White Paper

Bloor

Sybase ASE Total Cost of Ownership

A comparison to Oracle

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Executive summary

This paper analyses the results of a survey that was designed and conducted by Sybase of Sybase ASE users. These results were shared with Bloor Research for analysis and comment. The survey was focused on total cost of ownership (TCO) and consisted of two parts. The first section asked users about their opinion of Sybase ASE based on their use of the product. The second part of the survey questioned users about their experience with other database products and, for the alternate product with which they were most familiar, to compare various TCO metrics between that database and Sybase ASE. This is relevant information for customers choosing a database for custom or packaged applications. Also, given that Sybase ASE can now be deployed as the foundation for SAP Business Suite and BW implementations (in addition to Oracle, Microsoft SQL Server and IBM DB2), the information is relevant to SAP customers installing a new instance of SAP or looking to migrate their existing SAP installation to a different database. This paper is focused on a comparison between Sybase ASE and Oracle and it should help customers to understand the potential TCO benefits of using Sybase ASE as opposed to Oracle.

The results of this survey are unequivocal: while there are a few metrics in which Oracle rates more highly than Sybase, the vast majority of cases prove that ASE offers better TCO than Oracle. Moreover, the margin of difference is not small, as many of the metrics indicate that Sybase is less expensive or requires fewer resources than Oracle by more than 20% and, in some cases, more than 30%. As a result we would expect a clear TCO benefit for deploying Sybase ASE as opposed to Oracle.

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Metrics

Each of the following sections will focus primarily on the comparative data drawn from the survey results and we will enrich this information with data drawn from the first part of the survey. We have also ordered the survey metrics (and the relevant sections that follow) sequentially by (our view of their) order of importance. 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 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.

- **Security**. Liability to security breaches is a major factor that is often forgotten. Moreover, it is not just the costs of downtime and remedial actions that are significant but also the potential reputational damage done to the business if the breach becomes public knowledge. Related to this is how often the database needs to be updated with security patches: this requires administrative effort, time and cost so one would like to see this minimised also.

- **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.

- **Scalability**. This relates to the ability to add new users while maintaining acceptable throughput and response times on given hardware. Obviously, new or upgraded hardware will be necessary at some point but it will clearly be an advantage, in cost terms, to be able to delay this for as long as possible. Scalability in terms of storage capacity is also an issue but this was not addressed in the survey, perhaps because it is more typically a concern for data warehousing as opposed to transaction processing.

- **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.

Metrics

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 Figure 1 the results are overwhelmingly in Sybase's favour: 75% of all respondents thought that Sybase's license fees were less expensive than those of Oracle, and 78% felt the same way about support costs.

Note that in this chart, and the others that follow, taller bars are always more positive and Sybase is always shown on the left and Oracle on the right. The figures show the percentage of respondents who thought that Sybase was better, the same as, or worse than Oracle for the different metrics. Each column potentially has three colours in it, indicating the magnitude (weighting) of the difference between the two vendors. These magnitudes have important implications when we look at the actual percentage differences there are between the two vendors, later on in this paper.

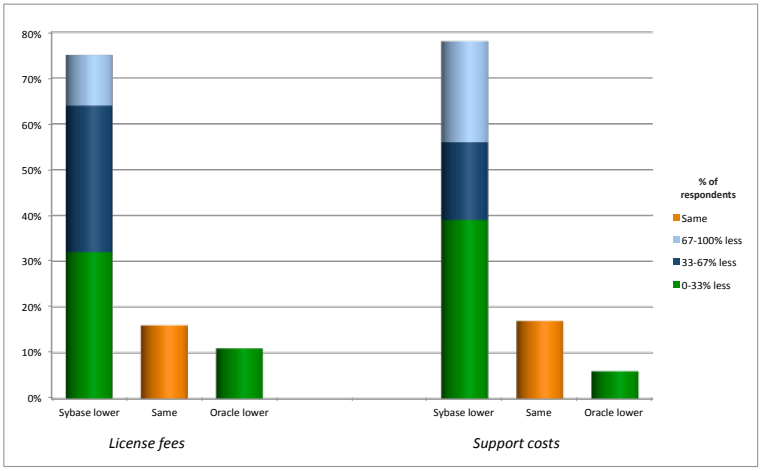

Figure 1: Infrastructure costs

Administration

There were two questions asked with respect to administration: requirement for database administrators and tuning flexibility, the results of which are illustrated in Figure 2.

Of all the survey respondents, not one thought that Oracle required fewer administrators than Sybase and nearly two-thirds (61%) thought that Sybase needed less administrators, in many cases by a significant factor. Indeed, one customer estimated that Oracle required five times as many administrators as Sybase. Moreover, a third of ASE customers cited ease of administration as one of their top three reasons for using the product.

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Metrics

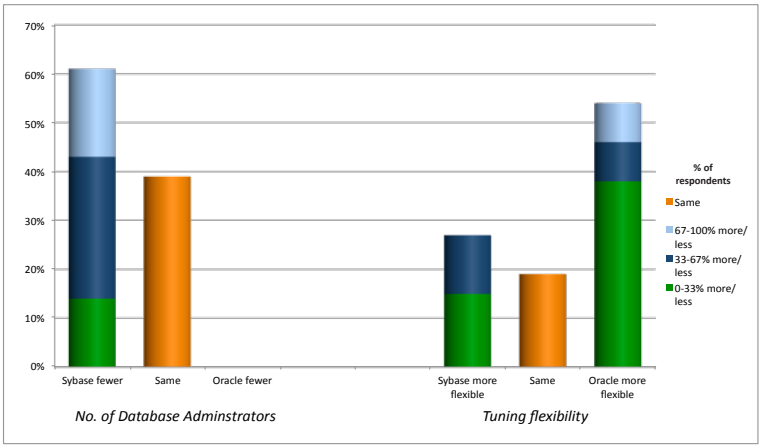

Figure 2: Database administration

While DBA training was not explored in the survey, it was examined in subsequent customer interviews. Some interesting quotes were forthcoming; notably: "In order to become certified, you have to take more classes with Oracle " and "two weeks of formal training is required before you are able to start working on Oracle. With ASE, I was quickly able to pick up on the technology. If you were to spend $10 on training with ASE, you are almost guaranteed to spend $20 for Oracle." Another customer noted that the cost of entry-level DBA classes for Oracle were approximately 25% more expensive than comparable Sybase classes. These comments speak for themselves.

Finally, we should comment on tuning flexibility. Here Oracle out-performed Sybase. However, it can be argued that greater tuning flexibility can result in a higher cost of ownership, because of the extra complexity it introduces. For example, Oracle has more options for indexing and partitioning than Sybase, and this therefore means more tuning capability, even though this results in more work and a greater administrative requirement.

Reliability

There were three questions related directly to reliability: mean time between failures (MTBF), mean time to repair (MTTR) and the relative costs of achieving a high availability solution. These results are shown in Figure 3.

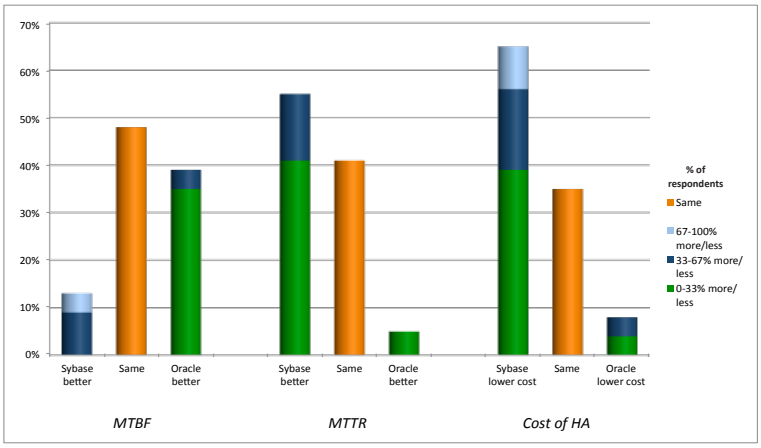

Figure 3: Reliability

Metrics

As can be seen, Sybase offers a lower mean time between failures (MTBF). However, note the weightings in the relevant columns: Sybase has more highly weighted values while Oracle's results tend to have a lower magnitude. As we shall see when we average these figures, in practice this means that there was no difference between the two vendors with respect to MTBF.

Things are completely different when we consider mean time to repair (MTTR) failures. Here, 55% of respondents felt that Sybase was quicker to repair failures. In addition, the hardware requirements needed to support the same number of 9s for high availability is much less costly in the case of Sybase with 65% of respondents attesting to this fact. Indeed, 77% of users stated that Sybase ASE was strong, very strong or exemplary in terms of reliability and stability. 16% of users have never had to reboot because of a problem with ASE while 21% haven't had to reboot for over 2 years. These are impressive figures in terms of (lack of) unplanned downtime. Further, almost half of all users stated that reliability and stability were one of their top three reasons for using ASE.

Security

Sybase ASE requires far fewer security patches than Oracle and this is clearly an ASE strength, as is illustrated in Figure 4. Note that not a single user thought that Oracle required fewer security patches while 68% stated that the need for security patches was less frequent in the case of Sybase. This suggests not only that Sybase ASE is less vulnerable to attack, but also that less administrative time is required for updates in order to maintain security. In fact, only three respondents reported ever having a security breach, one of which was more than 2 years ago.

It is important to realise that strength in this area does not just apply to IT costs. There are significant potential costs to the business if a security breach occurs, not just in opportunity costs (similar to those already discussed) but also with respect to potential reputational damage and compliance.

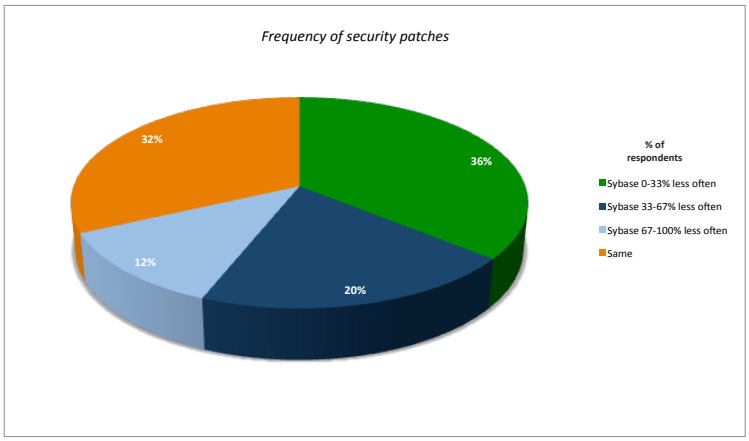

Figure 4: Frequency of security patches

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Support

Sybase asked users to compare the time taken to resolve issues with technical support along with their overall satisfaction with support. The results, which are again impressive, are shown in Figure 5: 72% of respondents stated that Sybase was faster at resolving issues while 56% were more satisfied with Sybase's support. Those favouring Oracle were much less: 16% and 8% respectively.

Over 70% of respondents rated Sybase's support as strong, very strong or exemplary and this figure is borne out by the two metrics shown, which indicate that Sybase is not only quicker at resolving issues but also that customers are happier with Sybase's support than that of Oracle.

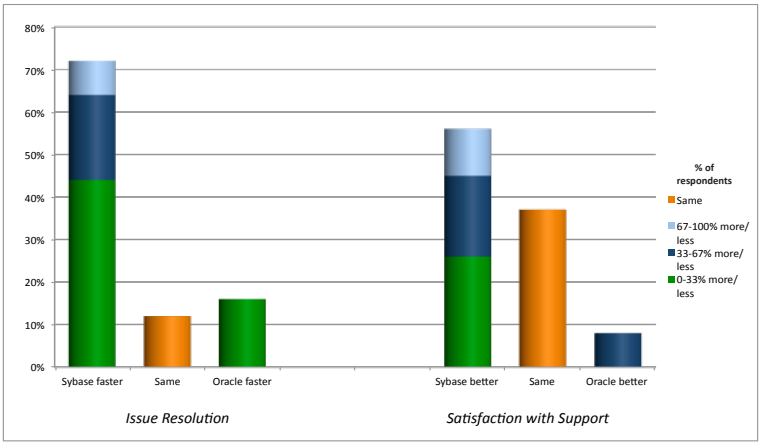

Figure 5: Support Issues

Scalability

Figure 6 shows the ability to scale the number of users on a system without changing hardware requirements. As can be seen, Sybase has an advantage in this respect (44% compared to 30%), which is significant though not as huge an advantage as the company has in a number of other areas.

In general, 70% of the survey respondents feel that ASE scalability is strong, very strong or exemplary with more than half of users feeling that ASE is very strong or exemplary in this regard.

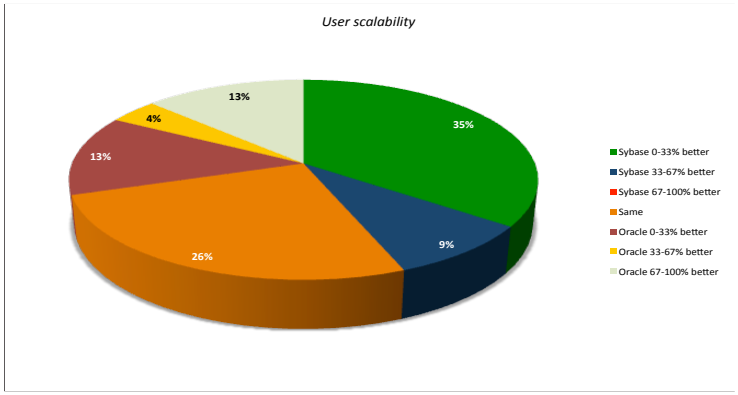

Figure 6: User Scalability

Metrics

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. 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 Sybase. On all measurements—memory, storage, CPU requirements and overall hardware the results came out in Sybase's favour, significantly so in the case of memory and storage (47% to 14% and 47% to 18% respectively).

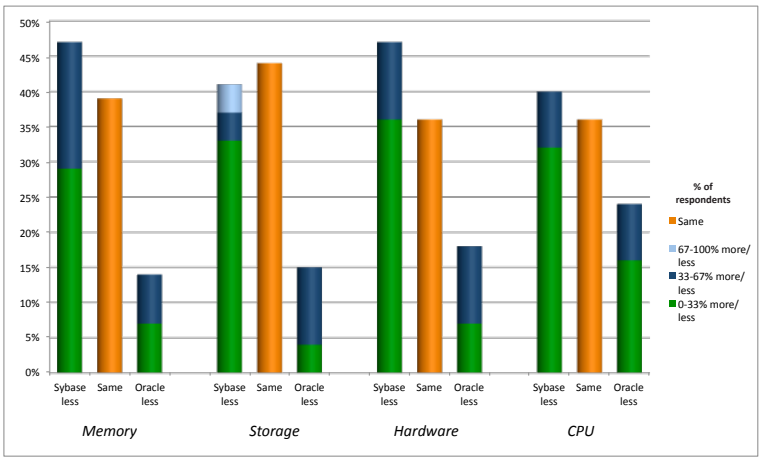

Figure 7: Resource Utilisation

75% of respondents thought that Sybase ASE offers strong, very strong or exemplary capabilities when it came to memory usage. This is significant, not just in cost terms but also potentially when it comes to performance, because more efficient use of memory means more effective use of buffers and cache. Comparable figures for hardware requirements and storage costs were 76% and 68% respectively.

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Installation

It will perhaps come as no surprise that Sybase is well ahead of Oracle when it comes to installation metrics, as is shown in Figure 8. In particular, Oracle fared especially poorly when it came to the time taken to complete a standard installation and in the frequency of patches (not security patches—see above) and updates, where it scored a meagre 8% and 1% respectively compared to Sybase's 66% and 59%. Sybase ASE also came out well ahead when it came to installing high availability and disaster recovery solutions. On the other hand it was considered more difficult to migrate Sybase ASE to new platforms than to do so with Oracle.

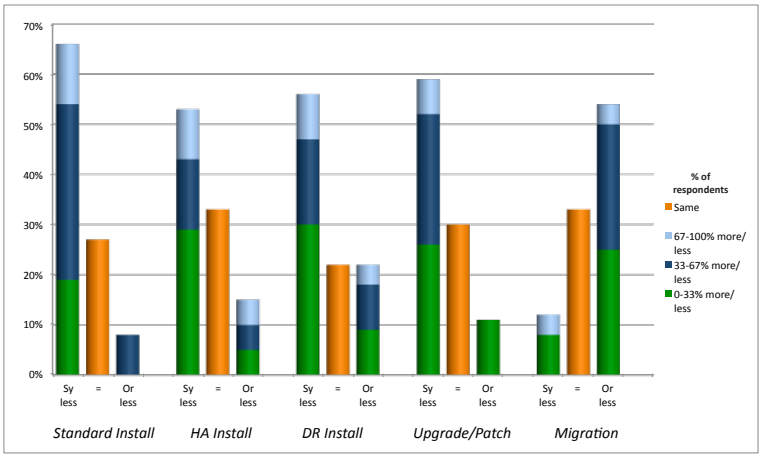

Figure 8: Installation issues

Differentials

As we have seen, the information gathered provides the number of people who thought that Sybase fared better, as well as, or worse than Oracle for each of the various metrics. In addition, we know by how much they thought any differential was. As a result we are able to calculate (see Appendix) the average difference between Sybase and Oracle for each of these measures. These are presented in the following table.

Metric	Advantage/disadvantage to Sybase over Oracle
License fees	28%
Support costs	32%
Number of DBAs required	32%
Tuning flexibility	-9%
MTBF	=
MTTR	12%
Cost of HA solution	18%
Frequency of security patches	22%
Time to resolve support Issues	21%
Overall satisfaction with support	21%
User scalability	5%
Memory requirements	9%
Storage requirements	4%
Hardware requirements	5%
CPU requirements	3%
Time and effort taken for standard installation	26%
Time and effort taken for HA installation	13%
Time and effort taken for DR installation	19%
Frequency of upgrades/patches (not security)	22%
Time and effort taken for migration to new platform	-13%

As can be seen, on these figures Sybase requires 32% fewer database administrators, has 32% lower support costs, has 28% lower license fees, requires 26% less time and effort to perform a standard installation, and so on and so forth.

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Conclusion

In this paper we have focused on total cost of ownership for Sybase ASE as reported by end users and we have specifically compared Sybase ASE with Oracle. Not surprisingly, Sybase does not outscore Oracle in every conceivable area. Nevertheless, Sybase ASE was pre-eminent in 85% of TCO metrics and in only three (two on a weighted basis) did Oracle outscore Sybase. We would highlight the following results:

1. License fees: 75% of respondents thought that Sybase ASE was less expensive, by an average of 28%.

2. Support costs: 78% of respondents thought that Sybase ASE was less expensive, by an average of 32%.

3. Number of database administrators: nobody thought that Oracle required fewer DBAs and 61% thought that Sybase required fewer DBAs. On average the saving was 32%.

4. Frequency of security patches: again, nobody thought that this was less frequent in the case of Oracle while 68% thought that this was the case with Sybase, with an average reduction of 22%.

5. Issue resolution: 73% thought that Sybase was faster at resolving issues, typically being 21% faster.

In addition, more than half of Sybase ASE users say that Sybase is strong or better when it comes to total cost of ownership and a quarter of them cite TCO as one of their leading three reasons for selecting Sybase. In this context it is worth reproducing some of the quotes provided by Sybase users. These included:

- "Extremely good 'out of the box' product ..."
- "The combination of reliability and strong technical support make ASE a great platform."
- "It just works."
- "Much easier to install and use than other competitors."
- "Solid and dependable."
- "Extremely reliable and has always been able to recover from any hardware issues we have had"
- "Stability and reliability mean time can be spent elsewhere."
- "Stability of the product has prevented any issues related to the financial side of business."

Readers will need to determine how much weight to assign to the various metrics that Sybase has collected. Leaving this aside, when comparing Sybase and Oracle, the choice, in TCO terms, is easy. Where direct cost comparisons are available—license fees, support costs and the cost of delivering highly available solutions—Sybase is 28%, 32% and 18% less expensive (that is, real dollars) than Oracle. Further, over 80% of the TCO metrics show an advantage for Sybase over Oracle and any reasonable weighting of these metrics will lead to an overall TCO advantage for Sybase over Oracle. A clear conclusion from this research is that Sybase is significantly superior to Oracle with respect to total cost of ownership.

Appendix: methodology

In total, some 103 Sybase users responded to the survey of which 36 were most familiar with Oracle. Further, Sybase subsequently interviewed some of its respondents in depth, in order to clarify their answers. One respondent gave the same answer for every question and we have ignored this result as being unreliable. However, we should state that the number of respondents familiar with both Sybase and Oracle was small. As such the results published in this paper should be taken as indicative rather definitive.

All 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 Sybase ASE. For example, "is the frequency with which you have to update your database with security patches ...?" We have removed one of the questions asked from consideration because we consider it to be ambiguous: it was not clear whether "less" was better or "more" was better.

Respondents also had the option of choosing "don't know" as an answer if they were unfamiliar with any of the database products listed. These results have been ignored in calculating the results shown. For calculation purposes, we have used the mid-points of ranges (16.67%, 50% and 83.67%) and we have then weighted the responses. Taking "same" as a unitary value (1) then 0–33% is therefore equivalent to 1/6th more or less than 1, 33–67% is equivalent to ½ more or less than 1, and 67–100% is equivalent to 5/6th more or less than 1. Savings have been calculated by taking the number of respondents within each category and multiplying by the relevant factor (7/6th, ½ or 11/6th) to calculate the totals in favour of Sybase and Oracle respectively. Next, subtract one total from the other and then divide by the total number of respondents, including those that voted for "same" to give the percentage difference between the two vendors for each metric.

Further Information

Further information about this subject is available from
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Bloor Research overview

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About the author

Philip Howard

Research Director - Data

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 what is now P3ST (Wordsmiths) Ltd 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. His practice area encompasses anything to do with data and content and he has five further analysts working with him in this area. While maintaining an overview of the whole space Philip himself specialises in databases, data management, data integration, data quality, data federation, master data management, data governance and data warehousing. He also has an interest in event stream/complex event processing.

In addition to the numerous reports Philip has written on behalf of Bloor Research, Philip also contributes regularly to www.IT-Director.com and www.IT-Analysis.com and was previously the 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 published a number of reports published by companies such as CMI and The Financial Times.

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

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