APPLICATION PERFORMANCE MANAGEMENT BY T-SYSTEMS

END-TO-END CLOUD COMPUTING

T-Systems is a leading cloud provider. Its services span the entire value chain, including cloud computing, networks, optimization, and monitoring. The more services you source from T-Systems, the greater the synergy. We provide intelligent solutions tailored to each customer's specific situation:

VIRTUALIZATION AT REMOTE SITES

An example: When consolidating servers, customers may wish to keep certain functions such as printing, Active Directory, DNS and DHCP at the remote sites. Previously, this required the continued operation of dedicated servers on site. However, optimization hardware makes it possible to host these functions centrally, allowing the customer to retire servers that formerly provided these services. The functions remain decentralized, but run on the new ICT Optimize hardware.

TECHNOLOGY PARTNERSHIPS

T-Systems works hand in hand with leading vendors Cisco and Riverbed on developing and enhancing APM solutions. The common goal is to expand the APM service offering by adding new optimization components, and underline T-Systems' position as an innovation leader.

OUR AWARDS

- Cisco Innovation Award 2010
- Riverbed Excellence Award 2010
- Riverbed Excellence Award 2011
- CA Vision Award 2012

REFERENCES

International logistics player expands
An international logistics business is expanding its footprint in China. It currently has six sites, with plans to double this figure. It was planned that servers and applications – some with real-time requirements – including file servers, Mail Exchange, Citrix, DLSW, would be operated locally, and then moved to Germany. To accommodate network traffic, the enterprise considered significantly increasing bandwidth for the WAN, or establishing a data center in Hong Kong.

The solution
The network was analyzed up to application level, and APM (optimization) was piloted at one site in Hong Kong and at headquarters in Germany. This delivered the required application performance – and eliminated the need for additional bandwidth or a new data center. As a next step, a central data center will be built in Germany by means of APM. Locating the data center in Germany will deliver a host of benefits: consolidation and centralization, data security, and lower costs.

Sluggish SAP response times
An enterprise accesses SAP applications via the T-Systems cloud. SAP users at one site report sluggish response times at certain times of day. Between 11.20 am and 2.50 pm, response times exceed one second.

The solution
ICT Monitor confirms the response times, locates the bottleneck and identifies its root cause. It finds that the bottleneck is at the point where the affected site is connected to the VPN. There is too much file-service traffic during this timeframe, caused by software distribution scheduled for this time. ICT Monitor makes it possible to rapidly rule out potential root causes such as SAP cloud services or cloud connectivity. The problem is quickly resolved by re-scheduling software distribution.

FOR FURTHER INFORMATION
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APPLICATION PERFORMANCE MANAGEMENT

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THE INTELLIGENT INFRASTRUCTURE FOR THE CLOUD

APPLICATION OPTIMIZATION AND END-TO-END MONITORING

Today, more and more applications are centrally operated in data centers, or accessed as a service via the cloud. Employees are spending more time on the road, on flexible work schedules. Voice over IP, Unified Communications, and video are also bringing about change. The convergence of communications channels and applications calls for high-performance networks that ensure secure and reliable data access and rapid transmission. But expanding bandwidth is only part of the solution. Instead, enterprises should focus on using existing network resources more efficiently – by turning the network into a smarter infrastructure.

Application Performance Management comprises application transmission optimization and end-to-end monitoring. ICT Optimize compresses data packets, accelerating data transfer.

ICT Monitor delivers insights into the quality of data transmission between servers and users. This is essential for responding to performance issues rapidly and appropriately. The result: a high-performance infrastructure that makes staff more productive in their day-to-day work – thanks to a vastly improved user experience.

Application Performance Management makes your network ready for robust cloud-based application operation.

APPLICATION PERFORMANCE MANAGEMENT (APM) – SOLUTION MODULES

1 **ICT Analyze**
Performance check for the ICT infrastructure

2 **ICT Optimize**
Better application transmission across the WAN

3 **ICT Monitor**
End-to-end application monitoring

End-to-end managed services from T-Systems

Technology- and vendor-independent: for all VPN platforms

1. ICT ANALYZE

This consulting offering delivers a comprehensive analysis of application performance, network and server load. The findings provide a solid basis for developing a custom-tailored ICT strategy.

Kick-off Meeting › Analysis phase › Evaluation of collected data › Workshop

Analysis of application performance: Analysis of network utilization in terms of quality, application latency and server load behavior.

Analysis of network load: Analysis of network utilization by IP-based data (TCP/UDP), with correlated results. The process delivers a report on bandwidth load, and data volumes on the LAN and WAN.

How you stand to benefit

- End-to-end performance analysis of your applications and ICT infrastructure, delivering a comprehensive collection of data for decision making.
- Rapid fault domain detection in complex ICT landscapes.
- Our tried-and-proven analysis methodology quickly delivers reliable results.

2. ICT OPTIMIZE

We leverage Cisco and Riverbed technologies for network and application performance enhancement. Data traffic optimization improves bandwidth utilization, expedites execution times, and minimizes packet loss. The same applies to the ICT Optimize mobile client: it provides staff on the go with a LANlike experience. ICT Optimize works with:

Protocol optimization: Eliminates transport and application protocol "chatter" – only useful data is transmitted. Protocol traffic is filtered out in the LAN.
Redundancy elimination: The network only transmits data that has not already been sent. For example, only the changes in a document are forwarded by cashing.
Data compression: Data packets are compressed using a mathematical algorithm.

How you stand to benefit

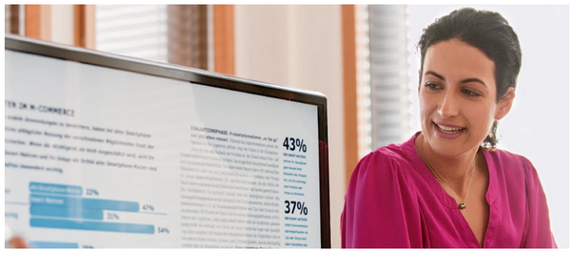
- Better transmission performance for application data.
- Lower network load, better utilization of resources.
- Acceleration of data traffic by a factor of 20 to 50.
- Rapid transfer of large volumes of data across long distances – a real benefit for staff on the go, or for airports and airlines.
- User experience: data access with no latency, fault-free transmission of high volumes of data and voice traffic.

3. ICT MONITOR

ICT Monitor comprises continuous analysis, plus quality and performance monitoring of the IT and communications infrastructure and applications. All ICT components are monitored, even in n-tier environments – as well as critical applications and their provisioning to end users. Performance metrics can be provided in near real time, and for specific intervals. This enables IT decision makers to immediately pinpoint who is experiencing performance issues with which application, when and why. Bottlenecks and faults can be detected rapidly, and even minor performance issues can be automatically flagged up, depending on the threshold settings. The combination of real-time and long-term monitoring allows you to identify and analyze recurring incidents and situations. Data is analyzed from four different perspectives: application performance (Application-Health), network load (TrafficHealth), availability of routers and switches (NetHealth) and quality of voice transmission (VoiceHealth).

How you stand to benefit

- Stand-alone solutions replaced with an integrated, end-to-end monitoring concept.
- Consistently high application performance and smooth operation of networks, servers, and applications.
- Identification of application performance issues and their causes.
- Automatic alerts in line with defined thresholds.
- Minimized risk, improved business continuity.
- Findings can be displayed on mobile devices.
- Return on investment (266 percent acc. to Forrester Assessment) and break-even after approx. 3 months.
- Capacity Planning besed upon reliable facts & figures.
- User experience: proactive detection and resolution of faults, and rapid outage resolution boost employee productivity.



BENEFITS

ICT Analyze, a consulting offering, provides an accurate picture of the status quo, delivering valuable insights for optimizing the infrastructure to boost application performance. The result: data transmission that's up to 50 times faster than before, in conjunction with high-end, custom-tailored monitoring of this optimized (even multi-tier) environment and the display of real data. This makes your network ready for exploiting cloud-based services.

User experience

- Data from multiple applications is correlated and analyzed from the user perspective. This provides insight into what the user actually experiences. Some examples: End- to-end responsetime for interacting with an application, and VoIP quality.
- Rapid fault resolution and smoother and faster interaction with business applications make for more satisfied and productive users.

Risk minimization

- The risk of poor network availability impacting business operations is measurably reduced.
- Professional monitoring provides a high degree of visibility for streamlining future ICT upgrades. In particular, the risk associated with introducing new applications is lower, helping to avoid bad investments.

Security

- T-Systems is leading the way in Germany in the ICT security space. We have been supporting government organizations and enterprises from all industries for over 20 years.
- All data is managed centrally in ISO-certified, highly secure data centers.

Savings

- Centralizing the ICT infrastructure and applications cuts operation and administration costs. The 'managed service' operating model eliminates capex.
- Optimal utilization of existing resources.
- Precise invest decisions based on reliable capacitiy planning.
- APM delivers a rapid return on investment.

SERVICE LEVEL

- S4, S8 and S24 and project specific arrangements possible
- Service requests logged: 24 hours a day, every day
- Service availability: Monday to Friday, 8 am to 8 pm or up to 24 hours a day by appointment
- Time-to-resolution: 4, 8, or 24 hours
- Response time: 30 min up to 1 hour, depending on requested service

OPERATING MODELS

- APM is a managed service. It is operated entirely by T-Systems on behalf of the customer.
- ICT Monitor is a plattform based Service (Monitoring aaS).
- ICT Optimize is operated within T-Systems VPN platform but also network provider independently.

PRICING MODELS

- Per-module pricing.
- Fixed price for installation and user training.
- Flat monthly fee for service.