



Insurance

# Sanitas

## Heureka powered by Visual Rules

Bosch Software Innovations



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### Success Story

#### Project Goals:

- ▶ Replace Rule Engine
- ▶ Successful conversion in record time while operations continue
- ▶ Clearly structured rules and greatly simplified system architecture

The Sanitas Group is a leading health insurance provider in Switzerland. Sanitas insures about 850,000 people and has premiums exceeding 2.3 billion Swiss francs, making them one of Switzerland's largest health insurance companies. In order to master the complex and voluminous task of auditing several million accounts payable annually, Sanitas uses a custom-developed application they call Heureka, echoing Archimedes' exclamation.

### The History

#### 2002

Heureka was developed and put into production in 2002. In the first version, the business rules were still implemented as Java classes so they were distributed within the application itself.

#### 2004

TARMED (tarif médical), the rates for outpatient medical services in Switzerland, were introduced across the board in 2004. Integrating these new rates in accounts auditing meant there was a great need for a rules engine. Acquiring such a tool would allow the implementation of future rate changes to be made with ease and independent of the specific application. Sanitas went with QuickRules by Yasu Technologies to map TARMED rules and integrate them in Heureka.

#### 2007

Sanitas created internal rules in 2007 in the form of flow rule-sets. After the rule engine manufacturer was bought out by SAP that same year, QuickRules was integrated in SAP NetWeaver.

#### 2009

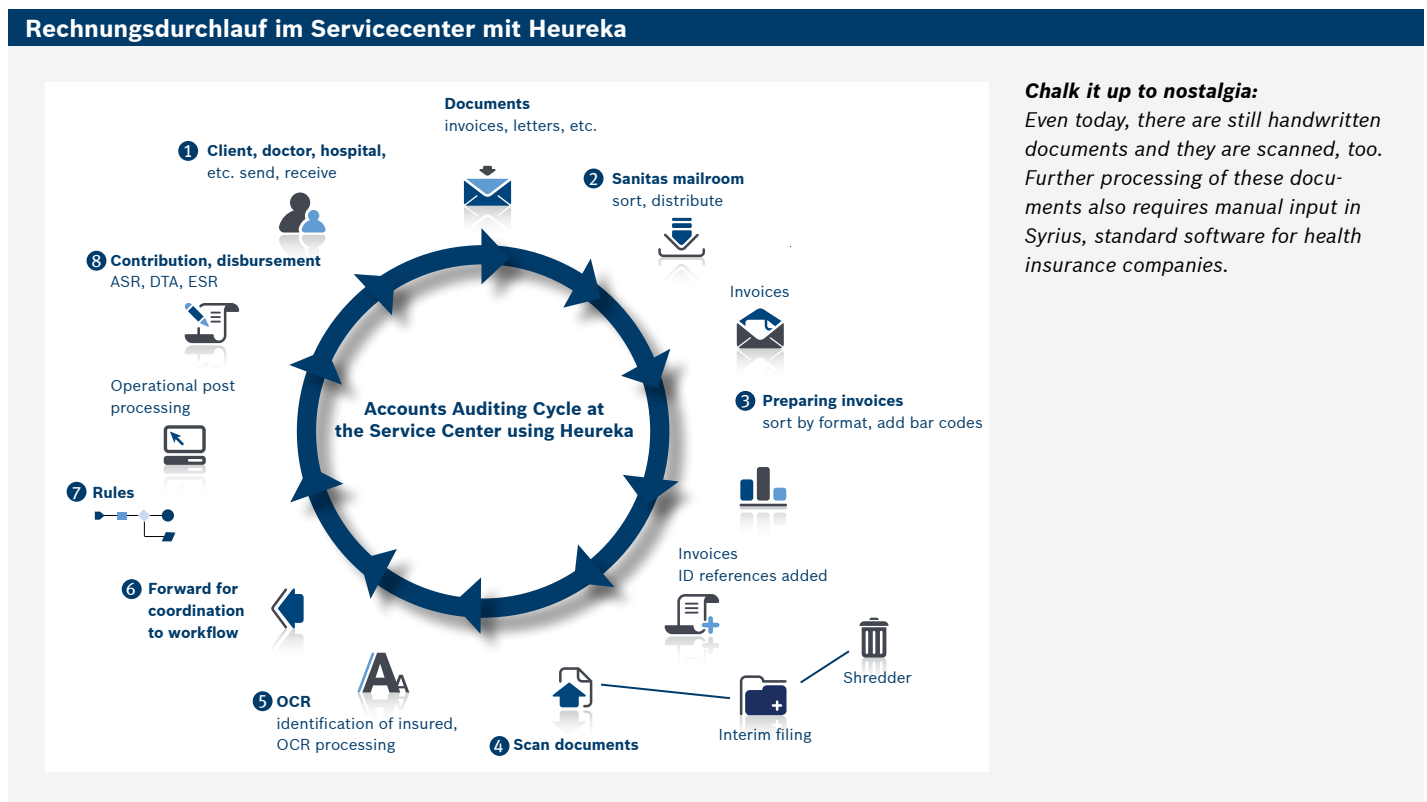
The results were the impetus for Sanitas to choose Visual Rules in 2009 and completely replace its existing rule engine. All rules, i.e. RETE rules and flow rules, were to be replaced with Visual Rules.

The developers at Sanitas took charge of the rules migration, clear proof of the powerful, intuitive tools for defining and integrating rules that Visual Rules provides.

After an intensive test phase, Heureka was put in production in August with the newly implemented rules. And these extensive rules were replaced without Heureka users noticing a thing.

Conversion to Visual Rules succeeded in establishing a clear structure for the rules and greatly simplifying the architecture of the Heureka system. Beyond that, changing and creating rules with the Modeler is now simpler, more intuitive and quicker than in the past.

## The Process



- Generated by services that an insured receives from a registered doctor or at a hospital, Sanitas health insurance provider receives invoices by mail and electronically, at a current ratio of about 50 to 50.
- Hard copies of invoices are sorted and distributed by the central mailroom.
- The billing department references the invoices, attaches bar code stickers for unambiguous identification, and then arranges them in stacks according to their format.
- The stacks, with originals, then proceed to scanning and on to interim filing, from where they will be forwarded one month later to the shredder, while of course electronic copies are retained.
- The scan produces a TIFF file, an electronic copy of the invoice. OCR software, software for optical character recognition, assesses the image information of each item. The core task is to identify the relevant insured and save billing information with exact item assignments to the Heureka database.
- Hard copies of invoices have now been prepared in electronic form so that the actual accounts auditing can begin. A superordinate workflow takes over the controls. Electronically received invoices are introduced at this point as well.
- An XML file is generated from the database for each invoice, which is then transmitted to the rules (modeled with Visual Rules) for audit. If an error in the content is

found, the invoice may be automatically returned to the issuer, for example, or submitted to a Sanitas processor for error handling. In 50% of all cases, however, audits do not reveal any errors and the invoice can be approved for payment. In that case, the workflow transmits the payment data to the Sirius system, where actual disbursements are made.

8. With payment through ESR, DTA, or ASR, the Swiss procedures, the cycle is then complete. The invoice issuer, whether doctor, hospital, or the insured, then receives payment.

## The Rules

The rules implemented with Visual Rules are responsible for auditing the content of accounts payable and generating payments for services through Sirius, the central IT system at Sanitas where all clients, policies, products, etc. are administered and accounts payable are booked. Data is summarized by cost category and product before being transmitted for payment – Sirius does not retain the individual accounts payable items.

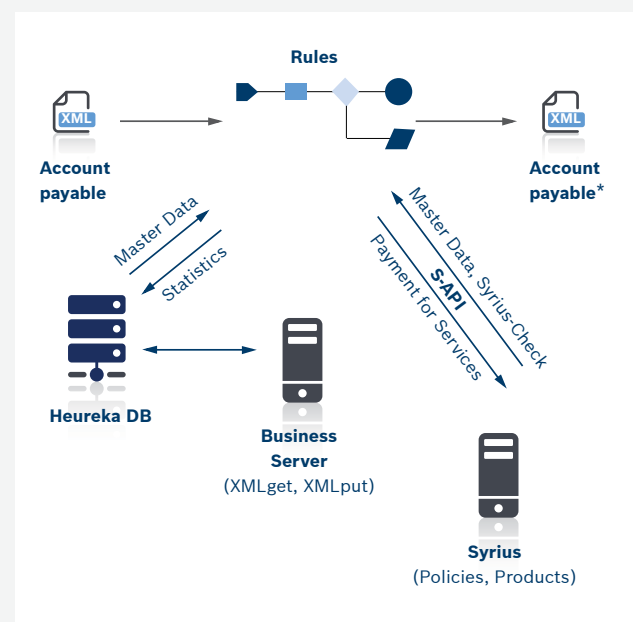
Along with an audit based on Sanitas' own rules and the TARMED rules, Visual Rules also initializes what is known as the Sirius check. All three rule classes each generate their own error type if the audit fails. This is important so that different reactions can be triggered in each case. Visual Rules also creates corresponding notices that are displayed in the Heureka client for further processing.

Each new account payable is first sent by batch process through the rules. Accounts payable that are later submitted to the Heureka client must be reviewed manually again after each change made by a Sanitas processor. This means that accounts payable auditing can be triggered both by a batch process and by the Heureka client.

Visual Rules reads the master data, rates and movement data required for the audits from the Heureka database and from Sirius. Statistics that substantiate when transactions start and end, the length of time each cycle takes, and how many accounts payable are processed, for example, are stored in the Heureka database. Sanitas has implemented the access logic required in these cases as Java program code and seamlessly integrated it in the Visual Rules rule packages. Since audit results and statistics are important for management, too, relevant reports can be called up in Sirius.

The XML file of the account payable that has been enriched with data from the rules lays the basis for additional processing, such as subsequent content processing with disbursement.

### Integrating Rules into the Sanitas System Environment



### Heureka by the Numbers

- ▶ Invoices in Heureka DB: > 21 million since 1995
- ▶ Number of audit items: > 111 million
- ▶ Rule packages: approx. 150
- ▶ Heureka clients: approx. 250, including 100 power users
- ▶ Heureka releases: approx. 4 p.a.

## About Sanitas

The Sanitas Group, founded in 1958 as a foundation, is now a leading health insurance provider in Switzerland. The Group encompasses three operating corporations that are involved with the basic insurance business (Sanitas Grundversicherungen AG, Wincare Versicherungen AG and Familias Grundversicherungen AG), and two corporations in the supplemental insurance business (Sanitas Privatversicherungen AG and Wincare Zusatzversicherungen AG).

With about 850,000 insured and premiums exceeding 2.3 million Swiss francs, Sanitas is one of Switzerland's largest providers of health insurance, offering a wide range of health insurance options in both statutory health insurance plans under KVG and voluntary supplemental insurance under VVG. More information about Sanitas, its products and its services is available at [www.sanitas.com](http://www.sanitas.com).



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