SAP ASE Total Cost of Ownership
A comparison to Oracle
The results of this survey are unequivocal: for all 21 TCO and related metrics SAP ASE is rated as superior to Oracle by customers who have implemented both solutions.

Philip Howard
Executive summary

This paper analyses the results of a survey that was designed and conducted by SAP of SAP Adaptive Server Enterprise (ASE—previously Sybase ASE) users. These results were shared with Bloor Research for analysis and comment. The survey was focused on total cost of ownership (TCO) of SAP ASE against a second database that the respondents were also familiar with. In particular, in this paper we look at the comparative results between SAP ASE and Oracle based on companies that had experience with both products, so that we could compare various TCO metrics between Oracle and SAP ASE.

This is the second such paper Bloor Research has produced on this basis, the previous paper having been published in 2011, less than twelve months after SAP acquired Sybase. By the time that research was published SAP ASE already supported the SAP Business Suite and SAP BW implementations but it was, nevertheless, early for users of SAP ASE within the SAP family. We will therefore also contrast the latest results with those from 2011 where there are significant differences between the two sets of results. In particular, given the integration of Sybase into SAP, one might expect that there would have been fall off in some areas, such as support, given the inevitable disruption caused by such an acquisition. As we shall see, however, it turns out that this is not the case and, if anything, it would appear that SAP has strengthened the perception of SAP ASE.

In summary then, this paper is focused on a comparison between SAP ASE and Oracle and it will help customers to understand the potential TCO benefits of using SAP ASE as opposed to Oracle. In this section we will present the main highlights of the results that are relevant to decision makers and we will drill down into the figures in a further detailed section followed by a description of our methodology, together with demographic details, in the appendix.

Specifically, the questions asked were mostly of the form “for a similar system, license costs for SAP ASE are...” and then respondents were asked the extent of the difference (the same, 0–33% more or less, 33–66% more or less, or 67–100% more or less) than Oracle.
Executive summary

The first three summary charts (Figures 1–3) combine the results from multiple questions but are all focused on different facets of total cost of ownership and show whether respondents thought that SAP ASE offered better value for money, performance or other characteristics than Oracle.

The results of this survey are unequivocal: for all 21 TCO and related metrics SAP ASE is rated as superior to Oracle by customers who have implemented both solutions. There is only one (secondary) metric—the percentage of incidents that can be resolved via a help desk—in which Oracle rates more highly than SAP, with all other cases proving that SAP ASE offers better TCO than Oracle. It is interesting that, in 2011, there were three metrics in which Oracle scored better or at least equal to SAP ASE but this is no longer true. However, we should note that one of these (effort involved in database migrations) has been dropped from this version of the survey. Leaving that aside it would appear that SAP’s acquisition of Sybase has improved matters for SAP ASE rather than the reverse. For example, in this year’s survey over 85% of respondents felt that SAP ASE was more cost effective for both license fees and support costs, whereas the figures were only in the seventies in 2011.
Executive summary

One further metric is worth considering. Respondents were asked to rate a set of metrics of SAP ASE against Oracle on a scale from “exemplary” through to “not acceptable”. The results are as illustrated in Figure 4 but we would like to call out a couple of examples: notably that 92% of respondents found the reliability and stability of SAP ASE to be exemplary, very strong or strong compared to 65% for Oracle. Similarly 93% who were familiar with both databases said that SAP ASE TCO was exemplary, very strong or strong. In every case, the number of users feeling that SAP ASE was at least “strong”, compared to Oracle, was over 50%.

Further, respondents were asked to rate their satisfaction with SAP ASE total cost of ownership on a scale of 1 to 5 (with 5 being extremely satisfied) with results as shown in Figure 5. It should be clear, as with the previous figure, that the overwhelming majority (over 75%) of SAP ASE users are happy users: of course there is the odd disgruntled user (who tend to be self-selecting when it comes to completing surveys) but every database vendor will have those.

Finally, it is worth looking at Table 1 (page 4), which provides summary details about how much better SAP ASE is rated by those that completed the survey. There are two figures presented: the first represents the percentage of respondents that thought the SAP ASE solution was preferable to that of Oracle for the metric indicated, while the second figure indicates by how much they preferred it. For example, 93% of respondents thought that SAP ASE’s licensing costs were lower and by an average (across all respondents) of 40.6%. Note that the methodology used for calculating these figures is described in the Appendix.
Executive summary

We should, however, provide one caveat: only 17 respondents to the survey had experience with both Oracle and SAP ASE so these results should be taken as indicative rather than definitive. Nonetheless, these figures bear out the overall conclusions we reached in 2011, when the survey size was considerably larger.

<table>
<thead>
<tr>
<th>Category</th>
<th>Key Metrics</th>
<th>% of respondents preferring SAP ASE to Oracle</th>
<th>Average % improvement offered by SAP ASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costs</td>
<td>License costs</td>
<td>93%</td>
<td>40.6%</td>
</tr>
<tr>
<td></td>
<td>Support costs</td>
<td>86%</td>
<td>30.2%</td>
</tr>
<tr>
<td></td>
<td>Annual downtime costs</td>
<td>80%</td>
<td>41.1%</td>
</tr>
<tr>
<td></td>
<td>Ongoing costs</td>
<td>87%</td>
<td>35.4%</td>
</tr>
<tr>
<td>Administration</td>
<td>Ratio of DBAs to databases</td>
<td>81%</td>
<td>16.7%</td>
</tr>
<tr>
<td></td>
<td>Relative need to tune</td>
<td>63%</td>
<td>13.7%</td>
</tr>
<tr>
<td></td>
<td>Relative need to re-tune</td>
<td>81%</td>
<td>21.6%</td>
</tr>
<tr>
<td></td>
<td>Effort of tuning</td>
<td>63%</td>
<td>13.7%</td>
</tr>
<tr>
<td></td>
<td>Overall effort of query tuning</td>
<td>73%</td>
<td>17.7%</td>
</tr>
<tr>
<td>Reliability</td>
<td>Relative downtime (excl. PD)</td>
<td>87%</td>
<td>27.1%</td>
</tr>
<tr>
<td></td>
<td>Relative downtime (incl. PD)</td>
<td>81%</td>
<td>25.5%</td>
</tr>
<tr>
<td></td>
<td>Recovery time from crash</td>
<td>73%</td>
<td>20.6%</td>
</tr>
<tr>
<td></td>
<td>Effort of restoration from backups</td>
<td>69%</td>
<td>26.5%</td>
</tr>
<tr>
<td>Support</td>
<td>Time required to receive response</td>
<td>63%</td>
<td>18.6%</td>
</tr>
<tr>
<td>Resource utilisation</td>
<td>Hardware requirements</td>
<td>81%</td>
<td>21.6%</td>
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<tr>
<td></td>
<td>CPU consumption</td>
<td>75%</td>
<td>17.6%</td>
</tr>
<tr>
<td></td>
<td>Memory usage</td>
<td>69%</td>
<td>16.7%</td>
</tr>
<tr>
<td></td>
<td>Storage usage</td>
<td>73%</td>
<td>14.7%</td>
</tr>
<tr>
<td>Installation &amp; maintenance</td>
<td>Time for clean installation</td>
<td>93%</td>
<td>42.2%</td>
</tr>
<tr>
<td></td>
<td>Time and effort to setup HA/DR environment</td>
<td>80%</td>
<td>28.1%</td>
</tr>
<tr>
<td></td>
<td>Upgrade/patch frequency</td>
<td>75%</td>
<td>37.5%</td>
</tr>
</tbody>
</table>

Table 1: Summary details

To conclude: the margins of difference are not small, with many metrics showing that SAP ASE is less expensive or requires fewer resources than Oracle by a very substantial margin. As a result we expect a clear TCO benefit for deploying SAP ASE over Oracle.

These figures are striking. Moreover they are better than the results that were received in 2011. Thus, despite the low number of respondents, this confirms the pattern we saw then and can, we believe, be taken at face value. It is particularly interesting that Oracle was perceived to offer greater database tuning flexibility in 2011 but now that is no longer the case.

To conclude: the margins of difference are not small, with many metrics showing that SAP ASE is less expensive or requires fewer resources than Oracle by a very substantial margin. As a result we expect a clear TCO benefit for deploying SAP ASE over Oracle.
Details

Metrics

Note that in these charts, and the others that follow, taller bars are always more positive and SAP is always shown on the left and Oracle on the right. Each column potentially has three colours in it, indicating the magnitude [weighting] of the difference between the two vendors.

We have ordered this section (and the relevant sections that follow) sequentially by [our view of the] importance of the relevant metrics. In general, recurring costs are more significant than one-off costs.

- **Infrastructure costs.** Clearly this directly affects TCO. Bear in mind that list prices are highly flexible but this is not the case for maintenance fees. The latter can easily outweigh the former, especially if the list prices are heavily discounted.

- **Administration.** Simply put, the easier a database is to administer, the fewer the number of database administrators required to manage the database, which results in direct costs savings. However, one would not want to achieve this at the expense of having fewer facilities to, say, tune the database since this would impact on performance and, as a corollary, it would have a negative impact on resource utilisation and scalability.

- **Reliability.** The more reliable the database is, the less working time will be lost because of outages and associated support calls, therefore leaving more time for productive work. In addition, one has to bear in mind the opportunity costs of unplanned downtime: missed sales, disgruntled customers and staff not being able to do their work, to name just three.

- **Support.** The key metric for support is the time required to resolve issues. The faster any issue can be resolved the sooner users can get back to productive work.

- **Resource utilisation.** That is, how expensive is the database in terms of its use of memory, compute power, storage and hardware generally. This directly impacts on TCO in the sense that it affects the size, and therefore costs, of servers, the number of disk drives required, the amount of memory needed, and so on.

- **Installation and maintenance.** This includes costs pertaining to one-off installations such as the initial database set-up and the implementation of disaster recovery options, as well as planned and unplanned maintenance such as those applying to patches and updates. All of these take administrative time and effort but it is arguable that, over a period of time, repeated requirements will outweigh those that are one-off, even if the latter are much larger than the former. Of course, this will depend on the frequency with which patches and updates need to be applied.

Two areas that are not included here and which were included in 2011 are security—specifically, the frequency of security patches—and scalability. In the former case this has been replaced with upgrade and security patch frequency as a part of “installation and maintenance”, while scalability details were illustrated in Figure 4.
Details

Infrastructure costs

There is, of course, little point in enquiring about list prices, since these bear almost no relationship to reality. However, customers were asked about their experience with license costs in practice, as well as support payments. As can be seen from Figures 6 and 7 the results are overwhelmingly in SAP’s favour. Nobody thought Oracle charged less than SAP. This contrasts with our 2011 results when there were actually some respondents who thought that Oracle was less expensive.

Figure 6: “For a similar system the license fees for SAP ASE are …”

Figure 7: “For a similar system the support costs for SAP ASE are …”
In addition the survey asked about annual downtime costs and overall ongoing costs, with results shown in Figures 8 and 9. The results are self-explanatory. Note that these are really important metrics. Ongoing costs typically dwarf initial set-up costs, particularly over longer periods, while downtime, especially unplanned downtime, has very serious implications for the organisation if it cannot, for example, conduct business during the period that the system is not available. Even worse, any downtime that impacts customers will seriously impact the enterprise’s reputation.

- 80% of customers concluded that SAP ASE downtime was less than Oracle
- 67% of customers noted that SAP ASE annual downtime costs were 33-100% less than Oracle

Figure 8: "Annual downtime costs for SAP ASE are..."

Figure 9: "Overall, ongoing costs for SAP ASE are..."
Details

Administration

There were six questions asked with respect to administration, two of which referred to staffing levels: requirements for database administrators and full time engineers (FTEs) respectively, and four pertaining to tuning. For FTEs, the average number required per database instance was 3.5 for SAP ASE and 6.5 for Oracle. Almost half the number of FTEs are typically used in SAP ASE installations, compared to Oracle. As far as database administrators are concerned the results of the survey are illustrated in Figure 10 with 81% of respondents believing that SAP ASE requires fewer DBAs.

![Figure 10: The ratio of DBAs to databases for SAP ASE is...](image)

- 81% of customers concluded that the DBA ratio for SAP ASE is less than Oracle

User comment: SAP ASE is easier to manage than Oracle, therefore fewer people are needed to manage it. For the same number of instances, SAP ASE will require fewer DBA hours from my experience. SAP ASE also needs a very small amount of hardware to run even a very busy system.

Strangely, while more people thought that SAP ASE required fewer database administrators versus Oracle than was the case in 2011 (when only 61% of respondents thought so) we have actually got people now who think that Oracle requires fewer administrators whereas we had none previously.

For tuning, the relevant results are illustrated in Figures 11 through 14. It is notable that Oracle outperformed SAP ASE in this area in 2011 and SAP obviously wanted to delve into this in more detail, as there were four questions on this topic this year—albeit with a slightly different focus—as opposed to a single question (about the flexibility of tuning) three years ago. As can be seen, SAP ASE is preferred to Oracle in all cases.

![Figure 11: The relative need to tune SAP ASE beyond initial configurations for the workload is...](image)

- 63% of customers concluded that the relative need to tune SAP ASE beyond initial configurations is less than Oracle
• 81% of customers concluded that the relative need to re-tune SAP ASE is less than Oracle

**Figure 12:** "The relative need to re-tune SAP ASE due to the application workload changing over time is…"

• 63% of customers concluded that the effort of tuning SAP ASE is less than Oracle

**Figure 13:** "The effort of tuning SAP ASE to achieve an acceptable level of performance is…"

• 73% of customers concluded that the overall effort of query tuning for SAP ASE is less than Oracle

**Figure 14:** "The overall effort of query tuning and specifically the effort in accessing low level granular statistics for query analysis for SAP ASE is…"
Details

Reliability

In 2011 the survey asked reliability questions with respect to mean time between failures (MTBF) and mean time to repair (MTTR). These are somewhat blunt instruments so this time around respondents were asked about the amount of planned and unplanned downtime, recovery time and the time taken to restore from back-up.

As far as planned and unplanned downtime is concerned, the results are shown in Figures 15 and 16. In addition we have actual figures for the average amount of downtime per database instance though the question was a little vague, asking for downtime "over the last several years": some respondents answered on an annual basis but some didn't so it is not clear as to the period covered by the answers, though it should be the same for both vendors. The average amount of planned downtime for SAP ASE was 14.3 hours while for Oracle it was 25.9 hours and the average amount of unplanned downtime was 4.2 hours for SAP ASE and 5.6 hours for Oracle.

- 87% of customers concluded that the relative downtime for SAP ASE (excluding planned downtime) is less than Oracle

Figure 15: "Without any add on business continuity infrastructure, the relative downtime for SAP ASE (excluding planned downtime) is..."

- 81% of customers concluded that the relative downtime for SAP ASE (including planned downtime) is less than Oracle

Figure 16: "Without any add on business continuity infrastructure, the relative downtime for SAP ASE (including planned downtime) is..."
Details

Figure 17: “Without any add on business continuity infrastructure, the recovery time for SAP ASE from a crash is…”

73% of customers concluded that the recovery time for SAP ASE is less than Oracle.

Figure 18: “Without any add on business continuity infrastructure, the effort of restoration from backups for SAP ASE is…”

69% of customers concluded that the effort of restoration from backups for SAP ASE is less than Oracle.

The remaining two metrics are shown in Figures 17 and 18 and these repeat the pattern of advantage that SAP ASE has, which readers will have become familiar with.
Support

SAP asked users about the number of incidents involving support (which we had to edit: some respondents seemed to think that if you had to call the help desk for a ‘how-to’ question then that constituted an incident!), how long incidents took to resolve, the rate of help-desk resolution support and how fast support was to respond to a request for assistance. The first three of these questions resulted in specific figures as follows:

- The average number of incidents for SAP ASE was 5.3 and for Oracle it was 12.9
- The average time to resolve an incident for SAP ASE was 5.5 hours and for Oracle it was 6 hours
- The percentage of incidents that could be resolved directly by the help-desk was 22.6% for SAP ASE and 43.6% for Oracle.

This last is the one metric in this report for which Oracle betters SAP ASE. However, it is a double-edged sword. One can assume that calls that are resolved by the help desk take less time than those that need to be referred to second or third line support. In which case, the combination of these figures suggests that for those more serious incidents it will take relatively longer to remediate these.

Finally, in terms of support, the first-response figures are shown in Figure 19.

![Figure 19: The time required to receive an initial response from SAP ASE customer support is...](image)

- 63% of customers concluded that the time required to receive response from SAP ASE support is less than Oracle
Details

Resource utilisation

By resource utilisation we mean the amount of disk storage (before compression) required, the CPU compute power used, the amount of memory needed and the total hardware requirement for similar performance and throughput. The form of the questions in this section was something like: “for a similar performance/throughput, SAP ASE hardware requirements are ...?”. In other words, “how much do you need to spend on hardware in order to support your required solution?”

The answer to the question is clearly less in the case of SAP ASE, as illustrated in Figures 20 to 23. On all measurements—memory, storage, CPU requirements and overall hardware—the results came out in SAP ASE’s favour. It is worth noting that while this was also the case in 2011, the differences are more significant now than they were then. There are three possible reasons for this: firstly, that SAP ASE has become much more efficient, secondly that it is a result of a different set of respondents or, thirdly, that Oracle users are increasingly adopting Oracle Exadata and that this is more expensive in terms of hardware resources. We leave it to readers to decide for themselves which (or which combination) is most likely.

**User comment:** Overall, I feel SAP ASE is much more cost effective than Oracle in terms of flexibility, space and CPU requirements. It’s also a lot easier to manage, install and deploy.

![Diagram showing resource utilisation comparison]

- **81% of customers concluded that hardware requirements for SAP ASE are less than Oracle**

**Figure 20:** "For similar performance/throughput, SAP ASE hardware requirements are..."

- **75% of customers concluded that CPU consumption for SAP ASE is less than Oracle**

**Figure 21:** "For a similar workload, SAP ASE CPU consumption is..."
**Installation**

It will perhaps come as no surprise that SAP ASE is well ahead of Oracle when it comes to installation metrics, as is shown in Figures 24 to 26 on page 15, although, as mentioned previously, SAP has omitted from this survey the question it had in 2011 about the ease of migrating the database to a new platform. Should we treat this omission with suspicion, given that Oracle was the winner in this category in 2011? Possibly, but how relevant is it when one considers all the other advantages that SAP ASE appears to offer?
Details

- 93% of customers concluded that the time required to do a clean installation for SAP ASE is less than Oracle

**Figure 24:** "Time required to do a clean installation of SAP ASE by an experienced DBA is..."

- 80% of customers concluded that the time and effort required to setup an HA/DR environment is less than Oracle

**Figure 25:** "Time and effort required to setup an HA/DR environment is..."

- 75% of customers concluded that the upgrade and patch frequency for SAP ASE is less than Oracle

**Figure 26:** "The upgrade and patch frequency for SAP ASE is..."
In this paper we have focused on total cost of ownership for SAP ASE, as reported by end users, and we have specifically compared SAP ASE with Oracle. In addition we have noted differences that have arisen since our comparable report in 2011. To our surprise (this was not the case in 2011), SAP outscores Oracle in every conceivable TCO metric and was only outscored by Oracle in one secondary metric. We would highlight the following results:

1. License fees: 93% of respondents thought that SAP ASE was less expensive, by an average of over 40%.

2. Support costs: 86% of respondents thought that SAP ASE was less expensive, by an average of over 30%.

3. Number of database administrators: nobody thought that Oracle required fewer DBAs and 81% thought that SAP ASE required fewer DBAs. On average the saving was 16.7%.

4. Frequency of security patches and updates: again, nobody thought that this was less frequent in the case of Oracle while 75% thought that this was the case with SAP ASE, with an average reduction of 37.5%.

5. Installation: 93% thought that SAP ASE was faster to install, by an average of better than 40%.

In addition, almost two-thirds of respondents were very satisfied or extremely satisfied with their use of SAP ASE compared to Oracle. There were a few (three) dissenting voices but some of the comments from those explaining why they preferred SAP ASE are worth repeating. These included:

- “Less # [sic] of DBA and easy to configure and maintain”
- “Lower hardware cost, easy to use, stable ....”
- “The cost of ownership is minimal since no separate licencing is required. The administration is easy hence no need of many DBA”
- “Hardware utilization is a big one. Support for HP-Itanium. Ease of administration, and reduced cost in DBA support FTEs.”
- “License cost - performance ratio, Support contacts”
- “Reliability and efficient use of hardware”
- “Hardware utilization and performance is most applicable as it is more scalable product”

Readers will need to determine how much weight to assign to the various metrics that SAP has collected. Leaving this aside, when comparing SAP ASE and Oracle, the choice, in TCO terms, is easy. Where direct cost comparisons are available—license fees, support costs and the costs of downtime—SAP is 40.6%, 30.2% and 41.1% less expensive [that is, real dollars] than Oracle. Further, every single one of the TCO metrics show an advantage for SAP ASE over Oracle that leads to an overall TCO advantage of 35.4%. A clear conclusion from this research is that SAP ASE is significantly superior to Oracle with respect to total cost of ownership.
Appendix

Methodology

In total, 38 SAP ASE users responded to the survey, of which 17 were also familiar with Oracle.

Most of the comparative questions in the survey were based on asking users whether Oracle was 67–100% less (with regards to cost or other measures), 33–67% less, 0–33% less, the same, 0–33% more, 33–67% more, or 67–100% more than SAP ASE. For example, “for a similar system are the supports costs for SAP ASE …?” A few, such as the percentage of issues resolved by the help desk, asked users to input their own values.

For calculation purposes, we have used the mid-points of these ranges (16.67%, 50% and 83.67%) from which we can derive the percentage difference between the two vendors for each metric.

Demographics

The demographics of the respondents to the survey are illustrated in Figure 27.

Further Information

Further information about this subject is available from http://www.BloorResearch.com/update/2214
Bloor Research overview

Bloor Research is one of Europe’s leading IT research, analysis and consultancy organisations, and in 2014 celebrates its 25th anniversary. We explain how to bring greater Agility to corporate IT systems through the effective governance, management and leverage of Information. We have built a reputation for ‘telling the right story’ with independent, intelligent, well-articulated communications content and publications on all aspects of the ICT industry. We believe the objective of telling the right story is to:

• Describe the technology in context to its business value and the other systems and processes it interacts with.

• Understand how new and innovative technologies fit in with existing ICT investments.

• Look at the whole market and explain all the solutions available and how they can be more effectively evaluated.

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• Ensure all our content is available through the most appropriate channel.

Founded in 1989, we have spent 25 years distributing research and analysis to IT user and vendor organisations throughout the world via online subscriptions, tailored research services, events and consultancy projects. We are committed to turning our knowledge into business value for you.

About the author

Philip Howard
Research Director - Data Management

Philip started in the computer industry way back in 1973 and has variously worked as a systems analyst, programmer and salesperson, as well as in marketing and product management, for a variety of companies including GEC Marconi, GPT, Philips Data Systems, Raytheon and NCR.

After a quarter of a century of not being his own boss Philip set up his own company in 1992 and his first client was Bloor Research (then ButlerBloor), with Philip working for the company as an associate analyst. His relationship with Bloor Research has continued since that time and he is now Research Director focused on Data Management.

Data management refers to the management, movement, governance and storage of data and involves diverse technologies that include (but are not limited to) databases and data warehousing, data integration (including ETL, data migration and data federation), data quality, master data management, metadata management and log and event management. Philip also tracks spreadsheet management and complex event processing.

In addition to the numerous reports Philip has written on behalf of Bloor Research, Philip also contributes regularly to IT-Director.com and IT-Analysis.com and was previously editor of both “Application Development News” and “Operating System News” on behalf of Cambridge Market Intelligence (CMI). He has also contributed to various magazines and written a number of reports published by companies such as CMI and The Financial Times. Philip speaks regularly at conferences and other events throughout Europe and North America.

Away from work, Philip’s primary leisure activities are canal boats, skiing, playing Bridge (at which he is a Life Master), dining out and walking Benji the dog.
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