Dynamic Services for SAP

A Co-Study by T-Systems and VMS

About VMS
VMS optimizes SAP landscapes. VMS, located in Heidelberg, Germany, has established itself, with its 1,600 benchmarks, as the partner to CIOs. The success of the company is based on innovation and experience.

Innovation
VMS has paved new paths with the invention of "DNA-level benchmark", which means that peer groups and KPI (key performance indicator) processes are no longer the foundation of work anymore. "DNA-level benchmark" depicts in detail the structure of the IT of a company, and compares it with similar SAP landscapes at other companies. And it is not limited to comparisons within industries, or simplified models. The structure and dynamics of the system are depicted new, the benchmark adapts to the landscape, and does not try to force the IT environment into the "corset" of the benchmark. VMS thus works in a minimally-invasive way, and does not demand a lot of resources of the customer. The new methods were designed by VMS co-founder Prof.Dr. Andreas Mielke, who has been working for the past 16 years on mathematical modelling.

Experience
The information on approximately 1,600 SAP systems makes up VMS's "capital". Using the largest and most detailed database of SAP benchmark results worldwide, for each system, VMS finds a number of reference values that do not bind the resources of the customer, and VMS offers concrete, practical improvement recommendations. The data is collected from the "VMS DataCollector", and is an automated process. After the VMS Report runs, the optimization specialists are also available for consultation.

The virtualization of IT resources is a popular current trend. However, the conversion in the form of a scalable IT architecture with industrial IT processes, as provided by T-Systems in form of "dynamic services" is new and innovative. As with all innovations, the question arises as to how useful and sustainable it all is, and how well it can meet the challenges of the future.

For that reason, T-Systems has commissioned VMS to create a study of the "dynamic services for SAP" virtualization platform. The goal was to look into various operating concepts for SAP landscapes based on current, real implementations at companies, to compare how they are used.

OBJECT OF THE STUDY

The study compares how SAP is used in various operating types, from in-house use to the classical form of outsourcing in the form of a dedicated environment provided by the service provider, to outsourcing in a dynamic, virtualized environment.

25 SAP system lines of those kinds of SAP environments were analyzed, from the upper mid-sized market segment, to mid-sized companies. All the systems are operated in Germany.

Product	Number	Releases
ERP	15	R/3 4.6C, ERP 5.0, ERP 6.0
BW	7	3.5 und 7.0
CRM	3	3.1 und 4.0

The object of the study was not only focused on the server technology, but also on all the services, such as those represented in Graphic 1, which offer the technical foundation for operating SAP applications - the typical scope of services that the outsourcing of the SAP operation are based on. For a comparison, service parameters such as availability, service costs on the operating system, database, and SAP Basis level, as well as the performance of the systems are of decisive importance. Thus, the issue is really how performant and how expensive are the services that are used. The comparison is carried out using the VMS benchmark base, which has approximately 1,600 SAP systems that have been analyzed (as of: Q3/2008).

COMPARABILITY

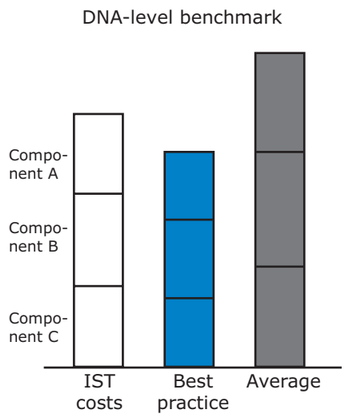
VMS carried out the analysis using the DNA-level benchmark process. That process replaces earlier processes that are based on a comparison of price lists, and entails a deep analysis of the SAP system. Decisive for the precision of the results of this study is the fact that the analyzed SAP systems were measured over a period of several weeks in a detailed manner, with regard to their utilization and quality.

Quality
Performance
Price

The measured need in terms of SAP performance was compared with how the contract is set up with the outsourcer, and the relevant costs and performance structure of in-house operation. That ensures that data collection is exact, upon which VMS DNA-

Operation forms that were looked at:
- In-house operation at the company where the software is used:
  The in-house IT takes care of providing services (hardware, infrastructure, and personnel).
- Dedicated outsourcing:
  The outsourcer makes dedicated servers available specifically for the SAP landscape of a specific customer.
- Outsourcing in a virtualized environment:
  Servers are not available to a customer in dedicated mode at the outsourcer, but rather, are made available from a pool.

level benchmarks are used to create a valid comparability.



Grafic 1: Divergence between the actual costs and best practice, or average

RESULTS

The study considers the various operating forms from the point of view of the CIO, or the IT manager. It takes the position of the person deciding, on the customer's side, who makes a decision as to which operating form supports him or her in his or her goals of having a qualitatively good, reliable, and cost-effective SAP system.

In general, the SAP operations of all analyzed systems went according to plan, and no big problems came up that could have negatively affected production operations. The question then arises as to which is the most efficient (and if it works with the IT strategy of the company).

If it is doable, then criteria such as promised quality, performance, and price become decisive to the decision.

Quality (Service Level and availability):

The qualities agreed on and that are contained in a service level agreement (SLA) lay the groundwork for user satisfaction, the reliability of the system, and the price. Given an equal total rate of system shutdowns (which actually was zero for the systems analyzed), those SLAs are of higher value, which have a higher defined availability. A high level of availability is cost-intensive, because the hardware and software resources (clusters) have to be set aside, and permanent support, or at least permanent on-call support must be ensured.

Typical agreements regarding the IT operation cover the following areas:

- Operation times (the times that the systems run)
- Support times (the times in which employees on site render support)
- Response times (the time from the recognition of an issue to the first action on it)
- Error solution times (the time until the problem is solved)
- The priority of the problem (maximum downtime per problem)

Outsourcing offers the customer more options, depending on the size of the company units, to provide the customer with guarantees on system availability and support times, than does in-house operation of the system. That does not necessarily mean that in-house operation of the system does not have any value. But such a set-up generally either is not defined in writing, or cannot be assured around the clock, for technical or personnel staffing reasons.

All the agreements that have been looked at ensure the business processes of the company sufficiently. The availability agreed to in the SLA was maintained in all the environments that were looked at. During a measurement period of 6-12 weeks, the actual availability that was measured was always much better than that which was agreed. Thus, there are no actual differences in the various operating forms, in terms of actual availability.

Performance:

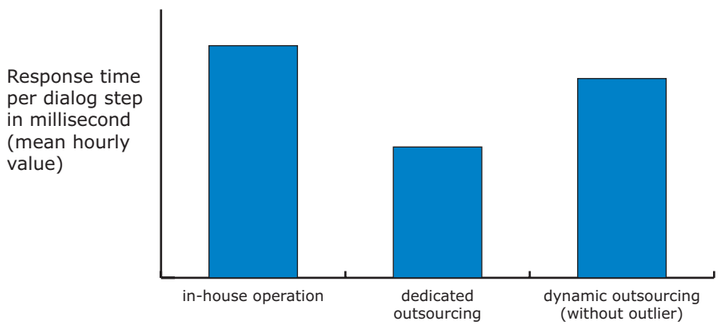
The performance that was guaranteed has also to be compared with the actual performance. In addition, the level of performance must be put into a relationship with the costs, because one could of course save money if one was willing to put up with poorer performance.

The typical agreement on response times should be viewed with a critical eye. If the system is run in-house, there normally won't be any written agreement on that. In that situation, the IT department is in direct contact with the users, and just delivers "the best that is possible". For outsourcing, generally, the performance of the systems is considerably better than what was agreed to, and the agreement is viewed as a lower tolerance limit. But most agreements are more or less weakly formulated, and/or provide a very low level.

However, the actual response times are considerably better than the described minimum tolerance level. The analysis shows that performance in the various operating models is better through a professional outsourcer in a dedicated environment, and is on average one-third faster than systems running in-house, or those running in virtual environments.

The reasons for that can be gleaned from the VMS benchmark base: servers running in-house are more expensive than those running in outsourced environments, and for that reason, companies can save on hardware costs. In addition, if the system is running in-house, tuning specialists usually cannot be called on, whereas if service providers are used, they can be brought in at an early stage.

Cost savings of up to 33 % can be achieved, using the same resources, by carrying out a change to a dynamic environment.



Grafic 2: The performance of a dedicated environment in outsourcing is the best.

Dedicated outsourcing often uses "oversized" configurations, which affects the hardware made available. Oversizing of the hardware mostly leads to a somewhat better performance.

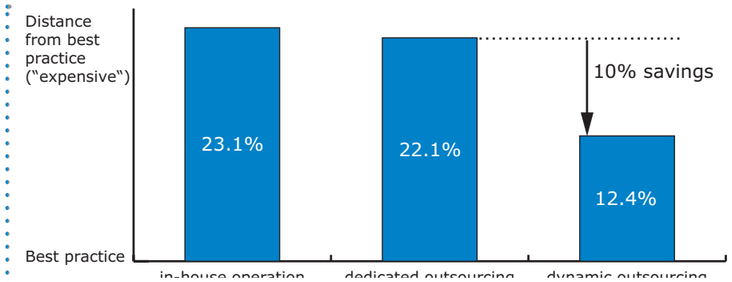
With virtual environments, commercial considerations mostly predominate. And naturally, a service provider can work more cost-effectively with sufficient hardware sizing than with oversized hardware. On top of that, in a virtual environment, the decision about the hardware scope does not have to be final before the contract is signed. If, during the production operation of the system, it turns out that less hardware would be sufficient, resources can be dynamically removed. And if the performance suffers due to a lack of hardware, resources can be added. That is a clear commercial advantage of the dynamic concept.

Price:

An essential result of this study is the comparative ranking of the prices of various operating models, from the point of view of the customer (the market price comparison). DNA-level benchmark allows a comparability to be attained, so that the service, quality, and size differences are adequately taken into account. VMS has a database of over 1,600 SAP systems that is used to measure the SAP systems of the study against.

Each SAP system is measured with respect to its "distance" from the best practice, in percentage. That corresponds to the optimization potential with respect to the best attainable market price. The lower that the percentage value is, the more efficient the system operation is. After that, the distances from the best practices of the SAP product lines are weighted and averaged with the prices.

The result determined from that (Graphic 3) shows an abrupt rise for the



Grafic 3: The listed values are averages, related to the operating model.

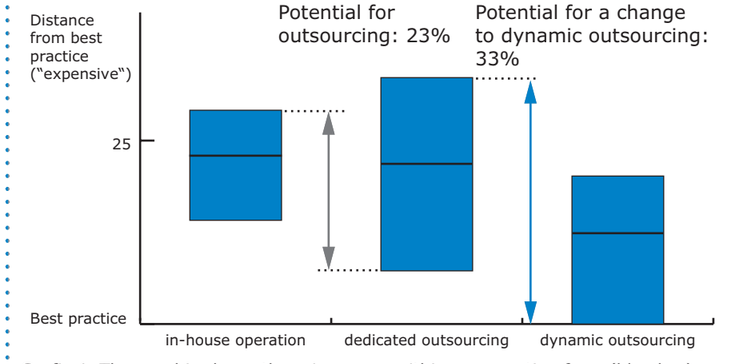
virtual landscape for a service provider, whereas outsourcing with a dedicated system operation set-up is close to in-house operation. Operating a dynamic landscape is on average 10% more cost-effective than running a dedicated environment (assuming that both are in an outsourcing environment).

A comparison with VMS's complete database shows that the costs for in-house operation typically differ greatly, and from case to case. Also, considerable price ranges exist for these individual operating forms.

In reality, the full potential of that is only usually achieved within the framework of a larger conversion of the IT landscape. And passively: when the IT set-up has to be radically changed (for example, during mergers or company reorganizations); actively: when IT decides on a new direction (for example, if there is a change in the company form). By breaking up old structures, room is created for internal optimization and also for the re-negotiation with the existing or future provider.

The individual potential cost savings are great. There are considerable differences in the efficiencies of in-house operation and the prices in SAP-related outsourcing contracts. If one looks at the participants of this study, the following picture emerges (Graphic 4):

- Change from in-house operation to dedicated outsourcing (grey distance arrow):
  In practice and up to this day the most common form of change, with a maximum potential under the study participants of 23 %.
- Change of outsourcing partner, or re-negotiation (dark-blue distance arrow):
  If there is a contract change or re-negotiation within the dedicated operating form, a savings potential of 26 % can be achieved. If there is a change to a dynamic operating form, even up to 33 % can be achieved.
- In-sourcing:
  In reality, will only occur in exceptional cases, with a potential of 20 %.



Grafic 4: The graphic shows the price range within an operating form (blue bar), as well as their average (black line within the blue bar) and the maximum potentials that are derived from that. The potentials result from the difference between the worse value of an operating form (adjusted for anomalies) and the best value of another operating form.

Even when the potentials represent the maximum value achieved by the study participants, they show that potentials caused by a change are also of importance.

EINSATZFÄHIGKEIT

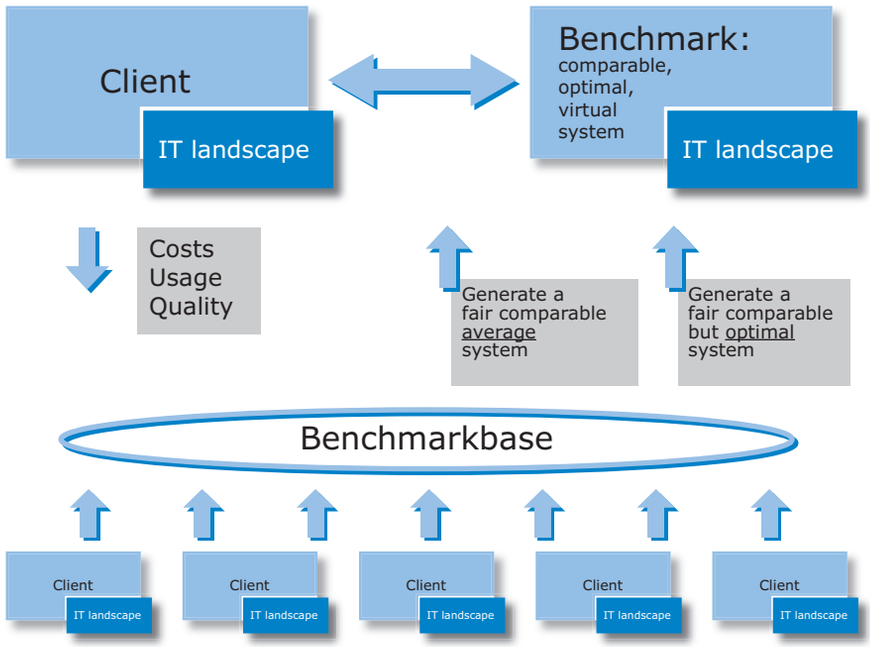
In general, all three operating variants are practice-tested and can be used without problems. Based on the estimate by VMS, over the medium term (within 24-36 months), the virtualization segment will increase, due to the already-listed advantages. In addition to that, this operating form has a lot of potential for optimization, whereas both of the older operating concepts can now be viewed as exhausted.

More room for optimization

Prerequisites for an improvement of this kind are building up experience for tuning the connection to the database and making the time tact faster, within which resources can be dynamically made available. VMS expects, within the next 24 months, considerable advances in synchronizing hardware, virtualization software, and applications.

It should be mentioned that customers who have their systems operated in a virtualized environment like that can profit from those advances, without having to change their applications. In addition, SAP is continuously developing new systems with special functionality (ERP, BW, SRM, PI, Portal). This "multiplication" of systems is much easier to deal with than in an IT concept with dedicated hardware.

The concept of making IT performance available dynamically brings two positive elements of an in-house set-up and outsourcing together: the use of a scale effect, and risk minimization, by means of outsourcing and the flexibility of IT, which is usually one of the most essential arguments for in-house operation.



Grafik 5: Methodik des VMS DNA-level Benchmark Verfahrens

"In order to realize the complete range of these advantages, it is important to make not only the technical side more flexible, but also the entire business relationship with the service provider", states Ralph Treitz, managing director of VMS. "Only when the service agreements allow a variable, timely configuration of the SAP system, can a higher degree of optimization be achieved, and the technical possibilities can then be fully exploited. Only in that way does a dynamic solution arise from dynamic structures".

Find more information on DNA-level Benchmark, the methodology, functionality and results on: www.vms.net

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