfabet.
- **Workflow Configuration:**  
 Create and administrate automated workflow processes;
- **Survey Facility:**  
 The Survey Facility enables run-time definition of auxiliary information and presentation models as well as auxiliary workflows for quick implementation of data gathering campaigns targeting the Alfabet stakeholder community. The facility provides an easily configurable survey procedure, a high level of automation, high data quality and reportable results on specific objects as well as the entire survey project. Data capture is governed using a proven process for efficiency and integrity.
- **Alfabet Publication Framework:**  
 The Alfabet Publication Framework provides a framework for creating publications using user-defined templates for the format and desired content of the publication. Users define templates in Microsoft® Word® (.dot templates), determining text layout, creating static and dynamic fields, and formatting the document according to corporate standards or other publishing guidelines. Dynamic fields are filled with content from Alfabet such as the names of ICT objects, applications, domains and business processes as well as any standard or custom report related to an object. The template can hold a nested structure of separate documents on different objects. Once the template is configured by the solution designer, it is used by end users to create publications using the standard user interface.
- **Management Cockpits:**  
 Alfabet's cockpits are a powerful medium for fast-path access to needed information. Using the Solution Configuration Expansion set they can be configured for a class of objects, such as a project or application and can contain different information sets for different user profiles in the user community. Individual user profiles and classes can, in turn also have several cockpits allowing the user to view information on an object according to different themes.
- **Historiography:**  
 History tracking capability to document and track the history of changes made to objects in the IT architecture.
- **Arif/Alfabet Interoperability:**  
 The ARIS/Alfabet interoperability facility enables users to traverse both products to understand the relationships between business processes and their supporting applications as well as their enterprise context. This new capability ensures tighter business-IT collaboration on the whole range of business-IT management activities - from planning of business model changes to the implementation of IT-enabled business solutions.

## ***Components Relevant to Alfabet Cloud Enterprise Edition System***

### ***Infrastructure:***

Alfabet Cloud Enterprise’s infrastructure is provided by Amazon Web Services (AWS), an ISO 27001 certified third-party vendor. Alfabet Cloud Enterprise’s products are deployed as a public cloud, multi-tenant environment or a signal tenant environment. It is hosted in three regions – US, EU, AP, Brazil, Singapore, and Japan – which gives the customers the ability to select the best region for their connectivity needs. The customer’s environment can be hosted in the AWS region of their choice.

Sensitive data are stored only inside of Amazon environment. Only system documentation and the processes and procedures for management of the service are stored in the Software AG network. Access to this network is restricted by general Software AG policies (centralized domain control, limited access to servers and folders managed by central policies).

Physical access to Software AG’s operations facilities is strictly controlled and monitored via Software AG’s Physical Access Security Policy. Software AG has implemented a quality management system and is “ISO 9001:2015” certified for Global Support and Research & Development including supporting services (IT-Services, HR, Facility Management). Access to the AWS data center facilities as a subservice provider is managed by AWS.

Only the Alfabet Cloud Service Operations (CSO) has access to the environment via the Amazon Web Service console login. Two-factor authentication is implemented for these accounts and account activities are logged using AWS Cloud Trail services.

Some or all of the following service components are provided by AWS to facilitate the delivery of Cloud services:

- **AWS VPC:**

A Virtual Private Cloud (VPC) service instance from AWS secures the customer’s service installation against intrusion. Amazon VPC is used to provide a private, isolated section of the AWS Cloud where AWS resources are launched in a defined virtual network.

See <http://aws.amazon.com/vpc/>

- **AWS EC2:**

Amazon EC2 provides resizable compute capacity in the cloud

EC2 (Elastic Cloud Compute) is the virtual computing environment with the Operating System. It is used for the deployment of the Cloud software and workloads of web application, application server and additional Cloud components.

See <http://aws.amazon.com/ec2/>

- **AWS S3:**

Amazon S3 (Simple Storage Service) provides a fully redundant data storage infrastructure. The AWS S3 instance is used to securely store all log information, for example the event monitoring and application log information etc.

See <http://aws.amazon.com/s3/>

- **AWS ROUTE 53:**  
 Amazon Route 53 is a highly available and scalable Domain Name System (DNS) web service which is used for accelerated content delivery of the Cloud to remotely located users by setting up a dedicated domain name for the customer.  
 See <http://aws.amazon.com/route53/>
- **AWS Relational Database Service (RDS):**  
 Amazon RDS (Relational Database Service) is used to set up, operate, and scale a SQL Server database in the cloud. It provides cost-efficient and resizable capacity while managing time-consuming database administration tasks.  
 See <https://aws.amazon.com/rds/>
- **AWS Directory Service:**  
 AWS Directory Service is a managed service that is used to connect the Cloud end users with an existing on-premise Microsoft Active Directory at customer location.  
 See <https://aws.amazon.com/directoryservice/>
- **AWS Identity & Access Management:**  
 AWS Identity and Access Management (IAM) is used to securely control access to AWS services and resources for dedicated members of the Operations team, including the AWS Directory Services in which they are entitled.  
 See <https://aws.amazon.com/iam/>
- **AWS Key Management Service (KMS):**  
 AWS Key Management Service is a managed service that enables users to create and control the encryption keys used to encrypt data, and uses Hardware Security Modules to protect the security of keys. AWS Key Management Service is integrated with several other AWS services to help in protecting the data stored with these services. AWS Key Management Service is also integrated with AWS CloudTrail to provide users with logs of all key usage to help meet users' regulatory and compliance needs.  
 See <http://aws.amazon.com/kms/>
- **AWS Config:**  
 AWS Config is a fully managed service that provides users with an AWS resource inventory, configuration history, and configuration change notifications to enable security and governance.  
 See <http://aws.amazon.com/config/>
- **AWS Lambda:**  
 AWS Lambda allows users to run codes without provisioning or managing servers.  
 See <http://aws.amazon.com/lambda/>
- **AWS Simple Email Service (SES):**  
 Amazon SES (Simple Email Service) is a highly scalable and cost-effective bulk and transactional email-sending service for the cloud. It is used to configure the SMTP service related to the Alfabet software and for notifications to the CSO Team related to the AWS Lambda configuration.  
 See <http://aws.amazon.com/ses/>

- **Amazon Simple Queue Service (SQS):**  
Amazon Simple Queue Service is a fast, reliable, scalable, fully managed message queuing service.  
See <http://aws.amazon.com/sqs/>
- **AWS Simple Notification Service (SNS):**  
Amazon Simple Notification Service is a fast, flexible, fully managed push notification service that allows users to send individual messages or to fan-out messages to large numbers of recipients. Amazon SNS makes it simple and cost effective to send push notifications to mobile device users, email recipients, or even send messages to other distributed services.  
See <http://aws.amazon.com/sns/>

## **Software:**

### **Monitoring Software:**

- **AWS Trusted Advisor:**  
AWS Trusted Advisor helps in provisioning resources by following best practices. AWS Trusted provides a general overview of all related AWS resources regarding Cost Optimizing, Performance, Security, and Fault Tolerance.  
See <https://aws.amazon.com/premiumsupport/trustedadvisor/>
- **AWS CloudTrail:**  
The AWS CloudTrail web service records AWS API calls and delivers log files. These log files are being stored in the S3 instance.  
See <http://aws.amazon.com/cloudtrail/>
- **AWS CloudWatch:**  
Amazon CloudWatch provides monitoring for AWS cloud resources. Respective log files are stored in the S3 instance.  
See <http://aws.amazon.com/cloudwatch/>
- **Splunk:**  
Splunk Enterprise makes it simple to collect, analyze and real-time data. It is a Security Information and Event Management Software  
See [http://www.splunk.com/en\\_us/products/splunk-enterprise.html](http://www.splunk.com/en_us/products/splunk-enterprise.html)
- **Trend Micro “Deep Security”:**  
Deep Security is an Infrastructure Protection tool that provides Intrusion Detection and Prevention, Virus scan and vulnerabilities scanning for the customer’s environment.  
See <http://www.trendmicro.com/aws/>

**Operations Software:**

- **Labcase:**  
Labcase is a project management and document management system. Cloud Service Operations stores installation details such as licenses, contract or email templates in Labcase. Access to Labcase is restricted to authorized Cloud Operations users only.
- **KeePass:**  
KeePass is a free open source password manager which helps in managing passwords in a secure way. All passwords are kept in one database which is locked with one master key or a key file. The database is encrypted (AES and Twofish).
- **Password Depot Manager Server/Client:**  
Password Depot Enterprise Server lets the companies centrally manage, administer and share passwords, access data and documents. You decide down to the smallest detail what access rights a user is granted, what folders or entries s/he can view or, for example, what kind of activities should be tracked.
- **Pivotal/Empower:**  
Pivotal/Empower is the support incident tool of Software AG. All incidents of Cloud customers are logged via Empower and worked on in Pivotal. Cloud Support Manager or Cloud Support Expert checks support incidents for cloud specific properties and forwards them to Cloud Service Operations as required. The status of the incident is communicated via Empower to the customer.
- **iTrac (Jira):**  
iTrac is the CSO and R&D bug fix and change management ticketing system. Customer incidents can be escalated to iTrac from Pivotal by the Global Support team or directly entered as incidents are identified.
- **Putty:**  
Putty is an Open Source SSH and telnet client. It is used for remote log into the servers.
- **WinSCP:**  
WinSCP is an open source free SFTP client, FTP client, WebDAV client and SCP client for Windows. The main function of WinSCP, is file transfer between a local and a remote computer. Additionally, WinSCP offers scripting and basic file manager functionality.
- **Identity and Access Federation:**  
The SAML component is fully compliant with the OASIS Security Assertion Markup Language v2.0 specification.  
See <http://www.componentspace.com/SAMLv20.aspx>
- **UsingIT/lwiki:**  
Tool used for documentation of and communication amongst Alfabet CSO. It is based on the Alfabet software developed and implemented by the Alfabet CSO Team.
- **Duo Security:**  
Duo's Trusted Access platform secures your organization by verifying the identity of your users and the health of their devices before they connect to your applications.  
See <https://duo.com/>

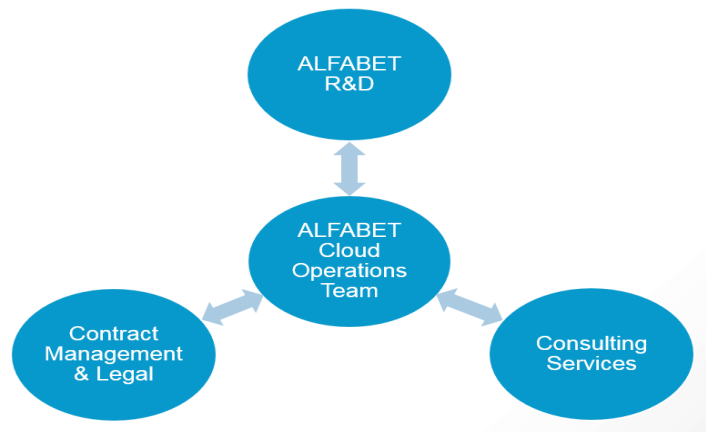


**People**

**Organizational Structures:**

Alfabet Cloud Enterprise is administrated and managed by the Cloud Service Operations Team (CSO). Members of the CSO are located in Software AG subsidiaries in Germany/Berlin. The CSO team is available 24/7 to provide follow the sun coverage for cloud product support needs and to offer maintenance windows outside of customer’s standard business hours. The CSO interacts with several other Software AG teams in order to provide the Cloud service.

The diagram below is an overview of the ALFABET Organizational structure and the dependencies to sub-organizations outside the CSO Team:



**The Alfabet Cloud Enterprise Operation Team interacts with three entities:**

- **Research and Development:**  
RnD develops and releases new product versions on a half-year basis as well as patch releases on demand and hands them over to the CSO Team. The RnD process already includes a QA process that guarantees the security and stability of the product release.
- **Consulting Services:**  
Software AG Global Consulting Services (GCS) or Implementation partners will be involved in the planning of upgrading customer cloud environments to new product releases as part of the maintenance planning process conducted by the CSO or in configuration changes as part of Statements of Work.
- **Contract Management & Legal:**  
The CM&L Team is responsible for handover of a new contract to the CSO Team as a basis for delivering the service.

**Procedures**

All processes and procedures are regularly reviewed by CSO Management and relevant team members. A sample of recurring reviews are listed below.

- **Organizational Structure** - Including the assignment of roles and responsibilities and yearly review. Participants include the CSO team;
- **Contract Changes** – Monthly review is conducted in case of any amendments or service updates. Participants include the CSO team, Product Management, Cloud Security, and Legal as necessary;
- **Monitoring Process** - Reviewed on a yearly basis by the CSO Management and the Monitoring experts;
- **Escalation Process** - Reviewed on a yearly basis by the CSO Management;
- **Access Control and Risk Logs** – Reviewed on a monthly basis by CSO Management.

## **Data**

All customer tenant data is contained in the Cloud Product Service (at runtime) and the database and file storage (at rest). Access to the technical AWS infrastructure is restricted to only required team members using least privileges and all account activities are logged and monitored. Standard HTTPS encryption is used during transfer from the browser to the web server. All scoped data is stored in a secured Amazon Webservices (AWS) environment. It is transmitted through HTTPS with up-to-date encryption ciphers. Data-at-rest is protected using AWS S3 server-side encryption, AWS EBS volume encryption, and/or AWS RDS encryption.

The CSO personnel do not have access to scoped tenant data unless explicitly granted by customer. In case of a support incident, which requires access to the customer’s Cloud Product tenant data, the customer can choose to grant access to the CSO to examine the issue by providing user credentials, function privileges and client license to access the data.

The CSO system documentation and operational policies are stored in the Software AG network. Access to such assets is restricted by general Software AG policies.

In the Cloud environment, data exchange with other applications are exclusively governed by specifically prescribed and implemented web services based on https secured communication. Software AG customers retain control and ownership of their data.