



Case Study

# Healthcare IT service provider offers monitoring for complex IT systems

# THE CLIENT

**Company:** Dedalus HealthCare GmbH

**Number of clients:** In use in more than 850 clinics across DACH

**Field of application:** Advanced Managed Service (AMS)

**Location:** Bonn, Germany

**Website:** [www.dedalusgroup.de](http://www.dedalusgroup.de)



Dedalus is one of the leading providers of healthcare information systems in Europe. In addition to selling hardware and software products, Dedalus offers various IT services for healthcare facilities.

The company relies on a combination of its own products and tools from selected cooperation partners. Dedalus provides these in the form of integrated services. Dedalus can deliver the optimal combination of a range of modular solutions with its Advanced Managed Services (AMS), and as such supports hospital IT departments in dealing with relevant applications and modern technologies.

## KEYPOINTS

-  Dedalus' goal was to be able to automatically record and monitor changes to IT systems. To meet this need, the company looked for a suitable monitoring solution and ultimately chose Checkmk.
-  In addition to auto-discovery capabilities, monitoring must be able to monitor very large numbers of systems and be capable of a high degree of automation. At the same time, a fundamental requirement of the healthcare industry is the separation of customer data.
-  The cooperation between Dedalus and tribe29 has deepened over the years. Since 2020, for example, Dedalus has offered the dedicated ['Managed Monitoring' Service](#).

## GROWING DEMAND FOR HEALTHCARE IT SERVICES

Qualified IT specialists are particularly scarce in the healthcare sector because there are few uniform product standards. Particularly in the case of hospital information systems (HIS), practical experience cannot always be transferred to solutions from other developers. Many facilities therefore rely on IT service providers to operate their systems securely and without the risk of interruptions to availability.

Because Dedalus provides a wide range of different IT services for healthcare facilities in addition to core products such as ORBIS, HYDMedia, TIP HCe or DeepUnity, hospitals and clinics can benefit from digital innovation without having to worry about maintenance or needing to have in-house IT staff.

Nowadays, more than 200 clinics with around 75,000 users already rely on Dedalus' [Advanced Managed Services \(AMS\)](#) solutions. Customers can choose from individual service modules and combine these as required. These services can include the complete provision and operation of IT platforms for all administrative and medical/diagnostic tasks.

### THE CHALLENGE

AMS customers' IT environments contain a large variety of heterogeneous IT systems. Therefore any monitoring must support a wide range of software and hardware assets at the customer's site, regardless of model and manufacturer. At the same time, the administrative effort should be as low as possible – monitoring must be easily scalable even in very large environments and to also ensure high performance.

AMS services must be able to be integrated seamlessly into any IT environment. Due to the great variety of different technologies in hospitals, the challenge was to find a monitoring tool that basically could monitor any system and also provide extensive auto-discovery functions.

The IT experts at Dedalus have a lot of experience with open source tools. That is why they became aware of Checkmk at an early stage. Dedalus has been an official Checkmk customer since 2012, and currently uses the Checkmk Enterprise Managed Services Edition.

As early as 2012, Checkmk was the fastest solution on the market for Dedalus. The basic architecture of the agents allows particularly efficient monitoring – even with relatively limited hardware resources, Checkmk delivers optimal access times. In addition, at that time Checkmk was already supporting auto-discovery.



*The Advanced Managed Services by Dedalus ease the burden of IT teams. As part of these managed services, Checkmk enables Dedalus to detect bottlenecks and anomalies proactively. Thus, Dedalus can provide high quality services without interruption.*

**Ralph Hirsch**, Director Sales IT Services

The multi-client capability of Checkmk's Managed Service Edition enables secure deployment in distributed environments – data cannot be exchanged between the individual Checkmk instances of the various customers.

In addition, this edition allows the Checkmk license volume to be shared freely between multiple organizations. This allows Dedalus to have planning security and flexibility in project planning.

## THE SOLUTION

Checkmk's Managed Service Edition provides a flexible monitoring backend for Dedalus' 'Advanced Managed Service' and 'Managed Monitoring' products. Various Checkmk functions such as the hardware/software inventory additionally simplify compliance with the specifications for ISO20K processes, for example in configuration and change management.

## THE SPECIFIC DEMANDS IN HEALTHCARE

Checkmk's architecture allows Dedalus to comply with the most stringent data protection and other healthcare-specific regulations. Even in widely distributed environments, Dedalus can securely administer all Checkmk instances remotely.



### Scope of the monitoring by AMS

**200** **6,000**

Locations

Servers

**210,000**

Monitored parameters

Sensitive information does not have to leave the customer's network. Most processes such as analyses, monitoring and mitigation run completely on-premises in their respective facilities. Only important events, ticket messages and absolutely necessary details are transmitted by Checkmk to Dedalus' AMS headquarters.

End users are provided with a monitoring dashboard customized for their requirements. This enables, for example, the administrators and employees within a clinic to view the status of their own systems at any time.

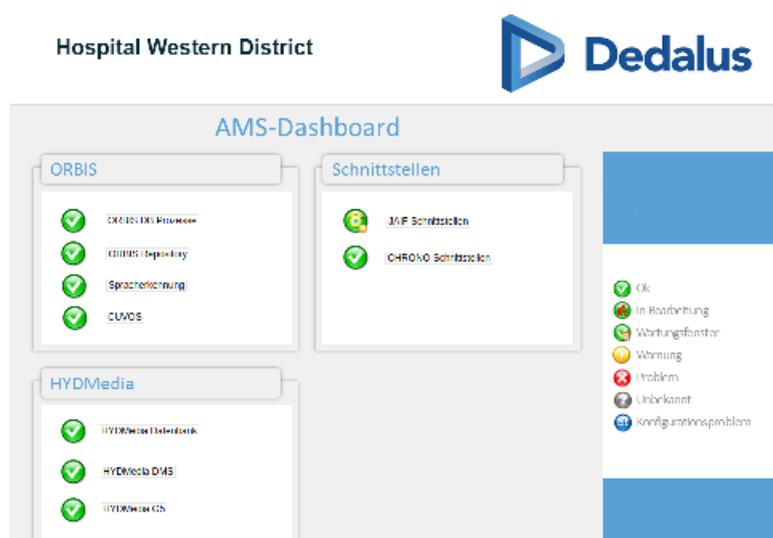


Figure 1: A typical customer dashboard

Users thus always have an overview of their IT processes without having to worry about monitoring the systems. AMS currently monitors a total of 210,000 checkmk services at over 200 locations. The monitored systems include 6,000 servers, among others.

## PROVIDING MANAGED MONITORING SERVICES

In addition to the premium variant 'Advance Managed Service, since 2020 Dedalus has been able to offer the dedicated ["Managed Monitoring"](#) service module. Due to the flexibility of Checkmk and the good cooperation with the Dedalus development department, it is now possible to provide Checkmk functions such as the auto-discovery of checks even for hospital-specific applications. Checkmk detects newly created items, such as those created with Chrono commands and Java Application Interfaces (JAIF), and immediately transfers them to the IT monitoring system.

The status of the individual services is provided in an aggregated form with the help of a dashboard. Monitoring provides access to the last log entry of the respective interface and thus enables rapid problem analyses. Switching to the interface server and manually consulting the logs is now only necessary in absolutely exceptional cases.

OK	<u>CHRONO KOMMANDO Befundimport</u>
OK	CHRONO KOMMANDO HYD Archivierung
OK	CHRONO KOMMANDO IPAL Fallprufung
OK	CHRONO KOMMANDO LAB_Befundimport
OK	CHRONO KOMMANDO LAB_Befundimport OSM

Figure 2: In-depth details are displayed in the monitoring

Checkmk is also integrated with a number of systems, such as the incident management platform ServiceNow. This allows healthcare facilities to relieve their IT managers and still be optimally prepared for any possible IT incidents.



*Thanks to its open design, adjusting and expanding Checkmk is a piece of cake. We're able to fulfill even the most demanding customer requests. To top it off, the Checkmk Community is extremely active and helpful.*

**Christian Dewald**, Solution Architect Monitoring

Another example of the benefits to be gained from the collaboration can be seen in the monitoring of individual applications such as DeepUnity, Dedalus' Picture Archiving and Communication System (PACS) suite. This enables specialists to create and analyze X-ray and other medical image recordings or make them available to other departments.

In order to be able to monitor the suite in the best possible manner, the DeepUnity-Insight monitoring interface was specifically developed. This enables the integration of DeepUnity and Checkmk. DeepUnity-Insight provides a detailed view into the PACS applications and thus enables enterprise application monitoring.

## GOAL: IMPROVEMENT IN QUALITY OF HEALTHCARE IT

Since, with AMS, Dedalus has been a Checkmk customer from the very beginning, Dedalus and tribe29 work very closely together these days. In a joint presentation at the [5th Checkmk Conference in 2019](#), both companies introduced, among other topics, the possibility of automating monitoring.

AMS' main focus for the future is to improve the efficiency of its services. The faster the monitoring systems can capture and process the information, the less time Dedalus needs to roll out its services. The same applies to the time required for responding to potential incidents. Improvements in the performance of a monitoring lead to better, faster processing and thus to better customer service. AMS shows how service providers can enhance their portfolio and service quality with Checkmk. Checkmk has been a trusted partner for many years, while consistently delivering innovation and improvements.

### THE ADVANTAGES

AMS from Dedalus is more flexible and, thanks to Checkmk, it has the ability to respond to hospitals' requirements individually and quickly. Particularly noteworthy is the 'Managed Monitoring' service, which customers have been able to book since 2020. Healthcare facilities can better control and accurately plan their IT budgets thanks to the AMS solution modules, yet they have complete visibility into all of the processes in their IT infrastructure.

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