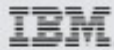


Bernafon improves product development with Rational DOORS software



Reference study Rational DOORS



The customer: Bernafon

To be able to hear and to understand the world around us are basic human needs. Hearing problems and the resulting social consequences represent a challenge for society. **Bernafon**'s vision is to create a world in which people with restricted hearing can communicate without limitation. Bernafon's advanced technology together with a passion to develop and market quality hearing systems enable their customers to enjoy authentic hearing experiences.



Bernafon's long-term collaboration with customers, partners and employees all over the world forms the basis of a strong company, sustained growth and business success. Today, the Bernafon global network includes over 400 employees who are committed to Bernafon's pioneering spirit. The corporate headquarters with development, marketing and sales are located in Bern, Switzerland, the production and logistics centers reside in Thisted, Denmark, and Mierzyn, Poland. Sales companies and distributors in more than 70 countries represent Bernafon around the world.

„ DOORS eases the specification work, allowing us to concentrate on bringing the right features to our customers.”

Jesko Lamm, Senior Systems Engineer, Bernafon AG

Highlights

- **Reuse proven requirements:** The **Rational DOORS** Reuse Addon allows Bernafon to reuse proven requirements from a central, product-independent repository. This enables Bernafon to keep track of product improvements and continuously enhance their products whilst maintaining a consistent product philosophy.
- **Traceability:** Technological evolution across multiple product generations can be traced via the Rational DOORS links automatically created and maintained by the Rational DOORS Reuse Addon.
- **Simultaneous development:** Using Rational DOORS attributes provides Bernafon the possibility to specify how requirements map to the different variants of a product. This allows Bernafon to simultaneously develop multiple product variants and avoiding duplication.
- **Providing right information:** At a system level Rational DOORS view can be used to collect together a broad range of information from various sources, thereby supporting the work of analysts and project managers.

The challenge

The exponential advances in today's semiconductor technology accelerate the evolution of new product features that satisfy excitement requirements. By contrast the basic requirements in hearing aid development tend to evolve much more slowly. A further dimension of complexity arises from the fact that differences in hearing losses and individual user preferences require multiple technical variants of each new product.

In order to provide Bernafon's engineers with more time to focus on new product features, Bernafon needs a way of efficiently reusing proven requirements for basic features, if they are still valid for the future. When adding new value and features to the product portfolio all new and existing requirements must be reassessed in order to ensure that a final product meets Bernafon's high quality standards and provides maximum benefit to the end-user.

The solution

Following a successful rollout of IBM Rational DOORS software in 2007, Bernafon has marketed numerous successful products based on requirements management with the Rational DOORS software. Bernafon uses Rational DOORS software to capture requirements and tests during hearing instrument development. The Rational DOORS links enable traceability across multiple levels of abstraction, from low-level technical specifications to high-level user requirements. At the same time, test cases are traced to requirements on all levels of abstraction.

The Rational DOORS Reuse Addon implemented by IBM Software Services for Rational allows Bernafon to reuse proven requirements from a central, product-independent repository. Requirements with high potential for future products are regularly promoted into the central repository in order to be available to the whole development organization.

The Benefits of Rational DOORS

- A collaborative requirements management environment that allows all stakeholders to actively participate in the requirements process.
- Powerful life cycle traceability to help teams align their efforts with the business needs and measure the impact that changes will have on everything from business goals to development.
- Includes the Test Tracking Toolkit for manual test environments, so testers can link requirements to test cases.

Contact:

IBM Switzerland
[Mathis Kretz](#)
Vulkanstrasse 106
PO Box
8010 Zurich



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Rational DOORS links between requirements, design and test modules provide Bernafon with an accurate traceability mechanism enabling them to analyse coverage and development progress instantly.

By using Rational DOORS attributes, Bernafon can specify how requirements map to the different variants of a product. This enables Bernafon to simultaneously develop multiple product variants, whilst avoiding duplication. The flexible filtering capabilities of Rational DOORS software take the benefits of attributes and traceability to a new level providing project management with up-to-date information.

Rational DOORS views provide each project member with the right information. At a system level they can be used to collect together a broad range of information from various sources, thereby supporting the work of analysts and project managers. By contrast, engineers working on detailed specifications can also tailor views to their individual areas of focus.

Since introducing Rational DOORS software, Bernafon has successfully launched several products whose development required managing high complexity within a short timeframe. By using Rational DOORS software to model the complex product specifications, Bernafon was able to minimise time-to-market, without compromising on quality. Technological evolution across multiple product generations can be traced via the Rational DOORS links automatically created and maintained by the Rational DOORS Reuse Addon. This enables Bernafon to keep track of product improvements and continuously enhance their products whilst maintaining a consistent product philosophy.