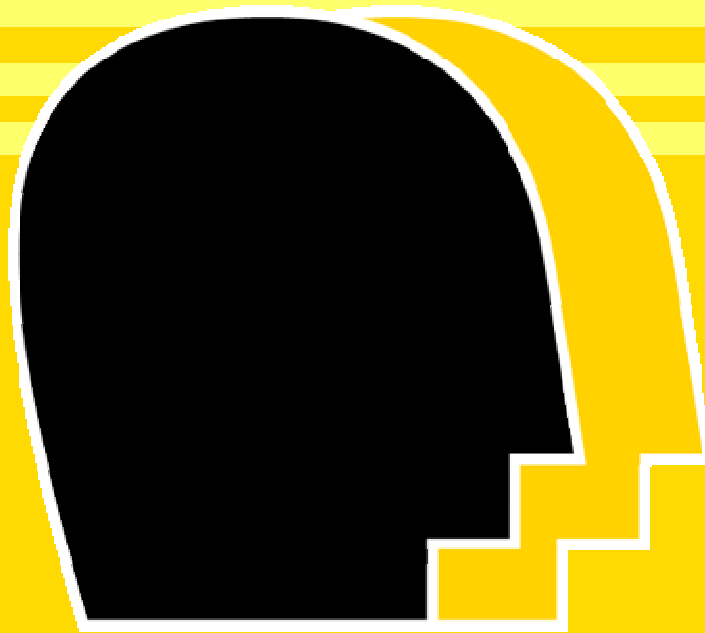


**Geyer & Weinig**



**E2E Monitoring with INFRA-XS®**

Horst Schlosser



## Geyer & Weinig EDV-Unternehmensberatung GmbH

- ➔ founded in 1987
- ➔ one of the market leaders for E2E monitoring software
- ➔ among the leading service providers for E2E monitoring
- ➔ active in relevant advisory boards, like the itSMF



itelligence





## What Is INFRA-XS®?

➔ **INFRA-XS® is a monitoring tool for SLM and service operation**

➔ **INFRA-XS® monitors**

- ➔ ... business-critical IT services from an end-user perspective
- ➔ ... critical server applications
- ➔ ... the service quality of external or internal providers

➔ **INFRA-XS® improves**

- ➔ ... the quality of IT services by identifying weak spots
- ➔ ... customer/provider communication by enhancing service transparency
- ➔ ... problem analysis and problem solving within service processes



## What Does E2E Monitoring with INFRA-XS® Offer?

- ➔ **Permanent online monitoring from the user's/customer's view**
- ➔ **Pro-active alerting based on performance thresholds**
- ➔ **Continuous monitoring and documentation of SLA compliance**
- ➔ **Realtime view of the service quality**
- ➔ **Unambiguous data for the accounting of services**
- ➔ **Efficient problem analysis within the service operation**



## How You Can Benefit

### ➔ **Business Management**

- ➔ Objective data on the IT service quality
- ➔ Basis for benchmarking

### ➔ **Application Management**

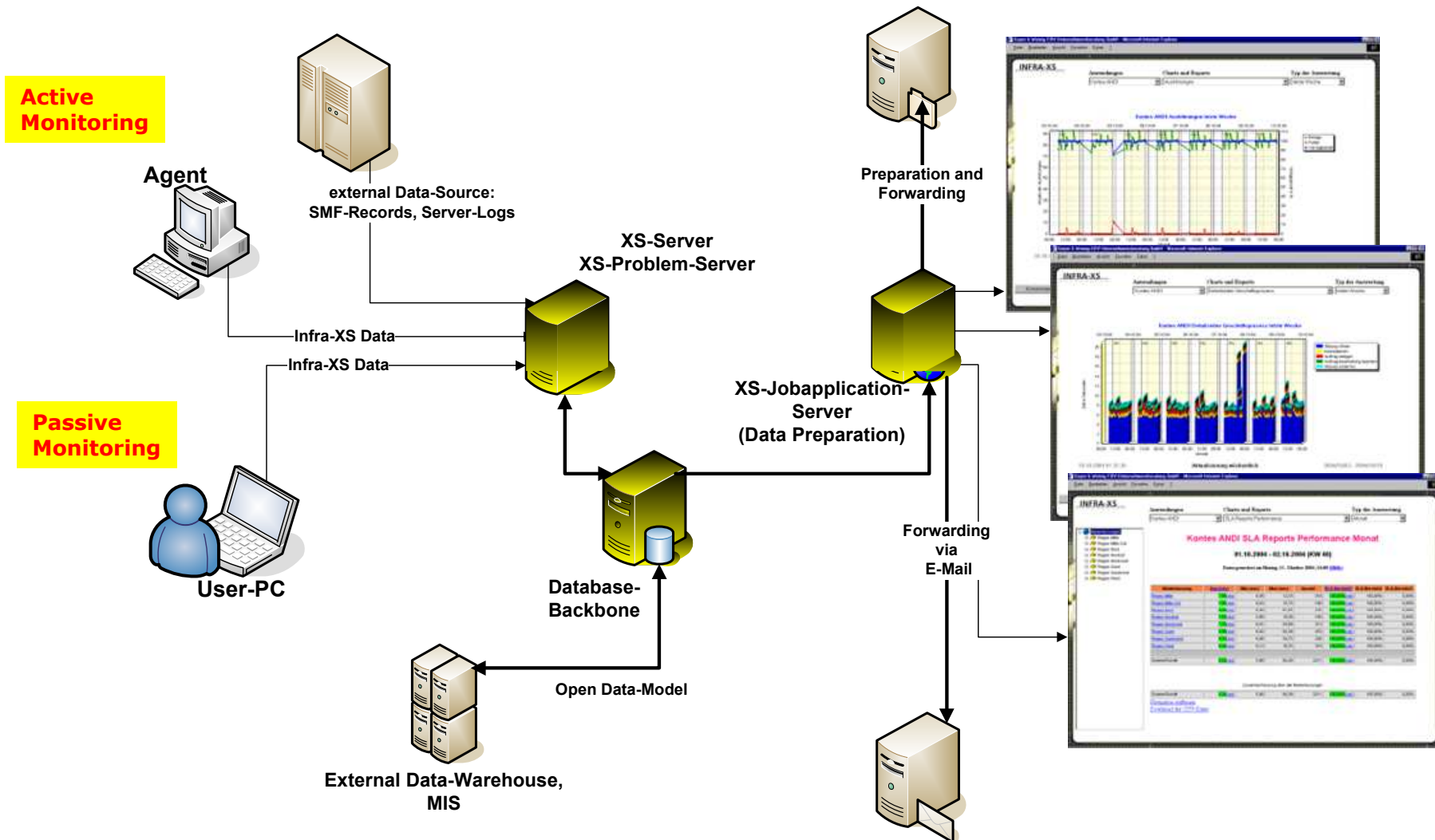
- ➔ Service performance and availability from the user's/customer's perspective
- ➔ Regional and application-based view of the quality of services

### ➔ **Service Operation**

- ➔ Avoidance of problem escalation by pro-active alerting
- ➔ Transparent control and accounting of services by external providers



# The Architecture of INFRA-XS®





## Active Monitoring with INFRA-XS®

### ➔ Working Principle

- ➔ An application performs a typical business process by simulating user input, or by directly accessing the involved interfaces, and records the single steps' response times

### ➔ Range of Application

- ➔ SLA monitoring
- ➔ Monitoring of business processes, applications and services
- ➔ Server, database, e-mail, security monitoring
- ➔ Documentation of provided/purchased IT services
- ➔ Root-cause analyses



## Active Monitoring with INFRA-XS®

### ➔ Pro

- ➔ Permanent monitoring based on unvaried conditions
- ➔ Reproducible monitoring procedure

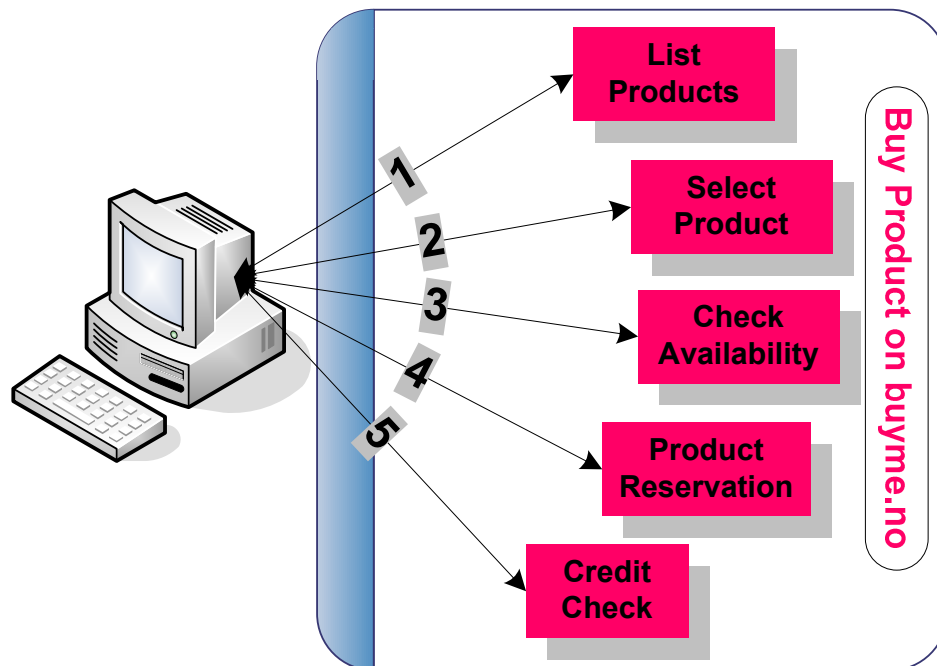
### ➔ Contra

- ➔ Quite static monitoring infrastructure
- ➔ Intricate implementation of monitoring schemes for non-reversible, writing transactions



## The Working Principle of Active E2E Monitoring with INFRA-XS®

- ➔ The basis for the implementation is a model description of the business case to be monitored
- ➔ For the monitoring, the business case is broken down into logical steps, the transactions
- ➔ The resulting transaction flow is being executed by monitoring systems, the XS-Agents
- ➔ During the execution, the response times of the transactions are being recorded
- ➔ The recorded data is checked against the service levels agreed-on in SLAs
- ➔ In addition, you get the response times' proportion on the PC, network and host



	Transaction for Internet Shopping	Monitored transaction time
1	List Products	10 sec
2	Select Product	55 sec
3	Check Availability	44 sec
4	Product Reservation	22 sec
5	Credit Check	34 sec
n	....	...
<b>SLA threshold</b>		<b>165 sec</b>



## What Active Monitoring with INFRA-XS® Is Suited for

### ➔ End-to-end Monitoring: GUIs

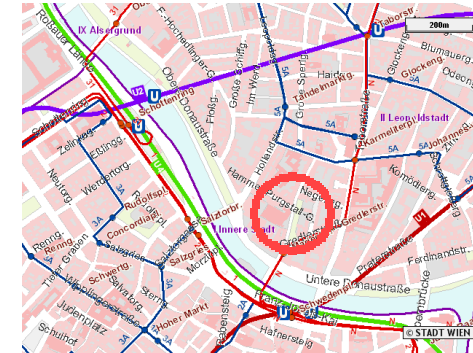
- ➔ Simulation of keyboard and mouse input
- ➔ Recognition of the application's response
- ➔ Suitable for all sorts of graphical interfaces

### ➔ End-to-end Monitoring: APIs (IE, HLL)

- ➔ Recognition of elements (IE) and texts (IE, HLL)
- ➔ Suitable for browsers (IE) and terminal emulators (HLL)

### ➔ Infrastructure Monitoring

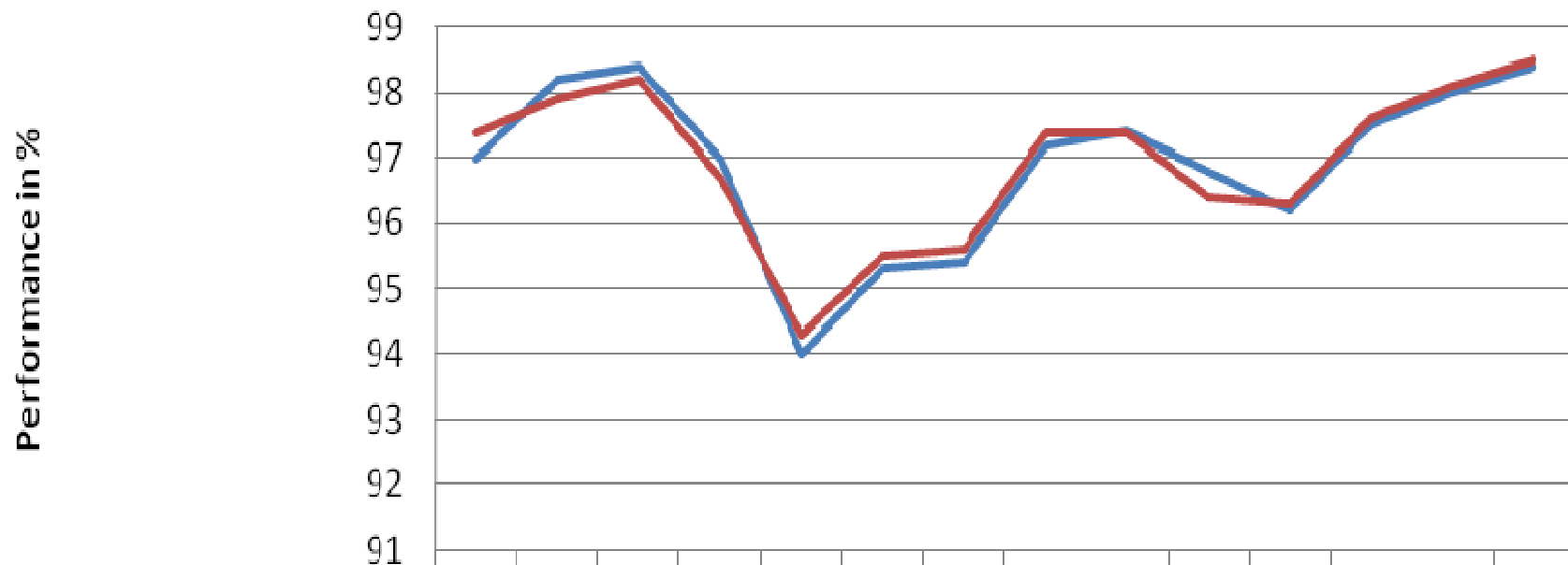
- ➔ Mail backbones (processing time, server availability)
- ➔ Server systems
- ➔ Networks
- ➔ Security components





For an experience of  
INFRA-XS® in action  
Click [here](#)

## Does Active Monitoring Mirror the Users' Assessment?

### E2E Monitoring Data vs. User Assessment



	33	34	35	36	37	38	39	40	41	42	43	44	45	46
 % E2E Monitoring	97	98,2	98,4	97	94	95,3	95,4	97,2	97,4	96,8	96,2	97,5	98	98,4
 % User assessment	97,4	97,9	98,2	96,7	94,3	95,5	95,6	97,4	97,4	96,4	96,3	97,6	98,1	98,5



## Passive Monitoring with INFRA-XS®

### ➔ Working Principle

- ➔ A monitoring application - installed on a user PC - monitors defined transactions performed by the user
- ➔ Or: A monitoring application - running on a terminal server - monitors the contents of defined user sessions
- ➔ Or: A monitoring application - installed on an appliance or a PC configured for the purpose - records the network traffic at a defined switch; this data then is evaluated with regard to specified parameters

### ➔ Range of Application

- ➔ Systematic troubleshooting and problem analysis
- ➔ Monitoring of non-simulatable processes
- ➔ Monitoring on PCs which don't support any software installation (NetClient)
- ➔ Monitoring of network traffic



## Passive Monitoring with INFRA-XS®

### ➔ Pro

- ➔ Effortless roll-out
- ➔ Possibility of comprehensive, domain-wide monitoring
- ➔ Monitoring of writing/non-reversible transactions

### ➔ Contra

- ➔ Only fragmentary covering of applications' service times, since the generation of monitoring data is 'controlled' by the users
- ➔ Higher complexity regarding the implementation of monitoring scripts
- ➔ Necessity of an additional step within the processing of the monitoring data to ensure the users' anonymity



## The Working Principle of Passive E2E Monitoring with INFRA-XS®

- ➔ The basis for the implementation is a capture of the data stream generated by performing a business case
- ➔ For the monitoring, events within the data stream are identified which represent the transactions to be monitored
- ➔ These event signatures are laid down in a monitoring script
- ➔ The script, together with the monitoring application, is rolled out on:
  - ➔ PCs for the monitoring of user transactions
  - ➔ Terminal servers for the monitoring of user sessions
  - ➔ Appliances for the monitoring of network traffic
- ➔ As soon as one of the defined transactions is performed the monitoring application starts recording data
- ➔ This data then is evaluated by the monitoring script with regard to the defined events
- ➔ The resulting data can be correlated with the data gathered by active monitoring



## What Passive Monitoring with INFRA-XS® Is Suited for

### ➔ Application Events

- ➔ Display, removal of objects (windows etc.)
- ➔ Modification of text fields (contents, caption)
- ➔ Activation of buttons, menu items (Enter)

### ➔ Network Events

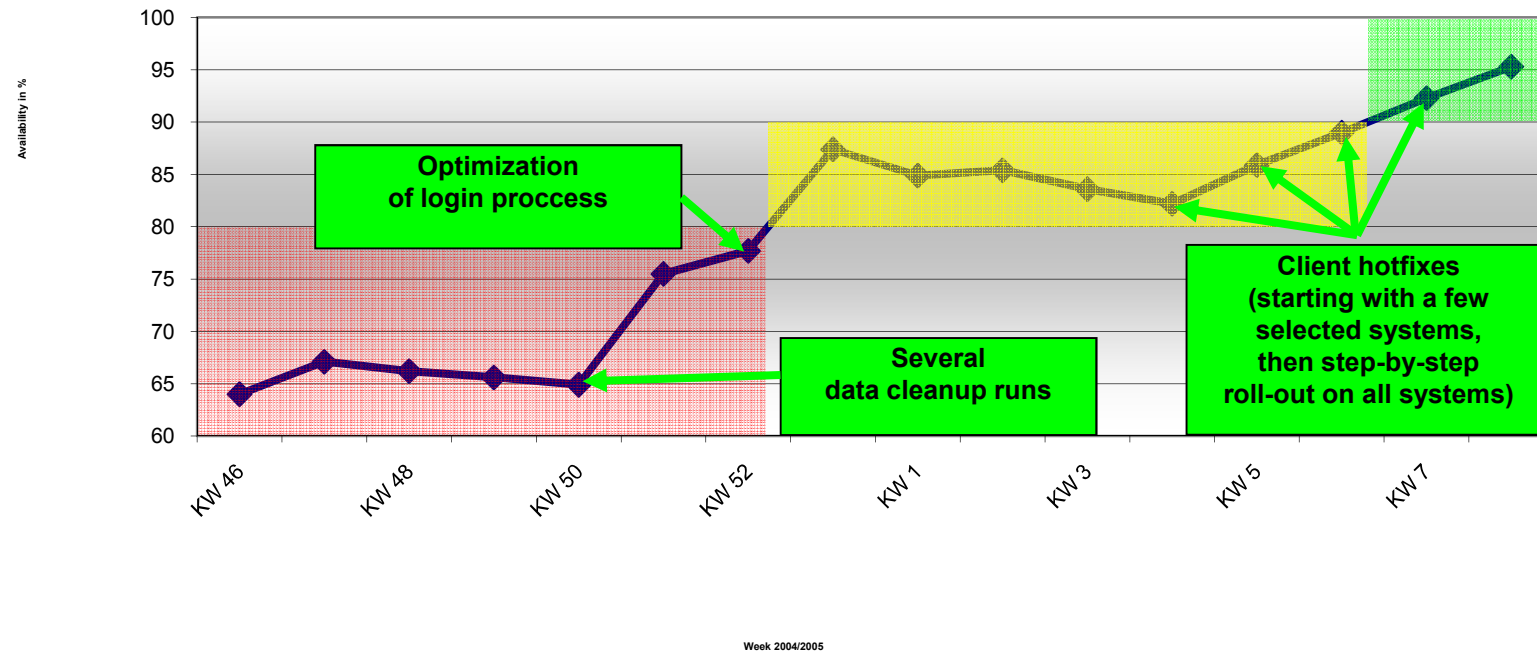
- ➔ Data stream on OS level (any TCP communication)

### ➔ API Events

- ➔ System interfaces

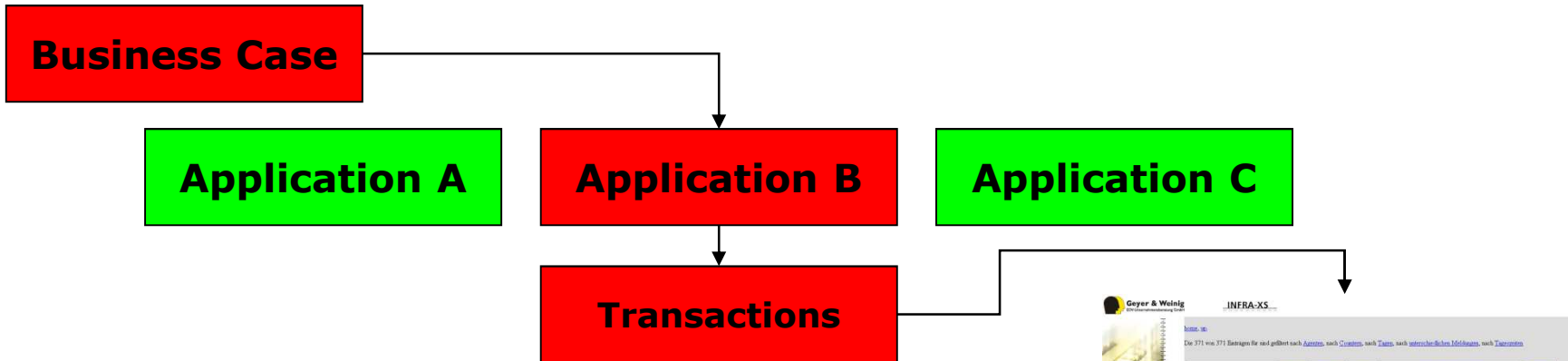
# How INFRA-XS® Helps You to Improve Your IT Service Quality

**Archieved Increase of an IT Service's Quality**  
 as measured by the service availability from the customer's and employees' view

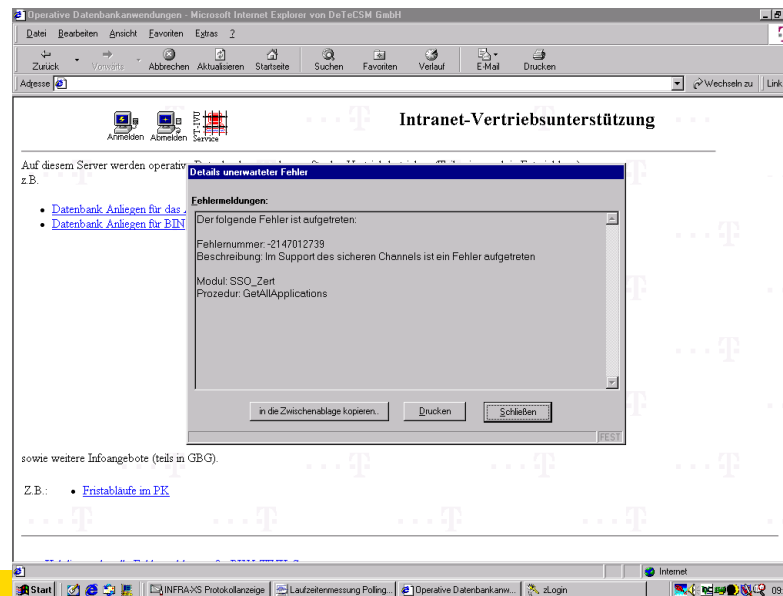


# How INFRA-XS® Helps You to Improve Your IT Service Quality

By documenting application errors via screenshots



**Screenshot of the Error**



**INFRA-XS**

Die 371 wie 371 Beträge für sind gliedert nach **Agente**, nach **Contenr**, nach **Tag**, nach **späterlichen Mittagen**, nach **Tagen**

Agente	Entleg	Contenr	Tag	späterliche Mittagen	Tagen
v.00000	00	0	0	0	0
v.00001	00	0	0	0	0
v.00002	00	0	0	0	0
v.00003	00	0	0	0	0

Contenr	Entleg	Agente	Tag	späterliche Mittagen	Tagen
00000	00	0	0	0	0
00001	00	0	0	0	0
00002	00	0	0	0	0
00003	00	0	0	0	0

Tag	Entleg	Agente	Contenr	späterliche Mittagen	Tagen
2010.09.01	0	0	0	0	0
2010.09.02	0	0	0	0	0
2010.09.03	0	0	0	0	0
2010.09.04	0	0	0	0	0
2010.09.05	0	0	0	0	0

# The Output of INFRA-XS®

## Mail Runtime Monitoring SLA Reports Month

01.05.2008 - 14.05.2008 (Week 18 - 20)

Data generated on 15.05.2008 00:03 [\(help\)](#)

M. Spitz Ettlingen, Einsteinstr.24

Date	# Hours	# sent	# received	# lost	Availability in percent	Ø Run Time in seconds
01.05.2008	24	276	273	3	99.31%	320.040
02.05.2008	24	276	274	2	99.28%	325.290
03.05.2008	24	276	275	1	99.64%	317.470
04.05.2008	24	276	275	1	99.64%	332.630
05.05.2008	24	276	275	1	99.64%	325.910
06.05.2008	24	276	274	2	99.76%	327.360
07.05.2008	24	276	270	6	97.83%	319.080
08.05.2008	24	276	274	2	99.28%	328.620
09.05.2008	24	276	245	31	88.77%	326.390
10.05.2008	24	276	274	2	99.28%	328.180
11.05.2008	24	276	275	1	99.64%	332.330
12.05.2008	24	276	275	1	99.64%	320.620
13.05.2008	24	276	275	1	99.64%	331.460
14.05.2008	24	274	229	45	83.58%	347.110
Sum/Avg	336	3862	3763	99	97.43%	327.319

Summary of all mailboxes

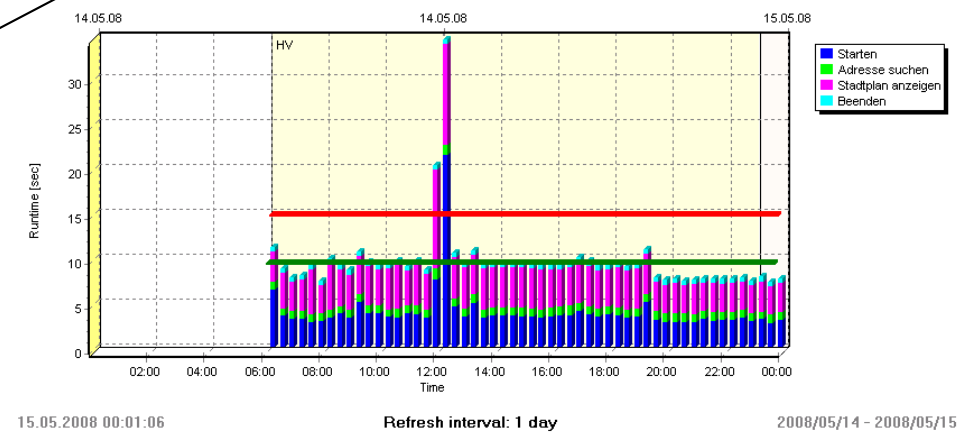
Sum/Avg	1	3862	3763	99	97.43%	327.319
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[Remove navigation](#)  
[Save csv file](#)

## SLA View

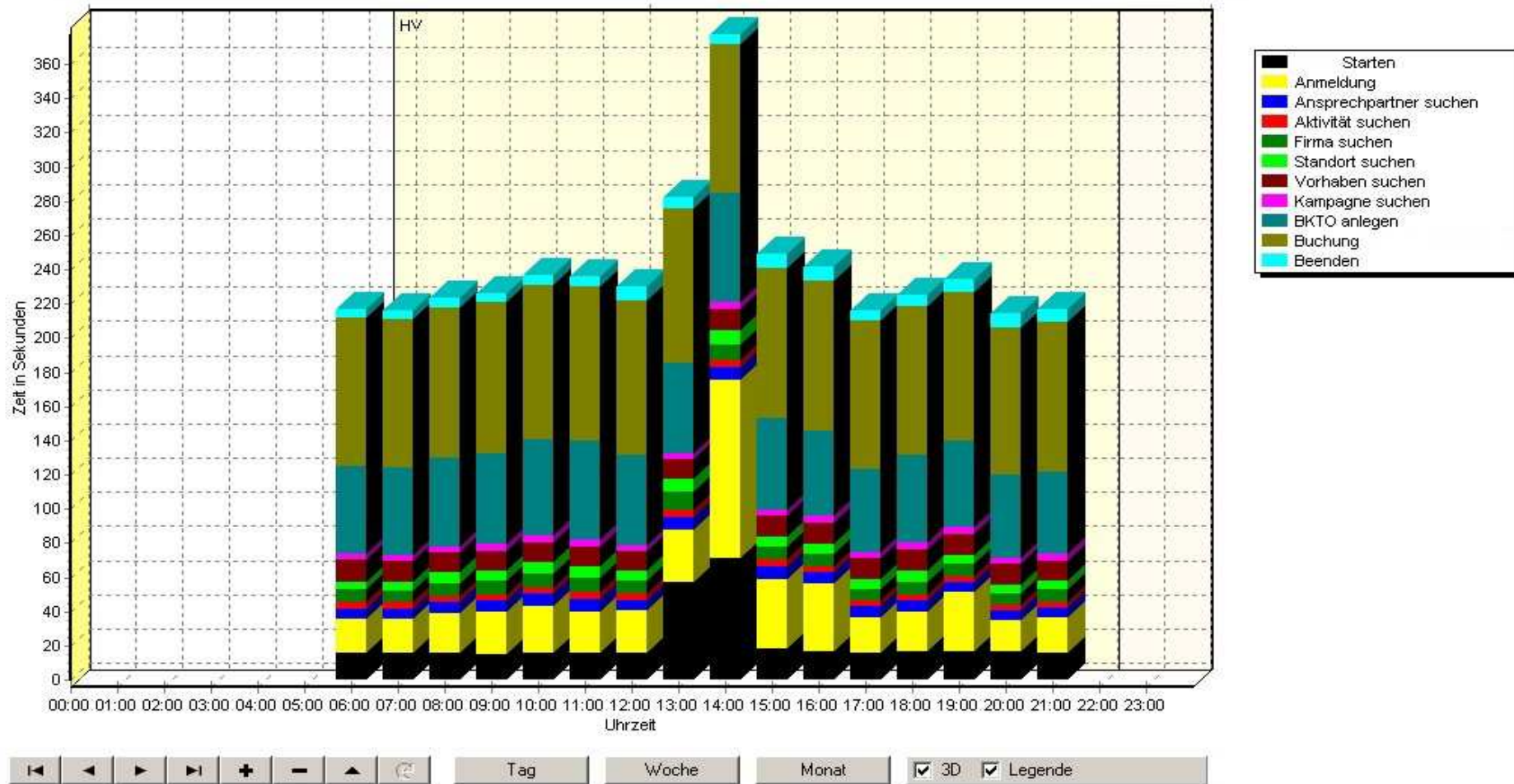
## Realtime View

Stadtplansuche Performance Business Process Yesterday






## Realtime View: Service Performance Chart





## Realtime View: A Customer's E2E Monitoring Web Portal




Performance and Service Portal

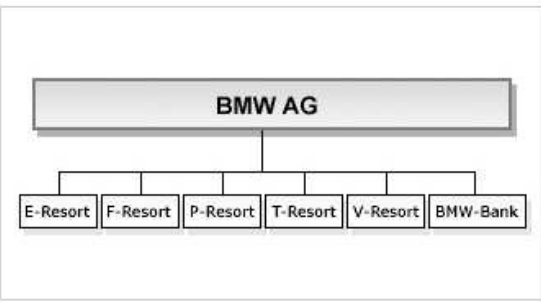
**E2E MONITORING** Help

Information			News		
	August 2005	September 2005	Date	Time	Text
Instances/Agents in Production	16	35	11.05.2005	21:30	Setup measurements B2D UK
Supervised Applications	42	111	11.05.2005	21:30	Setup measurements B2D Netherlands
Measurements per Month	2100	9792	11.05.2005	10:30	Setup measurement NSC Tokyo
Reports per Month	50704	325992	09.05.2005	12:30	Setup agent NSC Tokyo
			25.04.2005	07:00	Due to a system problem all reports are not up-to-date and will be regenerated until tomorrow morning
			19.04.2005	18:00	Setup agent SAP München
			19.04.2005	15:00	Setup agent and measurement eHR Hamburg

Select geographical or organizational path



geographically



Departments



# SLA View: Mail Runtimes Report

## Mail Runtime Monitoring SLA Reports Month

01.05.2008 - 14.05.2008 (Week 18 - 20)

Data generated on 15.05.2008 00:03 ([Help](#))

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↑..

Summary of all mailboxes

Sum/Avg	1	3862	3763	99	97.43%	327.319
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[Remove navigation](#)

[Save csv file](#)



# SLA View: IT Performance Scorecard



## IT-Performance-Scorecard

Monatsbericht August 2009

IT-Performance				Standortbezogene IT-Performance																																																																																																											
<p><b>IT-Index Gesamt (Servicezeit I)</b></p> <p><b>95.1</b></p> <p><b>IT-Index Spitzenzeit (Servicezeit II)</b></p> <p><b>94.9</b></p>				<table border="1"> <thead> <tr> <th rowspan="2">Standort (Area)</th> <th colspan="2">Servicezeit I (Gesamt)</th> <th colspan="2">Servicezeit II (Spitzenzeit)</th> </tr> <tr> <th>Verfügbarkeit</th> <th>Antwortzeit-verhalten</th> <th>Verfügbarkeit</th> <th>Antwortzeit-verhalten</th> </tr> </thead> <tbody> <tr><td>01 Hermannsgasse 24-26</td><td>98.1%</td><td>98.5%</td><td>98.0%</td><td>98.2%</td></tr> <tr><td>02 Oswald Redlich Straße 9</td><td>94.6%</td><td>98.1%</td><td>95.1%</td><td>97.6%</td></tr> <tr><td>03 Muthgasse 62</td><td>98.1%</td><td>98.5%</td><td>97.7%</td><td>98.4%</td></tr> <tr><td>04 Opfermannsgasse 1 / Kendlarstrasse</td><td>94.9%</td><td>98.2%</td><td>95.1%</td><td>97.7%</td></tr> <tr><td>05 Lienfeldgasse 96</td><td>97.6%</td><td>98.3%</td><td>97.6%</td><td>97.8%</td></tr> <tr><td>06 Schlesingerplatz 2</td><td>97.9%</td><td>98.4%</td><td>98.0%</td><td>98.0%</td></tr> <tr><td>07 Rotensterngasse 9-11</td><td>98.2%</td><td>98.1%</td><td>98.3%</td><td>97.7%</td></tr> <tr><td>08 Meiereistraße 7 Sektor F</td><td>97.9%</td><td>98.1%</td><td>97.7%</td><td>97.8%</td></tr> <tr><td>09 Mexikoplatz 13-14</td><td>96.9%</td><td>97.9%</td><td>97.4%</td><td>97.4%</td></tr> <tr><td>10 Am Spitz</td><td>94.5%</td><td>98.5%</td><td>97.5%</td><td>98.3%</td></tr> <tr><td>11 Rüdengasse 11</td><td>98.1%</td><td>98.0%</td><td>97.6%</td><td>97.5%</td></tr> <tr><td>12 Guiggasse 14 - Gasometer D</td><td>98.1%</td><td>98.0%</td><td>97.6%</td><td>97.3%</td></tr> <tr><td>13 Am Modenapark 1-2</td><td>97.4%</td><td>98.2%</td><td>98.2%</td><td>97.9%</td></tr> <tr><td>14 Rathausstr.1</td><td>95.0%</td><td>98.2%</td><td>94.9%</td><td>97.8%</td></tr> <tr><td>15 Simmeringer Hauptstrasse 108a, 1110 Wien</td><td>97.7%</td><td>98.3%</td><td>97.6%</td><td>98.1%</td></tr> <tr><td>16 Van der Nüllgasse 20</td><td>91.3%</td><td>97.8%</td><td>89.9%</td><td>97.4%</td></tr> <tr><td>17 Favoritenstraße 18</td><td>98.1%</td><td>98.1%</td><td>97.9%</td><td>97.6%</td></tr> <tr><td>18 Linke Wienzeile 192 (Graumannsgasse 7)</td><td>98.0%</td><td>98.5%</td><td>98.3%</td><td>98.3%</td></tr> <tr><td>20. Drehtnerstrasse</td><td>97.3%</td><td>98.5%</td><td>97.2%</td><td>98.1%</td></tr> </tbody> </table>				Standort (Area)	Servicezeit I (Gesamt)		Servicezeit II (Spitzenzeit)		Verfügbarkeit	Antwortzeit-verhalten	Verfügbarkeit	Antwortzeit-verhalten	01 Hermannsgasse 24-26	98.1%	98.5%	98.0%	98.2%	02 Oswald Redlich Straße 9	94.6%	98.1%	95.1%	97.6%	03 Muthgasse 62	98.1%	98.5%	97.7%	98.4%	04 Opfermannsgasse 1 / Kendlarstrasse	94.9%	98.2%	95.1%	97.7%	05 Lienfeldgasse 96	97.6%	98.3%	97.6%	97.8%	06 Schlesingerplatz 2	97.9%	98.4%	98.0%	98.0%	07 Rotensterngasse 9-11	98.2%	98.1%	98.3%	97.7%	08 Meiereistraße 7 Sektor F	97.9%	98.1%	97.7%	97.8%	09 Mexikoplatz 13-14	96.9%	97.9%	97.4%	97.4%	10 Am Spitz	94.5%	98.5%	97.5%	98.3%	11 Rüdengasse 11	98.1%	98.0%	97.6%	97.5%	12 Guiggasse 14 - Gasometer D	98.1%	98.0%	97.6%	97.3%	13 Am Modenapark 1-2	97.4%	98.2%	98.2%	97.9%	14 Rathausstr.1	95.0%	98.2%	94.9%	97.8%	15 Simmeringer Hauptstrasse 108a, 1110 Wien	97.7%	98.3%	97.6%	98.1%	16 Van der Nüllgasse 20	91.3%	97.8%	89.9%	97.4%	17 Favoritenstraße 18	98.1%	98.1%	97.9%	97.6%	18 Linke Wienzeile 192 (Graumannsgasse 7)	98.0%	98.5%	98.3%	98.3%	20. Drehtnerstrasse	97.3%	98.5%	97.2%	98.1%
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20. Drehtnerstrasse	97.3%	98.5%	97.2%	98.1%																																																																																																											
<p><b>Servicezeit I (7 – 17 Uhr)</b></p> <p>Verfügbarkeit: 96.8%</p> <p>Antwortzeit-verhalten: 98.2%</p>		<p><b>Servicezeit II (IT-Spitzenzeit) (9 – 11 Uhr, 13 – 14 Uhr 30)</b></p> <p>Verfügbarkeit: 96.9%</p> <p>Antwortzeit-verhalten: 97.8%</p>		<p><b>Gemessene IT-Anwendungen</b></p> <table border="1"> <thead> <tr> <th rowspan="2">Anwendung</th> <th colspan="2">Servicezeit I (Gesamt)</th> <th colspan="2">Servicezeit II (IT-Spitzenzeit)</th> </tr> <tr> <th>Verfügbarkeit</th> <th>Antwortzeit-verhalten</th> <th>Verfügbarkeit</th> <th>Antwortzeit-verhalten</th> </tr> </thead> <tbody> <tr><td>EBP</td><td>94.8%</td><td>98.7%</td><td>94.8%</td><td>98.5%</td></tr> <tr><td>ELAK (Sachgebiet erstellen)</td><td>97.2%</td><td>98.8%</td><td>98.8%</td><td>98.8%</td></tr> <tr><td>Exchange 2003/Outlook 2003</td><td>98.8%</td><td>98.8%</td><td>98.4%</td><td>98.5%</td></tr> <tr><td>Intranet URLc</td><td>93.7%</td><td>98.8%</td><td>93.6%</td><td>98.3%</td></tr> <tr><td>Stadtplanuche</td><td>98.3%</td><td>98.4%</td><td>98.7%</td><td>96.6%</td></tr> </tbody> </table>				Anwendung	Servicezeit I (Gesamt)		Servicezeit II (IT-Spitzenzeit)		Verfügbarkeit	Antwortzeit-verhalten	Verfügbarkeit	Antwortzeit-verhalten	EBP	94.8%	98.7%	94.8%	98.5%	ELAK (Sachgebiet erstellen)	97.2%	98.8%	98.8%	98.8%	Exchange 2003/Outlook 2003	98.8%	98.8%	98.4%	98.5%	Intranet URLc	93.7%	98.8%	93.6%	98.3%	Stadtplanuche	98.3%	98.4%	98.7%	96.6%																																																																						
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