Pricing and licensing models in the application infrastructure platforms, including IBM WebSphere, WebSphere MQ, and DB2; Oracle WebLogic and MySQL; and VMware vFabric Suite Advanced
Cloud Application Infrastructure Pricing

*Software Marketing Practice White Paper*

Redwood Consulting Group
Contents

1. Abstract ........................................................................................................................................5
2. Software Pricing & Licensing—Framing the Discussion ..................................................................8
3. 6 Best Practices in Pricing & Licensing .......................................................................................11
4. VMware vFabric Pricing .............................................................................................................18
5. IBM WebSphere Pricing ..............................................................................................................22
6. Oracle WebLogic Suite Pricing ................................................................................................25
7. Licensing & Soft Cost Differences ..........................................................................................28
8. Hard Cost Differences ................................................................................................................34
9. Summary ......................................................................................................................................36
10. Appendix ...............................................................................................................................37
Copyright, Disclaimer and License Agreement

© Copyright 2012, Redwood Consulting Group. All rights reserved. No part of this whitepaper may be reproduced or cited in any form without express written consent of the publisher. This guide is considered a private communication between the recipient/downloader and the publisher – no citation in public for a charge is intended or allowed.

Disclaimer: Every attempt has been made to obtain accurate information. However, due to the nature of technical information, this whitepaper represents tentative conclusions only and the publisher accepts no liability for any actions taken or conclusions drawn from this material.

Names mentioned are trademarks or registered trademarks of their respective owners. Any slights against persons or organizations are unintentional. Contact us at info@redwoodcg.com or Tel. 415-374-7065 so that we may correct them.

License agreement: No reproduction or further dissemination allowed. By downloading this whitepaper, you agree to use only one copy per individual (individual license) or multiple copies per one single company (company license) in accordance with the license agreement. You agree not to further copy, disseminate, email, post to a company intra or extranet, post to the Internet, cite in marketing, technical or trade literature, or cite in published magazines. You agree that this document is for internal use only, and understand that all copies are marked with product watermarks to identify and hold responsible the original recipient/downloader. You understand that the guide is delivered electronically in Adobe PDF format, not hard copy, and you understand that printing or viewing the guide is your responsibility. You understand that the information contained in the whitepaper is the best available to Redwood Consulting Group at the time of publication, but that errors and omissions may nonetheless occur. You agree to hold Redwood Consulting Group harmless for the use of any information contained in this guide, and you recognize your responsibility to conduct due diligence - further researching on products that you may select for your project(s). You agree to point all interested parties to www.redwoodcg.com where they can register or request their own copies, and not to provide internal or external copies of this document to them, directly. You understand that the whitepaper is delivered as is.

Disclosure

This study is based in part on learnings from a study commissioned and funded by VMware. The author, Scott Watenpaugh, CEO of Redwood Consulting Group holds equity in VMware. This study was funded in part by VMware Corporation. More information may be requested at info@redwoodcg.com.
1. Abstract

In 2011, VMware announced pricing and licensing for its vFabric product line based on usage of virtual machines. This pricing is extremely competitive—about 17% of Oracle’s (for comparable products) and 70% of IBM’s. VMware is also turning the standard “peak use” pricing model in software on its ear. It is allowing customers to pay based on monthly average use, which allows customers whose usage patterns spike a smoother, more predictable cost to budget for—not to mention a lower one.

This paper discusses these changes. It defines pricing six best practices in the software industry. And it describes the pricing models of:

- IBM WebSphere, WebSphere MQ, and DB2
- Oracle WebLogic and MySQL
- VMware vFabric Suite Advanced
Comparisons of Disparate Product Lines Are Useful, But Not Perfect

<table>
<thead>
<tr>
<th>Application Server</th>
<th>VMware vFabric Suite Advanced ¹</th>
<th>Oracle WebLogic Suite ²</th>
<th>IBM WebSphere Product Line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database Cache</td>
<td>GemFire App Cache Node</td>
<td>Coherence Enterprise Edition</td>
<td>WebSphere eXtreme Scale</td>
</tr>
<tr>
<td>Database</td>
<td>SQLFire Pro Postgres</td>
<td>MySQL Enterprise Edition</td>
<td>DB2 Express Edition</td>
</tr>
<tr>
<td>Web Server</td>
<td>Web Server</td>
<td>Web Tier</td>
<td>WebSphere HTTP Server</td>
</tr>
<tr>
<td>Message Server</td>
<td>RabbitMQ</td>
<td>WebLogic JMS</td>
<td>WebSphere MQ</td>
</tr>
<tr>
<td>Monitoring</td>
<td>Application Performance Manager</td>
<td>Enterprise Manager</td>
<td>Tivoli Monitoring</td>
</tr>
<tr>
<td>Provisioning</td>
<td>Application Director</td>
<td>Virtual Assembly Builder</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Notes:

1. VMware vFabric tc Server includes Elastic Memory For Java (EM4J), which has no analog from Oracle or IBM.
2. Oracle WebLogic Suite includes one other product: Oracle WebLogic Real Time

This paper then draws comparisons between the pricing models for these product lines, including hard cost differences between the models.

This work focuses on the application server offerings from two incumbent application server solutions—Oracle’s WebLogic Suite and IBM’s WebSphere product line—and compares them with a challenger, VMware’s vFabric Suite Advanced. It is important to note that, while useful, no evaluation of disparate product suites from different competitors will be perfectly apples-to-apples. For example, Oracle includes one product in its suite that is not available in the VMware solution, Oracle WebLogic Real Time. Any reasonable analysis will make allowances for this disparity by carving out the value represented by them.

The aggressive and innovative pricing and packaging changes VMware has introduced are predicted to shake up the application server and cloud infrastructure pricing worlds. It should help VMware’s translate its success in virtualization world into traction in application servers and cloud infrastructure.
1.1. Audience

This paper is written with the following audience in mind:

- CIOs, VPs, directors, managers, architects, and developers responsible for cloud application development and deployment strategies
- Industry Analysts concerned with application platforms and developing web applications for the cloud
- Managers and decision makers working at software companies in the application server, middleware and adjacent spaces
- Financial analysts, high tech industry employees and industry followers
2. Software Pricing & Licensing — Framing the Discussion

Software vendors have struggled with issues of how to capture value since software started to be commercially licensed in the 1970s.

2.1. Evolution of Pricing Metrics: Price Based on Value

Problems with Hardware-Based Pricing

Early on, software vendors looked to server-based computing power as a proxy for value delivered. This was ungainly and customers complained that this was an imperfect and unfair measure of usage. After all, customer argued, perhaps they weren’t using the full computing power of the server on the relative application.

Because of the continuing introduction of new hardware technologies and the exploding power of what was considered “baseline power” due to Moore’s Law, pricing was continually being revamped and became exponentially complex—resulting in price books that were hundreds of pages long including long tables of hardware-based prices.
Progress: Moving Toward User-Based Pricing

User-based pricing was a better proxy for the value of software applications such as financial, HR, manufacturing and logistics applications. The larger a company was, the more users they’d need to run their applications. Customers liked this because it was perceived as being fairer than server-based pricing and it was relatively easy to comprehend. Vendors liked it because it eliminated customer friction. User-based pricing worked well when the primary buyer was the line of business, such as for a CRM system. It was more problematic when the end user was IT, such as teams building applications on an application platform. Consider an application used by customers of a company; say an order tracking system that can be used without logging in. The anonymity makes billing by user difficult. Over time, software vendors struggled with the idea that “users” was a strong proxy of value delivered. In sales terms, vendors were “leaving money on the table.” As a customer doubled their size, the number of users needed to manage the functions in that customer might increase, but it would nowhere near double.

Aligning Price with Value

As pricing theory evolved, companies in all industries, including software moved toward pricing that reflected the value that customer received, rather than more arbitrary technology-based or cost-plus pricing models. The move was a win for customers, who perceived this pricing a more fair, and for vendors, who benefitted through optimized revenue and profitability. Value- (or usage-) based pricing has intellectual underpinnings in the work of Thomas Nagle and Reed Holden. The thinking went, that if vendors set prices based on the actual value derived from the use of their products, then the more value these products deliver, the more vendors can charge their customers. Customers are willing to pay more because they are realizing more value.
An example is challenges facing ERM vendors like PeopleSoft (now Oracle) in the mid-1990s. PeopleSoft was a leader in human resources management (HRM) software in the 1990s. They acquired several companies in the financial and logistics sectors. The problem was how to best capture value from these acquisitions via optimized pricing. Results from that study lead PeopleSoft to introduce pricing for financial and logistics applications using total customer revenue as a metric. The larger the company, the more value they were deriving using PeopleSoft’s financial and logistics applications.

Most progressive thinkers in pricing today advocate this approach. It has been shown to consistently optimize profitability as well as drive market share.¹

In the application server space, vendors like IBM and Oracle didn’t evolve pricing dramatically from the 1980s and 1990s. They relied—and continue to rely—on hardware-based pricing as a proxy for value delivered.

The larger a customer, the more applications they’d need running on a greater number of servers. Both IBM have pursued pricing strategies based on processors.

**Pay To Play: Subscription v. Perpetual Licensing**

During this evolution, there was another dimension to consider, as well: duration. In other words, how long companies have the right to use that software and what’s included in that time period. Traditional licensing models, made up of large license fees plus annual maintenance fees for upgrades and support entitled companies to use that particular version of the software forever, unless otherwise stated in contract. Many contracts limit this use to three or five years. To receive upgrades and updates to the software and to receive tech support, companies pay maintenance fees.

**The Emergence of Value-based Pricing**

Beginning about a decade ago, some vendors started thinking about how to employ value-based pricing concepts within their product pricing and packaging offerings. If they were going to charge based on value delivered, they would spread the costs evenly over the course of the lifetime of use. This had the advantages of reducing the financial obstacle to adoption by minimizing the upfront cost to companies, while and giving vendors more stable, predictable revenue streams. Customers liked the idea of having a predictable operating expense for which to budget.

¹ Value-based pricing
3. 6 Best Practices in Pricing & Licensing

In working with dozens of companies on pricing and product strategy, Redwood has found that winning companies have pricing and licensing models with six characteristics in common. The attributes benefit vendors in several ways. They shorten the sales cycle, make pricing easier to explain, increase customer satisfaction, optimize profitability and allow these companies to dominate their respective markets through the relentless capture and retention of market share.

These six characteristics are: price to win, value-based, fair, simple, flexible, and solution-based. Below are brief descriptions; as well as analogues in other industries, and examples from software and services.
3.1. Price to Win

Play to Win versus Play to Play

As George Stalk says in his Harvard Business Review article, *Hardball*, companies must play to win. Not just play to play.\(^2\) Given the massive advantages economies of scale confer on market share winners, software companies need to be especially ruthless when playing against competitors. In pricing the corollary is to *price to win*.

Cost structures of software vendors, with large fixed development costs and low marginal distribution costs have far more to gain by taking market share early; spreading per-customer development costs; and leveraging those customer relationships to pile on additional products.

<table>
<thead>
<tr>
<th>Economies of scale give huge cost advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pricing Strategy</td>
</tr>
<tr>
<td>Skimming Strategy</td>
</tr>
<tr>
<td>Penetration Strategy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Volume</th>
<th>Low Volume</th>
<th>High Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 large customers</td>
<td>1,000 mid-sized and large customers</td>
<td></td>
</tr>
</tbody>
</table>

| Total R&D Expense (Fixed Cost) | $100,000,000 | $1,000,000 |
| Customers | 100 | 1,000 |
| R&D Expense Per Customer | $1,000,000 | $100,000 |

100 customers). To be profitable, this vendor needs to price its software at least $1,000,000 to the next customer to cover development costs (ignoring marginal costs like sales). However if this same software company has 1,000 customers, the per-customer development cost is only $100,000 ($100 million total development costs / 1,000 customers). Effectively, this software

company has shaved its R&D expense on a per-customer basis by 90%, allowing it to compete extremely aggressively for new customers and new markets.

“Effectively, this company has shaved R&D expense on a per-customer basis by 90%...”

Vinod Khosla of Khosla Ventures advocates taking this long-term vision into account when pricing alternative energy products. Khosla says that products need to be priced at a Chindia price—a level where they are affordable in China and India—to be globally successful. While this philosophy is geo-based, the analog for software companies is to think broadly geographically and to evaluate success not in one-, two-, or three-year timeframes but in twenty—when China and India are expected to rival the economic hegemony of the United States. To ask, “at what price will we dominate globally and take 80% market share.” The predominance of the web has made being aggressive even more important, given the increasing transparency of pricing and the subsequent difficulty of charging differentiated pricing in different regions.

Using a market penetration pricing strategy to rapidly devour market share is the best way for vendors to lock out competitors in a determined and ruthless way. It also gives give them these aggressive incumbents a cost-advantage against smaller competitors with higher per-customer development costs.

3.2. Value-Based

Vendors continue to move toward value-based pricing, though some more slowly than others. A game-changer is cloud computing. Customers are moving toward the development and deployment of applications in the cloud in a virtualized world. Because and increasing proportion of applications are developed to take advantage of virtualization the relevancy of the number of processors or cores to the value of software being delivered is waning. Software is no longer tied to specific processors; it’s a shared-processor world now.

3 Need to produce products at a Chindia price. Vinod Khosla, Economic Times, 2011.
Pricing in a Virtualized World

Just as in the 1990s, when customers complained that box-based pricing was becoming an irrelevant and unfair measure of the value of software on their systems, the rise of virtualized applications is making processor- and core-based pricing seem irrelevant and unfair, as well.

A better measure of value for application servers in this virtualized world is virtual machines (VMs). Companies moving toward virtualizing their applications are increasingly inclined to want their licensing to match up with the virtualized world they’re dealing with. VMware has announced vFabric pricing based on virtual machines (VMs), regardless of the number of processors. This pricing seems particularly relevant in cloud computing, where physical infrastructure seems increasingly less relevant than virtualized infrastructure. This addresses both fairness and value issues. But it also eliminates the problems with using technology-based pricing metrics. These problems include the exponential complexity of a long list of hardware classifications and the continual revision of the price list because of both the introduction of new hardware types and the revision of the old types as the baseline of “typical” processing power explodes.

3.3. Fair

License on Average Usage—Not Peak

Most software companies license product based on the peak usage. Customers generally accept this as a standard IT business practice. Though some—especially those with peak usage that is dramatically different than typical usage—feel it’s unfair and negotiate other measures.

If companies really step back and look at this metric, it’s not a fair or accurate way to gauge value. Imagine if other industries operated this way. Suppose your electricity provider analyzed the last twelve months of your usage and sent you a letter saying, commencing immediately, you would be charged for all months based on the peak bill from last year. Suppose that your bill was usually in the $100 range. But in winter months, it hit $200. You may be upset to see your bill double based on the new peak measure of $200 per month. It wouldn’t be fair. And it wouldn’t be a good measure of energy consumed nor value received. The same is true for companies using software.
Challengers like VMware, which develop innovative ways of measuring use, are going to pose a serious challenge to incumbents with legacy business models. And over the next 3-5 years will force a change in the way app server vendors capture value via pricing and licensing.

3.4. Simple

One of the biggest weaknesses of pricing models in the software industry is they are unduly complex. Pricing and licensing models which are simple and transparent make it clearer to customers what they can expect to pay and allows vendors to focus on the value they are providing rather than on the price they are extracting. A simple pricing structure also shortens the sales cycle for vendors, increasing sales productivity.

Though the reasons for a simple pricing structure are intuitive, developing a simple pricing policy is sometimes easier said than done.

One driver is product line growth. Product teams at software companies don’t always work together to harmonize their pricing structures. This leads them toward using different pricing measures—sub-optimized for their disparate products—and set different pricing policies. These problems become more extreme when companies grow their product line by acquisition. Harmonizing pricing after a product has been on the market is difficult given the need to comply with existing contracts and a desire not to disrupt sales opportunities in progress.

And complexity isn’t just difficult for buyers. It’s also difficult for sales professionals who need to understand how to quote tens or hundreds of products and prices for customers.

However, some short-sighted pricing managers and quota-driven sales executives—working to extract maximum value out of customers—build out complexity in pricing structures as they seek
to measure and charge for every attribute of each piece of functionality their companies develop.

Efforts to simplify, lower prices and drive volume are met internally with, “but we’ll leave money on the table.” Only the most strategic business managers understand concepts like demand curve elasticity and realize that keeping pricing high and making pricing complex will slow the sales cycle and “leave customers on the table.” To be fair, organizations which adopt a more aggressive pricing and competitive stance need to be fully prepared operationally to deliver at higher volumes. This means revisiting sales channel readiness, revamping operational (quote to cash) capabilities, staffing up on customer service organizations and making self-service an attractive option for customers.

In the long run, keeping pricing simple is best practice. Vendors who do this will have happier customers, a more efficient sales model and be met with greater long-term success.

3.5. Flexible

Pricing structures that allow companies to respond to increasingly rapid business environments give customers an advantage in their ability to conduct business agilely—which is the whole point of enterprise software, after all—increasing business productivity. Licensing models that support a loosely-connected contract-and-usage scheme allow greater flexibility than those which are tightly connected.

An example of a tightly-connected contract-and-usage model is traditional processor-based (or core-based) licensing. Contracts are signed based on the number of assigned cores for each software application. When business requirements change, contracts need to be re-negotiated. A better way would be to allow flexibility in licensing and contracts, so businesses may respond faster, and execute faster. This paper provides specific examples both tightly connected and loosely connected contract and usage models below.

3.6. Solution-Based

Last among the Six Characteristics of Best Practices Pricing is whether the pricing and packaging are solution-based.
Questions to understand this are:

Is this a whole solution to customer pain or is it a technical feature? Does the bundling simplify the purchasing process? Does the pricing model support both subscription and perpetual licensing preferences by customers? Does it include first-year support at no additional charge?

How this applies to application middleware is whether a vendor offers separate prices for each component (app server, database, etc.) or offers a single price for multiple components that can provide a complete middleware platform for custom applications.

These are questions leading vendors have posed to themselves. Questions which have led them to offer solutions that customers are responding to in numbers.
4. VMware vFabric Pricing

VMware has two application server suites: vFabric Suite Advanced and vFabric Suite Standard. This analysis focuses on vFabric Suite Advanced. The list below describes the differences.

4.1. vFabric Suite — What’s Inside?

Products included in vFabric Suite Advanced are:

1. Application server (tc Server)
2. Database cache (GemFire App Cache Node)
3. Java Memory Management (Elastic Memory for Java)
4. Web server (vFabric Web Server)
5. In-memory distributed SQL database (SQLFire Professional)
6. VMware-optimized Relational database (Postgres)
7. Message server (RabbitMQ)
8. Monitoring (Application Performance Manager, includes AppInsight & Hyperic)
9. Provisioning (Application Director)

vFabric Suite Standard does not include a database, message server, or provisioning. Customers may mix and match variations.

---

4 vFabric Suite: [www.vmware.com/vfabric](http://www.vmware.com/vfabric)
4.2. VMware vFabric Suite Advanced: New Pricing and Licensing

In 2011, VMware changed packaging to allow customer to buy a bundle of any or all of the products in their product line for a single, per-virtual machine (per-VM) price.

**Per-VM Pricing**

For vFabric Suite Advanced, that price is $2,500 for a perpetual license. Basic support (12x5) is $525 per year (21% of license); production support (24x7) is $625 per year (25% of license). vFabric Suite Standard (which we’re not using as a competitive pricing benchmark in this paper) is $1,500 per VM for a perpetual license. Overall, VMware has done a fine job of radically simplifying the buying process for customers—giving them clarity and transparency into its pricing and making quick work of estimating the costs at a VMware vFabric application server suite solution. vFabric Suite isn’t offered via subscription pricing—only perpetual. Although VMware does have subscription pricing for its application server product, tc Server\(^5\) and its web server\(^6\). However, these examples are the exception to the rule for vFabric pricing.

---

\(^5\) VMware tc Server subscription pricing

\(^6\) VMware web server subscription pricing
Fluid Pricing Structure

For that $2,500 per VM, customers may license one or all of the products in the vFabric Suite Advanced package, so long as they run it on a single VM. For example, a customer needing 3 web server VMs, 3 app server VMs and 2 database VMs would simply license 8 VMs (2+2+3) x $2,500 per VM = $20,000.

The fine print reads that this price is good for up to two vCPUs\(^7\) (virtual CPUs) on each VM. So, using the example above, if a customer has 8 VMs running on 16 vCPUs, there is no extra charge (16 vCPUs / 2 vCPUs per VM = 8 VMs). If a customer is running these 8 VMs on 32 vCPUs, however, they’d need a license for 16 VMs (32 vCPUs / 2 vCPUs per VM = 16 VMs). It’s complex, but would affect only a small percentage of customers. VMware argues they need this in place in rare cases where simple, high-use applications are running on a single VM.

Summarizing, VMware allows customers to trade out the applications they use on their VMs—and to re-use licenses across different types of servers.

Compliance

VMware tracks actual usage for vFabric Suite in real-time, so customers can understand whether they are in compliance from a licensing perspective or not. This eliminates any surprises around

\(^7\) Definition of vCPU
license usage, and eliminates after-the-fact license audits that can consume a great deal of time and effort\(^8\).

**Pricing Measured on Average Usage (not Peak Usage)**

Another progressive attribute of VMware’s new pricing model is the way use is measured. Instead of measuring use based on peak usage, as is common throughout the software industry—including the application server space.

VMware measures customer usage monthly and then averages that usage over the course of a year. This seems a much fairer way to measure value derived because it allows for disparities in monthly use in a way that just taking the highest monthly usage level doesn’t do\(^9\).

So, average usage pricing does two things. It charges based on the capacity actually used and smoothes the billing of that capacity; presumably eliminating spikes that may occur in Q4 or other periods of intense business activity. Annually, customers will true up to their average use levels (unless stipulated by the contract), but these levels will never be anything close to peak levels.

Redwood estimates that, for most customers, using the average usage measurement rather than a peak usage measure will result in prices 50%-70% off peak-based pricing. This is based on what Redwood has seen as clients activity fluctuates seasonally.

**Summary**

This pricing is clear, simple, and does a good job of linking the cost of vFabric with the value it delivers. Pricing on VMs supports VMware’s strategic direction and leadership in the virtualization space. The price point is compelling for companies looking to evaluate a challenger in building and running new applications in a cloud environment.

\(^8\) Source: Redwood interviews with VMware product management.

\(^9\) Source: vFabric Suite Pricing
5. IBM WebSphere Pricing

IBM prices WebSphere products by cores. To address the issue that the processing power of different cores can vary widely, IBM created a processor value unit (PVU) table (below), which assigns different cores different value units. An example of PVU pricing is on the next page. An Intel-based Dell PowerEdge with a 2 socket Zeon quad-core processor has a value unit of 70. To determine the cost of running WebSphere Application Server customers would multiply the PVU of 70 times the application price of $149 per PVU times the number of cores (e.g., 10): 70 PVU x $149 per PVU x the number of cores and the total is $34,300. See the second table on the following page for an example. You would do this for each product in the IBM WebSphere portfolio (see the IBM WebSphere PVU Prices table below). Some complexity is introduced when

---

10 Source: IBM Software Online Catalog
actually using the IBM Software Online Catalog, however. Selecting each core PVU type is actually fairly time-consuming, taking a few minutes to navigate through nested directories for each one. The IBM Processor Value Unit Table on the previous page illustrates the complexities of managing hardware based pricing like IBM’s core table. Ignoring the issue of whether or not customers agree with IBM’s designation of processing power for cores. Deployments with differences in core power require doing this for each core type.

IBM has done a nice job of solution selling by including first year support bundled in the perpetual license price. This is a thoughtful way to offer a solution to customers. Comparing this approach to other vendors, though, requires some unbundling of support to determine the true product value. Ongoing support is billed at 20%, so this is the rate we’ve used to unbundle the support value from the product value.

IBM doesn’t offer subscription pricing directly; “subscription” being used in the classic software licensing sense of paying no perpetual use fee. It calls its support, “subscription,” and this is correct in a sense that customers are subscribing to updates, upgraded and support. But it doesn’t align to the commonly understood usage of the term in the software industry—which understands the term to mean zero upfront perpetual fees.

---

11 Source IBM WebSphere v Oracle WebLogic white paper. IBM, 2011.
IBM simplified its Tivoli Monitoring pricing in 2011 by making the price per-core. So, no longer do customers need to evaluate processor core type. They multiply the number of cores times the Tivoli per-core price of $662\textsuperscript{12}.

Because IBM licenses based on CPUs, applications aren’t portable across a company’s infrastructure. Moving an app can trigger a re-licensing exercise. Given that hardware upgrade cycles are typical every two to four years; this makes re-allocating resource cumbersome and imposes additional overhead on application and procurement teams.

**IBM Summary**

Overall, IBM’s app server product line pricing somewhat complicated, though it is rational. Compared with Oracle, it is inexpensive—about \(\frac{1}{4}\) the price. Compared to VMware, it is expensive—about twice the price.

IBM offers first year support included with all licenses at no extra cost; a solution-based approach rather than a point product approach.

IBM’s core processor power approach is inelegant—a technology-based pricing approach that generates complexity and requires frequent re-evaluation and re-working as hardware innovation unfolds. It’s not terribly simple, but IBM has no blatant re-definition of vocabulary like Oracle’s re-definition of processors as cores.

\textsuperscript{12} Source: IBM Software Online Catalog
Oracle WebLogic Suite Pricing

“Misleading” may be the most accurate adjective that can be used to describe the way Oracle prices WebLogic Suite. Regardless, below is Oracle WebLogic Pricing, deconstructed.

Oracle pricing starts out seeming quite simple. WebLogic Suite is priced at $45,000 per processor. This is listed clearly under the “Per Processor” pricing metric column heading of the Technology Price List. However, the same price list later re-defines “processor” as:

**Processor:** The number of required licenses shall be determined by multiplying the total number of cores of the processor by a core processor licensing factor specified on the Oracle Processor Core Factor Table which can be accessed at http://oracle.com/contracts.

For example, if a customer has an Intel Xeon processor with 4 cores they would multiply $45,000 per core x 4 cores x the core processor licensing factor (0.50 in this case—see the Oracle Processor Core Table on the next page). So the total for a single midrange processor like this is really $90,000 for WebLogic Suite alone. To this, the cost of the database would be added, to fill out the solution set when comparing to VMware vFabric Suite Advanced.

---

Adding a very rudimentary database such as Oracle MySQL Enterprise Edition, which is priced at $5,000 per server with eight cores would cost $625 per core. This math is extremely Oracle-
friendly, in that it is a one-year subscription duration rather than a perpetual license as we’ve used for other products. This is the comparable used in this analysis due to the fact that Oracle doesn’t offer a perpetual license for this product. For Oracle MySQL, Oracle offers only subscription—not perpetual—licensing. For the other products in our comparison, Oracle offers perpetual licenses, but not subscription licenses. Oracle bought Sun in 2009, so it’s time for them to assimilate the pricing and licensing models with other Oracle products.

Anecdotal evidence suggests that companies running an Oracle database on a vSphere host pay for all processors on that host. Even if that company is running the database in a VM that only uses a fraction of the vSphere host’s compute cycles. Not only is this kind of policy unfair, it’s a throwback to the inferior box-based pricing metrics of the 1980s and 1990s. This correlates poorly to value delivered.

Overall, Oracle’s application server pricing structure supports and reflects its go-to-market strategy. Oracle has high prices in this area—approximately eight times higher than VMware and four times IBM, depending on configuration. Interviews we conducted suggest that Oracle will discount to win business. So, an opaque, complex pricing structure with high price levels may be a strategic decision, optimizing profitability on a per-deal basis; the trade off being the company risks being perceived as being difficult to do business with.

It is also interesting that Oracle is working to facilitate unit sales of its Sun Exadata and Exalogic hardware servers, making the software running on those servers relatively cheap—compared with IBM, HP or Dell servers. Meaning, Oracle uses pricing differentials to make running Oracle app server products a more expensive proposition if they are running on IBM, HP or Dell servers, compared to running the software on Oracle Sun servers. This is illustrated in the Oracle Core Processor table above. A cunning strategy to accelerate Oracle Sun servers, but this may be perceived as unfair by customers who realize what Oracle is doing.

14 Oracle MySQL subscription pricing

15 Source: Oracle Factor Table, Redwood Analysis.
7. Licensing & Soft Cost Differences

This section highlights the differences between the application server vendors on six attributes. What do we mean by licensing and soft costs (versus hard costs)? This section—Licensing & Soft Costs—focuses on how products are licensed, what metrics are used, how clear or opaque vendors’ licensing policies are and how these licensing policies may affect companies’ costs. Soft costs are those which are difficult to quantify or costs which may vary so much company-by-company that it is better to take a qualitative approach in describing them than a quantitative one. Redwood will use industry expertise to give an order of magnitude estimate of how these costs will affect customers, but actual quotes and discounts will vary.

These soft costs can be contrasted with hard costs, which are much less subjective and variable.

7.1. Evaluating Vendors across 6 Pricing Best-Practices Attributes

In evaluating vendors across these six key attributes, we are not only advising vendors on how to price to win, but also highlighting how customers might be advantaged or disadvantaged in ways that are not always readily apparent. Sometimes, purposefully so.

Price to Win

Likely the attribute customers care most about—it is also a measure of how serious vendors are about winning in the app server space. VMware has priced to penetrate this space, while Oracle and IBM are priced to maximize profit per customer. The IBM WebSphere product line is priced about double VMware vFabric Suite Advanced, while Oracle is about eight times the VMware price—depending on the customer configuration.
Examples of these costs are in the Hard Costs section below.

**Value Based**

This attribute measures how well cost is aligned with value received. How well that value is correlated with the price of a product. This has much to do with vendors’ selection of a value-based pricing metric.

VMware has done an innovative job of selecting a creative and relevant pricing metric—VMs—that scales up and down with value customers receive. It also jibes well with the new virtualized world most customers are moving toward. The processor-based pricing metrics used for Oracle WebLogic and IBM WebSphere don’t correlate as well with the value delivered by their software, depending on whether customers use the full or partial processing capacity of these processors. With Oracle WebLogic or IBM WebSphere customer, they might license a use of software on a processor but never use it. They would still be charged, of course. That wouldn’t be the case with a VMware vFabric Suite customer. That example is illustrative of how value and price should correlate.

*Example:*

*A customer with an eight-core server but only running applications on a VM using four cores needs to license all eight cores if they licensing IBM or Oracle technology. VMware would require customers only to license the capacity utilized.*

**Fair**

VMware’s vFabric pricing structure also wins regarding fairness. VMware’s policy of charging based on the average usage rather than the peak usage over the term of the contract is revolutionary. It dramatically raises the bar in this area. Pricing based on average usage rather than peak usage may decrease the cost of an app server suite by approximately 50%-70% depending on the company.16

Examples of how this might affect the costs to IT departement are:

- Workload fluctuation. Fluctuating application workloads related to business cycles such as demand-driven marketing promotions or seasonal upticks in sales for retailers.

16 Source: Redwood Consulting Estimate
- Testing. Variable requirements from load testing – write tests, run tests, analyze results, improve code, repeat cycle;

- Disaster recovery. Setting up disaster recover sites, and warm standby sites, where you might have just a few copies of your middleware running, to be replicated broadly in case of a failure. Oracle charges for disaster recovery instances, even if they are never used.)

This combined with Oracle’s opaque policies of defining their WebLogic pricing metric is processors, then charging on cores by redefining what a “processor” is positions VMware in a leadership role in the fairness attribute.

**Simple**

Simplicity is one of the most important aspects of a strong pricing structure. However, in enterprise software this is a rare characteristic of pricing and licensing. VMware’s pricing is quite simple. Customers simply count the number of VMs they require and license products by multiplying $2,500 by the number of VMs.

Estimating VM requirements is relatively simple: in a VMware study, we found that the number of cores is approximately one vCPU per core. As noted above, VMware vFabric Suite licenses have a maximum of two vCPUs per VM.

Oracle requires looking up the processor price in the price list. Then reading fine print, redefining a processor as a core. Then multiplying the cores time a number looked up in the Oracle factor tables. Then customers need to round up to the next integer. Customers need to do this for every core type and then sum the results. This isn’t a simple approach. The database is also priced separately, so that needs to be calculated separately.
Oracle does keep things simple by bundling the middleware components together to make the purchasing and decision-making process easier; an advantage over IBM’s strategy of *a la carte* selling.

The IBM approach is similar, but lacks Oracle’s redefinition issue. IBM also has a core-power factor table—their PVU pricing. Customers count cores, look up the core PVU value in the PVU table and then multiply these two numbers. Customers that have many types of cores in their processors need to do this for each core type. IBM’s special complexity lies in the fact that it doesn’t have a bundled price for all of these products in its WebLogic product line. Each product has its own price per PVU. This quickly gets unmanageable so IBM has a pricing configurator on its pricing site, but this navigating through the hardware type, processor type, vendor type and several other tree branches is a time-intensive and cumbersome exercise.

**Flexible**

VMware’s pricing policies regarding vFabric Suite are extremely flexible. VMware allows customers to re-assign the VMs licensed to different products within the suite. There are not hardware restrictions. And customers can use multiple products within a VM. VMware also allows customers to ramp up and ramp down use according to business requirements.

Oracle and IBM tie licenses to hardware processors and pricing is determined by cores within those processors. If customers who want to trade out products need to license additional cores for the new product while the old product goes unused. This approach isn’t surprising, as it’s typical of enterprise software licensing.

The hardware-based pricing metric that IBM and Oracle use has another disadvantage. As customers migrate to newer, more powerful hardware, Oracle and IBM require them to re-license their software. So, as CPUs become more powerful (consider Moore’s law of power doubling every two years) and as companies pack more cores onto each CPU to conserve rack space real estate, IBM and Oracle customers will need to re-license software to remain in compliance. Because VMware licenses per-VM, it doesn’t require customer to do this.

VMware is changing the game, trying to establish a foothold in this nascent cloud applications development and deployment market before the incumbent vendors do. Its flexible approach may well influence customers buying decisions or at least change the rules of the game as customers are increasingly exposed to this reasonable approach.
A flexible license structure, which allows fluidity of exchanging the amounts of products licensed, will also enable companies to realign resources with requirements more quickly. This has implications for IT as they move from a traditional waterfall development methodology to agile development methodology.

If licensing is bound to each server type, companies can easily buy too much of one server type (e.g. web server), and too little of another server type (e.g. application server). If licensing is fluid, then an app team has the flexibility to shift licensing among the different tiers as needed as they collect data on which tiers are over provisioned, and which are under provisioned.

So, fluid licensing enables agile deployment, which reduces time to market, all of which delivers some competitive advantage to corporate users and customers.

**Solution-Based**

Solution-based pricing requires vendors look at their solutions from a customer perspective. To view their software as a solution to customer pain and make it simple to solve customer problems. Vendors can do this by bundling products; by including upgrades and support in the product price; or by offering subscription pricing as well as perpetual pricing options.

VMware and Oracle bundle products from their application server product lines into customer-friendly bundles. VMware includes a database, while Oracle makes customers license it separately. But this is a small issue compared to IBM, which simply has dozens of products in its WebSphere product line, requiring prospective customers to read volumes of product literature to determine out which products may be most appropriate.

IBM is alone, though in including no-charge first-year maintenance and support in its perpetual pricing, though virtually all customers need this. The IBM approach understands that including support is a win-win. It facilitates the resolution of customer issues and forges a stronger relationship between IBM and its customers. It also likely solidifies the IBM brand by increasing customer satisfaction.

Although many companies in the software industry have moved to offer subscription pricing alongside their legacy perpetual-cum-maintenance pricing, these three vendors haven’t moved very far toward that solution-oriented model. Oracle is mostly perpetual—offering subscription only with its MySQL product—a leftover from its Sun acquisition. IBM bundles first year support at no charge (and calls it “subscriptions”) with their perpetual licenses. And VMware offers vFabric Suite on a perpetual basis but customers may license its tc Server and web server
products a la carte on a subscription basis. All three vendors should consider introducing subscription pricing to accommodate customers’ OPEX versus CAPEX preferences \(^{17}\); to reduce the barrier to entry for customers; and to charge-as-used—a more solution-based approach.

Overall, Oracle and IBM hold an edge in the Solution-Based pricing attribute, though VMware’s bundling is a step in the right direction.

**Overall**

Overall, VMware’s new pricing and licensing aligns best with business value, is priced to take customers from the industry leaders, is the most fair, simple, and flexible structure. VMware doesn’t fare quite as well in its solution-orientation, mostly because it doesn’t offer subscription pricing not does it include support in its first-year product price.

IBM does a good job on the solution-based offering, a fair job at pricing to win and a poor job offering pricing that is value-based, fair, simple and predictable and flexible. Especially compared to VMware’s policy of allowing customers to exchange VMs running one application for VMs running another.

Oracle has effectively bundled most of the products customers want into an easy-to-buy suite. That is, once customers figure out the core-based pricing factors and the definition issues. Oracle is extremely expensive compared to both IBM and, especially, VMware. More on this in the next section. It is also extremely inflexible in its licensing as tied to cores and processors.

<table>
<thead>
<tr>
<th>Seven-Dimensional Pricing Scorecard</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM WebSphere</td>
</tr>
<tr>
<td>Oracle WebLogic</td>
</tr>
<tr>
<td>VMware vFabric</td>
</tr>
</tbody>
</table>

\(^{17}\) More information: [Wikipedia OPEX versus CAPEX](http://en.wikipedia.org/wiki/OPEX_vs_CAPEX)
8. Hard Cost Differences

This section examines how the actual pricing works out in a real world pricing example. We are considering only the perpetual license cost and first-year maintenance and support costs in this study. In evaluating the cost differences across the three app server product lines it is important to understand the assumptions at work.

The first key assumption regards the number of VMs and the number of cores required. A study of the VMware customer base showed a range of VMs per Core of between 0.91 and 1.59 with an average of 1.16 VMs per core\(^{18}\). We used this in determining the number of cores required as a function of VMs. For example, if a customer needs 116 VMs to run their operation, we would estimate they would require 100 cores (116 VMs) \(\times (1.16 \text{ VMs/core}) = (100 \text{ cores})\).

We also did an analysis of the types of hardware required to run app servers\(^ {19}\), and determined that customers were most often using a server with 2 quad core CPUs.

We found a typical server type was a Dell PowerEdge with an Intel XEON processor. This is the server many VMware customers run and it is the server, processor and core types we used in determining the IBM PVU power of 70. Remember that IBM includes the cost of 1\(^{st}\) year support in its product pricing. However they charge support in the years following. So to get an apples to apples product price across vendors, unbundled the value of support in our comparison.

We were also conservative in determining the Oracle pricing. We priced them out running on a processor with a core factor of 0.50. An example of a processor with this power would be a Dell server with the Intel XEON processor that had two sockets and eight cores. The Oracle MySQL database is priced at $5,000 per server for a one-year subscription. This is a very conservative number, given that competitive databases in this study are licensed on a perpetual basis, and that Oracle’s flagship database is priced significantly higher than MySQL.

We were also conservative in determining IBM pricing, using DB2 Express Edition rather than the more expensive DB2 Enterprise Server or Workgroup Server Editions.

\(\text{\footnotesize\(^{18}\)}\text{ VMware internal report}\)

\(\text{\footnotesize\(^{19}\)}\text{ Source: VMware customer data and Redwood analysis.}\)
Using a very simple example of what the license and support for 100 VMs would be, we determined that would require 85 cores to run. The pricing looks like this:

The price for VMware vFabric is 17% the cost of Oracle. IBM is only 24% the cost of Oracle. Interviews with former Oracle sales executives and former IBM sales executives suggest that Oracle will “discount to win business,” so this may reduce the differential, but the consensus is that Oracle is materially more expensive than either VMware or IBM, both in terms of list pricing and net pricing. VMware and to a lesser extent IBM, provide what retailers tout as, “everyday low pricing”. So, customers of VMware and IBM benefit from lower, more consistent pricing without the pain of drawn-out contract negotiations.
9. Summary

VMware is taking an aggressive, innovative stance in facing off against app server market share leaders, IBM and Oracle. VMware is using a penetration pricing strategy and betting that its product differentiators—its lean architecture, with lightweight, cloud-ready components like Spring Framework, tc Server, and RabbitMQ.—and inexpensive pricing will appeal to IT managers who are developing apps for deployment on public and private clouds, which is essentially a new market.

Overall, VMware’s vFabric Suite is a game-changer—offering an aggressive price point, a pricing model aligned with value delivered; a fluid and flexible pricing structure, allowing customers to switch out licensed VMs from one product for another, independent of underlying hardware, as business requirements change. The metric basis of actual versus peak use is a huge win for customers, as well. If VMware had subscription pricing and included first-year maintenance in the initial price, it would dominate in all categories of pricing and licensing.

IBM offers a reasonable price point for an incumbent, but is not priced to take market share. Instead, IBM must rely on its seasoned sales team to guide customers through its large stable of products to construct solutions out of a wide range of products. The process of identifying each processor type that is running each product in a virtualized world is daunting. This is compounded by the complexities of navigating the IBM online store with its nested trees of products.

Oracle has the most work to do to maintain market share. It is pricing WebLogic Suite is relatively high—extremely high, in fact. Its definition of processors requires deep research of fine print to understand and its typical Enterprise Software Approach to selling WebLogic may make it vulnerable to fast-moving players like VMware with its flexible, customer-friendly approach to winning the cloud development and deployment war. Oracle should be careful about using its tried-and-true sales and pricing approach in the brave new cloud world.
10. Appendix

10.1. About Redwood Consulting Group

Firm History and Background

Redwood Consulting Group is a boutique management consultancy serving the software, high tech and telecommunications industries.

Founded in 2000, Redwood has served companies like Adobe, PeopleSoft, VMware and Boeing on TCO pricing strategy, marketing and channel engagements. Example projects include channel studies, pricing strategy, messaging, branding, alliances, competitive, and TCO engagements.

Redwood is based in San Francisco, California.

Partner Bio

Scott Watenpaugh is the Founder & Principal of Redwood Consulting Group (www.redwoodcg.com), a marketing and management consultancy in San Francisco. Scott’s consulting experience spans 50 clients, including VMware, PeopleSoft, HP, Microsoft, and SAP. Previously, Scott was VP Marketing at LiveVox, an on-demand software company. Scott has also led pricing organizations Mercury Interactive (now HP), Informix (now IBM) and JD Edwards (now Oracle), where he did both pricing strategy and pricing operations work. He worked at McKinsey & Co. as a Software Practice Expert (Engagement Mgr.) and served with the US Peace Corps in Fiji. Scott is President of the Northern California Peace Corps Association.

In addition to being the senior revenue management executive at three companies and completing successful TCO and pricing engagements for 20 companies, Scott has also lectured at the Professional Pricing Society and was a visiting lecturer on software strategy at Cornell University’s business school.

Scott holds an MBA from Cornell University and a BA (honors) from the University of Colorado.
10.2. Methodology

This study was conducted over the course of a year (2011-2012) and was comprised of 30 interviews with:

- Ex-Oracle Sales
- Ex-Oracle Product Management
- Current Oracle Sales
- Ex-IBM WebSphere Sales
- Current IBM Sales – 4 chat sessions
- Current IBM Partner Sales
- Colleagues via LinkedIn
- VMware vFabric Management
- VMware vFabric Sales & SEs
- VMware vFabric Product Management & Marketing
- VMware Core Sales

These sources of information were also consulted:

- Oracle, VMware Features and Functional Specs
- IBM Online Software Catalog
- Oracle Online Store
- Industry Analyst reports

This study is the intellectual property of Redwood Consulting Group and may not be used without express license and consent.