

# IT Service Delivery: The Challenge of Meaningful Metrics

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## **Introduction**

# **Hypersoft Information Systems**

- **More than 200 enterprise customers for business service metrics**
- **More than 2 million users in organisations measured by our software**
- **Offices in Germany, France, USA and Belarus**
- **Specializes in data collection and analysis of major IT services**
- **Cooperation with final customers and service providers**

## **Dr. Serguei Dobrinevski**

- **Degree in physics**
- **Founded Hypersoft in 1993**
- **Developed and formalised strategic concepts for Hypersoft products**



# Agenda

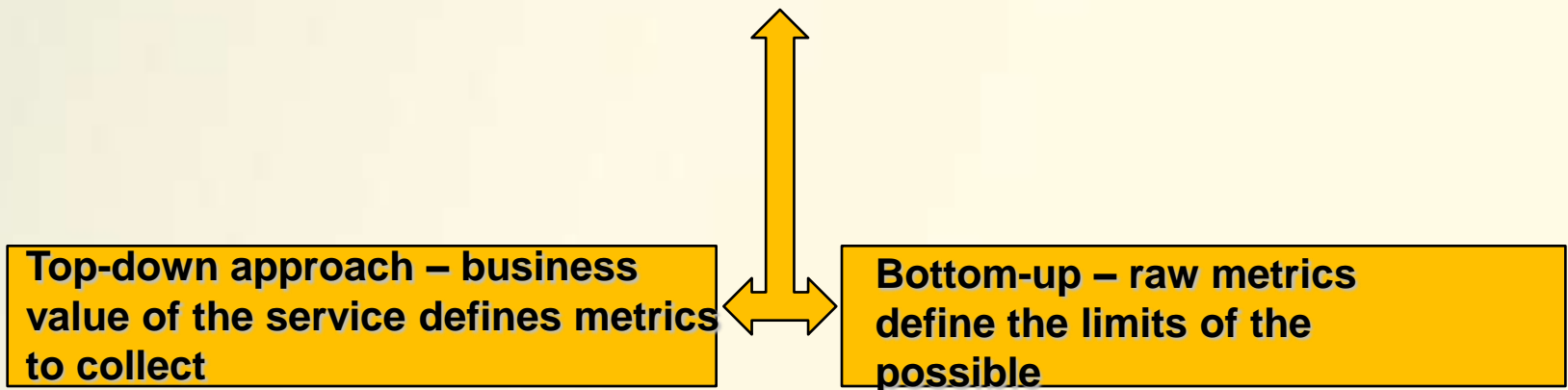
## Business Service Delivery Metrics

- ❖ Aligning IT and Business
- ❖ Top-down and Bottom-up approaches to service metrics
- ❖ How are they relevant to business objectives and values
- ❖ What KPIs to choose and monitor
- ❖ How to tell the difference between high and low quality metrics



## Using Metrics to Align IT and Business

- Expressing IT process logic in meaningful metrics
- Compliance with best practices, legislation and standards
- Maintaining clear business focuses of service delivery

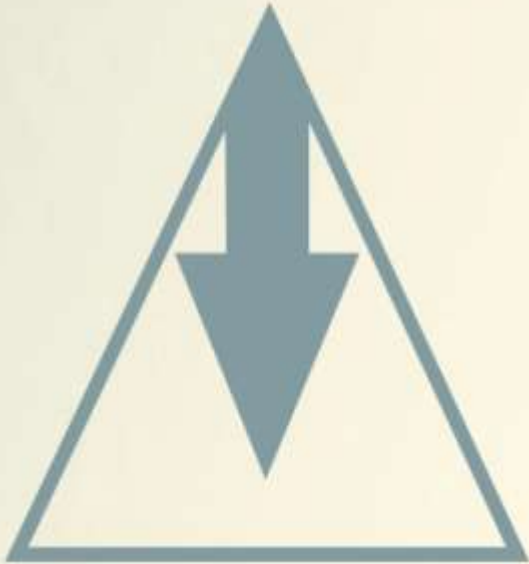


## **Metrics Collection Pitfalls and Challenges**

- **Distributed nature of the infrastructure**
- **Large and complex environments (two types of scalability)**
- **Security and policy boundaries**
- **Need to avoid approximation (no quality metrics without quality raw data)**
- **Automated data gathering and operational status**
- **Data consolidation: scalability versus quality**



## From Top to Bottom



What services are we offering?

How to find out service performance?

What are its reasonable KPIs without knowing the technology behind the service?

Is it possible to measure them at all and how do we measure them?

Does the service correlate with the existing infrastructure?



# Service Definition – Contract Creation

- Defining KPIs
- Assigning the responsibilities
- Agreeing upon service performance levels

**Service Definition - Microsoft Internet Explorer**

File Edit View Favorites Tools Help

OmniAnalyser™ 9.0 hypersoft

Service Definition New Delete Print Help

Service	General Info	Contract Info	Functional Requirements	Contract Penalties	Service Reporting	Service Dashboard	Filters
Mail and HTTP Resource Service	Service Provider:	iPNextTech					
	Service Receiver:	Tradecomited					
	Contract Type:	availability					
	Contract Status:	effective					
	Responsible Person:	Joanne Woods, tel.0875322332					
	Accountable Person:	Peter Noack, e-mail: pnoack@					
	Consulted Persons:	Alex Logran tel.8563456 Michael Smith tel.6688964					
	Informed Persons:	Susan Baker tel.856-56-89 John Stanley tel. 856-56-14 mob.1234 2568					
	Version of Contract:	1.0.0.0					
	Date of Signing:	29.06.2007					
Description:	Service Provider is responsi organisation365*24*7 and me of any problems contact Cus 365*24*7						

Save Cancel

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**Service Definition - Microsoft Internet Explorer**

File Edit View Favorites Tools Help

OmniAnalyser™ 9.0 hypersoft

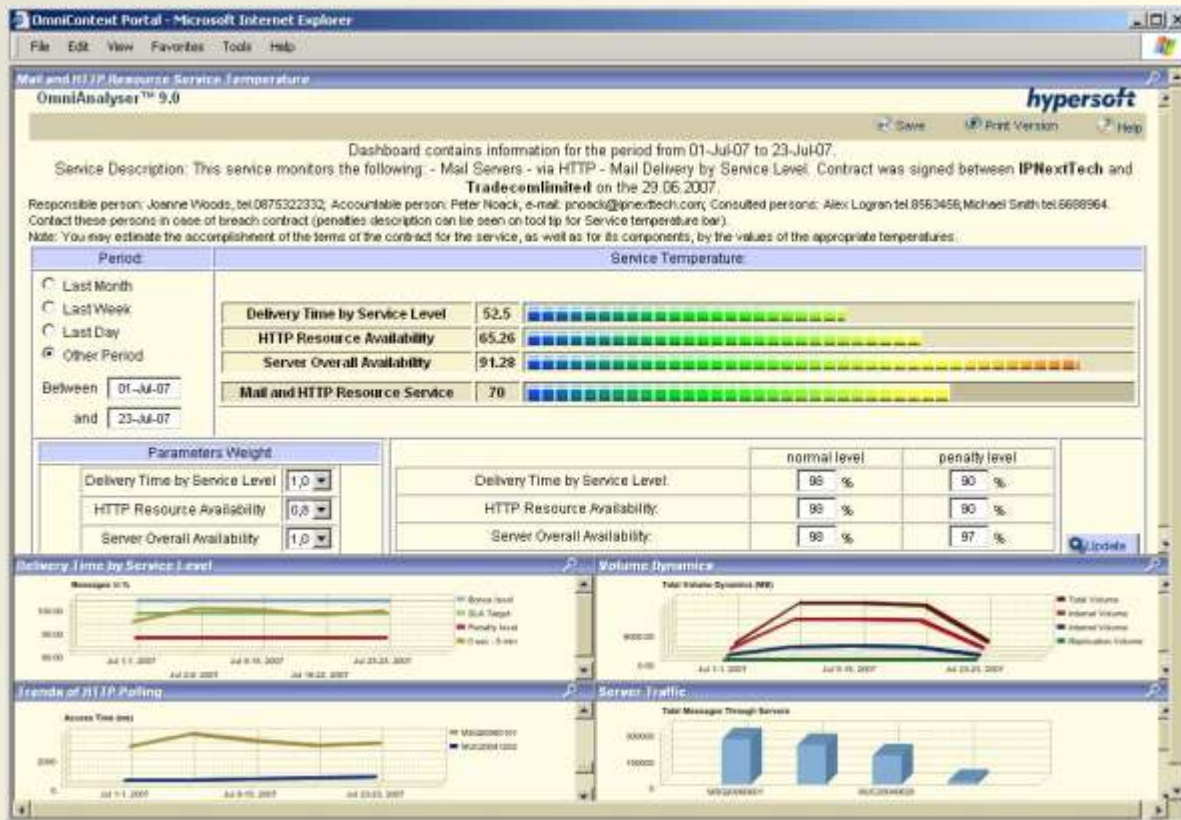
Service Definition New Delete Print Help

Service	General Info	Contract Info	Functional Requirements	Contract Penalties	Service Reporting	Service Dashboard	Filters
Mail and HTTP Resource Service	Available KPIs:		Selected KPIs:				
	<ul style="list-style-type: none"> <li>Undelivered Messages</li> <li>Delivery Time</li> <li>RTM Delivery Time Between Serves</li> <li>RTM Delivery Time by Service Level</li> <li>Delivery Time Between Servers</li> <li>Undesired Content</li> <li>Antivirus Application Health</li> <li>Failed Replications</li> <li>Replicas Identity</li> <li>Active Directory Replication Quality</li> <li>Free Disk Space</li> <li>Server Free Virtual Memory</li> <li>Server CPU's Load</li> <li>NetECHO Access Time</li> <li>TCPMP Port Availability</li> </ul>		<ul style="list-style-type: none"> <li>Delivery Time by Service Level</li> <li>HTTP Resource Availability</li> <li>Server Overall Availability</li> </ul>		<p><b>Delivery Time by Service Level</b></p> <p>Normal level <input type="text" value="100"/> %</p> <p>Penalty level <input type="text" value="95"/> %</p>		

Save Cancel

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## Contract Maintenance



- Proactive KPI monitoring
- Informing the client of contract performance
- Reacting to deviations from service levels
- Adjusting to contract conditions

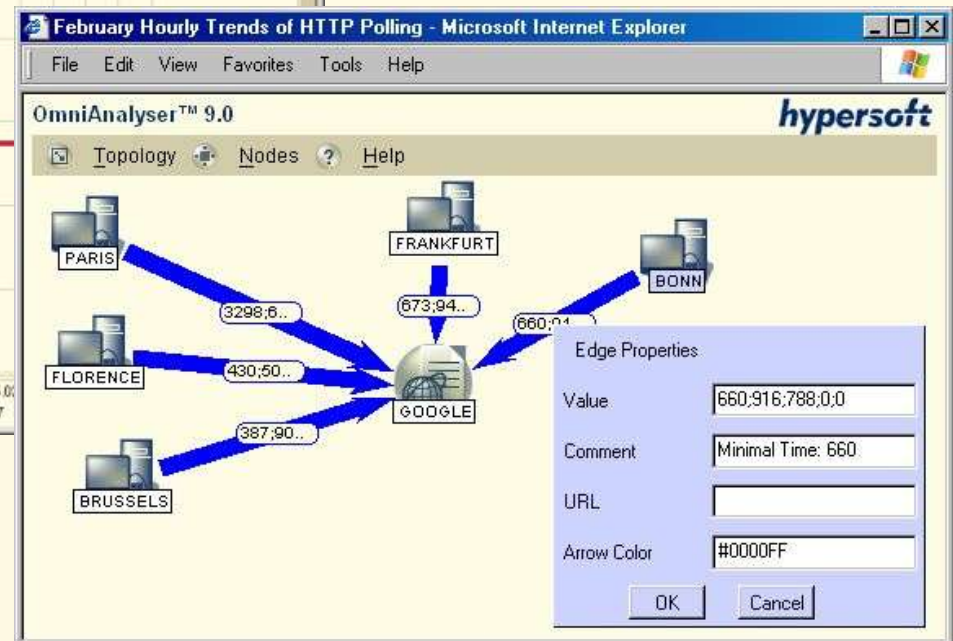


# Client-Provider Interaction



**Leveling client-provider relationship with SLA monitoring**

**Integrating service provision and incident resolution**



**End-user probing simulation for quality assessments**



# Integrating IT Assets With Service Delivery

Ensure adequate assets inventory for service portfolio

July List of Computers - Microsoft Internet Explorer

OmniAnalysier™ 9.0 hypersoft

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**July List of Computers**

Time interval: from 01-Jul-07 to 31-Jul-07.  
Server time: GMT+3.

Page 2. Currently viewing 11 through 20 of 367 total items.

Date	Date of Creation	Date of Change	Computer	Operation System	OS Version	OS ServicePack
27-Jul-07 12:31:20 AM	23-Jul-01 10:43:42 AM	24-Jul-07 10:17:56 PM	GRENOBLE	Windows Server 2003	5.2 (3790)	Service Pack 1
31-Jul-07 12:31:25 AM	23-Jul-01 10:43:42 AM	27-Jul-07 12:33:04 PM	GRENOBLE	Windows Server 2003	5.2 (3790)	Service Pack 1
30-Jul-07 12:31:41 AM	23-Jul-01 10:43:42 AM	27-Jul-07 12:33:04 PM	GRENOBLE	Windows Server 2003	5.2 (3790)	Service Pack 1
28-Jul-07 10:25:07 AM	23-Jul-01 10:43:42 AM	27-Jul-07 12:35:09 PM	GRENOBLE	Windows Server 2003	5.2 (3790)	Service Pack 1
31-Jul-07 10:25:13 AM	23-Jul-01 10:43:42 AM	27-Jul-07 12:35:09 PM	GRENOBLE	Windows Server 2003	5.2 (3790)	Service Pack 1
29-Jul-07 10:25:38 AM	23-Jul-01 10:43:42 AM	27-Jul-07 12:35:09 PM	GRENOBLE	Windows Server 2003	5.2 (3790)	Service Pack 1
31-Jul-07 12:31:25 AM	13-Aug-01 2:14:18 PM	16-May-06 5:42:14 PM	VERONA	Windows XP Professional	5.1 (2600)	Service Pack 1
31-Jul-07 12:31:25 AM	19-Aug-01 2:28:19 PM	14-Sep-06 8:27:31 PM	AVIGNON	Windows 2000 Server	5.0 (2195)	Service Pack 4
31-Jul-07 12:31:25 AM	23-Aug-01 11:30:25 AM	16-May-06 5:40:14 PM	ANTIBES	Windows 2000 Professional	5.0 (2195)	Service Pack 3
19-Jul-07 12:31:01 AM	29-Aug-01 7:40:56 PM	09-Jul-07 7:48:51 AM	VMEN	Windows XP Professional	5.1 (2600)	Service Pack 2

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Printers

30-Sep-07.

of 42 total items.

Printer Name	Port	Driver
Fax	SHRFAX:	Microsoft Shared Fax Driver
magicolor 2300 DL	IP_192.168.250.12	magicolor 2300 DL
magicolor 2300 DL	IP_192.168.250.12	magicolor 2300 DL
magicolor 2300 DL	IP_192.168.250.12	magicolor 2300 DL.net
Fax	SHRFAX:	Microsoft Shared Fax Driver
Fax	SHRFAX:	Microsoft Shared Fax Driver
FaxFAX:	SHRFAX:	Microsoft Shared Fax Driver 0
Fax	SHRFAX:	Microsoft Shared Fax Driver
Fax	SHRFAX:	Microsoft Shared Fax Driver
08-Sep-07 12:30:33 AM	27-Aug-07 6:48:11 AM	27-Aug-07 6:48:12 AM
Bristol-HP LaserJet 6L	HP LaserJet 6L	LPT1: HP LaserJet 6L

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Maintain up-to-date equipment, systems, and processes status

## Ascending From the Bottom

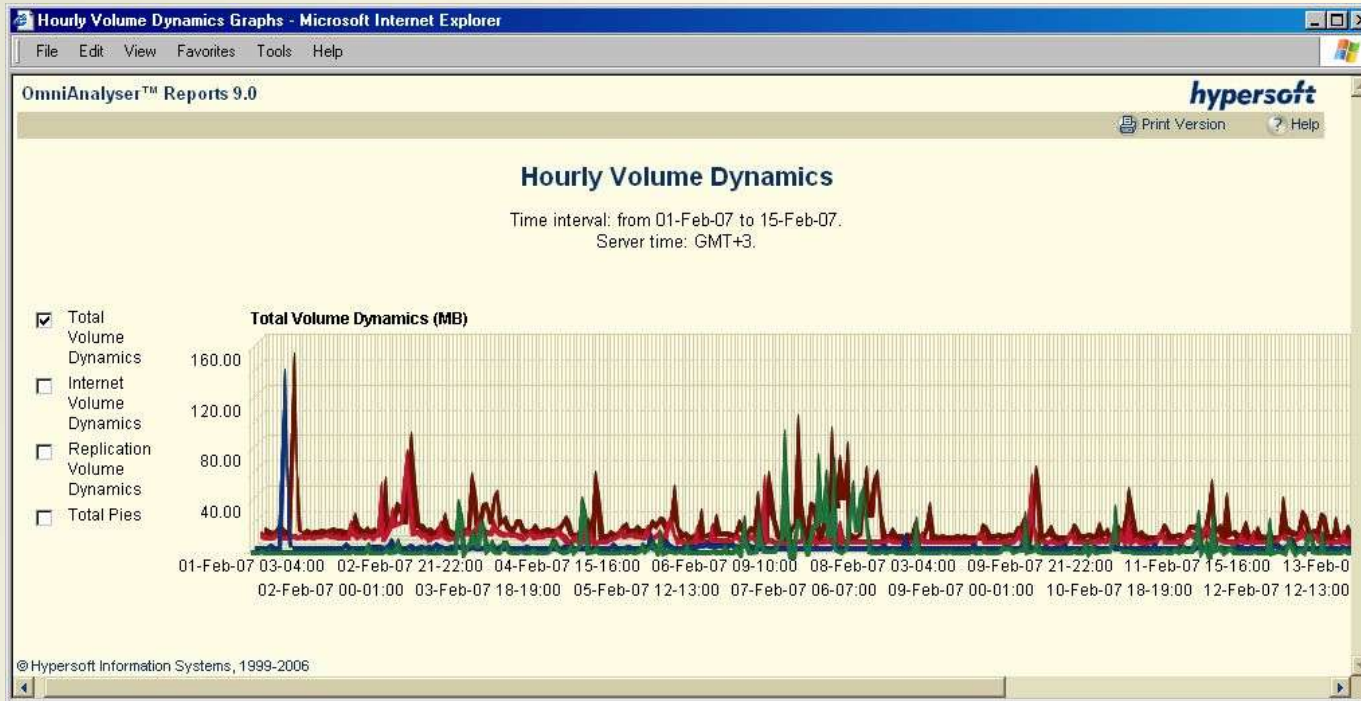


- **Collecting and monitoring raw metrics**
- **Transforming them into meaningful statistics**
- **Identifying high-level metrics**
- **Do they indicate an important service activity?**
- **Producing the KPIs**
- **In the end, do we still remember what this service was about?**



# What Metrics are Business Relevant?

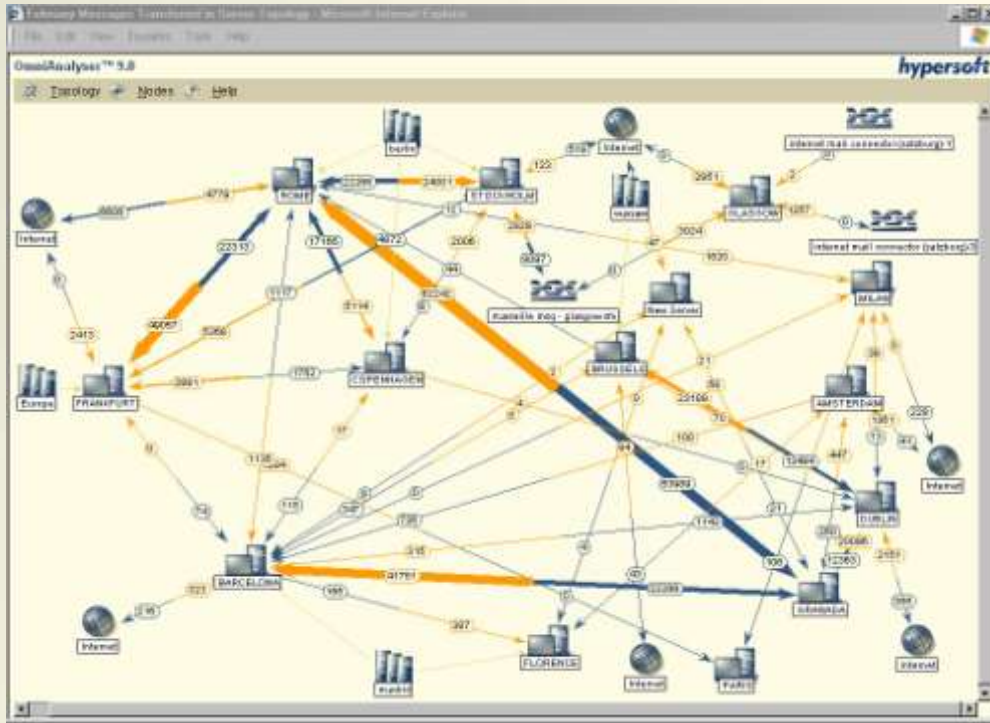
**Processes and resource usage estimation**



**Good for technology purposes but irrelevant for business**



## Infrastructure Analysis



**Measuring events, connections, and their dependencies: takes us one step further but still not to the business level**

soft Internet Explorer

hypersoft

Properties Save Export to Clipboard Print Version HTML View Help

### er Daily Windows Events by Attribute

Time interval: from 01-Sep-07 to 30-Sep-07.  
 Server time: GMT+3.  
 Event Type filter options: '=Error';

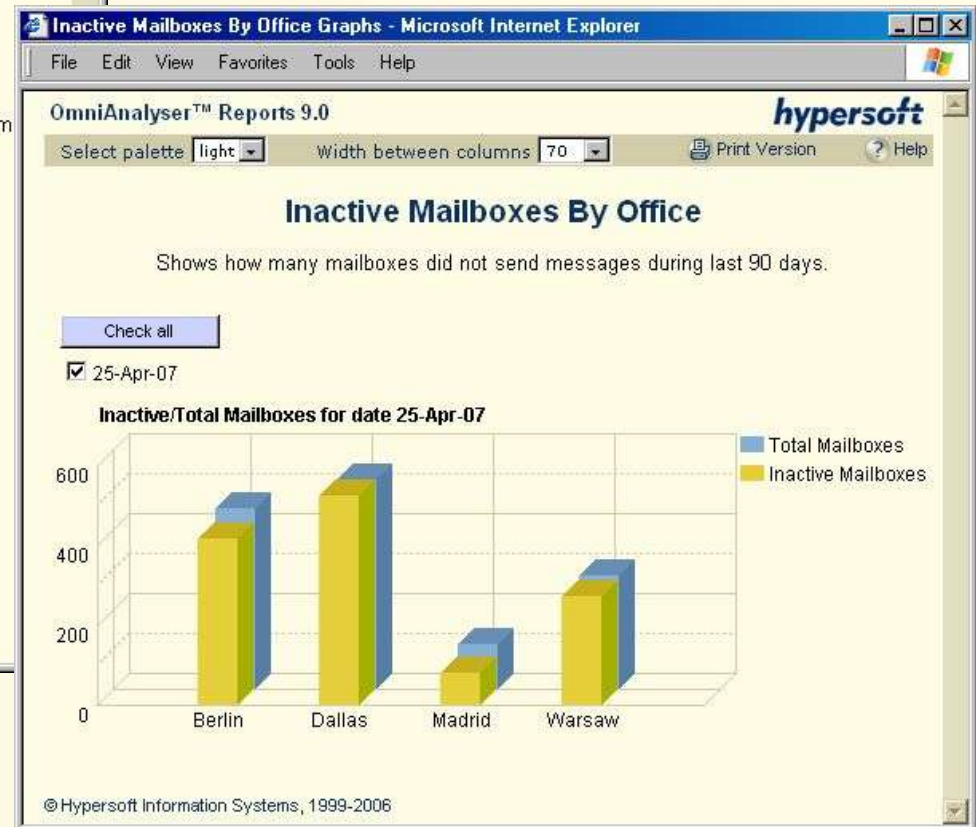
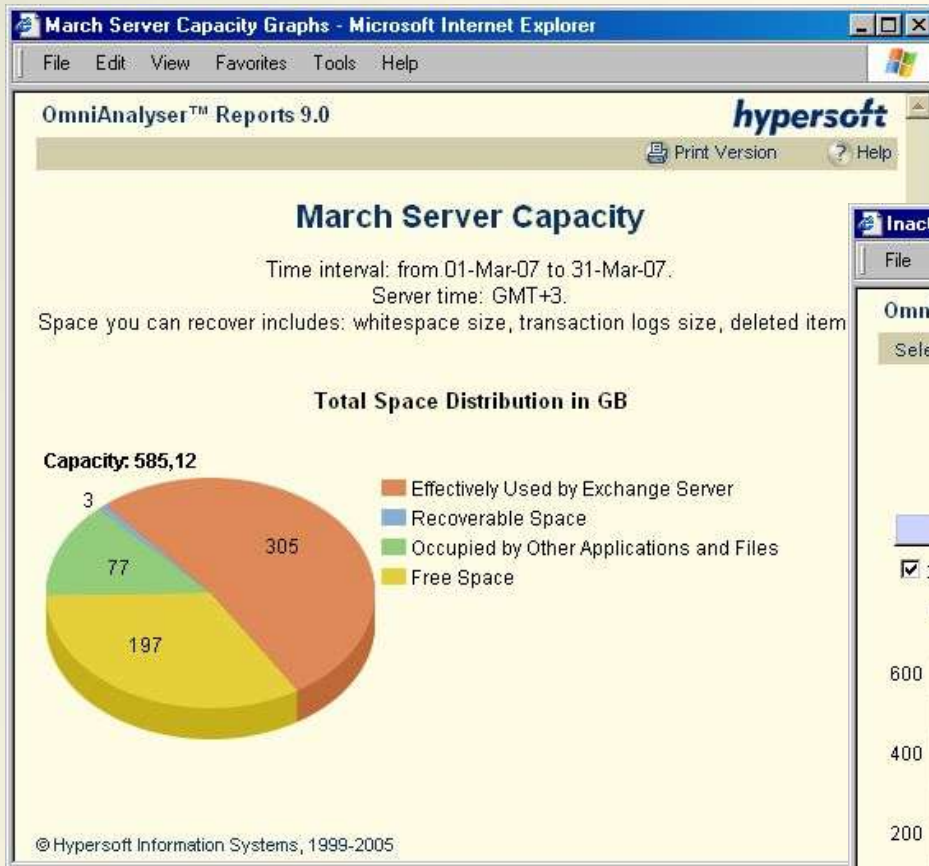
Page 2. Currently viewing 5 through 8 of 90 total items.

Date	Server	Event Type	Description	Total
04-Sep-07	Grenoble	Error	The IIS Admin Service service terminated unexpectedly. It has done this 3 time(s).	1
04-Sep-07	London	Error	The Office Communications Server Front-End service terminated with service-specific error 2147944183 (0x800706F7).	1
04-Sep-07	Paris	Error	The Simple Mail Transfer Protocol (SMTP) service terminated unexpectedly. It has done this 1 time(s).	1
04-Sep-07	Grenoble	Error	The World Wide Web Publishing Service service terminated unexpectedly. It has done this 3 time(s).	1

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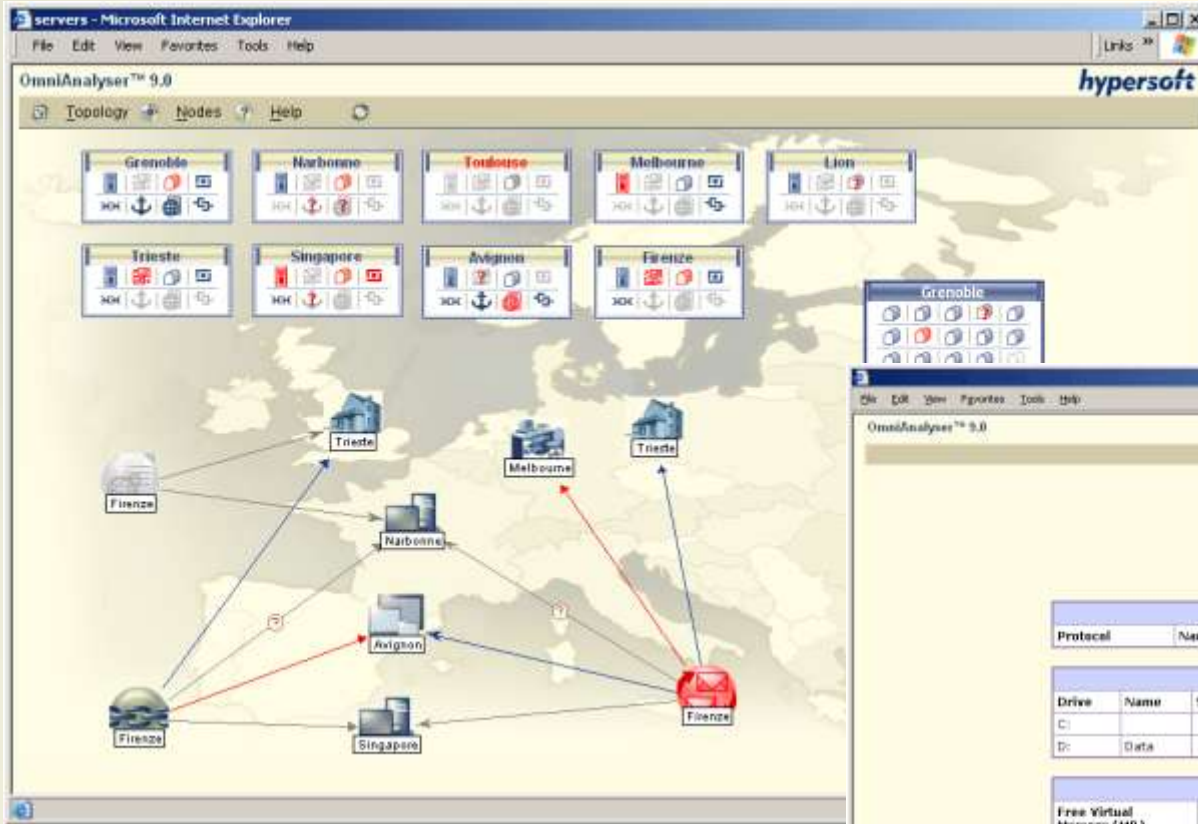
# Optimization and Consolidation

**Infrastructure storage and capacity assessments and planning**



**Helps optimise the costs but still deals just with the „necessary evil“**

# Alerting and Monitoring



**Threshold alerting on service KPIs**



**Limited to the firefighting mode of operation**

## So How do We Get to the True Business Metrics?

### Top-down:

- ✓ KPIs are understood by provider and client, both internal and external
- ✓ Clear assignment of service delivery metrics to business values
- ✓ Standardized service portfolio
- ✓ True end-to-end monitoring

### Bottom-up:

- ✓ Technically driven
- ✓ Focused on resources allocation and optimization
- ✓ Requiring technical competence from business users
- ✓ Adapting service definitions to execution capabilities





## Deciding on KPIs for Optimal Service Delivery

- **Start with service definitions and keep them technology agnostic**
- **Develop metrics that can be explained to business users, and do that prior to looking at the delivering applications**
- **Proactive service means analysing the reasons for the failures. Reactive service remains reactive even if the reaction is quick.**
- **High level of accuracy is actually possible, as opposite to wide-spread disbelief.**



## Conclusion

- **Metrics are the face of IT (and IT-supported) services turned towards the customer**
- **Quality end-to-end metrics require transaction integration across platforms and systems**
- **Service delivery goals do not depend on technology. They are technology agnostic**



## Contact Information

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