



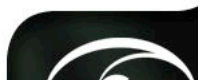
CIOview: Should You Migrate from Sybase to SQL Server?

A CIOview White Paper



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Executive Summary

Almost every IT organization is tasked with providing higher levels of service and lowering costs. Databases in particular are under tremendous scrutiny because they have a multiplier effect on the rest of the IT budget and represent a growing level of importance to the business. Consequently, database managers are commonly at a crossroad of crisis: the need for new functionality is growing while transaction volumes and storage requirements are continually increasing.

As long as databases were viewed as simply a higher level of abstraction than a file system and therefore a nicely organized repository of information, the database purchase selection process was fairly simple. Historically, a premium was placed on preventing database failures and databases were largely selected on the basis of:

- Hardware and operating system supported
- Need for availability and transaction locking
- Software license costs
- And Management tools

Increasingly, databases are seen less as a repository and more as a real time processing and diagnostic tool for managing key portions of the business. Increases in the perceived intellectual property value associated with databases in turn lead to rising demand for increasing functionality such as XML and mixed Transaction Processing (OLTP) and Business Intelligence (BI).

Fortunately for database managers the price performance trend of server hardware and DBMS software is moving in their favor. However, even the most diligently architected and budgeted databases suffer from the “blessing” of un-anticipated enhancements. As a result, what was an economical database solution even two years ago may now be prohibitively expensive to extend.

In other words, the business consideration when investing in and maintaining a database has in many cases evolved from preventing failures to developing and delivering new services. In many cases, the database selection process is increasingly decided by:

- Commodity hardware and operating systems supported
- Tiered availability strategies using clustering or log shipping
- Software license costs and BI query/OLAP integration
- Management tools and built-in reporting
- Total Cost of Ownership (TCO)

Certainly many of these decisions can be made on a feature/function basis or by looking at vendor price comparisons. However, cost and service level pressures require that database managers have easy to use tools to:

1. Quickly understand the financial cost of staying with what they have
2. Generate the Total Cost of Ownership (TCO) of upgrading to a new version
3. Forecast the change in Total Cost of Ownership from migrating to a more flexible platform.



CIOview: Should You Migrate from Sybase to SQL Server?

The obvious world of database management is not obvious any longer and it is no longer enough to select a database and forget about it. The idea that staying with what you have is always cheaper and less risky is simply outdated. Be ready to be surprised because the status quo may be the most risky action for database manager. What was an economical and extendable solution last year may appear quite differently once you apply Total Cost of Ownership (TCO)?

This white paper takes you through two distinct examples of the TCO associated with staying with Sybase ASE as compared to migrating to SQL Server 2005. In the first example, this white paper examines the TCO implications of a 32-bit database deployment and how costs change as one adds i) an upgrade to Sybase ASE 15, ii) 2-node clustering, and iii) integrated Business Intelligence. In the second example, this white paper examines the TCO of a 64-bit implementation and the change in costs as one upgrades to Sybase ASE 15 and adds clustering.

This white paper estimates TCO by combining independent third party data on Sybase ASE and MS SQL Server 2005 with the analysis engine at the heart of CIOview's TCONow! for 32 and 64 Bit Databases. Reviewing the TCO of Sybase ASE as compared to MS SQL Server 2005 reveals a number of important findings such as those detailed in Table 1.

Table 1: TCO Review of Sybase and MS SQL Server 2005

The economics of Sybase and MS SQL Server 2005 are surprisingly consistent for both the 32-bit and 64-bit world
Irrespective of what you decide to do staying where you are is not an economical option.
Total Cost of Ownership is the only robust method to fully account for the costs of operating any database.
The extensibility of Sybase ASE and MS SQL Server 2005 are very different when it comes to Business Intelligence
Hardware and operating system platform differences can have multi-million dollar cost differences when you add elements such as clustering

The Oracle of Delphi has been overshadowed by the Oracle of Redwood Shores California, so unfortunately there is no prophetic answer to database selection. However, after reading this white paper it should become clear that answering the Sybase v MS SQL Server 2005 question depends largely on business drivers such as the need for new services, integration with BI, and the service levels desired. A Total Cost of Ownership tool such as CIOview's TCONow! for 32 and 64 Bit Databases enables you to test these requirements against any database and any hardware platform, saving days if not weeks of analysis work.

Databases have become much too important for the purchase process to be unduly influenced by bias towards (or against) a particular vendor, by purchase processes of the past, or by platform prejudice. Instead, like any good corporate asset, databases selection requires a highly nuanced model that can take into account specific configurations and allow one to easily see the financial costs and benefits of different designs. TCO is the only way to accomplish this and ensure that the best database is chosen for the job at hand.



Section One: Managing the Status Quo

Bureaucracy defends the status quo long past the time when the quo has lost its status.

Laurence J. Peter
US educator & writer (1919 - 1988)

Introduction

Many Sybase shops made their purchase decision three, four, six, or even ten years ago. At that time Sybase was commonly viewed as more flexible than either Oracle or DB2 from a development perspective while at the same time able to provide the same level of robustness and availability courtesy of UNIX. True, Sybase did not provide some transaction integrity features necessary in the most high-end database deployments, but otherwise it provided an excellent balance point on the DBMS spectrum. Sybase was in effect a winning blend of ease of use and robustness.

It was no surprise that when Microsoft decided to enter the relational database server fray, they looked at Sybase and decided to create a product using the very same code base. After all, it scaled well, was easy to administer and had a ready-made set of third party applications. When Microsoft introduced SQL Server, Sybase users commonly saw little reason to trade their existing database and stable servers for the unfamiliar world (to DBAs at least) of SQL Server on Windows. However with the arrival of Microsoft SQL Server 2005 should existing Sybase customers re-think their decision?

The industrial nature of UNIX was one of the appeals for original Sybase customers and perhaps remains the largest psychological barrier for some IT shops. However, how much is it worth spending to hold on to the notion of UNIX scalability and availability as compared to the performance of Microsoft Windows 2003? This is one of the areas where a Total Cost of Ownership (TCO) analysis can provide significant value since TCO allows one to easily quantify the financial value of downtime and decide if indeed UNIX is still a prerequisite.

Sybase Migration Warning Signs
Other applications have already been migrated from your Unix Server
Application logic is contained in the database
Your existing Unix server is at its end of life



The UNIX Argument

Prior to the advent of Windows 2003 there were some functions unique to UNIX operating systems that arguably were an advantage in the case of some databases. However at this point to argue that UNIX should be the operating system of choice compared to Microsoft Windows 2003 is a precarious position when one considers:

- Increased number of Windows storage options such as iSCSI, NAS, and Fibre Channel
- Windows scalability to 64 Intel or AMD processors
- Windows 2003 availability and clustering
- Windows 2003 systems management functionality available through Microsoft Operations Manager 2005 or 3rd party tools

On the other hand, it is seductive to look at the cost of Intel and AMD base servers compared to UNIX hardware and immediately conclude that a migration is warranted solely on this basis. However, focusing on the acquisition costs of a database environment can be tremendously misleading. Increasingly budgets and bonuses are being based on the cost to run a database for three, four or even five years. This focus away from acquisition costs and towards Total Cost of Ownership (TCO) takes some of the punch out of the quick savings that Intel and AMD hardware pricing has to offer. Ultimately, a more complete cost picture is necessary to use for a purchase or migration decision.

Migration Made Easy

The time and effort to migrate a Sybase database is helped significantly because of the shared heritage between Sybase and Microsoft SQL Server. In fact, if your application logic is contained in the database and you have used ODBC/JDBC then you simply have to replace the driver to migrate. The main difference that exists between SQL server and Sybase occurred in the 2000 when Microsoft elected to pursue their own implementation of the CT library and replace CT library calls with ODBC.

As a result, in 90-95% of cases a tool such as Microsoft's SQL Server Migration Analyzer for Sybase tool can produce an assessment of what database SQL can be automatically converted and what needs to be migrated by hand. The Migration Analyzer will read your database's metadata and can provide both an accurate assessment of the time to complete a migration and a library of all SQL that is converted for you. This tool is currently available as a free download at <http://www.microsoft.com/sql/migration>.

Why is TCO Important?

On the surface, it seems simple to figure out the cost for Sybase compared to MS SQL Server 2005 – take the cost of hardware, add software license fees, and include the cost of migration to the new hardware and software. The reality, as many companies have found, is a little more nuanced. Using TCO ensures that you include the acquisition, ongoing deployment, operation support and retirement costs for the complete lifecycle of the asset.



Total Cost of Ownership (TCO)

Total Cost of Ownership is rapidly becoming a de facto standard for establishing the true cost of IT. Taking this approach has the advantage of:

- Including all costs for the entire lifecycle of an asset
- Reducing the number of year 2, 3, or 5 budget surprises
- Making it much easier for finance folks to understand the merits of different databases

The IT industry has a habit of encouraging managers to delay purchases to the end of each quarter and thereby push for the biggest discount they can get from hardware and software vendors. However, using this strategy as a measure of financial success ignores the fact that acquisition costs are commonly only a small percentage of the costs over a 3 year (or worse yet a 5 year) period. In contrast, a greater focus on deploying the optimal database configuration has much more potential in the form of upfront and annual savings than pushing for another 5% off list price. TCO also addresses the operating costs that are all too often left out of most comparisons. Not accounting for costs such as facility build-outs or even electricity to run database servers leads to an increase in ongoing costs that eat away at even the largest IT budget, leaving less and less money for new IT initiatives.

Ultimately, perhaps the most compelling reason to use TCO is because it is a wonderful method to compare system configurations and find the optimal setup for your database. It allows you to show the finance folks why it might make sense to move to a larger server, create virtual partitions, or purchase a Fibre Channel storage solution. In fact, you can even show how the decision to create a high availability cluster affects the upfront and ongoing components of your TCO. The net effect is that technical concepts which in the past would commonly have the finance folks rolling their eyes suddenly have a financial context and therefore a reason for the non-technical folks to follow the technology nuances.



Section Two: Total Cost of Ownership in Action

In spite of the cost of living, it's still popular

Laurence J. Peter
US educator & writer (1919 - 1988)

Introduction

Database migrations always have a certain risk and cost irrespective of how simple they may be. The question then is not “What is the savings of migration?” but, “How large must the savings be to make migration worth the time and effort?” The answer is obviously going to be different for every company and influenced by a whole host of factors such as:

- Tolerance of risk, no matter how small
- Whether existing T-SQL can be migrated with minimal changes
- If the existing database run new services IT has committed to providing
- Service levels and availability requirements
- Internal hurdle rates and cost of capital

However to give you an idea of the potential savings, this white paper presents four scenarios from CIOview’s TCONow! for 32 and 64 Bit Databases, all analyzing a sample OLTP database used by 285 employees.

1. Maintaining the Status Quo

Table 1.1 shows the expected costs of maintaining an existing Sybase ASE (v 11.x or 12.x) database relative to migrating to MS SQL Server 2005.

Table 1.1: 3 Year TCO of Maintaining the Status Quo for an OLTP application

Cost Categories	Sybase ASE 11/12.x	MS SQL Server 2005	Delta
Servers	\$0	\$35,367	(\$35,367)
Software	\$0	\$26,191	(\$26,191)
Storage	\$0	\$34,974	(\$34,974)
Network	\$14,400	\$31,832	(\$17,432)
Services	\$0	\$12,996	(\$12,996)
Training	\$0	\$26,654	(\$26,654)
Facilities	\$50,994	\$49,087	\$1,907
Ongoing Personnel	\$892,385	\$892,385	\$0
Downtime	\$14,339	\$33,692	(\$19,353)
Support and Maintenance	\$36,123	\$21,577	\$14,546
3-year Total	\$1,008,241	\$1,164,755	(\$156,514)

Table 1.1 shows the budget expenditures needed to maintain an existing Sybase OLTP application for 285 users that is several years old compared to the cost of migrating to a new Intel/AMD server infrastructure running Microsoft Windows Server 2003 and MS SQL Server 2005. As you can see the overall costs for Microsoft SQL Server are \$156K higher over three years. Perhaps what is more telling is the make up of the Sybase ASE costs. More than 90% of Sybase costs are consumed by IT staffing and the cost of support and maintenance.



2. Upgrading to a New Hardware Environment

However what if one accepts the fact that an older version of Sybase running on UNIX is really not a fair comparison point? After all, the vast majority of customers will at some point face the decision to upgrade or migrate due to the simple fact that eventually their database version will stop being supported by their vendor. As a result, a thorough TCO comparison should show how the cost structure for a Sybase ASE 15 upgrade stands up against an MS SQL Server migration. Using the same OLTP example Table 1.2 shows a substantial change in results vis a vis Table 1.1

Table 1.2: 3 Year TCO of Sybase ASE 15 and Microsoft SQL Server 2005 for an OLTP application

Cost Categories	Sybase ASE 15	MS SQL Server 2005	Delta
Servers	\$84,442	\$35,367	\$49,075
Software	\$35,280	\$26,191	\$9,089
Storage	\$28,643	\$33,238	(\$4,595)
Network	\$26,064	\$31,832	(\$5,768)
Services	\$1,022	\$12,997	(\$11,975)
Training	\$39,670	\$26,654	\$13,016
Facilities	\$49,553	\$49,055	\$498
Ongoing Personnel	\$892,385	\$892,385	\$0
Downtime	\$13,837	\$32,512	(\$18,675)
Support and Maintenance	\$38,617	\$21,577	\$17,040
3-year Total	\$1,209,513	\$1,161,808	\$47,705

As evidenced in Table 1.2, migrating to Microsoft SQL Server 2005 saves more than \$47,000. Now as we discussed earlier every company has a price for the risk of migration and \$47,000 in savings may or may not be enough to motivate you to change your database provider. A closer look at Table 1.2 reveals that in addition to IT staffing, your Microsoft SQL Server costs are driven by hardware and facilities. As a result, you may wish to explore the use of low-power servers running AMD Opteron or Intel's power-saving Xeon LV chips. In this manner, TCO provides both an initial cost comparison and a standard framework to revise your database and system configuration.



3. Extending an OLTP Database with Business Intelligence

Scenarios 1 and 2 addressed an existing workload. The trend though, is for OLTP databases to be augmented with additional functionality such as e-Commerce or historical queries. How would the relative costs of Sybase ASE and MS SQL Server change if one wanted to add a Business Intelligence (BI) component to your OLTP system to provide management with an increased understanding of what was selling, where and when? An increasing number of database deployments benefit from BI and therefore it is important to consider this scenario and how extensible both Sybase ASE and Microsoft Sequel Server 2005 are from a cost perspective.

Table 1.3: 3 Year TCO of Sybase ASE 15 and Microsoft SQL Server 2005 for an OLTP application with Business Intelligence (BI)

Cost Categories	Sybase ASE 15	MS SQL Server 2005	Delta
Servers	\$95,621	\$35,367	\$60,254
Software	\$52,461	\$102,191	(\$49,730)
Storage	\$75,718	\$75,718	\$0
Network	\$26,064	\$31,832	(\$5,768)
Services	\$17,472	\$15,945	\$1,527
Training	\$39,937	\$31,500	\$8,437
Facilities	\$52,156	\$49,276	\$2,880
Ongoing Personnel	\$1,155,689	\$1,067,192	\$88,497
Downtime	\$27,571	\$64,782	(\$37,211)
Support and Maintenance	\$54,995	\$78,577	(\$23,582)
3-year Total	\$1,597,684	\$1,552,380	\$45,304

As Table 1.3 shows, taking the same OLTP application and adding Business Intelligence does not change the relative TCO comparison by very much. The next question then is what BI functionality has been added?

Each Business Intelligence query requires more memory and accesses far more data than a typical OLTP transaction, so tuning flexibility can make all the difference between a sub-second and a 5 minute response time. Sybase ASE has historically been a good database for running BI-type queries mixed with an OLTP workload. While Microsoft SQL Server 2000 was a contender for some BI databases, Microsoft SQL Server 2005 Standard and Enterprise Edition provide much better BI integration and allow for a mixed OLTP and Business Intelligence workload. This ability to add new features to an existing OLTP database becomes a critically important factor, especially for database professionals who are tasked with providing increasingly higher levels of service to their user groups.

In the scenario above, you will notice that the Microsoft software costs have gone up by \$76,000 in Table 1.3 as compared to Table 1.2 with a concomitant increase of \$57,000 in three year support costs. This increase is due to the use of Microsoft SQL Server 2005 Enterprise Edition for BI. Some critics will argue that the BI functionality available from the Standard Edition of Microsoft SQL Server 2005 is just fine for adding a Business Intelligence component to an OLTP system. This approach is certainly valid and obviously the cost savings between Microsoft and Sybase would be much greater. Implementing Enterprise Edition adds \$133,000 to our TCO but for most companies they will derive tremendous value from the increased functionality in terms of:



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- Partitioning and data cubes
- Parallel index operations and index views
- Advanced BI performance tuning
- Data mining integrated with OLTP workflow
- Text mining

The other major change in Table 1.3 is that the costs for Sybase servers and personnel have increased. The question is why? After all, Sybase ASE provides some query functionality in the base code. However, advanced business intelligence features such as loading historical data, data mining, and data cubes, require Sybase IQ, a specialized Business Intelligence database with a separate code-base. Sybase IQ requires a separate server and is available in a limited Single Application Server Edition for an Intel/AMD server or a scalable Enterprise Edition. The scenario shown in Table 1.3 includes a 1 CPU server running Sybase IQ Single Application Server Edition at \$2,595 per server; running the Enterprise Edition could potentially provide a very robust BI solution but would cost over \$30,000 per CPU!

Purchasing the Premium Package				
Business intelligence is a good example of how the packaging strategy for database vendors is similar to the way auto manufacturer's package options. Increasingly if you want the sunroof, you need to buy leather seats, even if they will get really hot from the sun shining directly on them! Similarly, BI functionality such as advanced queries and OLAP may necessitate an upgrade to a more expensive database version. The last consideration is whether the new BI features you add steal performance from existing OLTP users. One option is certainly to purchase a bigger server but the alternative is to scale out your BI servers and offload this processing from your OLTP workload. The table below shows some of the major differences in business intelligence functionality between Sybase and Microsoft SQL Server and illustrates the options packaged with each.				
Feature Comparison of Sybase and SQL Server Databases				
	Sybase ASE 15	Sybase IQ	SQL Server 2005 Standard Edition	SQL Server 2005 Enterprise Edition
SQL and Data is 100% portable			√	√
Partitioning	√	√		√
Native OLAP (data cubes)		√		√
Support for multiple production servers		√ - Sybase IQ Multiplex		√ - Scale out SQL Servers
Data compression		√		
Built in extract-transform-load		√		√
Run multiple databases on one server	√		√	√
Disk architecture	Each server has its own disk	Share disk across servers	Each server has its own disk	Each server has its own disk



4. Improving Service Levels Through Clustering

Certainly adding Business Intelligence is an important test, but it is just one example of extensibility. What about the additional expenditures necessary to improve service levels and reduce downtime?

Table 1.4 : 3 Year TCO of Sybase ASE 15 and Microsoft SQL Server 2005 for an OLTP/BI application with Clustering

Cost Categories	Sybase ASE 15	MS SQL Server 2005	Delta
Servers	\$458,067	\$70,733	\$387,334
Software	\$298,449	\$233,194	\$65,255
Storage	\$151,436	\$173,621	(\$22,185)
Network	\$30,876	\$45,844	(\$14,968)
Services	\$18,490	\$19,564	(\$1,074)
Training	\$47,153	\$34,182	\$12,971
Facilities	\$99,734	\$59,582	\$40,152
Ongoing Personnel	\$1,240,269	\$1,150,798	\$89,471
Downtime	\$7,118	\$25,189	(\$18,071)
Support and Maintenance	\$277,701	\$179,038	\$98,663
3-year Total	\$2,629,293	\$1,991,745	\$637,548

Table 1.4 once more takes our existing example of a 275 user OLTP application with a BI component and shows the costs for implementing a cluster solution. At this point the economics of Microsoft SQL Server 2005 begin to kick into high gear since Microsoft offers more than \$635,000 worth of savings. Looking closer at the results, the major difference is that Sybase on UNIX requires a larger investment in server hardware and therefore greater software, facilities, and personnel costs. Certainly you could buy smaller servers on the Sybase side but the intricacies of UNIX active versus passive clustering may lead to a surprise further down the road.

In the End....

TCO is the only way to place a financial value on the extensibility of Microsoft SQL Server 2005 as compared to Sybase ASE and without this level of analysis it is simply not possible to make a rational business decision for one database compared to another. The examples in Tables 1.1 to 1.4 demonstrate that your TCO will depend on:

1. Size of your database
2. Software license terms
3. Upgrading Sybase to ASE 15 or keeping your existing database server and software
4. Adding Business Intelligence functionality
5. Implementing a cluster

Sybase and MS SQL Server 2005 both strive for that perfect balance between ease of use and processing capability. Both databases achieve that balance for a 32-bit OLTP workload. Applying Total Cost of Ownership to the comparison however shows that staying with Sybase is a viable solution if extensibility or improving service levels are not prime concerns.



Section Three: The 64 Bit world of Sybase and Microsoft SQL Server 2005

Not everything that can be counted counts, and not everything that counts can be counted. - **Albert Einstein (1879-1955)**

Introduction

The world of 32-bit database technology continues to yield performance improvements but there is a very clear Total Cost of Ownership (TCO) demarcation when 64-bit platforms become more attractive. The cross-over point whereby the TCO is better using 64 bit as opposed to 32 bit technology is largely a function of:

- Number of database users
- Type of workload
- Migration complexity
- Importance of availability
- Benefit of integration with other Microsoft products

Using CIOview's TCOnow! for 32 and 64 Bit Databases to model an example of 800 employees on an OLTP application, this white paper provides guidance on when to migrate a 64-bit database from Sybase ASE to MS SQL Server 2005.

1. Maintaining the Status Quo

The first question to answer is whether database professionals should keep their existing Sybase database on UNIX or migrate to 64-bit SQL Server 2005 on Microsoft Windows 2003. Table 2.1 documents that Sybase costs will amount to \$1,644,396. Migrating this database to MS SQL Server 2005 and purchasing new hardware costs an additional \$273K. Compared to a 32-bit database, this scenario requires much higher hardware and software expenditures. Naturally, a larger database will require more processing capacity and as a result the scenario below requires twice the number of CPU. In addition, these larger servers cannot run MS SQL Server 2005 Standard Edition and Sybase ASE Small Business Edition. Instead one must purchase MS SQL Server Enterprise 2005 Edition and Sybase ASE Enterprise Edition. Moving to a more expensive database increases the cost per user dramatically.

Table 2.1: 3 Year TCO of Maintaining the Status Quo for a 64 Bit OLTP application

Cost Categories	Sybase ASE 11/12.x	MS SQL Server 2005	Delta
Servers	\$0	\$242,400	(\$242,400)
Software	\$0	\$147,591	(\$147,591)
Storage	\$0	\$94,252	(\$94,252)
Network	\$28,800	\$65,160	(\$36,360)
Services	\$0	\$11,868	(\$11,868)
Training	\$0	\$33,750	(\$33,750)
Facilities	\$73,954	\$68,644	\$5,310
Ongoing Personnel	\$1,067,192	\$1,067,192	\$0
Downtime	\$37,648	\$64,855	(\$27,207)
Support and Maintenance	\$436,802	\$121,827	\$314,975
3-year Total	\$1,644,396	\$1,917,539	(\$273,143)



2. Upgrading to Sybase ASE 15

Database professionals know that few databases can afford to get too far behind their software generation. Hardware vendors know too and commonly identify customers on older databases as ideal candidates for hardware upgrades. The hardware vendor can sell bigger servers while the database customer can provide some level of increased service without revisiting their database environment. As an incentive, hardware vendors often offer a discount to tempt customers to address the status quo. The scenario below asks whether this “can’t lose deal” provides value to both Sybase ASE on UNIX and MS SQL Server 2005 on Windows.

Table 2.2 : 3 Year TCO of updating Sybase with a 50% Hardware Discount

Cost Categories	Sybase ASE 15	MS SQL Server 2005	Delta
Servers	\$304,935	\$242,400	\$62,535
Software	\$787,794	\$203,583	\$584,211
Storage	\$108,424	\$94,252	\$14,172
Network	\$52,128	\$65,160	(\$13,032)
Services	\$20,911	\$19,555	\$1,356
Training	\$0	\$33,750	(\$33,750)
Facilities	\$73,954	\$68,644	\$5,310
Ongoing Personnel	\$1,067,192	\$1,067,192	\$0
Downtime	\$37,648	\$64,855	(\$27,207)
Support and Maintenance	\$436,802	\$163,821	\$272,981
3-year Total	\$2,889,788	\$2,023,212	\$866,576

Table 2.2 details how Sybase customers will find this “deal” to be rather more profitable for their UNIX vendor and for Sybase. The TCO quickly swings to favor Microsoft by more than \$866,000 even with such a seemingly attractive hardware discount. The costs are largely due to two factors:

1. The UNIX servers required for an 800 user OLTP database have a much higher price per unit of performance and commonly require more CPU cores.
2. Sybase ASE Enterprise Edition is licensed at a higher price point than MS SQL Server 2005. This is true on a per-CPU and per-user basis. Combine a higher price point with a larger number of units to license and MS SQL Server is the clear winner.

In reality the hardware discount is more likely to be in the 20 to 25% range. As a result, chances are most customers in this situation would end up paying more than one million dollars for the option of a state of the art UNIX deployment of Sybase ASE as compared to MS SQL Server 2005 on Windows.



3. Improving Service Levels Through Clustering

However, databases have a habit of morphing in functionality in ways the original designers never thought of. Even in the case of a well-defined OLTP database, what was once acceptable in terms of availability increasingly is not, either because the data is required by another application or because the database must be placed into a business continuity plan. Irrespective of what the root cause may be, the cost to run an availability cluster is something that can have frightening financial implications. In this case the three year TCO of a clustered solution for Sybase ASE 15 would be almost \$5,000,000 while for Microsoft SQL Server 2005 the TCO would be approximately \$2.7 million.

In the End....

Increasingly customers need to be aware of all the potential costs because asking the “what-if” questions well ahead of time ensures no unpleasant surprises. This white paper demonstrated that comparing database products requires a standard methodology to estimate costs and then change the assumptions concerning:

- Workload mix
- Expected growth in OLTP and/or BI usage
- Storage growth
- Storage technologies such as Fibre Channel, iSCSI, direct attached RAID
- Clustering

All of these “what-if” scenarios should be examined in detail because each assumption on its own can have a major impact on the financial attractiveness of one database solution to the other.



Final Thoughts

Is there a killer feature that MS SQL Server 2005 has that Sybase ASE 15 does not? Certainly SQL Server 2005 has a maximum name length of 128 compared to 30 in most cases for Sybase. SQL Server has 32 levels of nested stored procedures and nested sub queries compared to 16 for Sybase. Sybase can only have 50 tables per SELECT statement while SQL Server 2005 can have 256. There are additional differences in capability but on a feature checklist basis the comparison boils down to refinement and packaging.

There is no easy way for customers to put together a “gotcha” purchase decision. Instead, a detailed TCO business case needs to show how each cost is affected by the changes in major assumption for each vendor. Certainly it will take some work but every day you wait may be costing your company a great deal of money.



About CIOview

Established in 1997, CIOview has spent more than five years gathering data from IT customers, IT consultants, and the major hardware and software companies. The result is an industry standard method to measure the business value of IT products. CIOview's TCOnow! and ROInow! software combines customer data with a sophisticated system configuration engine, making it quick and easy for each customer to generate their own business case report.

CIOview has created 55 distinct products all of which use the same desktop player application and a product-specific content module. This provides customers access to a complete portfolio of business case analyzers for all of their IT purchase decisions.

Where Can You Go From Here?

- Learn more about CIOview and our family of product offerings at <http://www.cioview.com>.
- Any other questions? Contact CIOview at info@cioview.com
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