



SAP Cloud Security Framework

Theory and Practice

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PUBLIC



Agenda

What is SAP Cloud

- Delivery and Deployment models
- Portfolio

SAP Cloud Secure

- Trust Center
- Certification & Standards
- Contractual framework
- Data Centers & Infrastructure

Story & Experience

Summary & Links

What is SAP Cloud?

Delivery, Deployment Models & Portfolio



Definition* of cloud deployment model

Private cloud

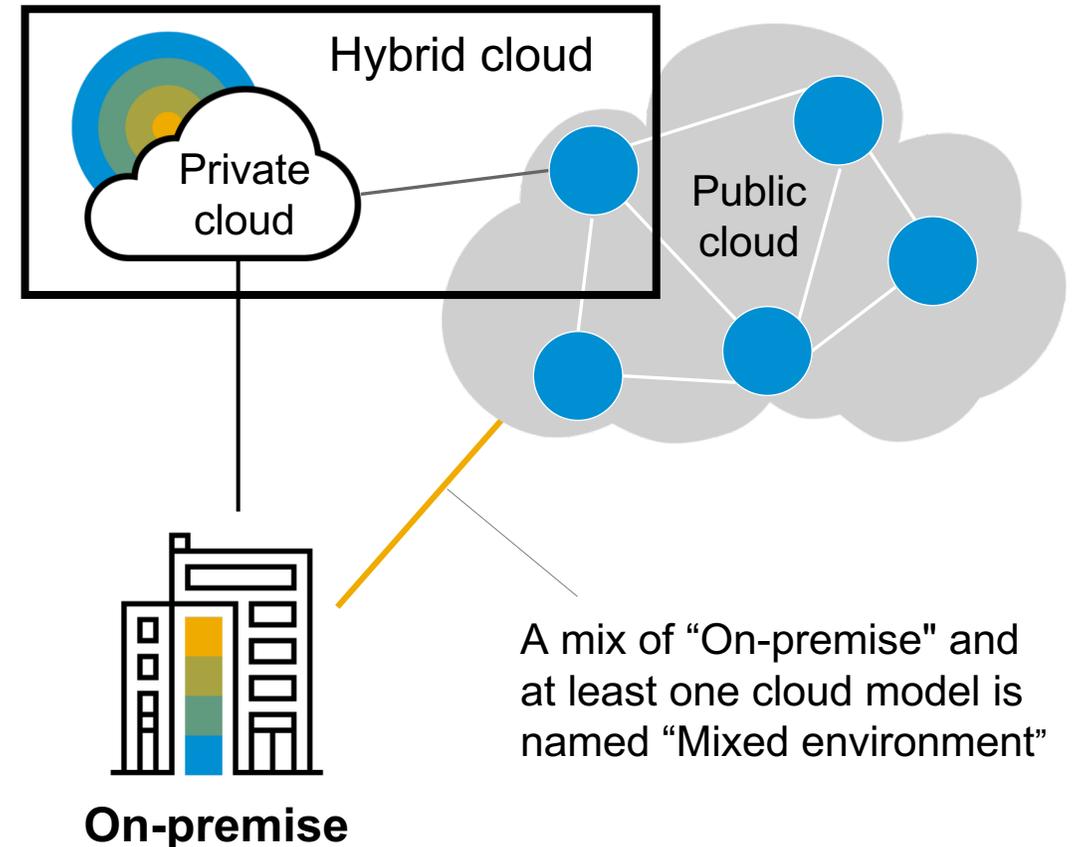
- The Service is assigned to one dedicated customer (single-tenant)
- Access via protected network channel (Virtual Private Network)
- Operations by customer or "Managed-Service" agreement
- May be hosted „On-premise“ or with service provider

Public cloud

- Systems are shared between multiple customer (multi-tenant)
- Service usage by self-service access and tools
- Operations by service provider

Hybrid cloud

- Mix of multiple deployment model
- Integration through standardized or specific interfaces ensuring access and data transfer

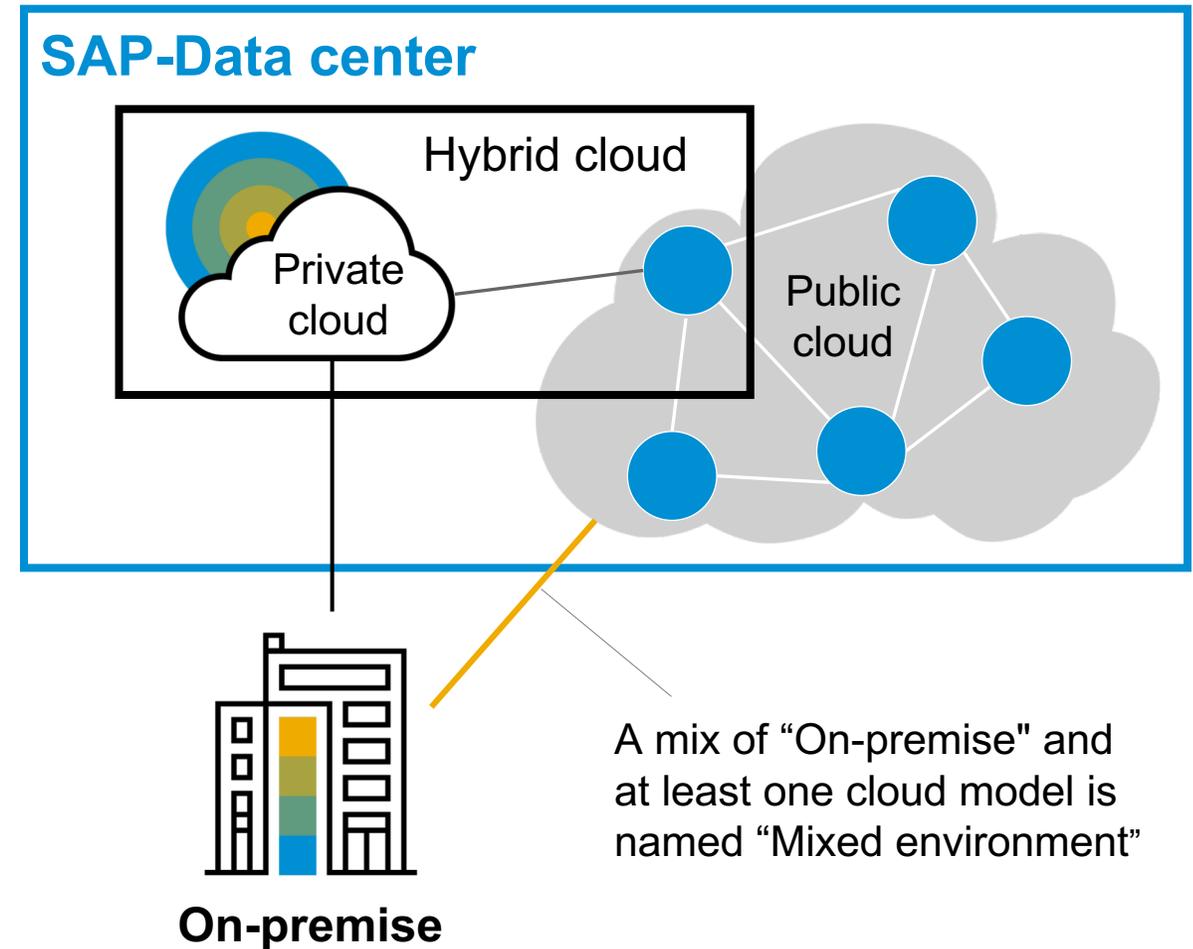


* Analog to definition of cloud by the National Institute of Science and Technology (NIST)

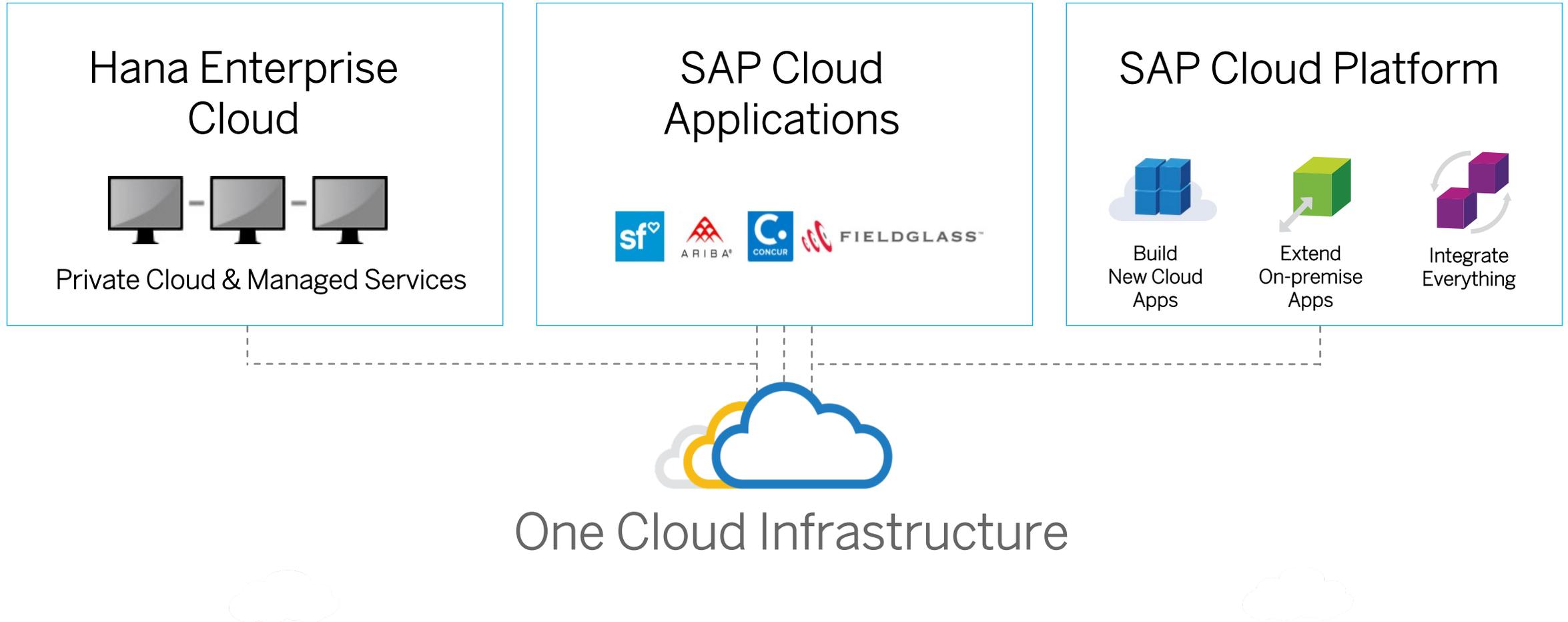
SAP Cloud deployment model

SAP Cloud Secure

- SAP Data Center
- SAP Managed Operations
- SAP Support



SAP Cloud Solution portfolio



SAP Cloud Secure

High Level Overview



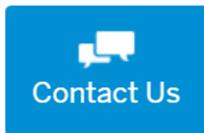
[Home](#) > [About SAP](#)

SAP Cloud Trust Center

[Overview](#)[Cloud Service Status](#)[Security](#)[Data Center](#)[Data Protection and Privacy](#)[Compliance](#)[Agreements](#)

Security, privacy, and compliance in the cloud – we keep your data safe

Your business is built on trust, and you expect the same from your software provider. As a leading software provider and a cloud company, we're dedicated to building – and keeping – our customers' trust.



Cloud Service Status

Discover the uptime and availability of SAP's cloud services with access to real-time insights.

[Cloud Service Status](#) >

Security

Rest assured that your data is protected with a cloud security foundation based on the highest quality standards.

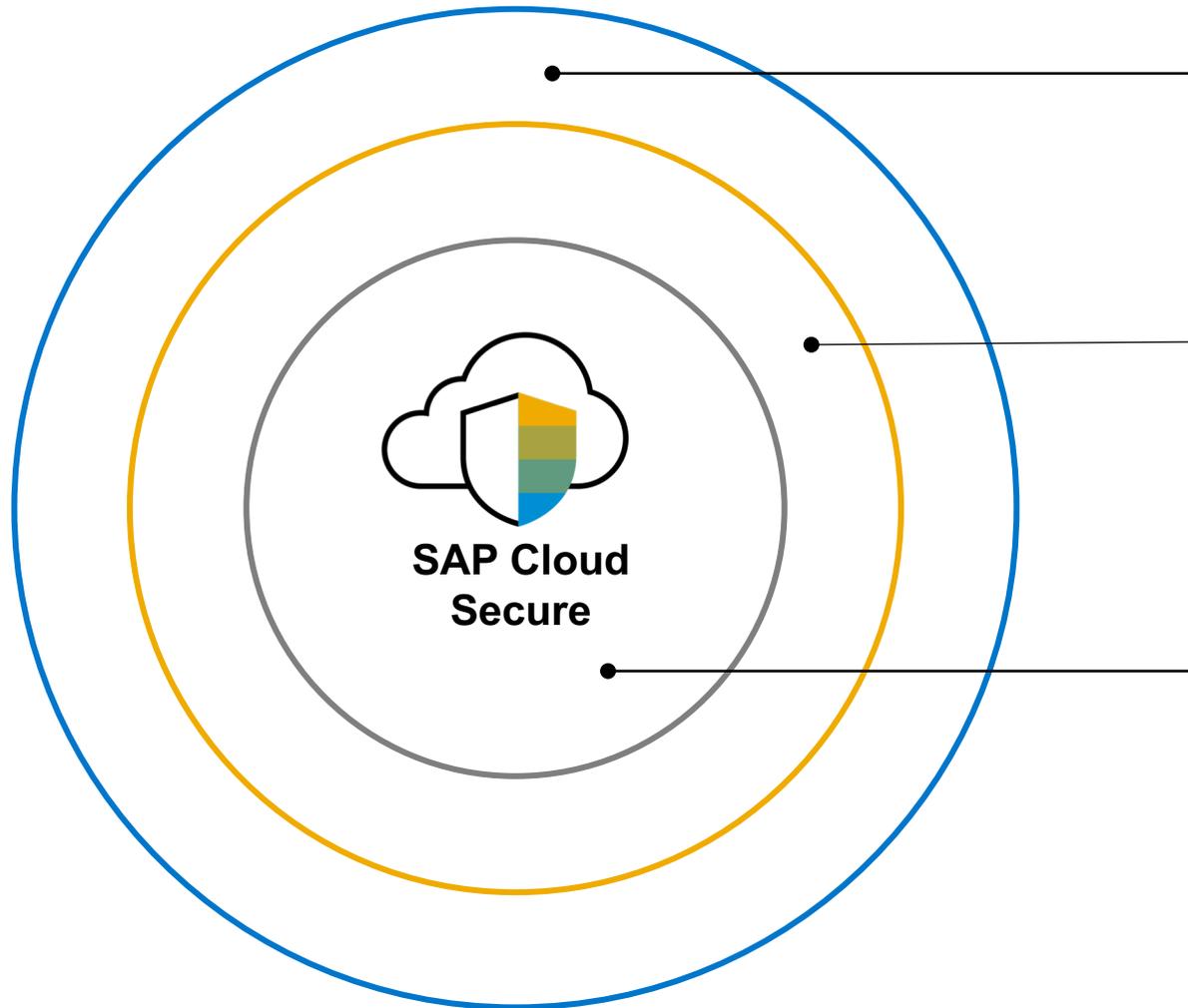
[Security](#) >

Data Center

Visit our data centers and see state-of-the-art technologies and rigorous security methodologies.

[Data Center](#) >

Layer of assurance



Contract

- Data processing agreement to meet applicable local data privacy regulations globally

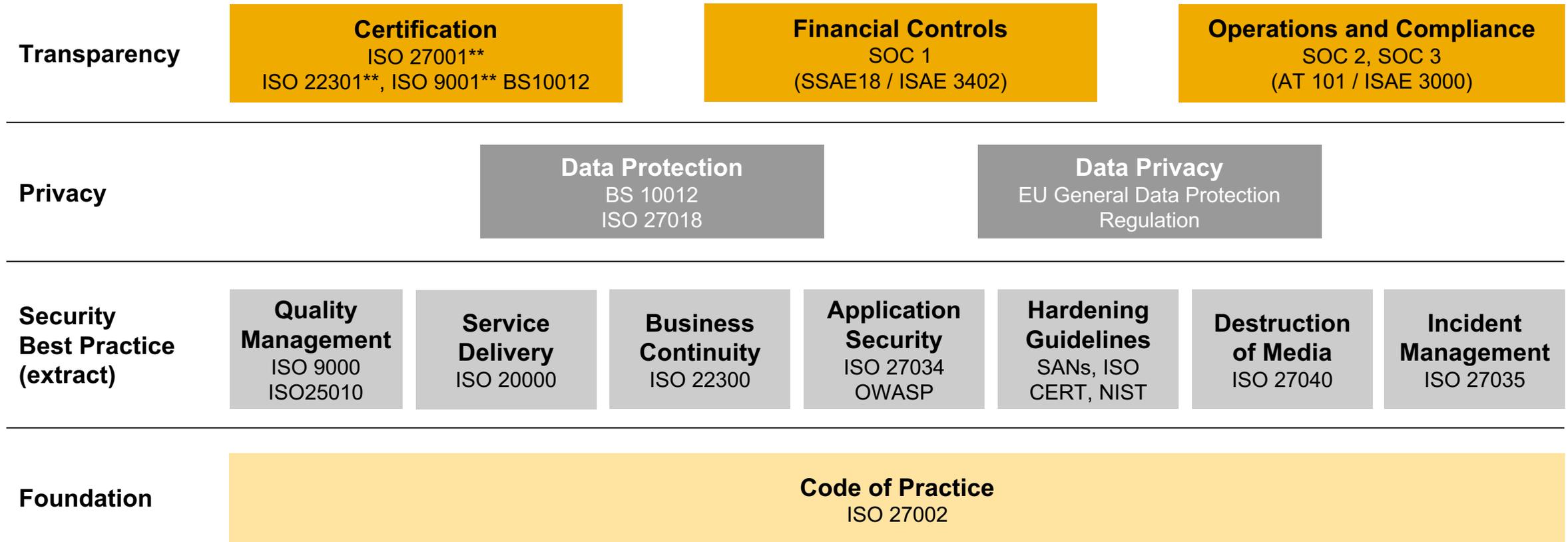
Audit and Certification

- Service Organization Control (SOC) reports and certifications to provide independent evidence for security, availability, confidentiality, data protection, and quality

Policies, directives, and standards

- Integrated management system for information security, data protection, and service delivery
- Comprehensive security architecture covering applications, processing systems, and data center

Management System of standards and best practices*



* The Management systems are used across all SAP Cloud Secure services, execution of independent certification and audit depend on service and organizational unit respectively.

Details available at: <http://go.sap.com/corporate/de/company/innovation-quality/excellence.html>

** Component of the **Integrated Information Security Management System (IISMS)** of SAP

<https://www.sap.com/about/cloud-trust-center/cloud-certification-compliance.html>

SAP Cloud Trust Center

[Overview](#)[Cloud Service Status](#)[Security](#)[Data Center](#)[Data Protection and Privacy](#)[Compliance](#)[Agreements](#)[Compliance](#)[Compliance Finder](#)

Compliance

Get the assurance you need to know that our cloud offerings meet the latest compliance and security standards. We regularly check compliance through external reviews and audits and follow one common framework, including data security and privacy regulations, worldwide.

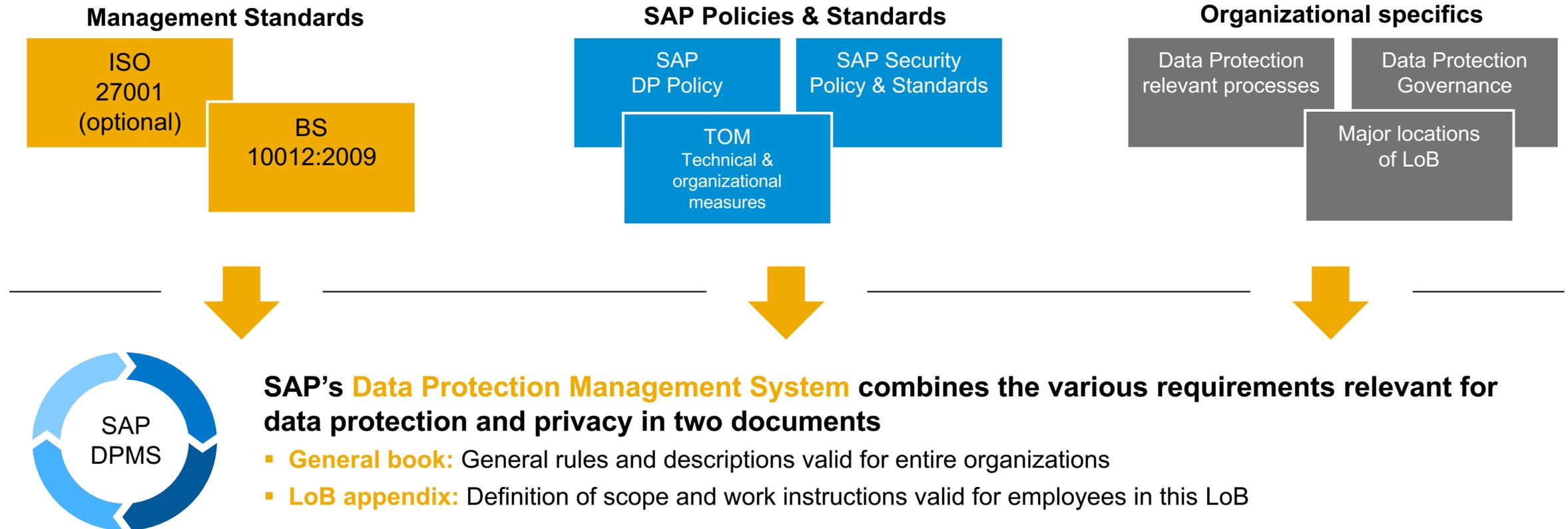
[Contact Us](#)

ISO/BS Certificates

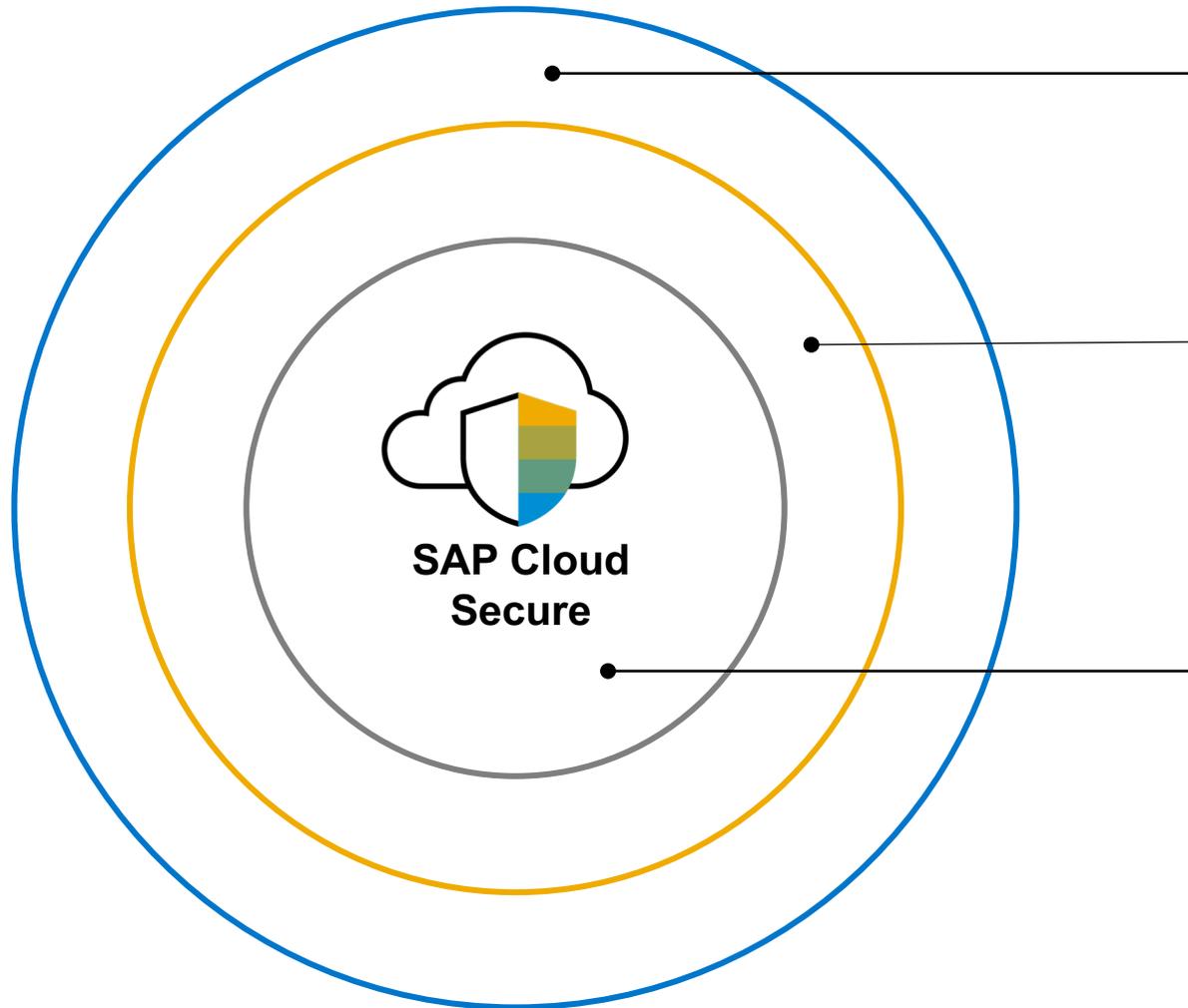
SAP has developed and implemented an integrated framework based on several international standards. This approach provides a consistent, secure service that meets customer and applicable regulatory requirements. We address client satisfaction and continuous, as well as secure operation of our services, through

SAP Data Protection Management System

Legal Data Protection and Privacy requirements



Layer of assurance



Contract

- Data processing agreement to meet applicable local data privacy regulations globally

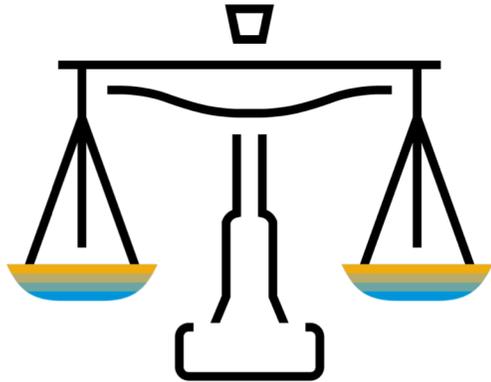
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SAP Cloud Secure – Contractual framework



Globally applicable **Data Processing Agreement (DPA)** based on **European General Data Protection Regulation**, one of the most comprehensive privacy regulation

Uniform application and **control of this comprehensive data privacy regulation** is consistent throughout the **sub-processor chain**.

SAP **observes changes** of local **data privacy regulation** globally and invests to keep our service in a way that our customer can continue to use it in compliance.

Additional cloud service offerings to cover **stricter data privacy requirements** and **special customer demands**; like storage and transfer of data in / from EU locations, only, US Federal Government environment, Australian or Russian data residency etc.

<https://www.sap.com/about/cloud-trust-center/cloud-service-level-agreements.html>

Cloud Contract

The contract for cloud services from SAP consists of three main building blocks. The order form, data processing agreement, and general terms and conditions are generally the same for any cloud service on our price list, while the cloud service description is a product-specific collection of terms.



Order form

The order form is your ordering document to subscribe to business cloud services from SAP. It defines the commercial terms and lays out the agreement structure.

[View sample order form >](#)



Cloud Service Description

SAP delivers the cloud service to all customers in a uniform manner. Find out the product-specific terms, the support policy, and the operational availability of the cloud service.

[Product supplement >](#)

[Support policy >](#)

[Service level agreement >](#)



Data Processing Agreement

Based on the instruction of the data processor handling personal data uploaded into the cloud service, SAP implements and maintains technical and organizational measures to adequately protect the personal data.

[Data processing agreement >](#)

[Data center location >](#)



General Terms and Conditions

The general terms and conditions (GTC) document describes the essential legal terms that apply to the chosen cloud service including usage rights, customer data, warranties, confidentiality, and limitations of liability provisions.

[General terms and conditions >](#)

[Consulting service supplement >](#)

[Financing supplement >](#)



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What is Cloud Security Framework?

“This Cloud Security Framework, which is part of SAP’s Documentation as defined in the SAP General Terms and Conditions for Cloud Services [8] and may be updated from time to time, governs the security controls and measures provided for the production (PRD) environments of SAP Cloud solutions and respective modules provided by SAP as listed in Section 2.3”

It’s a document which applicable to all SAP Cloud Solutions

SAP CLOUD: SECURITY FRAMEWORK VERSION 2.3.1 (FEBRUARY 27, 2018) SAP GLOBAL SECURITY

SAP MAY CHANGE THIS CLOUD SECURITY FRAMEWORK WITHOUT NOTICE OR CONSENT.

Document Classification: Customer

Technical & organizational measures (TOM) at a glance



TOM	Measures (samples)
Access Control	Video and sensor surveillance, access logging, intruder alarm systems
System Access Control	Password policy, strong authentication, access management tool
Data Access Control	Authorization concepts, SAP security policies and standards, security checks and penetration tests
Data Transmission Control	SAP security policy (confidentiality), network security, encryption
Data Input Control	Security Incident Management, 24 x 7 Security Monitoring Center, SIEM
Job Control	Segregation of duties, subcontractor compliance / certification
Availability Control	Business continuity management, disaster recovery plans / testing
Data Separation Control	Multi-tenancy, separate system landscapes, access restrictions
Data Integrity Control	Security patch management, malware management process

SAP Cloud Secure

Data Centers



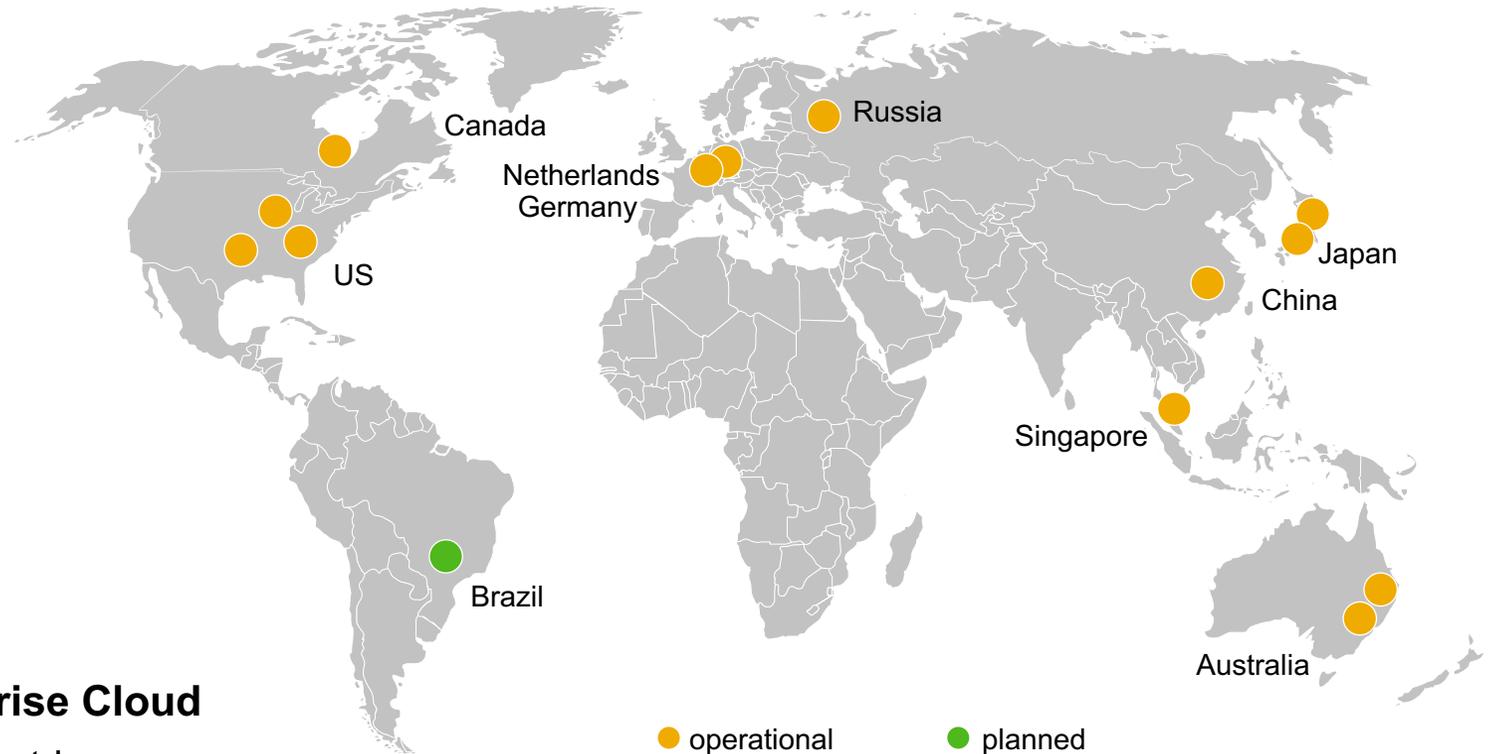
SAP Cloud Secure Data Centers

- Data Center on level III or IV
- SAP Data Centers around the world
14 countries, 30 locations, 40 DCs
- Benefit from local regulations
(e.g. strong German & EU regulations)
- Low latency speeds-up access
- Customer can choose
 - Region of data storage
 - EU-only operations available
 - preferred datacenter partner

+ Premium Partner Model for HANA Enterprise Cloud

10+ Premium Partner: 33+ data centers in 16+ countries

SAP Cloud Secure data center overview *



* Not all Cloud Solutions are available in all Data Center; for the availability of Cloud Solutions please compare the official [availability matrix](#)

Data Center – SAP Data Center level (availability) definition

- SAP Cloud solutions and customer data needs to be operated in a:
- **SAP Data Center level III, III+ or IV classified Data Center**
- SAP checks on site the compliance to the SAP Data Center minimum physical security standard that covers topics like:
 - Perimeter & location security
 - Building entry point security
 - Building security
 - Access controls & monitoring
 - General access and
 - Access to dedicated SAP areas
 - Fire protection
 - Electrical power supply
 - Certifications of the Data Center provider

Minimum availability requirements	level I	level II	level III	level III+	level IV
Stand-alone Data Center building necessary	no	no	no	yes	yes
Amount of external electrical power suppliers	1	1	1	1	2
Amount of transformers to power the Data Center	n	n	n+1	n+1	2n
UPS battery system necessary	no	yes	yes	yes	yes
Minutes UPS must provide power	0	5	>10	>10	>10
Amount of UPS systems necessary	n	n	n+1	n+1	2n
(Diesel-) Generators needed	no	no	yes	yes	yes
Amount of cooling systems needed	n	n	n+1	n+1	2n
Server cooling is independent from an office AC	no	no	yes	yes	yes
Fire detection system needs to be installed	yes	yes	yes	yes	yes
Fire extinguishing system must be installed	no	yes	yes	yes	yes
On-site response time of Data Center personnel	<48h	<8h	<1h	<1h	<1h
Available WAN network connection lines	1	n+1	n+1	n+1	2n
Available LAN network connection lines	n	n+1	n+1	2n	2n

n = all components are used for operation; no spare component; no backup or redundancy;
 n+1 = exactly one additional component is available to replace a failed component;
 2n = every component has a backup/spare component; full redundancy
 UPS = uninterruptible power supply
 AC = air condition

SAP Cloud Secure

A bit of experience



▲ SAP Cloud Portfolio WS

▲ Portal Options WS

▲ HANA Cloud Platform WS 1

▲ Proof of Technology 1MD

▲ SAP Cloud Platform WS 2

▲ Sold



- NW & BW onPrem
- NW & BW onPrem HCP
- HCP & ERP



Integration, Users, Custom Fiori, Mobile



PoC 1 Neo & Cust. Java



PoC 2 CF & Cust. Java



Users ??? Authorization ??? Authentication ??? LDAPs/IDPs/SAML2.0/Oauth 😊 😊



March 2016

November 2016

March 2017

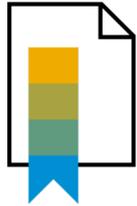
September 2017

SAP Cloud Secure

Summary



Confidence in SAP Cloud Secure service through transparency



Comprehensive Contracts

Privacy, security framework, and applicable local regulations



Independent Audits

Service Organization Control reports certifications



Cyber Defense

Multiple layers of defense
Holistic: Prevent, detect, and react

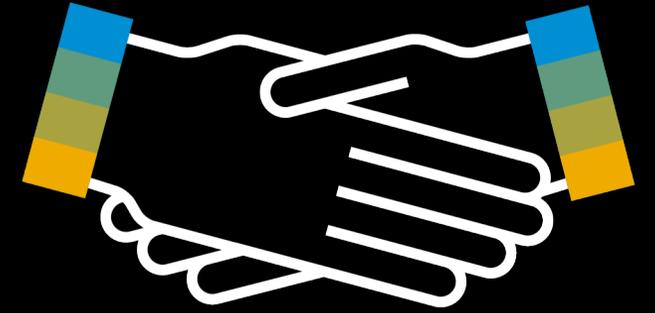


Secure Cloud Model

Holistic approach
Secure architecture



Thank you



Need for more information? [SAP Cloud Trust Center](#)

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