

# R&S<sup>®</sup>TRUSTED GATE – SOLUTION FOR ONEDRIVE

R&S<sup>®</sup>Trusted Gate – Solution for OneDrive provides secure processing of sensitive data in Microsoft<sup>®</sup> OneDrive for Business. While the files in the local OneDrive folder are usable as always, the synchronized files in the cloud are only placeholders without content. The original files are stored encrypted and fragmented in a multi-layer storage system on-premises or in various clouds.

► Use the benefits of Microsoft<sup>®</sup> OneDrive without losing data security and control.

## Securely storing, synchronizing and sharing of your data

OneDrive for Business is a very widely used cloud storage and file sharing service that is well integrated in Microsoft<sup>®</sup> 365 and Microsoft<sup>®</sup> operating systems. R&S<sup>®</sup>Trusted Gate – Solution for OneDrive adds an additional layer of data security to OneDrive for Business without compromising the easy usability of the service and without adding any additional working steps for the users. With R&S<sup>®</sup>Trusted Gate – Solution for OneDrive all stored data is absolutely safe from any unwanted access by 3rd parties.



Product Flyer  
Version 01.00



## Virtual file technology

When an user puts a file in the defined OneDrive for Business folder it normally gets automatically upload to the cloud. With R&S®Trusted Gate only a virtual copy of each file without any sensitive content is stored in the cloud. It only contains metadata like keywords or other classification data from the original document. The authorized user can work transparently with these placeholders in the web interface of OneDrive for Business without accessing the confidential content. The actual content of the files will never be exposed to any cloud provider and is protected against unauthorized access.

## Secure and distributed storage

The original files get encrypted, fragmented and then stored in a multi-layer storage system on-premises or in various clouds. Due to fragmentation into small chunks, confidential data cannot be compromised even by complex cryptographic attacks. The chunks can be stored and distributed via a configurable software-defined storage module (SDS). The SDS module enables file storage on different hardware and major cloud providers like Azure (Microsoft®), AWS (Amazon) or GCP (Google). Customers are able to choose inexpensive cloud storage providers even for massive amounts of data without limiting the easy usability of OneDrive.

## Related R&S®Trusted Gate products

### R&S®Trusted Gate – Solution for Microsoft® 365 Teams Edition

Provides secure processing of sensitive data in Microsoft® 365 and Teams. While in the public cloud just virtual files without content are exposed, the original files are stored encrypted and fragmented in a multi-layer storage system on-premises or in various clouds.

### R&S®Trusted Gate – Mail Control

Provides secure processing of sensitive attachments in emails. Attachments will be extracted, stored encrypted and replaced in the mail by a link. Recipients can access content with defined security rules (full access, read only or no access). This solution contains data exchange and mobile access solutions.

### R&S®Trusted Gate – Secure Data Exchange

Provides high secure data exchange functionality between internal and external project groups and teams. Data can either be synchronized automatically or with manually user interaction between different parties. The exchange data target can be configured as a multi-layer storage system either on cloud or on-premises storage systems.

## High security in for confidential data

R&S®Trusted Gate enables implementation of corporate requirements for the protection of confidential data. In addition, companies are able to distribute chunks across multiple storage systems using the integrated RAID cloud module. That supports a multi-storage strategy for achieving resilience against scenarios like an internal IT security breach or a certain servers going offline.

## Flexible and scalable deployment options

The software infrastructure of this solution is based on microservices with great flexibility of deployment. R&S®Trusted Gate can run its services in containers with an orchestration system like Kubernetes or can be deployed as a single server app. That provides a higher grade of control, scalability and elasticity. In hybrid environments, critical core services related to administration and key management can be deployed on-premises while CPU intensive operations like encryption service can be deployed in the cloud. From operating point of view, this solution is deployed using reverse proxy and therefor provides transparent encryption with existing workflows..

## Secure search in encrypted documents and versioning

OneDrive for Business uses SharePoint Online instances in the background. When using SharePoint web interface users can search for file names, keywords and full text in encrypted files – without a security compromise. The search function can be easily accessed by the SharePoint Enterprise Search. Encrypted files name and content can only be searched by authorized R&S®Trusted Gate users, so no sensitive data is exposed to other OneDrive for Business users or admins. Users can benefit from the advantages of versioning when accessing their OneDrive for Business files via the SharePoint Online user interface.

## Confidentiality and integrity

This solution encrypts documents using Block Cipher Mode (GCM). This ensures confidentiality and integrity. The symmetric document-centric keys (AES 256) are additionally encrypted with asymmetric keys (RSA or elliptic curves). Access rights can be assigned with high granularity for groups and individual users.

**Rohde & Schwarz Cybersecurity GmbH**  
Muehldorfstrasse 15 | 81671 Munich, Germany  
Info: +49 30 65884-222  
Email: cybersecurity@rohde-schwarz.com  
www.rohde-schwarz.com/cybersecurity

**Rohde & Schwarz GmbH & Co. KG**  
www.rohde-schwarz.com

R&S® is a registered trademark of Rohde & Schwarz GmbH & Co. KG  
Trade names are trademarks of the owners  
PD 3608.8611.32 | Version 01.00 | February 2021 (sch)  
R&S®Trusted Gate – Solution for OneDrive  
Data without tolerance limits is not binding | Subject to change  
© 2021 - 2021 Rohde & Schwarz Cybersecurity GmbH | 81671 Munich, Germany



3608861132