

## Success Story

# Enterprise Cloud by 1&1 IONOS: a Secure Foundation

Digital asset management from Architrave digitalizes the real estate industry

**So where are the documents for a property kept? Some of them are stored on drives in Office files or private desktops, some in CMS systems, and still more on the cloud – and a not insignificant number are still kept in folders. The real estate industry is currently in something of an interim state of digitalization. But a solution for efficient asset management is already at hand: the digital asset.**

To enable the efficient management of digital assets, Architrave has developed exclusively for the real estate industry a software solution that acts as a secure data room and covers the entire real estate lifecycle. Architrave GmbH was founded in Berlin in 2012 and currently employs more than 60 people in Berlin, Frankfurt am Main and Dresden. Its portfolio also includes a document check-up and services for digitalizing and archiving analog documents. The asset management platform Architrave supplies all building-relevant data in the form of digital assets.

Customers include more than 40 high-caliber asset managers, based primarily in German-speaking countries. With its in-house-developed real estate software, Architrave manages more than 3,100 assets worth in excess of €60 billion. In early 2018, the

Berlin-based company was voted the best PropTech of the year at the “immobilienmanager Award” – the “Oscars” of the German real estate industry.

## Flexibility, Data Protection and Personal Support

As the number of customers increased and after a number of years with a different IT provider, Architrave felt a need for greater flexibility. So far, only complete servers could be hired and virtual machines (VM) had to be provisioned manually.

This became particularly laborious and time-consuming as the size of a VM constantly increased and customers had to move to a different server on an ad hoc basis. This meant excessive overheads in Architrave’s daily IT operations and was, quite simply, no longer in keeping with the times.

The search for a new, stable and – most importantly – more flexible cloud supplier began with some intensive market research, with a special focus on the very highest standards of data protection. The real estate industry processes a range of personal data (e.g. rental agreements), which, in accordance with the law, must be processed and stored only on German servers.

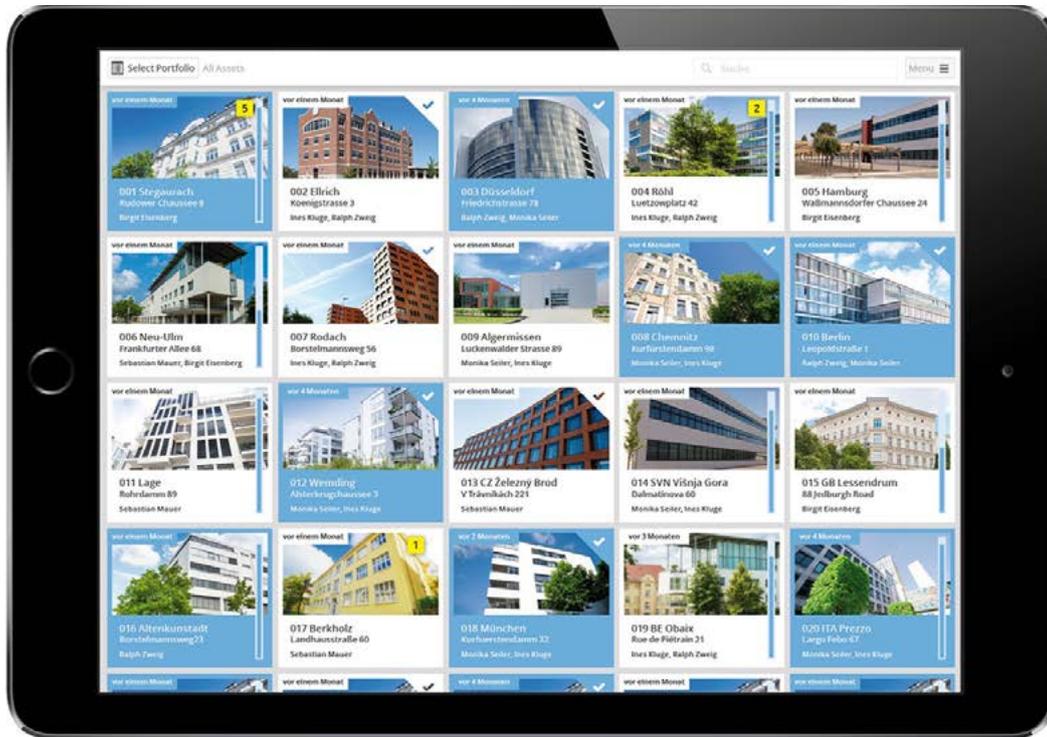


Figure1: Interface of the Architrave lifecycle data room (photo: Architrave)

Another advantage was the availability of a personal contact and the 24/7 system administration support from 1&1 IONOS.

Architrave's two project managers – Dr. Benjamin Staude (founder and CTO) and Richard Klemm (Head of IT Operations) – paid a personal visit to 1&1 IONOS's Berlin office in advance and saw for themselves the team's high degree of professionalism.

The asset management software is available in German, English and French and is also increasingly being deployed by internationally active companies. The requirements of real estate customers are exceptionally stringent and can be met only through the ability to make dynamic changes, the fulfillment of high security standards and with a stable IT infrastructure.

*„We operate with a critical infrastructure that we provide for our customers. After all, our customers keep all of their documents with us. If our service fails, our customers will experience serious problems – and that can lead to quickly escalating costs.*

*This is why a stable, reliable cloud solution is essential for us.“*

**Richard Klemm**

Head of IT Operations at Architrave

Architrave was particularly impressed with the swift, one-to-one, around-the-clock contact with the 1&1 IONOS system administration support team. Even complex questions and queries can be answered instantly by experienced 1&1 IONOS employees, who can come up with tailor-made troubleshooting fixes for customers at any time. According to Dr. Benjamin Staude, this gives 1&1 IONOS a crucial edge over impersonal service centers, which often force people to wait in long queues before they can talk to anyone.

### Example: Sony Center Berlin

In addition to the purchase of OmniTower in Frankfurt by Commerz Real AG, the Sony Center Berlin was one of the single biggest transactions ever been handled by Architrave. So how is real estate actually purchased or sold? And how can Architrave support this process securely and efficiently?

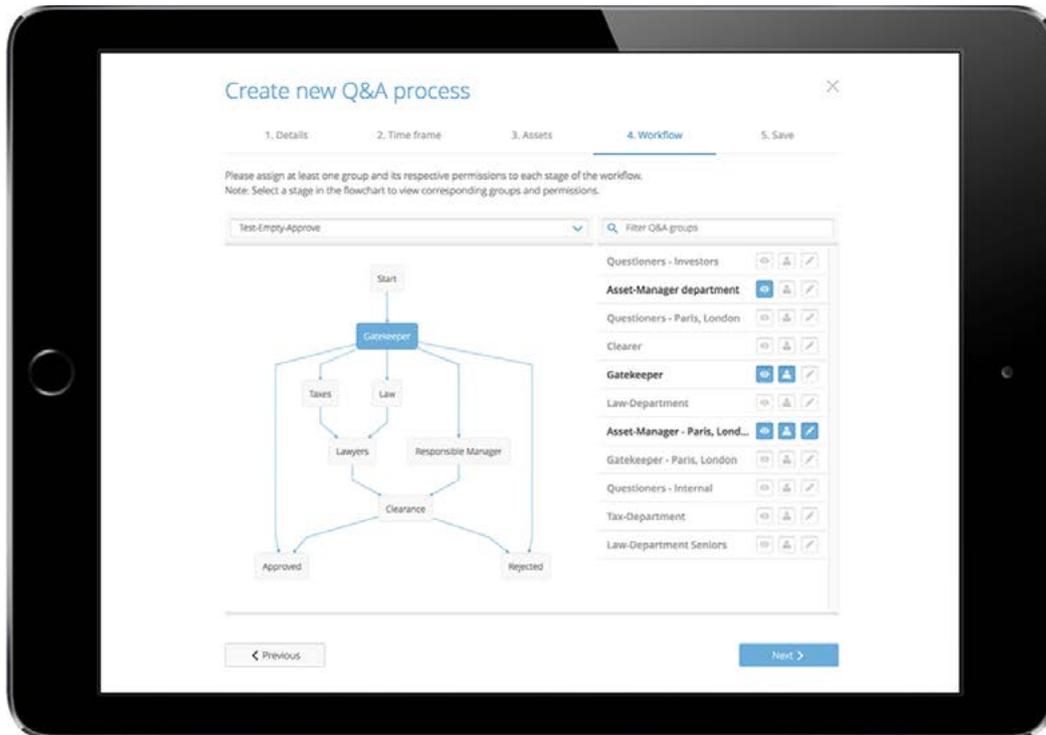


Figure 2: Workflows of the Architrave lifecycle data room (photo: Architrave)

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A property owner commissions a real estate broker to coordinate and manage a transaction. Major real estate brokers often have highly efficient processes and invest in technology and services, which is why it makes sense for them to implement a real estate digital asset management solution. The real estate broker collects all the documentation describing a building down to the very last detail: papers and documents, service contracts, maintenance contracts, rental agreements, technical documentation, photos, additional map material.

Thanks to Architrave's solution, preparing and supplying this mountain of data for potential buyers and investors is a cinch. On the basis of extensive discussions, the purchase agreement is then negotiated and concluded in a secure data room. In the event

of a sale, the entire documentation is burned onto a DVD and certified by a notary as part of the purchase agreement.

*„If you haven't implemented a solution like Architrave, each of your service providers will have their documents in lots of different places. And if you want to sell a property or have it valued and you need all the relevant documents, your service providers are forced to embark on a huge quest to track down the documents you need. And that can take time!“*

**Dr. Benjamin Staude**  
Founder and CTO of Architrave

The software encompasses the entire real estate lifecycle, allowing shareholders and service providers – once assigned specific upload rights – to upload documents to the platform and view them at any time and real estate owners to enjoy full, round-the-clock access to all digital assets.

The most recent open issues can be clarified using a personalized Q&A tool, and interested parties can

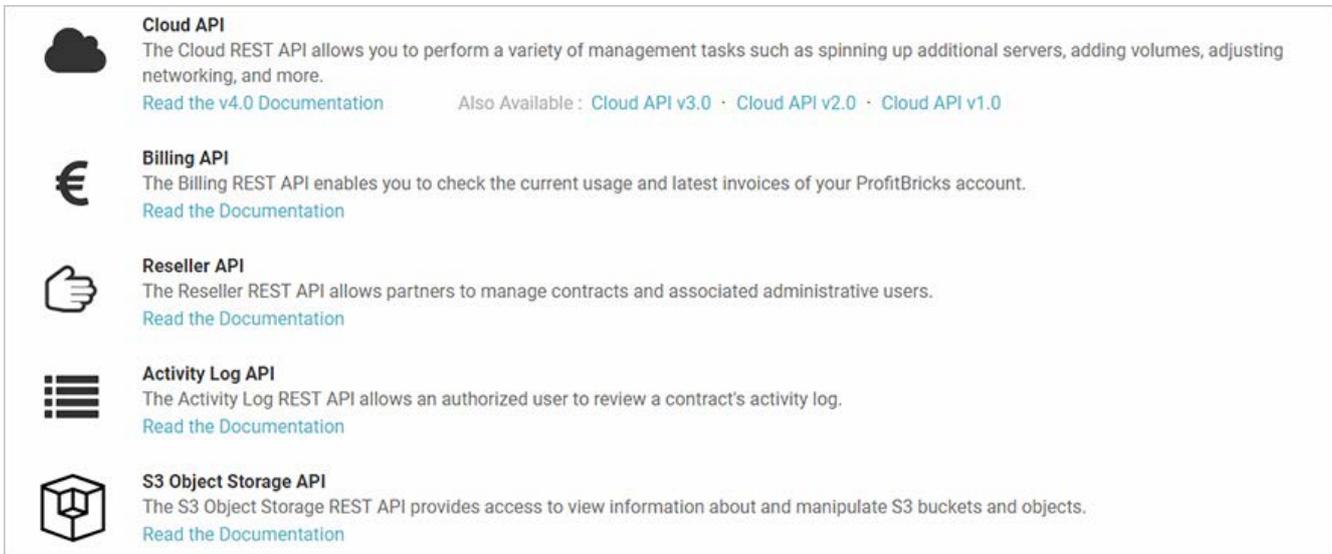


Figure 3: Overview of 1&1 IONOS APIs (photo: 1&1 IONOS)

then commission experts or lawyers on the basis of this data to review the documentation.

### From the 1&1 IONOS API to Architrave AI

Richard Klemm – Head of IT Operations – and his colleagues used the free-of-charge trial phase primarily to test and scrutinize every aspect of the 1&1 IONOS Cloud API. Happily, 1&1 IONOS's entire Enterprise Cloud infrastructure is practically tailor-made for creating new customer instances even more quickly and with a greater degree of automation.

With just a single module, for example, individual instances can be activated and deactivated at the click of a mouse. Thanks to the Enterprise Cloud, only one or two manual steps for creating the DNS entries are required for starting new customer instances. Even big real estate companies can get Architrave up and running in this way in just a few minutes.

The Data Center Designer (DCD), which allows users to see exactly what the infrastructure looks like, was also of decisive importance for 1&1 IONOS. The overview is "self-documenting." The browser-based graphical user interface provides all the tools you need to quickly create or change a dedicated computer center. In the Enterprise Cloud, the task of setting up an infrastructure just the way you want it – a task that in other computer centers can be

done only by creating elaborate network tables and carrying out extensive, time-consuming wiring – can now be done in just a few clicks thanks to DCD 3.0 and the software-defined network. New servers – whether set up manually or automatically – appear automatically in the DCD.

This is much more convenient than creating countless wiki pages, which then have to be constantly updated manually.

*„Users only have to open one browser – the rest of the software is intuitive and self-explanatory.“*

**Dr. Benjamin Staude**  
Founder and CTO of Architrave

Architrave is currently developing its own AI component: "Delphi." Thanks to artificial intelligence, repetitive, time-consuming and error-prone tasks will in the future be done automatically.

"Delphi" will use Kubernetes and Rancher in combination, allowing the highly variable workloads to be managed much more efficiently. All asset managers have different amounts of data, but most Architrave users work between 6 a.m. and 6 p.m. – in other words, during office hours.

It is therefore important that any unused computing capacity outside these times is properly and efficiently distributed.

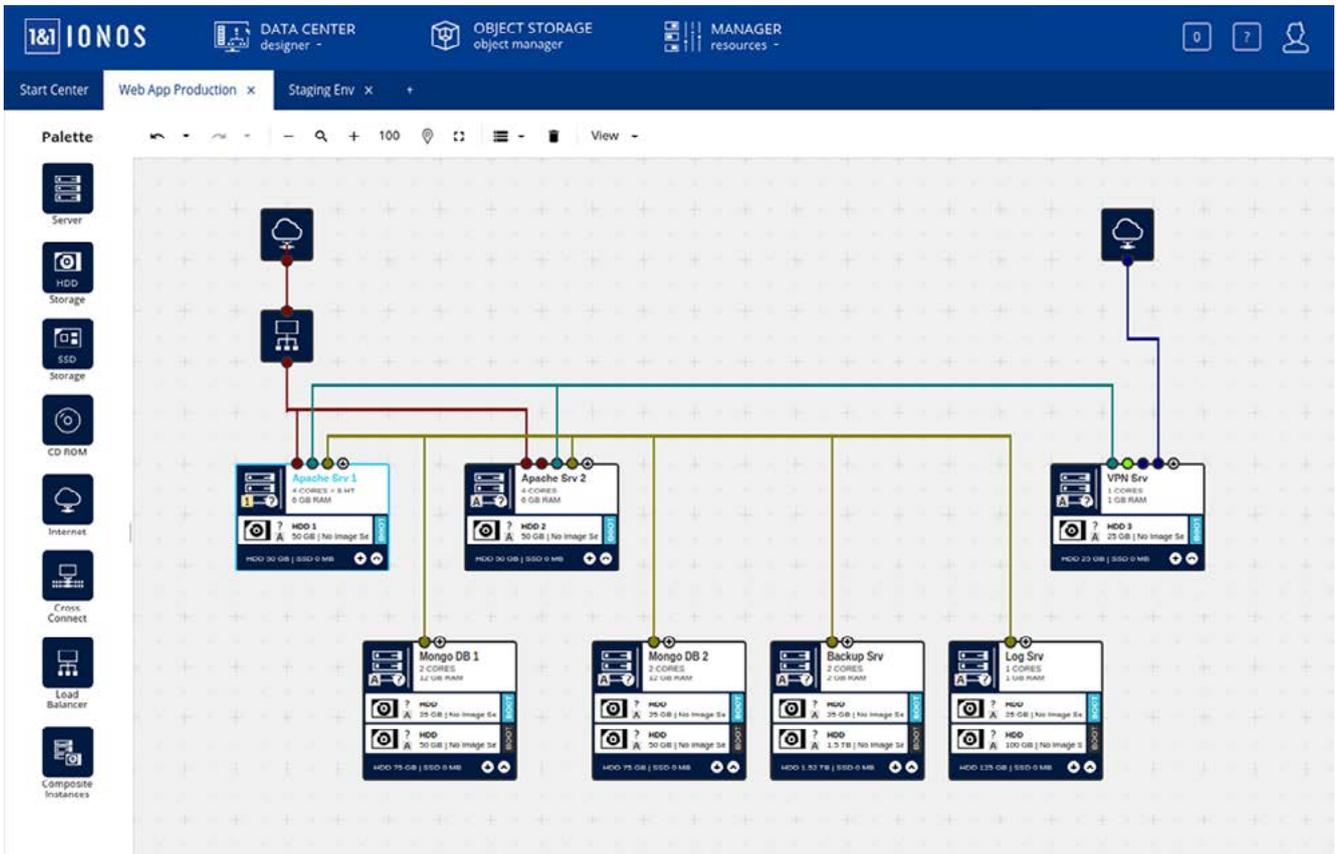


Figure 4: Graphical user interface of the Data Center Designer by 1&1 IONOS (photo: 1&1 IONOS)

*„Thanks to the new Architrave AI component “Delphi,” we can manage the complete document management pipeline. Asset managers can save any document and the AI system will recognize what sort of document it is – an excerpt from the land register, a copy of the rental agreement or warranty tests – and extract only the relevant information.“*

**Richard Klemm**  
Head of IT Operations at Architrave

The way in which Rancher manages software containers in conjunction with Kubernetes is incredibly straightforward. While extensive expert knowledge used to be needed for creating and operating a Kubernetes cluster, this can now be done in minutes with the latest Rancher version.

Rancher arranges cloud Kubernetes clusters such that an agile company can deploy them in a highly productive manner.

Based on Kubernetes, Rancher ensures that DevOps teams can test, deploy and manage their applications quickly and easily. System administrators responsible for operations use the tool to launch, manage and ultimately safeguard a Kubernetes environment, regardless of where it is physically operated.

### Flexible Cloud for Growing Demands

Architrave is deployed by increasingly bigger customers from the worlds of banking and finance with much more stringent requirements regarding data protection and data security. Since the second quarter of 2018, the digital asset management solution Architrave has been running productively and stably on the Enterprise Cloud with around 50 servers. With 137 cores, 171 GB of RAM and more than 12 TB of HDD storage, the IT infrastructure of the Berlin-based company has grown to an impressive size. The Architrave team, headed by founder and

CTO Dr. Benjamin Staude, is also continuing to grow. IT operations engineers and IT system administrators in particular are in high demand.

Due to the enormous data quantities, bigger customers will in the future be managed with S3 Object Storage. The 1&1 IONOS Object Storage Console (OSC) can be accessed directly from the Data Center Designer. Security is ensured by means of a single sign-on procedure and can be done discreetly with a credential key when objects are accessed via third-party clients or REST API. In short, S3 Object Storage simplifies encrypted, distributed and scalable data storage. Thanks to 1&1 IONOS, all data is now always protected in full in accordance with German law. And this is the most important requirement regarding state-of-the-art digital asset management software for companies in not only the real estate industry, but also the banking and financial sector.

## About the Authors

Dr. Benjamin Staude, founder and CTO: After spending time in academic research and in the fields of mathematics and neurobiology, Staude's current focus is innovative software solutions. Thanks to in-depth analyses and holistic understanding, his scientific and systematic approach has characterized Architrave's strategies and solutions right from the outset.

Richard Klemm, Head of IT Operations: After completing a masters in IT at TU Berlin and working for Archimedes Exhibitions GmbH, Richard Klemm has provided Architrave GmbH with his expert support right from the company's inception – initially as a freelancer and now, for the past three years, as a permanent member of the team. As Head of IT Operations, he is primarily responsible for operations, AI production as well as security and data protection.

### About Architrave:

Architrave was founded in 2012 by Dr. Benjamin Staude and Maurice Grassau. Architrave is the first company to develop a data room designed exclusively for the real estate industry and that offers added value throughout the entire real estate lifecycle. This solution is being continuously enhanced and refined to create an asset management platform that provides all building-relevant data in the form of digital assets.

Architrave employs more than 60 people at its sites in Berlin, Frankfurt am Main and Dresden. Its customers include more than 40 high-caliber asset managers in German-speaking countries. They use the solution to manage more than 3,100 assets worth in excess of €60 billion. Since its foundation, it has recorded triple-figure sales growth every year. As strategic partners, BEOS AG and Union Investment have a minority interest in the company.

Further information: <https://www.architrave.de/en/>

### About 1&1 IONOS:

With more than eight million customer contracts, 1&1 IONOS is the leading European provider of cloud infrastructure, cloud services and hosting services. From VPS and bare-metal servers through to high-end IaaS solutions, 1&1 IONOS offers medium-sized and large companies all the products they need to build their hybrid or multi-cloud environments and is the only IaaS cloud computing provider in Germany with its own code stack. With more than 90,000 servers, 1&1 IONOS operates one of the world's largest and highest quality IT infrastructures. In Crisp Research's Cloud Vendor Universe, 1&1 IONOS has repeatedly been recognized as one of the leading providers of cloud platforms. The Enterprise Cloud by 1&1 IONOS is the "Cloud – Made in Germany" with a self-developed, data-protection-compliant IaaS platform for companies, system houses/integrators and managed service providers. It is flexibly scalable and offers free 24/7 support by qualified system administrators. During operation, the capacity of all components can be adapted to current requirements thanks to live vertical upscaling.

1&1 IONOS was created in 2018 from the merger of 1&1 Internet with the Berlin-based IaaS provider ProfitBricks and is part of the listed United Internet AG.

Further information: <https://www.ionos.com/>

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