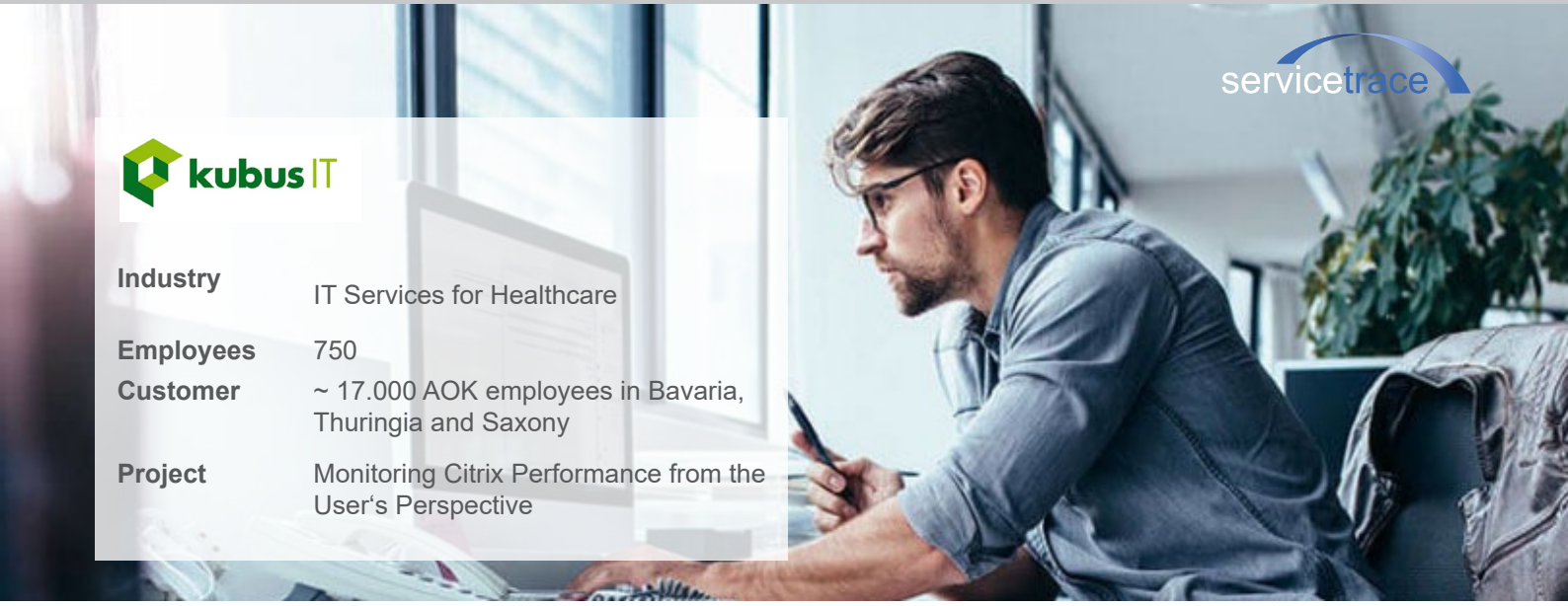

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kubus IT

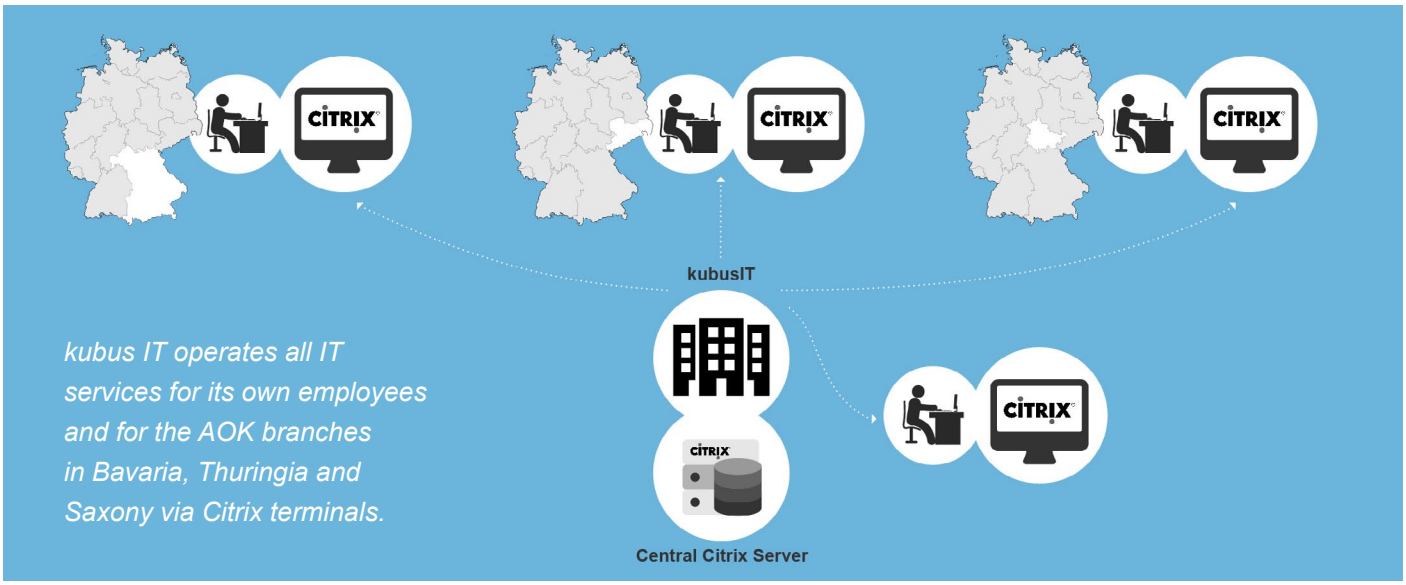
Industry	IT Services for Healthcare
Employees	750
Customer	~ 17.000 AOK employees in Bavaria, Thuringia and Saxony
Project	Monitoring Citrix Performance from the User‘s Perspective

End User Experience Monitoring in Citrix environments

kubus IT is the full IT services provider for 17,000 AOK employees in around 300 AOK branches in Bavaria, Thuringia and Saxony. In addition to core platforms such as SAP and MS Office 2016, the company provides further special applications for health insurance for AOK employees via the central datacenter in Bayreuth. For the performance monitoring of the Citrix working environment from the user’s point of view, kubus IT has opted for Servicetrace software robots

Digital Strategy: Desktop Virtualization

Since the beginning of the 2000s, kubus IT has relied exclusively on the terminal server technology of the provider Citrix. All AOK employees and colleagues at kubus IT work in the terminal server environment, most of them on thin clients. With desktop virtualization, the management of the digital work environment becomes lean and efficient: "We only have to install an application once on the server side – and then make it available to users at all locations with just a few clicks," explains Maik Wieduwilt, systems specialist at kubus IT. And: this centralised provision guarantees a standard configuration for all workstations that’s easy to manage.



kubus IT operates all IT services for its own employees and for the AOK branches in Bavaria, Thuringia and Saxony via Citrix terminals.

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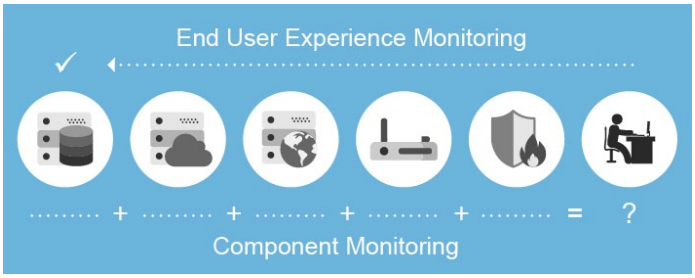
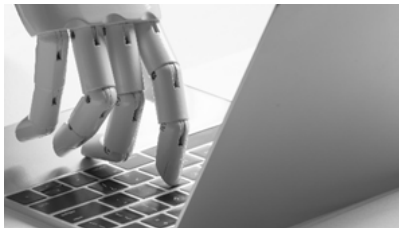
Citrix performance from the user‘s perspective

As the sole IT service provider for AOK, kubus IT is responsible for ensuring that the services are available to both AOK users and internal employees at their own locations at all times. As well as monitoring components of the server, infra- structure and network, databases such as Oracle and MS SQL and even special application monitoring tools such as SAP Solution Manager, an additional solution is required that provides objective information on the user experience when running digital business processes within the Citrix environment: "Even when all other monitoring systems have a green status – we have no way to deduce how fast an AOK colleague in Zittau or Lindau can log on to the terminal server."



Software robots as digital users

The user experience becomes transparent with the use of software robots that carry out the user transactions of human users around the clock at regular intervals – login to the Citrix terminal server, execution of transactions in SAP, etc. – and in doing so collect, document and report detailed performance metrics for each transaction.



24/7 accurate and objective: Software robots measure digital performance from the user‘s point of view.

Since the introduction of End User Experience Monitoring in 2010, kubus IT has relied on digital performance checkers from Servicetrace: "There were two main selection criteria: the ability to provide stable automation in Citrix environments and ease of use.“ The Servicetrace Robots observe and monitor the application landscape of kubus IT and AOK around the clock from the user‘s point of view. In the event of an error – for example an application cannot be accessed or a transaction cannot be executed – the robots alert those responsible for IT and provide detailed information on the type of malfunction within an analysis package. In this way, the relevant members of the IT team can quickly identify the causes of the error and resolve it immediately – often before the "real" users even notice anything.

"We have currently installed 7 robots in the Bayreuth data center that permanently monitor the performance of business-critical transactions from the user‘s point of view. From 7 am to 9 pm, for example, the login to the termi- nal server is monitored – with variants for different desktops, e.g. Office Standard, Professional or a special 'security version' for external employees."

The Servicetrace measurement data flows via a seamlessly integrated interface into the Dynatrace APM platform. In addition, 10 mobile robots are "on the road" in different locations of kubus IT and AOK, e.g. to check the performance at new locations or to carry out an objective before-and-after comparison for bandwidth adjustments in AOK branches.

Precise measurement data for service levels

Initially, kubus IT agreed the service levels with AOK‘s IT managers only for the general availability of the IT services provided. "However, availability is a matter of course nowadays due to the redundant design of server farms – the performance at transaction level and from the user‘s point of view is more important, in fact critical." Servicetrace software robots provide accurate and detailed performance measurement data. This enabled kubus IT to enrich and precisely specify the SLAs agreed with AOK.

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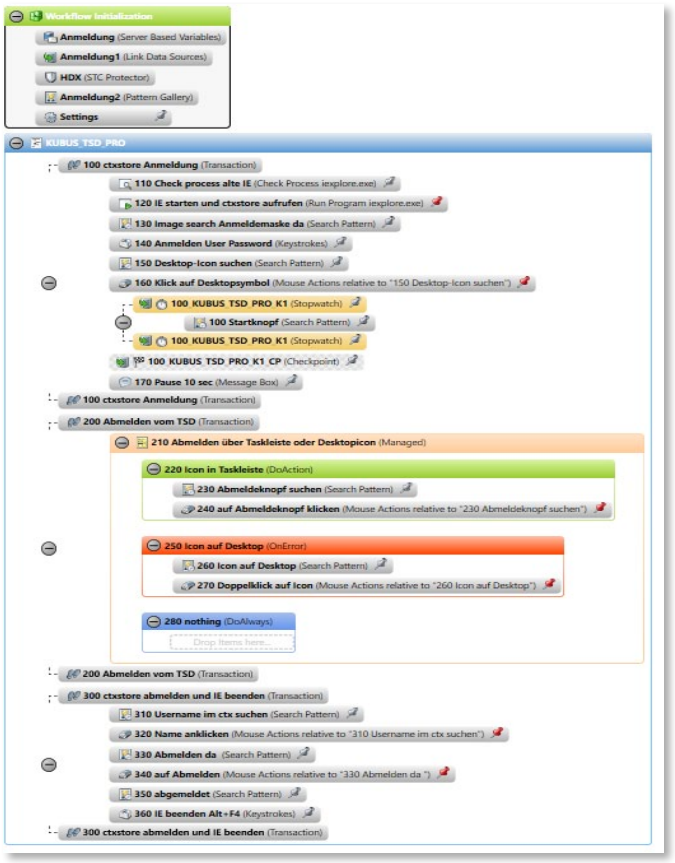
A uniquely stable, ease-of-use and secure solution

1) The software robots work directly on the Citrix user interface, just like real kubus IT and AOK employees. Thanks to high-quality image and text recognition and other smart features, they can cope with typical changes on the user interface: "After a new release, for example, the program start icon may be found in a completely different place – the Servicetrace robots can recognize and locate desktop elements regardless of their actual position on the screen, to then <click> and continue running.“ Robots will also tolerate changes in screen resolution, e.g. "if the Internet browser scales to 125% after an update, the robot will not stumble or freeze." Similarly, they can also handle unexpected events and exceptions like pop-ups from a Windows update, anti-virus alerts or a failure of the terminal server connection – the exception is reported to IT managers with a screenshot while monitoring continues.

More about Servicetrace Image & Text Recognition:
www.servicetrace.de/en/ocr-bilderkennung/



2) The high level of stability in live monitoring reduces administrative effort enormously, as does the quick and easy setup of workflows for the software robots: "It was important to us that the solution delivers positive results in a short time and with little effort."

Servicetrace‘s monitoring solution replaces cumbersome, time-consuming scripting with a truly intuitive graphical design method. For each task that the software robot is supposed to perform, e.g. image and pattern search, mouse clicks or keyboard entries, the Servicetrace Workflow Studio provides a toolbox with preconfigured building blocks that can be combined with simple drag and drop actions to form a complete process of transactions to monitor. Wizards and debuggers support workflow design and ensure excellent quality of the resulting automated monitoring processes from the outset.

No-Code-Solution: Design Monitoring Workflows with Drag & Drop, simply and quickly

3) As a third stand-out feature, Wieduwilt mentions the high level of security afforded to the process being monitored and its and data by the Servicetrace solution: "If we process sensitive data of AOK members,for eample in SAP, this must remain reliably protected. The Servicetrace software robots work in a hidden Windows session, unauthorized access to current measurements is just not possible – not even by an administrator,“ explains Wieduwilt. The same patented technology enables simultaneous operation of parallel robot sessions on a single end device: "This vertical scaling saves on hardware resources enormously."

More about Security and Scalability:
www.servicetrace.de/en/secure-session

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Let the robots do the boring jobs

"I don‘t just use the robots for performance measurement, I like to let them work for me," says Wieduwilt happily: "My working day begins with starting and logging on to ten to twelve different systems – that‘s boring and time consuming. A robot can do that – while I relax and plan the day with a coffee first thing." An automation workflow can also be quickly created for other recurring routine tasks such as changing passwords in several environments – and the software robots complete the job faster than any system administrator. The long-time kubus employee even uses software robots to configure the Servicetrace solution itself: "Why should I manually create 50 users on the Servicetrace server? I created the appropriate workflow in 5 minutes – and then the robots can get started."

Glossary

• With a **terminal server**, data is stored centrally on a "server" or "host" and the programs are executed there, while the input and output takes place decentrally on user terminals (the terminals or the client software) via a network.

• A **thin client** is a computer or program that relies on the help of a server to perform its tasks. The input is processed on the server and the output is sent back to the client, which only needs to display it.

• **Software Robots** typically operate an application via its graphical user interface and in the process run through complete digital business processes – just like human users, but much faster, error-free and at regular intervals around the clock.

• **End User Experience Monitoring** measures the availability and performance (response times) of digital processes from the user‘s perspective: How long does it take to log in to Citrix? When is a website fully loaded? How smoothly do transactions run in SAP?

Your **Helpdesk** will maintain an overview and can react confidently at all times.

Your **IT** will eliminate bottlenecks quickly and efficiently or even proactively avoid them.

Your **Service Level Management** will provide evidence-based guarantees of the quality of service (SLA) agreed between the IT provider and the customer.

More about Servicetrace Application Performance Monitoring:
www.servicetrace.de/en/application-performance-monitoring