



Der Beauftragte der
Bundesregierung
für Informationstechnik



Dienstekonsolidierung

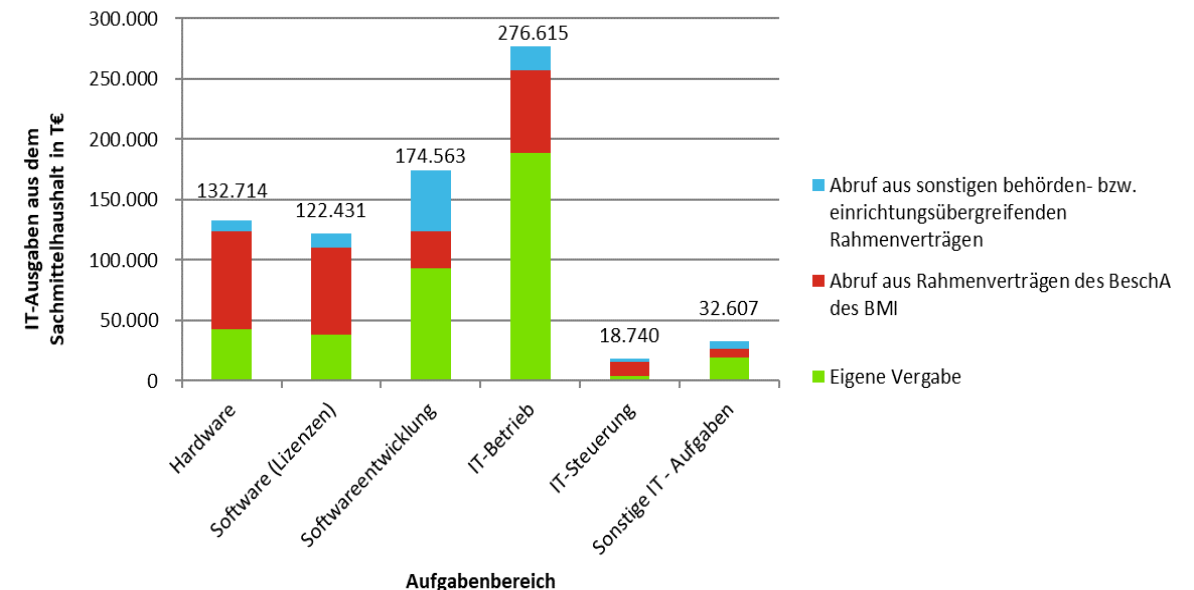
Data storage as a federal responsibility – The *Bundescloud*

Dr. Heike Stach, Federal Ministry of the Interior, Building and Community, Germany

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Oslo

Organization of the federal administration

- 16 federal ministries (supreme federal authorities) and
 - 191 agencies in the immediate federal administration
 - 195,805 staff members
- “Organically” grown IT infrastructure, including
 - 96 data centres
 - 23,085 server instances
 - approx. 190,000 clients



Launch of “IT Consolidation at Federal Level”

- **June 2013**: The Budget Committee of the German Bundestag adopts a decision (committee printed paper 17/6113–rev) requiring the Federal Government to develop a strategy for consolidating the federal administration’s IT networks and data centres and for centralizing IT procurement.
- **May 2015**: Launch of “IT Consolidation at Federal Level”
- From the start, the *Bundescloud* (federal cloud) has been a key project within the IT Consolidation agenda.
- **July 2017**: The “Bundescloud” platform is available to the federal administration.

Aims of the “IT Consolidation at Federal Level”

Legitimized by Cabinet decision of 20 May 2015 on the outline for IT consolidation at federal level (*)

- Data protection and IT security
- Sovereignty and control
- Flexible response to new developments
- Productive, efficient, stable and sustainable operation
- Attractive employer for IT experts
- Cost-effective and sustainable services



The Bundescloud supports all aims of IT consolidation at federal level

* <http://www.cio.bund.de/Web/DE/Innovative-Vorhaben/IT-Konsolidierung-Bund>

Fields of activity for and aims of IT consolidation at federal level

80% of IT operations

Consolidating IT operations
→ 2022

The development of the Bundescloud is part of the consolidation of IT services at federal level

BundesCloud

Consolidating IT services
→ 2025

Consolidating IT procurement
→ 2018

90% of IT procurement

Harmonizing infrastructure and basic and cross-functional IT services



1. Consolidating IT services at federal level

Consolidation of services: tasks

Reducing basic and cross-functional IT services to
a maximum of 2 IT services per function
by 2025

- Developing powerful IT solutions for which there is great demand at federal authorities
- Reducing existing redundancies across ministries
- Avoiding future redundant developments in federal authorities by tailored architectures
- Strengthening digital autonomy and technological independence despite consolidation
- Programme management
managing the projects as a programme
- Architecture management
designing fitting IT solutions

Overview of IT measures

From 2020: 42 IT measures for approx. 200 agencies in the immediate federal administration



e-Government

- administration portal
- user account Bund
- service.bund.de
- CMS/ GSB
- FMS
- e-payment Bund
- *open data*
- *mobile apps management*
- *chatbots*
- *geodata*
- *e-participation*



Enterprise Resource Planning

- federal HR management system (PVS Bund)
- IT framework planning via web (ITR4Web)
- calculator of economic efficiency (WiBe Kalkulator)
- **e-invoicing**
- e-procurement
- *decentral budget IT*
- *e-services for civil servants*
- *CAFM*
- *project funding management*
- *Controlling Bund*



Electronic administration

- **electronic files**
- digital interim archive
- social intranet
- e-legislation
- e-standards
- PKP
- process management tool
- *e-enactment*
- *analytics*
- *digital learning*
- *foresight and evidence*
- *machine translation tool*



Infrastructure

- **IAM**
- **federal client**
- **Bundescloud**
- meDA
- e-scanning
- *G2X*
- *PKI*
- *baseline IT security tool*
- *eVSB*



2. The Bundescloud

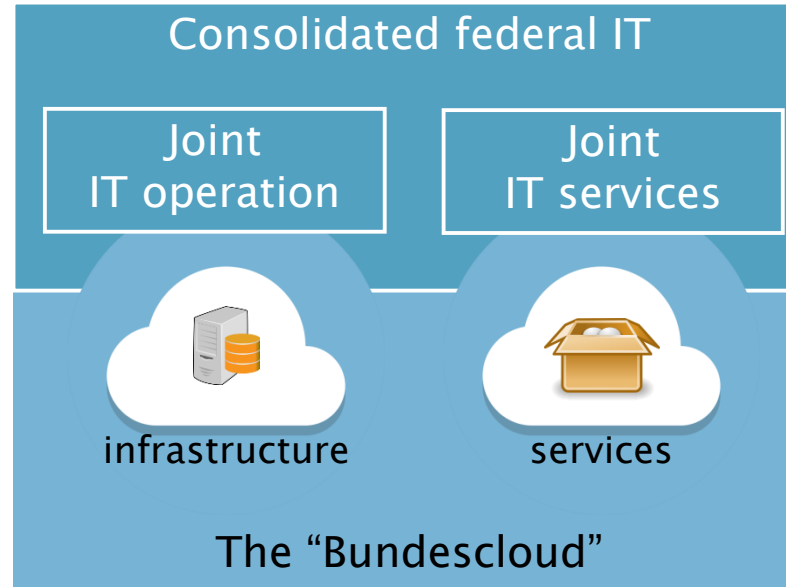
The Federal Cloud – a modern platform for the joint federal IT

Aims of the Bundescloud project

- Ensuring privacy and IT security by storing data in own data centres;
Preventing uncontrolled data leaks
- Maintaining sovereignty and control especially through independence from leasing mo
- Productive, efficient, stable and sustainable operation by investing in
technology and know-how of own IT service providers
- Becoming an attractive employer for IT experts by offering challenging and interesting

* [http://www.cio.bund.de/Web/DE/Innovative-Vorhaben/IT-Konsolidierung Bund](http://www.cio.bund.de/Web/DE/Innovative-Vorhaben/IT-Konsolidierung-Bund)

Bundescloud and IT consolidation at federal level



The **Bundescloud** provides

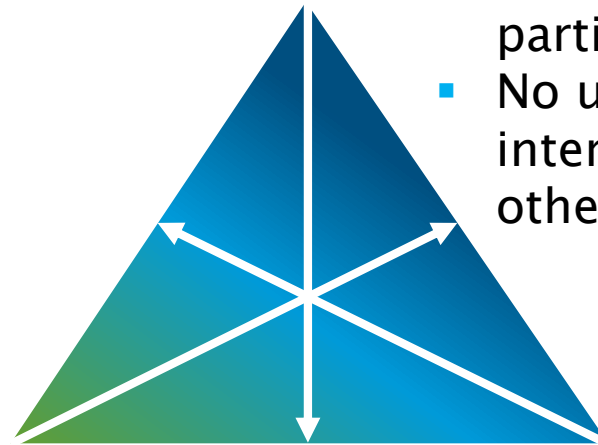
- automated
 - scalable and
 - secure cloud services
- in data centers in Germany owned by the federal government.

The Bundescloud is the modern platform for the consolidated joint federal IT

IT security requirements

Availability

- Keep administration fully operational



Confidentiality

- No unauthorized access by third parties
- No unauthorized access by other internal staff (especially from other offices)

Integrity

- No unauthorized manipulation of data
- Prevention of data loss

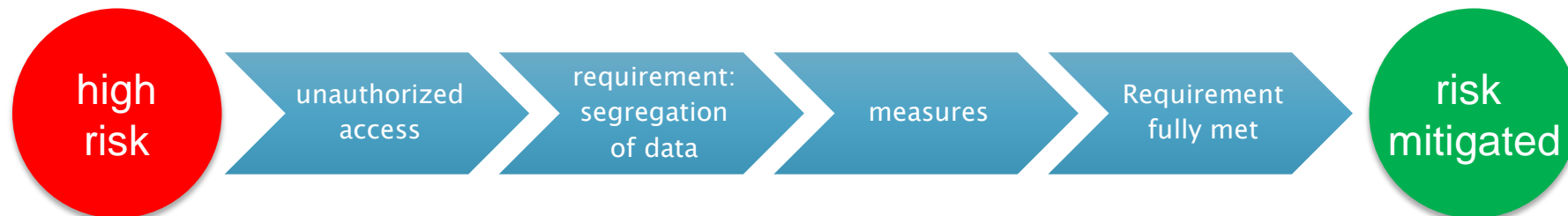
IT security and the Bundescloud

- **The Federal Information Technology Centre (ITZBund) has to comply with ISO 27001 (German IT-Grundschutz, baseline security for IT systems)**
- In addition, the Bundescloud infrastructure
 - has been and will continue to be audited based on the Cloud Computing Compliance Controls Catalogue (C5)
 - complies with the Classified Information Instructions (CII).
- Security requirements are addressed by involving
 - the Federal Office for Information Security (BSI)
 - the Federal Commissioner for Data Protection and Freedom of Information (BfDI)
 - the Security Officer for Classified Information at ITZBund
 - the Security Officer for Information Security at ITZBund

C5 requirements

Example: Segregation of data

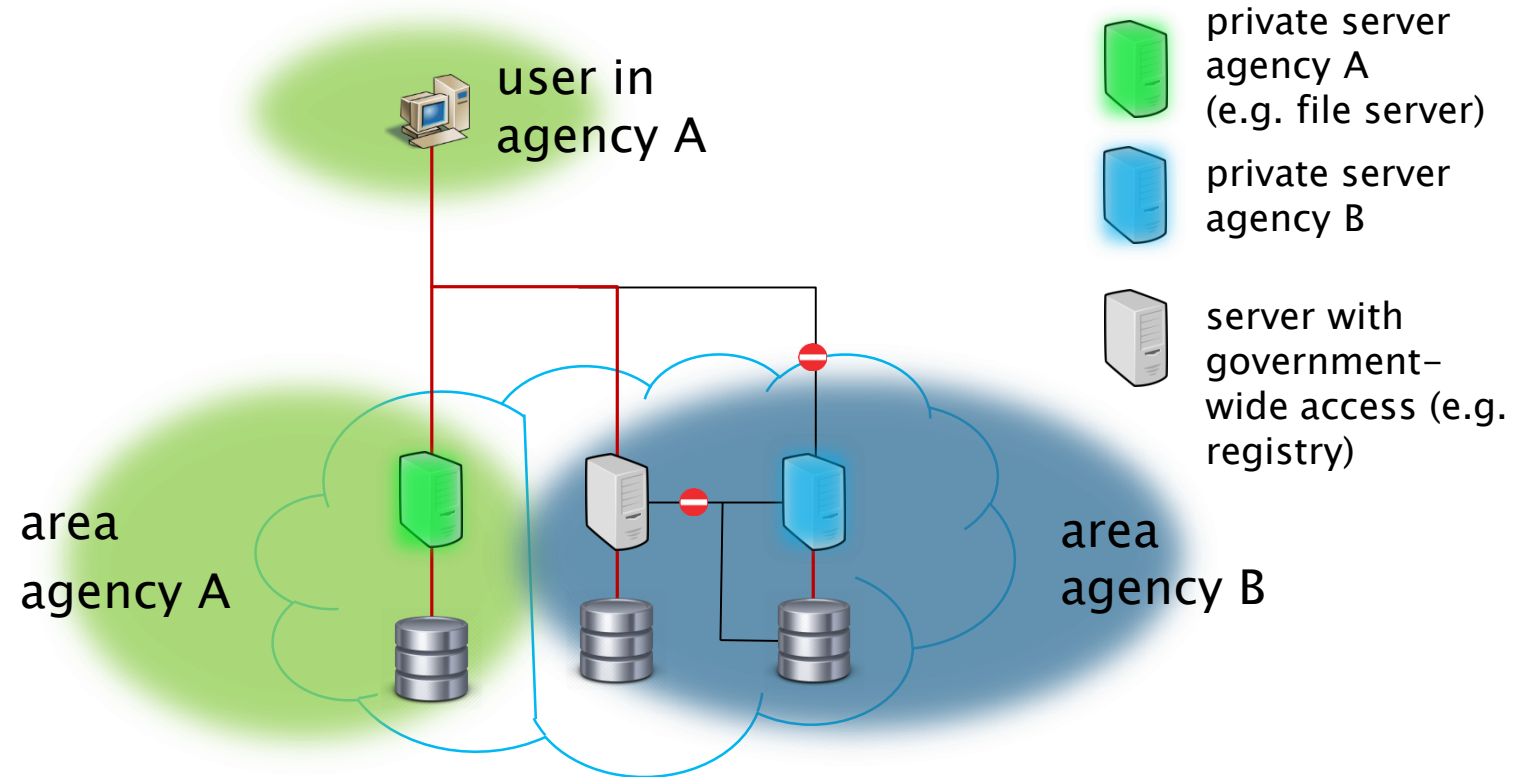
- **RB-23** Data is separated securely and strictly on jointly used virtual and physical resources (storage network, memory) according to a documented concept in order to guarantee the confidentiality and integrity of the stored and processed data.



Result of the 2017 security audit: Requirements fully met.

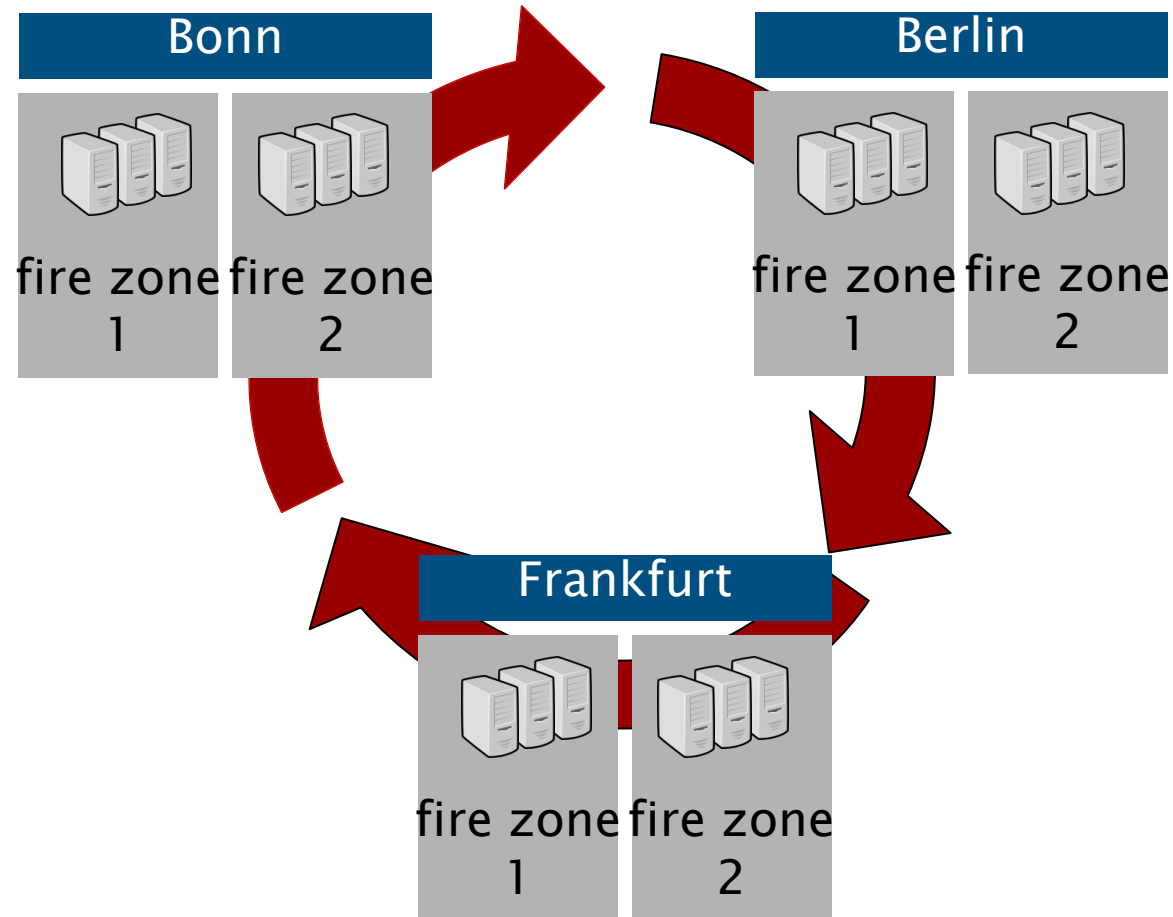
C5 requirements

Segregation of data (from the perspective of agency A)



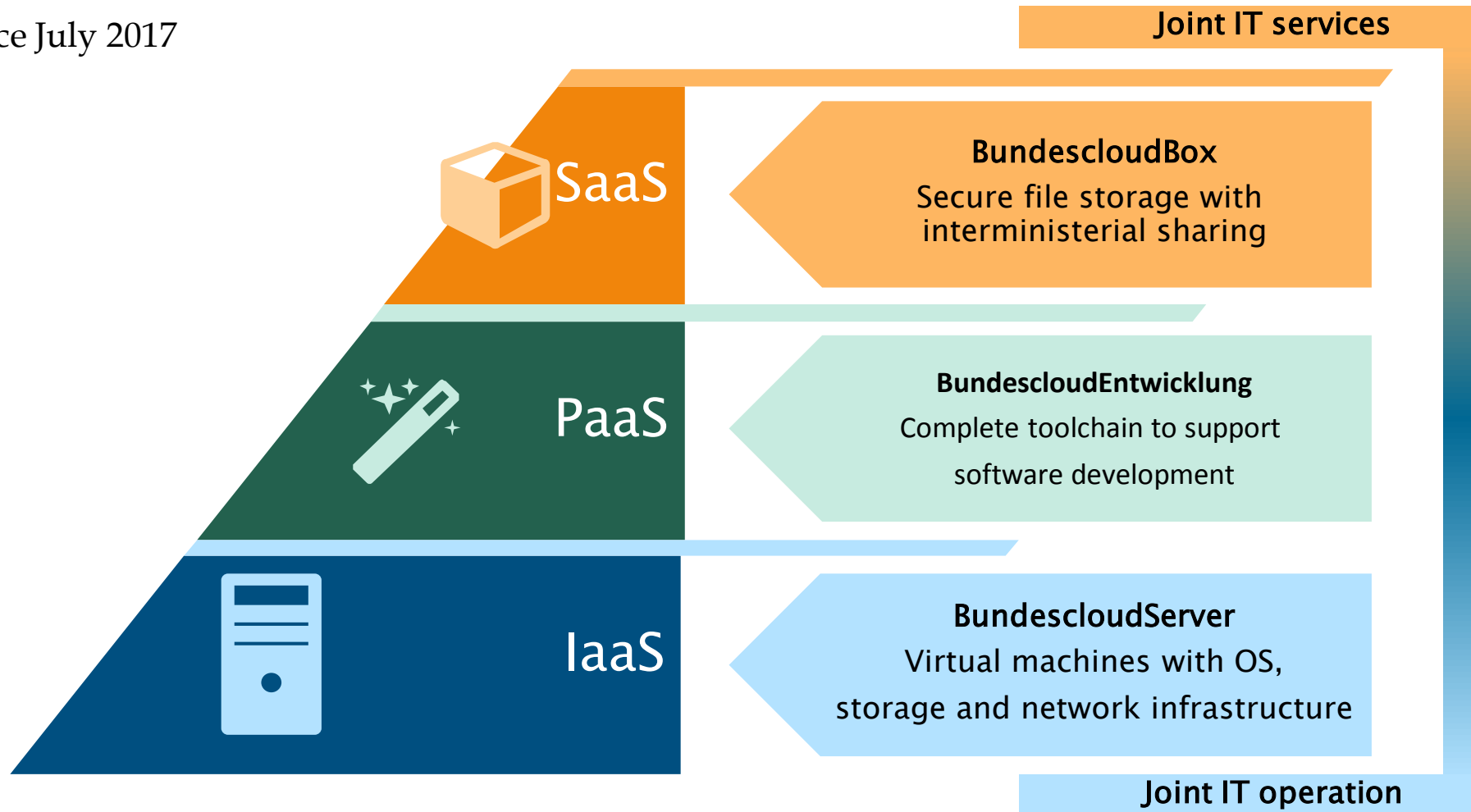
Resilience through geo-redundancy

Three site locations with two fire zones each



Bundescloud services

online since July 2017



Bundescloud self-service portal

The screenshot shows a web browser window with the URL <https://portal.cloud.intranet.bund.de/service?sort=ascend&layout=list&approval=ALL&category=ALL>. The page header includes the BundesCloud logo and 'ITZBund'. Below the header is a navigation bar with 'Dashboard' and 'Katalog durchsuchen (7)'. A search bar is present, followed by filter buttons for 'Alle Kategorien', 'Alle Servicetypen', and 'Alphabetisch'. The main content area displays a list of services:

- BC-Box Registrierung (1.0.0)**
SaaS
Mit Hilfe der Benutzerregistrierung können Sie sich einen Account in einer BC-Box Ihrer Behörde anlegen und somit Zugriff auf Ihren eigenen Speicherplatz der BC-Box erhalten.
ITZBund - Benutzer | Veröffentlicht am 18. Aug 2017 19:33:26
- BC-Entwicklung (1.0.0)**
SaaS
Ausgewählte serverbasierte Softwareentwicklungstools werden als integrierte Lösung zur Verfügung gestellt, die alle Phasen des Softwareentwicklungsprozesses (Develop, Build, QA und Issue-Tracking) abdecken.
ITZBund - BC-Entwicklung | Veröffentlicht am 9. Nov 2017 10:05:20
- BC-IAAS-ITK (1.0.0)**
IaaS
Server sind die eigentlichen Kundensysteme, die bestellt werden können. Hierbei handelt es sich um standardisierte Systeme in den Ausprägungen Windows und RedHat. Die Bereitstellung an den Kunden erfolgt mit Übergabe des administrativen Zugangs.
ITZ - ITK | Veröffentlicht am 19. Dez 2017 16:31:12
- BC-IAAS-ITK-BETRIEB (1.0.0)**
IaaS
BC-IAAS-ITK-BETRIEB dient als Container für alle notwendigen Betriebsdienste, z.B. zusätzliche Kundenservices (Backup, Proxy) aber auch Dienste für Betrieb durch das ITZBund (BMC Discovery). Dieser Container kann zukünftig um Dienste erweitert werden.
ITZ - ITK | Veröffentlicht am 19. Dez 2017 14:37:08
- BC-IAAS-ITK-CONTRACT (1.0.0)**

Electronic records management in the federal administration (E-Akte Bund)

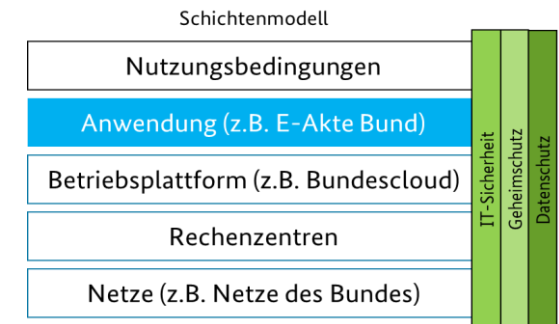
The Bundescloud as a platform for applications involving classified information

In addition to the high IT security requirements, the electronic records management in the federal administration must meet the requirements in respect of protecting classified information.

This requires full security at all tiers:

- users in client agencies,
- application,
- platform,
- data centres,
- networks.

As part of the introduction of the electronic records management system, it is intended to obtain authorization to handle classified information through the Bundescloud.





3. Digital autonomy

In view of the crucial role of information technology, digital autonomy becomes more important.

- Many companies pursue a cloud-first strategy: software and IT operation are inseparably connected so that as a result
 - data is stored outside public agencies,
 - users have less influence on process design (design autonomy) because cloud services are standardized services,
 - there is a high availability risk: Is the working ability of the public sector ensured, particularly in crisis situations (e.g. in case of war; cyber attacks)

- Many technology sectors increasingly depend on individual providers; risks:
 - significant cost increases
 - inability to act, particularly in conflict situations.

Requirements for using cloud services provided by private companies are necessary


Already in 2015, the CIO Council of the Federal Government and the joint IT council of federal and state administrations (IT Planning Council) adopted minimum requirements for using public cloud services:


- *External cloud services should be used only if the federal administration itself cannot provide the services required.*
- *The processing of sensitive data is permissible only in Germany; sensitive data must not be revealed to unauthorized third parties.*
- *It must be possible to change the provider of cloud services without unreasonable effort (no lock-in).*
- *Contracts for cloud services must be governed by German law and must state Germany as the place of jurisdiction.*
- *Obtaining the permanent right of use (purchase) is to be preferred to a temporary right of use (lease).*
- *The cloud service provider must demonstrate sufficient information security (ISO27001 or C5).*


And: a private cloud infrastructure (e.g. Bundescloud) must be available for all areas that are mission-critical or relevant in terms of security and data protection

Federal CIO acknowledges critical level of software vendor lock-in and its threat to digital autonomy



 Existing pain points due to software vendor lock-in, especially limited information security and legal uncertainty are **recognized and found to be critical** ([Download here](#))

 **High level of vendor lock-in** restricts the technological independence of the federal administration and thus **threatens its digital autonomy**

 There is an **urgent need for action** requiring **fundamental changes** in the IT landscape of the federal administration in the medium and long term

Digital autonomy has become a key topic of digital policy



Developing an **overarching strategic goal** to preserve and strengthen digital autonomy of the public administration at federal, state and local level (focus on **OSS**)



Examining information technology segments for critical dependencies and initiating necessary measures



Seeking **alternative solutions** and demonstrating feasibility and functionality in **Proofs of Concept (PoC)**



Coordinating measures to minimize critical dependencies and **promoting alternative IT solutions**



Call to action: Activities in Germany take place at federal, state and local government level, with coordination among stakeholders at all of these levels.

Conclusions

With cloud computing the federal IT is able to meet current and future needs to support the government to the fullest extend.



To ensure digital autonomy, it is vital for the government to have its own cloud infrastructure based on open standards and independent from individual providers.

Thank you very much for your attention!

Contact

Federal Ministry of Interior, Building and
Community
Division DG I 5 – Consolidation of IT Services
Bundesallee 216 – 218
10719 Berlin
www.bmi.bund.de

Dr. Heike Stach
DGI5AG@bmi.bund.de

Weitere Informationen zur Dienstekonsolidierung:

- [Intranet des Bundes](#) – Erreichbar über die Netze des Bundes
- [cio.bund.de](#) – Erreichbar über Internet
- [BSCW-Plattform](#) – Erreichbar über Internet,
Zugriffsberechtigung über DGI5AG@bmi.bund.de
beantragen
- [Newsletter abonnieren](#)