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**Ralf Gründer**  
 Head of Department  
 Schering Network Center  
 Schering AG

## Schering AG Berlin Automates Application Analysis with ACE™ Analyst

As a Pharmaceutical Research company, Schering AG needs fast access to laboratory data, as slow applications have a negative effect on all processes in research and production. The company therefore uses OPNET ACE Analyst for application analyses in multi-tier environments to track down the root-cause of problems as fast as possible. This tool helps optimise the performance of applications throughout the network by localising sources of errors both quickly and precisely, with measurements and evaluations then being carried out centrally at the Berlin HQ.

Schering AG has 16 production and 9 research sites throughout the world, with more than 140 subsidiaries. In the past this complex structure meant that errors could occur when accessing or entering data or documentation. Common complaints included data packets going missing during transfer, or users having to wait too long when attempting to access measurement logs. “Slow access is a real problem for research companies like Schering that need to be able to call up lab data within seconds. This has a major effect on employees’ productivity and users’ acceptance of applications,” says Ralf Gründer, head of department at Schering’s Network Center.

Yet despite constant monitoring of the necessary bandwidth and signal transfer times in the WAN, users kept complaining about poor performance. Schering’s goal was therefore to analyse the interaction between application, server and network – performing both classic

troubleshooting and also an analysis of the application before a new implementation.

### Applications are evaluated centrally in Berlin

Schering has been using OPNET ACE™ Analyst here since November 2004. This application analyses the transactions of an application within a virtual environment or the live production environment by recording package traces with software capture agents. The capture agents installed on the client computers can be administrated from a central console. For example, if a user complains about delays in accessing data, the administrator in Berlin can start a process to investigate this. In doing so, he asks the user to perform an operation that is seeming to take far too long. During the recording process the administrator gains remote access to the client, so he can look at the user’s computer and follow exactly what the user is doing. The data is then transferred to the console for assessment. This allows the administrator to establish a connection between an action performed by the user and the recorded measured values.

### Application data, retransmissions and error messages at a glance

“The decision to use OPNET was taken because this allows package traces recorded simultaneously on several terminals to be synchronised,” recalls Ralf Gründer. The synchronisation of several traces is a necessary functionality when multi-tier applications or distributed applications do not allow capture in a single trace. The traces

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## Schering AG

Schering is a pharmaceutical research company which concentrates its activities on four business areas: gynaecology & andrology, oncology, diagnostic imaging and special therapeutics. Its range of products includes medicine for fertility monitoring and treating leukemia and solid tumors, as well as X-ray contrast media, radiopharmaceuticals for nuclear medicine and cardio-vascular therapeutics. Schering AG, founded in Berlin in 1851 by pharmacist Ernst Schering, currently runs production at 16 sites across Europe, the US, Latin America and Asia, and has more than 140 subsidiaries. The company HQ is in Berlin. The entire group employs a staff of around 26,300 and recorded revenue in the fiscal year 2004 of € 1.211 billion. Documents – from data sheets, through measurement logs, right up to orders – are saved centrally in Berlin and can be called up from all locations worldwide.

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can then be compiled graphically, allowing them to be interpreted together in a single chart. ACE™ Analyst breaks down the transactions of an application, thereby allowing information such as application data, error messages or retransmissions to be viewed at a glance. Potential sources of delays are listed in diagrams, while any threshold values that are exceeded are neatly documented and made available in informative reports for further processing.

“Schering is today able to identify weak spots much faster,” states Ralf Gründer. While this used to take anything in the region of 2-3 hours, the modern process takes no more than a few minutes. Alongside the clever visualisation and analysis functions, the network specialists at Schering also see a further advantage. “The OPNET capture agents are only 2 MB in size, which means they can be sent quickly and easily to subsidiaries via e-mail.” The following examples show where OPNET ACE™ Analyst has already helped with successful analyses of problem causes.

### Slower transfer rate with Lotus Notes

Lotus Notes users who need access to product presentations used to have to wait up to eight minutes for data transfers when accessing the documents stored in a central database at the company HQ in Berlin. By performing measurements with ACE Analyst it was discovered that the application server of Lotus Notes transfers the data packets in just 16 KB blocks. However, according to the transfer protocol TCP and the window size used, it is possible to send 64 KB at a time. The visualisation functions of ACE Analyst made it easy for the administrator to identify the 16 KB blocks and focus further investigations on the data packets responsible for block formation. The problem was that for each 16 KB package received the client was sending a confirmation message

back to the server, which in turn did not send the next packet until receiving this confirmation. The problem was attributed to the behavior of the dedicated Notes protocol (NRPC) when operating Lotus Notes with WAN connections, which was not allowing the maximum possible transfer speed to be used. When informed of this discovery regarding the behavior of Lotus Notes, the manufacturer went so far as to change the design of the product.

### Lag in accessing mySAP CRM in Brazil

Schering employees in Brazil were having problems calling up data stored in Mexico, and were needing two or three times longer than users at other sites to generate additional information on clients using the application mySAP CRM. During an application investigation process, performed from Berlin, varying signal transfer times and packet losses in data transfer between Mexico and Brazil were detected. The application investigation and analysis revealed that there was one port which was not configured correctly. In assessing the varying latency time, Schering took a closer look at all components of the WAN path in question. The result: a weak router was causing the irregular signal transfer times. This unit was promptly replaced with a more powerful one. Both of these discoveries were made available to Brazil from the Berlin HQ, and the users today benefit from much improved access performance.

This tool has already paid for itself - even though Schering has only been working with it since the end of last year. The company is now planning to top up its license for OPNET ACE™ Analyst so that it can process even more user inquiries simultaneously in future. “We want to encourage the subsidiaries to strive for and use improved internal know-how to perform application analyses, instead of opting for expensive external services,” concludes Ralf Gründer. More inquiries are expected in the next few years, both domestically and from abroad.

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