



# SERVER OPERATING SYSTEM LICENSING & SUPPORT COST COMPARISON

---

WINDOWS SERVER 2003, RED HAT ENTERPRISE  
LINUX 3 AND NOVELL/SUSE LINUX 8

May 2004

## Table of Contents

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
OVERVIEW .....	1
BACKGROUND .....	1
RESULTS.....	3
<b>STUDY OVERVIEW.....</b>	<b>1</b>
APPROACH.....	1
SCENARIO DETAILS.....	2
GENERAL ASSUMPTIONS .....	2
<b>ENTERPRISE BUSINESS .....</b>	<b>3</b>
BUSINESS DESCRIPTION .....	3
SERVER PRODUCT, SUPPORT MODEL AND OPTIONS.....	4
DATA AND RESULTS.....	4
ENTERPRISE BUSINESS SUMMARY.....	6
BUSINESS DESCRIPTION .....	7
SERVER PRODUCT, SUPPORT MODEL AND OPTIONS.....	7
DATA AND RESULTS.....	7
MEDIUM BUSINESS SUMMARY .....	9
<b>SUMMARY &amp; CONCLUSIONS.....</b>	<b>9</b>
<b>APPENDIX I – PRODUCT SELECTION MATRIX.....</b>	<b>I</b>
MEDIUM BUSINESS SCENARIO .....	I
ENTERPRISE BUSINESS SCENARIO .....	III
<b>APPENDIX II – DETAILED MICROSOFT PRICING .....</b>	<b>I</b>
<b>APPENDIX III – DETAILED RED HAT PRICING.....</b>	<b>III</b>
<b>APPENDIX IV – DETAILED NOVELL/SUSE PRICING .....</b>	<b>VI</b>

## Executive Summary

### Overview

Many factors are considered when making a network operating system platform decision. While the direct acquisition costs of licensing and support clearly play a role in IT decisions, this study has found – after comparing such costs in medium and enterprise scenarios throughout a five year period – that they do not significantly differentiate the server product offerings from Microsoft, Red Hat or Novell/SUSE.

*This study found that across the representative scenarios examined in medium and enterprise size organizations, the licensing and support costs associated with Windows Server 2003, Novell/SUSE LINUX 8 and Red Hat Enterprise Linux 3 were found to be comparable. Despite the common perception that Linux is free or very inexpensive, Windows Server 2003 was found to be less expensive than one or both of the commercial Linux offerings in several cases.*

The results of this study suggest that organizations looking to make strategic IT decisions should focus not only on direct acquisition and support costs, but also on factors that more significantly differentiate these products, particularly those factors that contribute to overall business value. Areas of differentiation to consider include such factors as value-added functionality, vendor support, productivity advantages, and the costs to deploy, manage and maintain an infrastructure.

### Background

While information technology decisions are based on many factors, the costs associated with software licensing and ongoing vendor support are often of prime concern. Given the importance of short-term direct costs as part of the purchase decision, some organizations are including commercialized Linux distributions in their consideration set based on Linux's reputation as a "free" open source alternative. In order to provide organizations with a set of reference points for evaluating licensing and support costs, Microsoft commissioned BearingPoint to assess and validate a model comparing these costs for Windows Server and two of the most pervasive commercialized Linux distributions, Red Hat Enterprise Linux and Novell/SUSE LINUX (Specific versions included in this comparison are Windows Server 2003 Standard Edition and Enterprise Edition, Red Hat Enterprise Linux ES and AS 3, and SUSE LINUX Standard and Enterprise Server 8).

The model reviewed by BearingPoint is based upon sample customer scenarios, which were developed to illustrate how licensing and support costs vary with organization size, server capability ("standard" versus "high-end") and technical support requirements. Example company profiles for medium and enterprise size companies were used to define scenario requirements. Figure 1 below provides a summary of the example profiles<sup>i</sup>. The values for server and client assumptions are based on data from a server sizing and profiling study conducted by Harte-Hanks<sup>ii</sup> on behalf of Microsoft.

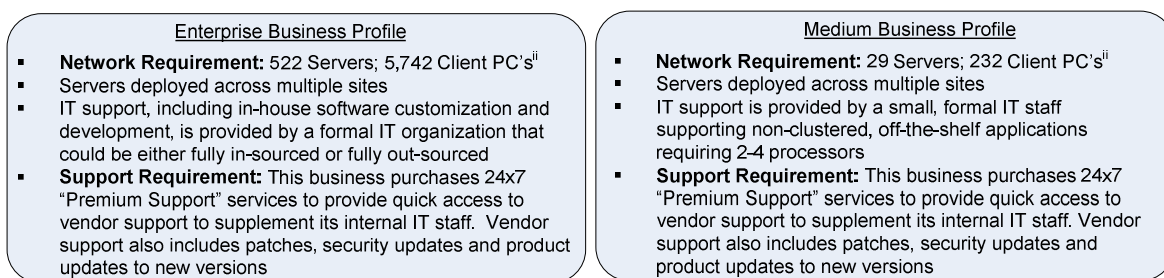


Figure 1: Example Business Profiles

### Scenario Profiles

The company profiles above represent sample organizations and were used to define the number of servers, clients and support requirements for each scenario. In turn, these requirements were used to select product and support options from Red Hat, Novell/SUSE, and Microsoft. For example, the cost estimates for the Enterprise Scenario were based on the following parameters:

- The number of servers and clients. The estimates include licensing costs for 522 servers and 5,742 client PC's<sup>iii</sup>. The number of clients was only relevant for the Windows Server 2003 cost estimates because of Client Access Licenses (CAL), which are not required by Red Hat or Novell/SUSE.
- The number of “high-end” servers and number of “standard” servers in the sample organization. It was assumed that between 0-25% of the servers in the sample organizations are “high-end” (mission critical) servers capable of scaling to 4 or more processors<sup>iv</sup> (see Figure 2: Product Chart Summary). To capture the vendor costs across this 0-25% mission critical range, three cases were developed:
  - 1) **Case 1: 0% “high-end”, 100% “standard” servers**
  - 2) **Case 2: 10% “high-end”, 90% “standard” servers**
  - 3) **Case 3: 25% “high-end”, 75% “standard” servers**

While some organizations may require a larger proportion of “high-end” servers to address more complex or mission critical computing requirements, the 0%, 10% and 25% “high-end” server cases were included to provide reference points for comparison.

Vendor	“Standard” Server Product	“High-End” Server Product
Microsoft	Windows Server 2003 Standard Edition	Windows Server 2003 Enterprise Edition
Red Hat	Enterprise Linux ES Standard 3	Enterprise Linux AS Premium 3
Suse	Standard Server 8	Suse Enterprise Server 8

Figure 2: Product Chart Summary

- The availability of phone support provided by the vendor. 24x7 vendor phone support for all servers licensed was assumed. An additional “limited support” estimate requiring only Monday-Friday support was included for Red Hat (see Discussion below).<sup>v</sup>

#### Discussion: Pricing Structures for Vendor-Provided 24x7 Phone Support

Microsoft, Novell/SUSE and Red Hat each provide different pricing programs for technical support. In order to show equivalent vendor costs, the Enterprise and Medium scenarios include a base case that assumes “24x7 phone support for all servers” is purchased by the sample company because this level of support is commonly provided through vendor support contracts.

Since Red Hat’s “annual per-server<sup>vi</sup>” support and software subscription fees are combined, the cost of licensing Red Hat 24x7 phone support on all servers can be prohibitively expensive – costing more than the other vendors by as much as 76% in the Enterprise and 65% in the Medium scenario. Therefore, within the Enterprise and Medium scenarios, an additional Red Hat “limited support” case was added to provide another reference point for comparing licensing and support costs with different server product mixes (“standard” versus “high-end”). Note that while these additional cases do provide references for comparing the costs of licensing, Red Hat phone support covers 9:00 am – 9:00 pm ET, Monday through Friday as opposed to the 24x7 phone support for all servers offered by the other vendors studied.



▪ **Product support**

It was assumed that the vendor cost estimates include software and security updates over the five year period studied. The vendors met the product support requirements via their specific update offerings:

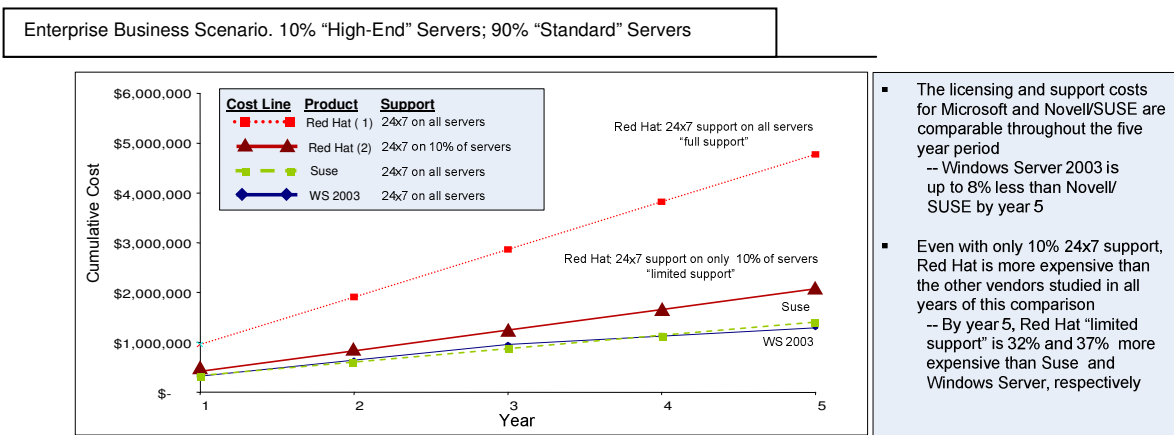
- **Novell/SUSE** (<http://www.suse.com/us/business/services/support/maintenance/index.htmlz>)  
 The annual subscriptions for *Standard* and *Enterprise Server* include access to patches and OS updates. In addition, the subscriptions include OS, source, and documentation ISO images, installation and documentation CD's, printed installation guides and access to online support and knowledge bases.
- **Red Hat** (<http://www.redhat.com/software/rhel/purchase/>)  
 The *Standard* and *Premium* annual subscriptions for Enterprise Linux ES/AS include the Red Hat Network Update Module Service and OS updates. In addition, the subscriptions include OS, source, and documentation ISO images, installation and documentation CD's and printed installation guides.
- **Microsoft** (<http://www.microsoft.com/licensing/programs/sa/default.msp>)  
 The Software Assurance Program for Volume Licensing provides customers with new version rights and the option to spread licensing payments over the first three years. After three years, the customer pays only for the cost of software assurance, which was calculated to be 25% of the original cost of licensing. Software Assurance also provides customers with TechNet Online Concierge, TechNet Plus, Problem Resolution Support, and Extended Lifecycle Hotfix Support.

• **Management and Configuration Add-ons**

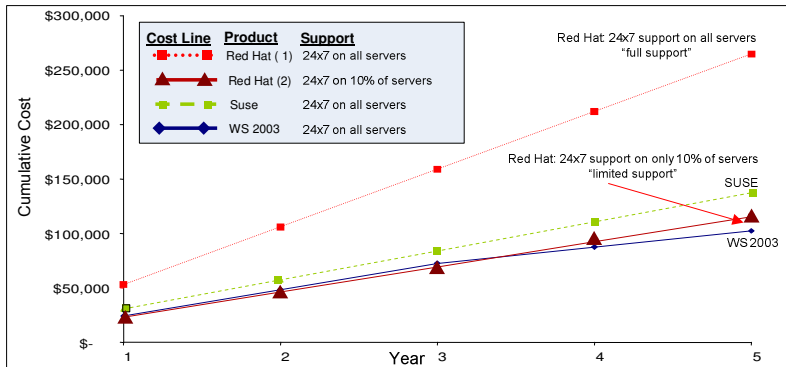
- **Novell/SUSE**  
 Red Carpet Enterprise provides remote update and management capabilities and is included in the SUSE LINUX cost estimate as an initial licensing fee in year 1 followed by annual subscription fees.
- **Red Hat**  
 The Red Hat Network Management Module provides remote update and management capabilities and is included in the Red Hat Enterprise Linux cost estimate as an additional per-server annual fee.
- **Microsoft**  
 Windows Server Management Services, which come free as part of the Windows Server 2003 license provide remote update and management capabilities.

**Results**

The two charts below provide a summary of the results in the Enterprise and Medium business scenarios. The cases presented assume that 10% of the servers are "high-end" and 90% of the servers are "standard". For detailed results of the "100% Standard Server Case" and "25% High-End Server Case", please see the main document body.



Medium Business Scenario. 10% "High-End" Servers; 90% "Standard" Servers



- The licensing and support costs for Microsoft and Red Hat "limited support" are comparable throughout the five year period --Red Hat with 9x5 "limited support" is 5% less than Windows Server with 24x7 support in year 1, while Windows Server is 11% less than Red Hat "limited support" by year 5
- Novell/SUSE is more expensive than Microsoft and Red Hat "limited support" in all years

Note that in both the Medium and Enterprise Business scenarios, the costs associated with Microsoft Windows Server decline after year 3 due to payment features offered as part of Microsoft Software Assurance. Software Assurance and volume licensing allow customers to spread the initial cost of the server and CAL licensing evenly over three years, after which the customer only pays for Software Assurance, which is 25% of the initial cost of licensing.



## Study Overview

While information technology decisions are based on many factors, the acquisition costs associated with software licensing and ongoing vendor support are often of prime concern. Organizations need clarity around software and support pricing so that they can accurately assess both the cost and return of their IT projects. Given the concern about short-term direct costs, organizations sometimes include commercialized Linux distributions in their consideration set based on Linux's reputation as a "free" open source alternative. The purpose of this BearingPoint study is to provide organizations with a set of reference points that can be used to define and compare the direct acquisition and support costs of Windows Server 2003, Red Hat Enterprise Linux 3 and Novell/SUSE LINUX 8.

Microsoft commissioned BearingPoint to evaluate a model that compares the licensing and support costs of Windows Server 2003, Red Hat Enterprise Linux 3 and Novell/SUSE LINUX 8. This study represents BearingPoint's analysis of this cost comparison model, which is focused on the direct costs associated with licensing and support and is not intended to review or compare the Total Cost of Ownership (TCO) of these products. Furthermore, this review does not attempt to make qualitative evaluations of any of the vendors or their products, nor does it claim to provide the lowest possible pricing available from each of the vendors.

## Approach

To address the specific needs of organizations of different size, this analysis evaluates product and support costs common to medium and enterprise size businesses. In addition, the comparison scenarios take into account the need for different levels of support and differences between published and volume pricing. Figure 3 below depicts the scenarios that were considered as part of this study.

Enterprise/Medium Scenarios			
Vendor	Base Case: 100% 'Standard Servers'	10% "High End" Case	25% "High-End" Case
Microsoft	Windows Server 2003 Standard Edition	10 % Windows Server 2003 Enterprise Edition; 90% Standard Edition	25 % Windows Server 2003 Enterprise Edition; 75% Standard Edition
Novell/SUSE	Standard Server 8	10% Enterprise Server 8; 90% Standard Server 8	25% Enterprise Server 8; 75% Standard Server 8
Red Hat	Red Hat "limited support" estimate		
	No 24x7 support	10% 24x7 phone support	25% 24x7 phone support
	Enterprise Linux 3 ES	10% Enterprise Linux 3 AS Premium; 90% ES Standard	25% Enterprise Linux 3 AS Premium; 75% ES Standard
	Red Hat "full support" estimate		
	24x7 on all servers	24x7 on all servers	24x7 on all servers
100% Enterprise Linux 3 AS Premium	100% Enterprise Linux 3 AS Premium	100% Enterprise Linux 3 AS Premium	

Figure 1: Scenario Overview



The scenarios are further defined in Figure 2 below, including the number of servers and client PC's assumed in each sample organization profile.

### Scenario Details

Business Type	Servers Deployed	Clients	Support Options
Medium Business	29	232	Extended 24/7 vendor support required for all deployed servers. * Except for Red Hat "limited support"
Enterprise Business	522	5,742	Extended 24/7 vendor support required for all deployed servers. * Except for Red Hat "limited support"

Figure 2: Scenario Details

#### “Full Support” Estimate

In order to show equivalent vendor costs, the Enterprise and Medium Business scenarios include a base case that assumes “24x7 phone support for all servers” is purchased by the sample company because this level of support is commonly provided through vendor support contracts. Since Red Hat 24x7 phone support is only offered in the AS Premium contract, customers must pay for a Red Hat AS Premium contract on any server that they wish to cover with 24x7 phone support – even if the Linux ES product could have fulfilled the functional requirements of the server role. Therefore, the cost of licensing Red Hat 24x7 phone support on all servers can be prohibitively expensive – costing more than the other vendors by as much as 76% and 65% in the Enterprise and Medium Business scenarios, respectively.

#### “Limited Support” Estimate

As a means of showing a balanced comparison between the vendors, the Enterprise Business scenario includes an additional Red Hat “limited support” cost estimate for each case. The “limited support” cost estimate includes a requirement for support only on mission critical servers. For example, in the 10% “High-End” Case, the “limited support” cost estimate includes Red Hat’s AS Premium support for only 52 out of 522 servers in the Enterprise and 3 out of 29 servers in the Medium scenario. Note that while these additional cases do provide references for comparing the costs of licensing, Red Hat phone support covers 9:00 am – 9:00 pm ET, Monday through Friday as opposed to the 24x7 phone support for all servers offered by the other vendors studied. Cumulative costs for Microsoft and Novell/SUSE remain unchanged since they offer support on a contract basis for all servers.

### General Assumptions

For each of the business type scenarios analyzed, the following basic assumptions have been made:

- Software is legally licensed. All servers deployed are fully authorized and/or licensed in compliance with the vendor’s terms.
- Server role independent. Given that the scope of this study is limited to direct acquisition and support costs, it does not take into account specific server roles or workloads.

- Hardware is equivalent. Hardware used to deploy the selected server platform in each scenario is equivalent. Although minimum recommended requirements may vary from platform to platform, this analysis assumes a new deployment of networked services with a useful life that spans the 5 year period under consideration.
- Education & Government are not considered. Tax exempt, non-profit, educational or other special entities that may qualify for special pricing schemes were not considered given that their requirements and pricing options are unique and beyond the scope of this comparison.
- Organization sizes based on 3<sup>rd</sup> party research. Assumptions defining the total number of servers and clients used in each business size scenario are based upon the mean statistics gathered through a research study performed by a custom market research team at Harte-Hanks<sup>vii</sup>. These server and client definitions do not represent each unique organization, but serve as a reference point for comparison.
- Not a TCO study. This study does not consider the cost of acquiring and deploying or maintaining infrastructure or applications. The scope of this comparison focused strictly on the costs of licensing and direct vendor support.
- Multi-level pricing. Each vendor offers its products under different pricing models and schemes that provide for volume discounting. The Medium and Enterprise scenarios do not include cases for published pricing because organizations buying at the volumes defined within these scenarios would most likely work directly with the vendor or through a partner to receive reduced pricing. It should be noted that such pricing is provided for comparison purposes only and that under each case, no price negotiations were pursued. Quoted pricing is based on a single meeting between BearingPoint and representatives of each vendor or a partner and does not represent negotiated market pricing. The pricing scenarios for each vendor are outlined in the table below:

Vendor	Published Price	Quoted Price*
Microsoft	Represents the published "off-the-shelf" purchase price.	Represents scenario-specific pricing obtained from Microsoft sales associate
Red Hat or SuSE	Represents published pricing collected from vendor website as of April, 2004 or as provided via vendor quote.	Represents scenario-specific pricing obtained from vendor sales associate

Figure 3: Pricing Levels

\* Note: Data and conclusions provided in this study are based on quoted prices because organizations ordering in quantities described in the medium and enterprise scenarios would most likely not pay the published price, rather they would obtain special pricing through the vendor or partner.

## Enterprise Business

### Business Description

In order to facilitate comparison between Windows Server 2003, Red Hat Enterprise Linux and Novell/SUSE LINUX, the enterprise business scenario defines a sample enterprise business with the following profile:

- Server licensing costs for 522 servers and 5,742 client PC's<sup>viii</sup>
- Between 0-25% of servers in the organization are mission critical servers capable of scaling to 4 or more processors<sup>ix</sup> (see Figure 4: Enterprise Scenario Overview)
- 24x7 vendor phone support for all servers licensed was also assumed

## Server Product, Support Model and Options

Processing power and support requirements are unique to each company. As reference points for comparison, the Enterprise Scenario includes three cases to show how costs vary with a sample organization's server mix ("high-end" vs. "standard").

Enterprise Business Scenarios			
Vendor	Base Case: 100% 'Standard Servers'	10% "High End" Case	25% "High-End" Case
Microsoft	Windows Server 2003 Standard Edition	10 % Windows Server 2003 Enterprise Edition; 90% Standard Edition	25 % Windows Server 2003 Enterprise Edition; 75% Standard Edition
Novell/SUSE	Standard Server 8	10% Enterprise Server 8; 90% Standard Server 8	25% Enterprise Server 8; 75% Standard Server 8
Red Hat	Red Hat "limited support" estimate		
	No 24x7 support	10% 24x7 phone support	25% 24x7 phone support
	Enterprise Linux 3 ES	10% Enterprise Linux 3 AS Premium; 90% ES Standard	25% Enterprise Linux 3 AS Premium; 75% ES Standard
	Red Hat "full support" estimate		
	24x7 on all servers	24x7 on all servers	24x7 on all servers
	100% Enterprise Linux 3 AS Premium	100% Enterprise Linux 3 AS Premium	100% Enterprise Linux 3 AS Premium

Figure 4: Enterprise Scenario Overview

## Data and Results

Figures 5-7 below depict the cumulative cost totals for the vendors across the three server-mix cases. To capture the "full support" and the "limited support" cost estimates for Red Hat, there are two lines representing Red Hat's costs – the uppermost dotted line indicates Red Hat's cost when all servers are required to have 24x7 support, while the lower Red Hat estimate (triangle markers) represents Red Hat's cost when only the "high-end" servers are required to have 24x7 support ("limited support").

When all servers are covered by 24x7 phone support, the cumulative costs for Red Hat far outpace those of Microsoft and Novell/SUSE. Red Hat is over 3x more expensive than the second highest cumulative cost at 3 and 5 years. When the 24x7 vendor support requirement is dropped to only mission critical servers for Red Hat ("limited support" estimate), the licensing and support costs for all three vendors become much more comparable.

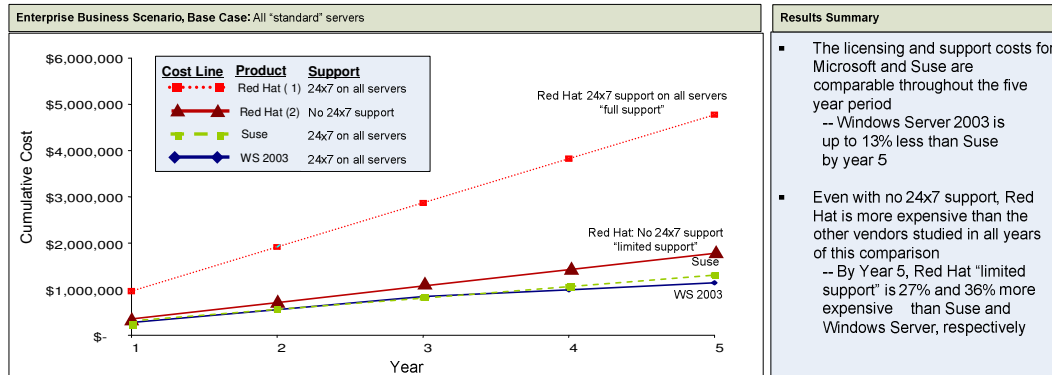


Figure 5: Enterprise Business, Base Case

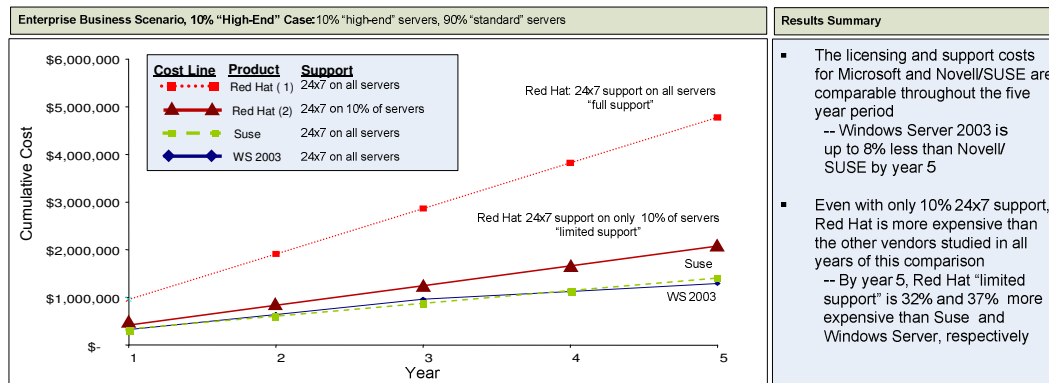


Figure 6: Enterprise Business, 10% "High-End" Server Case

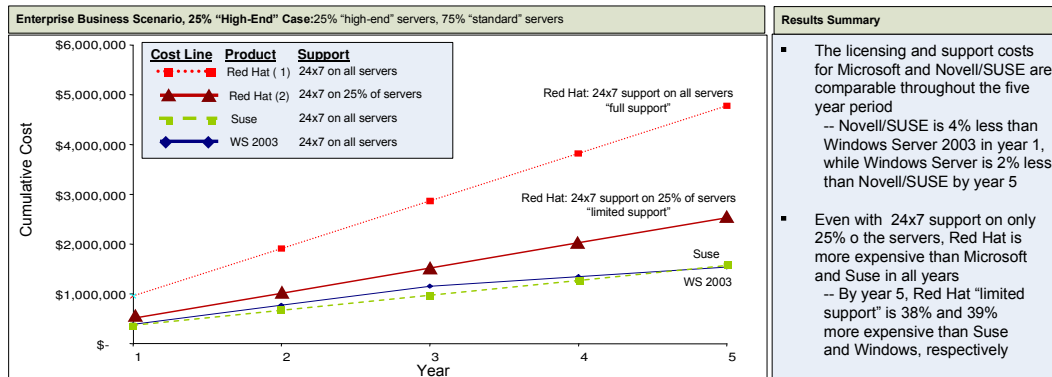


Figure 7: Enterprise Business, 25% "High-End" Server Case

Note that in both the Medium and Enterprise Business scenarios, the costs associated with Microsoft Windows Server decline after year 3 due to payment features offered as part of Microsoft Software Assurance. Software Assurance and volume licensing allow customers to spread the initial cost of the server and CAL licensing evenly over three years, after which the customer only pays for Software Assurance, which is 25% of the initial cost of licensing.

## **Enterprise Business Summary**

While costs vary among vendors based on the scope of support and the pricing level, the results indicate that overall, Microsoft, Red Hat and Novell/SUSE are similarly priced over the five-year comparison. Across the three server-mix cases, Red Hat was more expensive than the other vendors – especially when the sample organization acquired 24x7 phone support on all servers licensed.

## Medium Business

### Business Description

In order to facilitate the comparison between Windows Server 2003, Red Hat Enterprise Linux and Novell/SUSE LINUX, the Medium Business scenario defines a sample medium size business with the following profile:

- Server licensing costs for 29 servers and 232 client PC's<sup>x</sup>
- Between 0-25% of servers in the organization are mission critical servers capable of scaling to 4 or more processors<sup>xi</sup> (see Figure 8: Medium Business Scenario Overview)
- 24x7 vendor phone support for all servers licensed was also assumed

### Server Product, Support Model and Options

As reference points for comparison, the Medium Business scenario includes three cases to show how costs vary with a sample organization's server-mix (the proportion of "high-end" vs. "standard" servers).

Medium Business Scenarios			
Vendor	Base Case: 100% 'Standard Servers'	10% "High End" Case	25% "High-End" Case
Microsoft	Windows Server 2003 Standard Edition	10 % Windows Server 2003 Enterprise Edition; 90% Standard Edition	25 % Windows Server 2003 Enterprise Edition; 75% Standard Edition
Novell/SUSE	Standard Server 8	10% Enterprise Server 8; 90% Standard Server 8	25% Enterprise Server 8; 75% Standard Server 8
Red Hat	Red Hat "limited support" estimate		
	No 24x7 support	10% 24x7 phone support	25% 24x7 phone support
	Enterprise Linux 3 ES	10% Enterprise Linux 3 AS Premium; 90% ES Standard	25% Enterprise Linux 3 AS Premium; 75% ES Standard
	Red Hat "full support" estimate		
	24x7 on all servers	24x7 on all servers	24x7 on all servers
	100% Enterprise Linux 3 AS Premium	100% Enterprise Linux 3 AS Premium	100% Enterprise Linux 3 AS Premium

Figure 8: Medium Business Scenario Overview

### Data and Results

Figures 9-11 below depict the cumulative cost totals for the vendors across the three server-mix cases. To capture the "full support" and the "limited support" cost estimates for Red Hat, there are two lines representing Red Hat's costs – the uppermost dotted line indicates Red Hat's cost when all servers are required to have 24x7 support, while the lower Red Hat estimate (triangle markers) represents Red Hat's cost when only the "high-end" servers are required to have 24x7 phone support ("limited support"). Therefore, the base support estimate represents a significant increase in cumulative costs relative to the "limited support" estimate at each point during the 5-year period. The two Red Hat support estimates represent reference points for comparison – actual support requirements depend on the specific needs of each organization. Cumulative costs for Microsoft and Novell/SUSE remain unchanged since they offer support on a 24x7 contract basis for all servers.

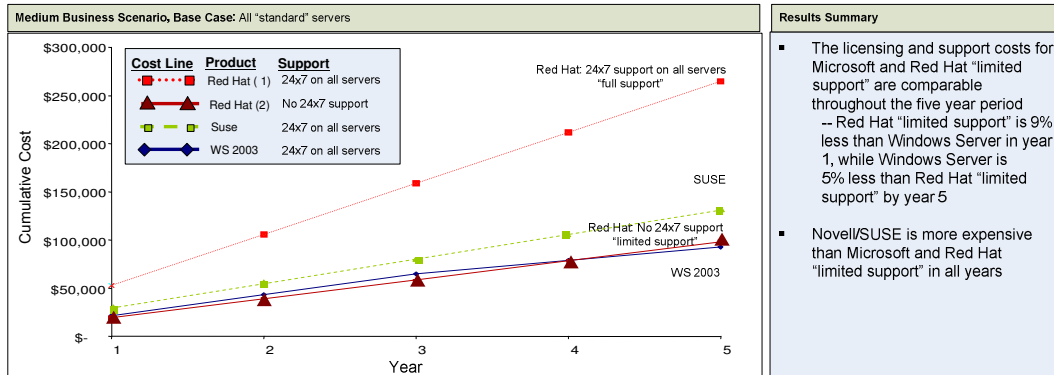


Figure 9: Medium Business, Base Case

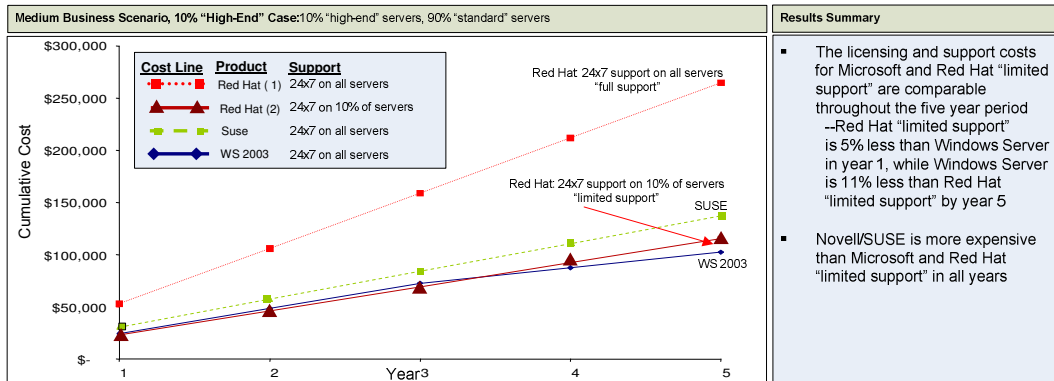


Figure 10: Medium Business, 10% "High-End" Server Case

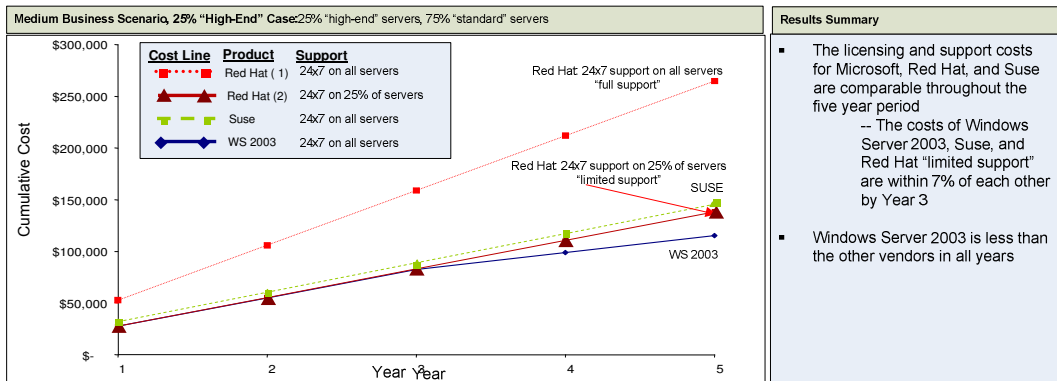


Figure 11: Medium Business, 25% "High-End" Server Case

Note that in both the Medium and Enterprise Business scenarios, the costs associated with Microsoft Windows Server decline after year 3 due to payment features offered as part of Microsoft Software Assurance. Software Assurance and volume licensing allow customers to spread the initial cost of the server and CAL licensing evenly over three years, after which the customer only pays for Software Assurance, which is 25% of the initial cost of licensing.

## **Medium Business Summary**

As the Medium Business scenario illustrates, the direct acquisition costs of licensing and support do not differentiate Windows Server 2003, Red Hat Enterprise Linux 3 or SUSE LINUX 8. As a result, medium size companies should consider their needs beyond the costs of acquisition and direct vendor support when selecting a server operating system platform. Note that the Red Hat “limited support” estimates were comparable to the other vendors, while the Red Hat “full support” estimate was significantly more expensive.

## **Summary & Conclusions**

Many factors should be considered when making a network operating system platform decision. While the acquisition costs associated with licensing and support should be evaluated, this study has found after comparing the cumulative costs within medium and enterprise scenarios over a five year period that those costs do not significantly differentiate Windows Server 2003, Red Hat Enterprise Linux 3 or Novell/SUSE LINUX 8. Therefore, as organizations look to make strategic IT decisions, this data suggests that they will want to focus on factors that more significantly differentiate these products, particularly those factors that contribute to overall business value. Areas of differentiation to consider include such factors as value-added functionality, vendor support, productivity advantages, and the costs to deploy, manage and maintain an infrastructure.

## Appendix I – Product Selection Matrix

### Medium Business Scenario<sup>1</sup>

Subject	Windows Server 2003	Red Hat Linux	Novell/SUSE Linux
Number of Servers Deployed	<ul style="list-style-type: none"> <li>• 26 Non-mission critical</li> <li>• 3 Mission critical (10%)</li> </ul>	<ul style="list-style-type: none"> <li>• 26 Non-mission critical</li> <li>• 3 Mission critical (10%)</li> </ul>	<ul style="list-style-type: none"> <li>• 26 Non-mission critical</li> <li>• 3 Mission critical (10%)</li> </ul>
Non-mission Critical Product	Standard Server for non-mission critical applications and services	Enterprise Linux ES Standard Edition for non-business critical applications and services	Standard Server for non-mission critical applications and services
Selection Rationale	Messaging, collaboration, etc... decisions deemed to be separate from platform decisions within this environment. 2 processor, non-clustered support deemed adequate for non-mission critical applications and services.	Red Hat's service/pricing model bundles support with the selected server platform subscription. Standard 12x5 phone support is deemed adequate for non-mission critical applications and services in this environment. 2 processor, non-clustered support deemed adequate for non-mission critical applications and services.	2 processor, non-clustered support deemed adequate for non-mission critical applications and services.
Max CPU Supported/Deployed	Up to 4/2 Deployed	Up to 2/2 Deployed	Up to 2/2 Deployed
Extended Support Options Included in Pricing Model	Support is provided through an annual contract that covers all authorized servers within the environment. Microsoft Essential support was selected for the medium business scenario because it provides 24x7 access to problem resolution support for a fixed number of incidents. Includes access	Support included in ES Server Standard bundle on a per server basis and includes 1 year product support, Mon-Fri 9am-9pm (North America), 9am-5pm (rest of world) support with 4 hour response (unlimited incidents), 1 year Red Hat Network subscription	Support is provided through an annual contract that covers all authorized servers within the environment. Premium 2000 service was selected for the Medium Business scenario because it provides 24x7 access to problem resolution support for a fixed number of incidents and provides a maximum of

<sup>1</sup> Number of servers and clients based upon "Profiling Business Server Environments", January 2004. Research with 940 US-based businesses conducted by a custom market research team at Harte-Hanks.

Subject	Windows Server 2003	Red Hat Linux	Novell/SUSE Linux
	to a Technical Account Specialist during business hours for case monitoring and escalation management and a fixed number of hours of infrastructure support assistance.		2 hours response time. This is the lowest level support contract that provides 24x7 support.
Mission Critical Product	Windows Server 2003, Enterprise Edition	Enterprise Linux AS 3 Premium Edition	Enterprise Server 8
Selection Rationale	Provides greater number of CPU support than Standard server for mission critical applications and services.	Provides greater than 2 processor capability for mission critical applications and services. Also 24x7 support available only in AS Premium subscription bundle	Provides greater than 2 processor capability for mission critical applications and services.
Max CPU Supported/Deployed	Up to 8/4 Deployed	Up to 16/4 Deployed	Up to 16/4 Deployed
Extended Support Options Included in Pricing Model	Support contract covers all products deployed. See above.	Support included in AS Server Premium bundle on a per server basis and includes 1 year product support, 24x7 with 1 hour response (unlimited incidents), 1 year Red Hat Network subscription	Support contract covers all products deployed. See above.
Clients	232	232	232
Other Cost Considerations	Client Access Licenses (CAL) are included in accordance with Microsoft Licensing terms. Assumes that client level (versus server level) CALs purchased. Server Management provided through Windows Management Services components, Terminal Services, etc...	Red Hat Network Management Console included to provide scheduled updates and server management through a single console	Red Carpet management tool included to provide scheduled updates and server management through a single console

## Enterprise Business Scenario<sup>2</sup>

Subject	Windows Server 2003	Red Hat Linux	Novell/SUSE Linux
Number of Servers Deployed	<ul style="list-style-type: none"> <li>• 470 Non-mission critical</li> <li>• 52 Mission critical (10%)</li> </ul>	<ul style="list-style-type: none"> <li>• 470 Non-mission critical</li> <li>• 52 Mission critical (10%)</li> </ul>	<ul style="list-style-type: none"> <li>• 470 Non-mission critical</li> <li>• 52 Mission critical (10%)</li> </ul>
Clustered Server Deployments	Two 2 Node Clusters (4 total clustered nodes included in total mission critical servers deployed noted above)	Two 2 Node Clusters (4 total clustered nodes included in total mission critical servers deployed noted above)	Two 2 Node Clusters (4 total clustered nodes included in total mission critical servers deployed noted above)
Non-mission Critical Product	Standard Server for non-mission critical applications and services	Enterprise Linux ES Standard Edition for non-business critical applications and services	Standard Server for non-mission critical applications and services
Selection Rationale	2 processor support, non-clustered support deemed adequate for non-mission critical applications and services.	Red Hat's service/pricing model bundles support with the selected server platform subscription. Standard 12x5 phone support is deemed adequate for non-mission critical applications and services in this environment. 2 processor, non-clustered support deemed adequate for non-mission critical applications and services.	2 processor, non-clustered support deemed adequate for non-mission critical applications and services.
Max CPU Supported/Deployed	Up to 4/2 Deployed	Up to 2/2 Deployed	Up to 2/2 Deployed
Extended Support Options Included in Pricing Model	Support is provided through an annual contract that covers all authorized servers within the environment. Microsoft Premier support was selected for the medium	Support included in ES Server Standard bundle on a per server basis and includes 1 year product support, Mon-Fri 9am-9pm (North America), 9am-5pm (rest of world) support with	Support is provided through an annual contract that covers all authorized servers within the environment. Premium 3000 ASE service was selected for the Enterprise Business

<sup>2</sup> Number of servers and clients based upon "Server Taxonomy 2004: Market Sizing and Profiling", January 2004. Research conducted by a custom market research team at Harte-Hanks.

Subject	Windows Server 2003	Red Hat Linux	Novell/SUSE Linux
	Enterprise scenario because it provides 24x7 access to problem resolution support including access to a Technical Account Manager for Case Monitoring and Escalation Management 24x7 and onsite customer visits. Access to Microsoft Premier Online, Rapid Onsite Support Service and Global and Regional Workshops.	4 hour response (unlimited incidents), 1 year Red Hat Network subscription	scenario because it provides 24x7 access to problem resolution support for a fixed number of incidents and provides a maximum of 1 hour response time. In addition to 24x7 access to call center support, Premium 3000 ASE provides 12x5 access to an Advantage Support Engineer for case management and escalation management.
Mission Critical Product	Enterprise Edition	Enterprise Linux AS 3 Premium Edition	Enterprise Server 8
Selection Rationale	Provides greater number of CPU support than Standard server for mission critical applications and services. Also provides cluster capability.	Provides greater than 2 processor capability for mission critical applications and services. Also 24x7 support available only in AS Premium subscription bundle	Provides greater than 2 processor capability for mission critical applications and services. Also provides cluster capability
Max CPU Supported/Deployed	Up to 8/8 Deployed	Up to 16/8 Deployed	Up to 16/8 Deployed
Extended Support Options Included in Pricing Model	Support contract covers all products deployed. See above.	Support included in AS Server Premium bundle on a per server basis and includes 1 year product support, 24x7 with 1 hour response (unlimited incidents), 1 year Red Hat Network subscription	Support contract covers all products deployed. See above.
Clients	5,742	5,742	5,742
Other Cost Considerations	Client Access Licenses (CAL) are included in accordance with Microsoft Licensing terms. Assumes that client level (versus server level) CALs purchased. Server	Red Hat Network Management Console included to provide scheduled updates and server management through a single console. Also includes cost for clustering	Red Carpet management tool included to provide scheduled updates and server management through a single console.

<b>Subject</b>	<b>Windows Server 2003</b>	<b>Red Hat Linux</b>	<b>Novell/SUSE Linux</b>
	Management provided through Windows Management Services, Terminal Services, etc...	services for 4 clustered nodes.	



## Appendix II – Detailed Microsoft Pricing

### Example: Microsoft Detail Pricing Worksheet For 10% “High-End”, 90% “Standard” Server Case

#### Microsoft Detailed Pricing

	Medium Business			Enterprise Business		
	Quant	Published	Quoted	Quant	Published	Quoted
<b>Year 1</b>						
Standard Edition Licenses	26	25,974	5,261	470	469,530	81,310
Enterprise Edition Licenses	3	11,997	2,042	52	207,948	32,951
Add'l Client Access Licenses	232	9,280	1,933	5742	229,680	40,194
Software Assurance	N/A	-	6,927	N/A	-	115,841
Essential Support	N/A	8,000	8,000	N/A	-	-
Premiere Support	N/A	-	-	N/A	50,000	50,000
<b>Year 1 Totals</b>		\$ 55,251	\$ 24,163		\$ 957,158	\$ 320,296
<b>Year 2</b>						
Standard Edition Licenses	26	-	5,261	470	-	81,310
Enterprise Edition Licenses	3	-	2,042	52	-	32,951
Client Access Licenses	232	-	1,933	5742	-	40,194
Software Assurance	N/A	-	6,927	N/A	-	115,841
Essential Support	N/A	8,000	8,000	N/A	-	-
Premiere Support	N/A	-	-	N/A	50,000	50,000
<b>Year 2 Totals</b>		\$ 8,000	\$ 24,163		\$ 50,000	\$ 320,296
<b>Year 3</b>						
Standard Edition Licenses	26	-	5,261	470	-	81,310
Enterprise Edition Licenses	3	-	2,042	52	-	32,951
Client Access Licenses	232	-	1,933	5742	-	40,194
Software Assurance	N/A	-	6,927	N/A	-	115,841
Essential Support	N/A	8,000	8,000	N/A	-	-
Premiere Support	N/A	-	-	N/A	50,000	50,000
<b>Year 3 Totals</b>		\$ 8,000	\$ 24,163		\$ 50,000	\$ 320,296
<b>Year 4</b>						
Standard Edition Licenses	26	\$ 25,974	\$ -	470	469,530	-
Enterprise Edition Licenses	3	11,997	-	52	207,948	-
Client Access Licenses	232	9,280	-	5742	229,680	-
Software Assurance	N/A	-	6,927	N/A	-	115,841
Essential Support	N/A	8,000	8,000	N/A	-	-
Premiere Support	N/A	-	-	N/A	50,000	50,000
<b>Year 4 Totals</b>		\$ 55,251	\$ 14,927		\$ 957,158	\$ 165,841
<b>Year 5</b>						
Standard Edition Licenses	26	-	-	470	-	-
Enterprise Edition Licenses	3	-	-	52	-	-
Client Access Licenses	232	-	-	5742	-	-
Software Assurance	N/A	-	6,927	N/A	-	115,841
Essential Support	N/A	8,000	8,000	N/A	-	-
Premiere Support	N/A	-	-	N/A	50,000	50,000
<b>Year 5 Totals</b>		\$ 8,000	\$ 14,927		\$ 50,000	\$ 165,841
<b>3 Year Totals</b>		\$ 71,251	\$ 72,489		\$ 1,057,158	\$ 960,887
<b>5 Year Totals</b>		\$ 134,502	\$ 102,343		\$ 2,064,316	\$ 1,292,569

Note: The cost calculations for the Microsoft '10% "high-end" servers, 90% "standard" servers case' are provided as an example. The Microsoft licensing and support costs for the other cases were calculated similarly – the primary difference being the number of Standard Edition Licenses and Enterprise Edition Licenses

### Microsoft Pricing Components

Item	Description	Published Price	Quoted Price <sup>3</sup>
Windows Server 2003 Standard Edition	Designed for departmental and standard workloads, Windows Server 2003, Standard Edition, delivers intelligent file and printer sharing, more secure Internet connectivity, centralized desktop policy management, and Web solutions that connect employees, partners, and customers.	\$999 <sup>4</sup>	Medium Scenario: \$607  Enterprise Scenario: \$519
Windows Server 2003 Enterprise Edition	Differs from Standard Edition in its support for high-performance servers and its ability to cluster servers for greater load handling.	\$3,999 <sup>5</sup>	Medium Scenario: \$2,042  Enterprise Scenario: \$1,901
Client Access Licenses (Standard & Enterprise Server)	Per client CAL pricing used for pricing model	\$40 <sup>6</sup>	Medium Scenario: \$25  Enterprise Scenario \$21.25
Essential Support Option (annual cost)	Paid support option that provides 24x7 access to problem resolution support for a fixed number of incidents. Includes access to a Technical Account Specialist during business hours for case monitoring and escalation management and a fixed number of hours of infrastructure support assistance	\$8,000 <sup>6</sup>	\$8,000 <sup>6</sup>
Premier Support Option (annual cost)	24x7 access to problem resolution support including access to a Technical Account Manager for Case Monitoring and Escalation Management 24x7 and onsite customer visits. Access to Microsoft Premier Online, Rapid Onsite Support Service and Global and Regional Workshops.	\$50,000 <sup>7</sup>	\$50,000 <sup>8</sup>
Software Assurance	Subscription based program that allows customers to upgrade to newer versions of the server operating system of a like version (e.g. Standard upgrade to Standard.	Pricing is calculated as 25% of server license cost paid annually. Selecting this option also allows the purchaser to pay the initial licensing fee in three equal installments over three years.	

<sup>3</sup> Quoted Price provided directly to BearingPoint based on inquiry with Microsoft Sales representative

<sup>4</sup> Pricing from Microsoft Website as of 3/31/04 <http://www.microsoft.com/windowsserver2003/howtobuy/licensing/pricing.mspx>

<sup>5</sup> Pricing from Microsoft Website as of 3/31/04 <http://www.microsoft.com/windowsserver2003/howtobuy/licensing/pricing.mspx>

<sup>6</sup> Pricing from Microsoft Website as of 3/31/04, calculated as \$799 per 20 CALs = \$40 per CAL (rounded to nearest dollar) <http://www.microsoft.com/windowsserver2003/howtobuy/licensing/pricing.mspx>

<sup>7</sup> Microsoft Quoted Pricing provided by Microsoft Sales representative

<sup>8</sup> Microsoft Quoted Pricing provided by Microsoft Sales representative

## Appendix III – Detailed Red Hat Pricing

### Example: Red Hat Pricing Worksheet For 10% “High-End”, 90% “Standard” Server Case (“Limited Support”)

#### Red Hat Detailed Pricing

	Medium Business			Enterprise Business		
	Quant	Published	Obtained	Quant	Published	Obtained
<b>Year 1</b>						
ES Standard Subscriptions	26	\$ 20,774	\$ 15,574	470	\$ 375,530	\$ 281,530
AS Premium Subscriptions	3	7,497	5,250	52	129,948	91,000
Red Hat Network Mgmt Module	29	2,233	2,233	522	40,194	40,194
Red Hat Clustering Nodes	0	-	-	4	1,996	1,996
<b>Year 1 Totals</b>		\$ 30,504	\$ 23,057		\$ 547,668	\$ 414,720
<b>Year 2</b>						
ES Standard Subscriptions	26	\$ 20,774	\$ 15,574	470	\$ 375,530	\$ 281,530
AS Premium Subscriptions	3	7,497	5,250	52	129,948	91,000
Red Hat Network Mgmt Module	29	2,233	2,233	522	40,194	40,194
Red Hat Clustering Nodes	0	-	-	4	1,996	1,996
<b>Year 2 Totals</b>		\$ 30,504	\$ 23,057		\$ 547,668	\$ 414,720
<b>Year 3</b>						
ES Standard Subscriptions	26	\$ 20,774	\$ 15,574	470	\$ 375,530	\$ 281,530
AS Premium Subscriptions	3	7,497	5,250	52	129,948	91,000
Red Hat Network Mgmt Module	29	2,233	2,233	522	40,194	40,194
Red Hat Clustering Nodes	0	-	-	4	1,996	1,996
<b>Year 3 Totals</b>		\$ 30,504	\$ 23,057		\$ 547,668	\$ 414,720
<b>Year 4</b>						
ES Standard Subscriptions	26	\$ 20,774	\$ 15,574	470	\$ 375,530	\$ 281,530
AS Premium Subscriptions	3	7,497	5,250	52	129,948	91,000
Red Hat Network Mgmt Module	29	2,233	2,233	522	40,194	40,194
Red Hat Clustering Nodes	0	-	-	4	1,996	1,996
<b>Year 4 Totals</b>		\$ 30,504	\$ 23,057		\$ 547,668	\$ 414,720
<b>Year 5</b>						
ES Standard Subscriptions	26	\$ 20,774	\$ 15,574	470	\$ 375,530	\$ 281,530
AS Premium Subscriptions	3	7,497	5,250	52	129,948	91,000
Red Hat Network Mgmt Module	29	2,233	2,233	522	40,194	40,194
Red Hat Clustering Nodes	0	-	-	4	1,996	1,996
<b>Year 5 Totals</b>		\$ 30,504	\$ 23,057		\$ 547,668	\$ 414,720
<b>3 Year Totals</b>		\$ 91,512	\$ 69,171		\$ 1,643,004	\$ 1,244,160
<b>5 Year Totals</b>		\$ 152,520	\$ 115,285		\$ 2,738,340	\$ 2,073,600

Note: The cost calculations for the Red Hat ‘10% “high-end” servers, 90% “standard” servers case’ are provided as an example. The Red Hat licensing and support costs for the other cases were calculated similarly – the primary difference being the number of ES Standard and AS Premium Subscriptions.

## Example: Red Hat Pricing Worksheet For The Red Hat “Full Support” Case

	Medium Business			Enterprise Business		
	Quant	Published	Obtained	Quant	Published	Obtained
<b>Year 1</b>						
ES Standard Subscriptions	0	\$ -	\$ -	0	\$ -	\$ -
AS Premium Subscriptions	29	72,471	50,750	522	1,304,478	913,500
Red Hat Network Mgmt Module	29	2,233	2,233	522	40,194	40,194
Red Hat Clustering Nodes	0	-	-	4	1,996	1,996
<b>Year 1 Totals</b>		\$ 74,704	\$ 52,983		\$ 1,346,668	\$ 955,690
<b>Year 2</b>						
ES Standard Subscriptions	0	\$ -	\$ -	0	\$ -	\$ -
AS Premium Subscriptions	29	72,471	50,750	522	1,304,478	913,500
Red Hat Network Mgmt Module	29	2,233	2,233	522	40,194	40,194
Red Hat Clustering Nodes	0	-	-	4	1,996	1,996
<b>Year 2 Totals</b>		\$ 74,704	\$ 52,983		\$ 1,346,668	\$ 955,690
<b>Year 3</b>						
ES Standard Subscriptions	0	\$ -	\$ -	0	\$ -	\$ -
AS Premium Subscriptions	29	72,471	50,750	522	1,304,478	913,500
Red Hat Network Mgmt Module	29	2,233	2,233	522	40,194	40,194
Red Hat Clustering Nodes	0	-	-	4	1,996	1,996
<b>Year 3 Totals</b>		\$ 74,704	\$ 52,983		\$ 1,346,668	\$ 955,690
<b>Year 4</b>						
ES Standard Subscriptions	0	\$ -	\$ -	0	\$ -	\$ -
AS Premium Subscriptions	29	72,471	50,750	522	1,304,478	913,500
Red Hat Network Mgmt Module	29	2,233	2,233	522	40,194	40,194
Red Hat Clustering Nodes	0	-	-	4	1,996	1,996
<b>Year 4 Totals</b>		\$ 74,704	\$ 52,983		\$ 1,346,668	\$ 955,690
<b>Year 5</b>						
ES Standard Subscriptions	0	\$ -	\$ -	0	\$ -	\$ -
AS Premium Subscriptions	29	72,471	50,750	522	1,304,478	913,500
Red Hat Network Mgmt Module	29	2,233	2,233	522	40,194	40,194
Red Hat Clustering Nodes	0	-	-	4	1,996	1,996
<b>Year 5 Totals</b>		\$ 74,704	\$ 52,983		\$ 1,346,668	\$ 955,690
<b>3 Year Totals</b>		\$ 224,112	\$ 158,949		\$ 4,040,004	\$ 2,867,070
<b>5 Year Totals</b>		\$ 373,520	\$ 264,915		\$ 6,733,340	\$ 4,778,450

Note: The cost calculations for the Red Hat “Full Support” (100% 24x7 Phone Support Estimate) are provided as an example. The Red Hat licensing and support costs for the other cases were calculated similarly – the primary difference being the number of ES Standard and AS Premium Subscriptions.

## Red Hat Pricing Components

Item	Description	Published Price	Obtained Pricing
Red Hat Linux ES Basic	2 CPU version of operating system that provides 30 days basic installation support and 1 year of software updates	\$349 <sup>9</sup>	\$349 <sup>10</sup>
Red Hat Linux ES Standard	2 CPU version of operating system providing 1 year product support, Mon-Fri 9am-9pm (North America), 9am-5pm (rest of world) support with 4 hour response (unlimited incidents), 1 year Red Hat Network subscription	\$799 <sup>11</sup>	\$599 <sup>12</sup>
Red Hat Linux AS Premium	Advanced version of operating system (up to 16 processors supported) providing 1 year product support, 24x7 with 1 hour response (unlimited incidents), 1 year Red Hat Network subscription	\$2,499 <sup>13</sup>	\$1,750 <sup>14</sup>
Red Hat Network Management Module	Provides the functionality needed to help your company lower costs and increase productivity immediately. The Management Module allows you to: -Group systems together for easier administration. Automate formerly manual tasks. -Manage more systems per sys admin, schedule your updates for optimal times, and efficiently search for systems and packages. -Develop custom channels, define role-based permissions and policies, and utilize RHN's API access layer.	\$77 per server <sup>15</sup>	
Red Hat Cluster Suite	Provides companies requiring applications to be highly available, or wishing to improve the performance and availability of their network infrastructure a cluster solution.	\$499 per clustered node <sup>16</sup>	

<sup>9</sup> Pricing from Red Hat Website as of 3/31/04. <http://www.redhat.com/software/rhel/purchase/>

<sup>10</sup> Pricing provided by Red Hat representative on 3/25/04

<sup>11</sup> Pricing from Red Hat Website as of 3/31/04. <http://www.redhat.com/software/rhel/purchase/>

<sup>12</sup> Pricing provided by Red Hat representative on 3/25/04

<sup>13</sup> Pricing from Red Hat Website as of 3/31/04. <http://www.redhat.com/software/rhel/purchase/>

<sup>14</sup> Pricing provided by Red Hat representative on 3/25/04

<sup>15</sup> Pricing obtained from Red Hat Representative on 3/25/04. Published pricing not available. Same pricing used in both Full price and discounted pricing models.



## Appendix IV – Detailed Novell/SUSE Pricing

Example: Novell/SUSE Pricing Worksheet for the ‘10% “High-End”, 90% “Standard” Server Case’

### SuSe Detailed Pricing

	Medium Business			Enterprise Business		
	Quant	Published	Obtained	Quant	Published	Obtained
<b>Year 1</b>						
Standard Subscriptions	26	\$ 10,374	\$ 8,320	470	\$ 187,530	\$ 150,400
Enterprise Subscriptions	3	2,757	2,205	52	47,788	38,220
Media Fee	1	109	109	1	109	109
Red Carpet Management	29	5,800	4,640	522	104,400	83,520
Premium 2000 Support	0	16,000	15,200	0	-	-
Premium 3000 Support	0	-	-	0	65,000	61,750
<b>Year 1 Totals</b>		<b>\$ 35,040</b>	<b>\$ 30,474</b>		<b>\$ 404,827</b>	<b>\$ 333,999</b>
<b>Year 2</b>						
Standard Subscriptions	26	\$ 10,374	\$ 8,320	470	\$ 187,530	\$ 150,400
Enterprise Subscriptions	3	2,757	2,205	52	47,788	38,220
Red Carpet Management	29	1,218	974	522	21,924	17,539
Premium 2000 Support	0	16,000	15,200	0	-	-
Premium 3000 Support	0	-	-	0	65,000	61,750
<b>Year 2 Totals</b>		<b>\$ 30,349</b>	<b>\$ 26,699</b>		<b>\$ 322,242</b>	<b>\$ 267,909</b>
<b>Year 3</b>						
Standard Subscriptions	26	\$ 10,374	\$ 8,320	470	\$ 187,530	\$ 150,400
Enterprise Subscriptions	3	2,757	2,205	52	47,788	38,220
Red Carpet Management	29	1,218	974	522	21,924	17,539
Premium 2000 Support	0	16,000	15,200	0	-	-
Premium 3000 Support	0	-	-	0	65,000	61,750
<b>Year 3 Totals</b>		<b>\$ 30,349</b>	<b>\$ 26,699</b>		<b>\$ 322,242</b>	<b>\$ 267,909</b>
<b>Year 4</b>						
Standard Subscriptions	26	\$ 10,374	\$ 8,320	470	\$ 187,530	\$ 150,400
Enterprise Subscriptions	3	2,757	2,205	52	47,788	38,220
Red Carpet Management	29	1,218	974	522	21,924	17,539
Premium 2000 Support	0	16,000	15,200	0	-	-
Premium 3000 Support	0	-	-	0	65,000	61,750
<b>Year 4 Totals</b>		<b>\$ 30,349</b>	<b>\$ 26,699</b>		<b>\$ 322,242</b>	<b>\$ 267,909</b>
<b>Year 5</b>						
Standard Subscriptions	26	\$ 10,374	\$ 8,320	470	\$ 187,530	\$ 150,400
Enterprise Subscriptions	3	2,757	2,205	52	47,788	38,220
Red Carpet Management	29	1,218	974	522	21,924	17,539
Premium 2000 Support	0	16,000	15,200	0	-	-
Premium 3000 Support	0	-	-	0	65,000	61,750
<b>Year 5 Totals</b>		<b>\$ 30,349</b>	<b>\$ 26,699</b>		<b>\$ 322,242</b>	<b>\$ 267,909</b>
<b>3 Year Totals</b>		<b>\$ 95,738</b>	<b>\$ 83,873</b>		<b>\$ 1,049,311</b>	<b>\$ 869,817</b>
<b>5 Year Totals</b>		<b>\$ 156,436</b>	<b>\$ 137,272</b>		<b>\$ 1,693,795</b>	<b>\$ 1,405,636</b>

Note: The cost calculations for the Novell/SUSE ‘10% “high-end” servers, 90% “standard” servers case’ are provided as an example. The Novell/SUSE licensing and support costs for the other cases were calculated similarly – the primary difference being the number of Standard and Enterprise Subscriptions.

<sup>16</sup> Pricing obtained from Red Hat Representative on 3/25/04 and confirmed on Website as of 3/31/04. Per correspondence with Red Hat, pricing is valid for up to 50 nodes. Pricing beyond 50 nodes is available on a special bid basis. <http://www.redhat.com/software/rha/cluster/>



## Novell/SUSE Pricing Components

Item	Description	Published Price	Quoted Price
Standard Server 8	Version for small organizations and departments. This server operating system handles all tasks expected from a server for smaller IT environments.	\$399 <sup>17</sup>	\$319 <sup>18</sup>
Enterprise Server 8	Advanced version for medium-sized and large enterprises. SUSE LINUX Enterprise Server demonstrates its strengths in the fields of high availability and scalability. In server clusters, SUSE LINUX Enterprise server enables high availability for mission-critical applications (groupware, ERP, databases, e-business, etc.) and network services (file, print, etc.).	\$919 <sup>19</sup>	\$735 <sup>20</sup>
Ximian Red Carpet Enterprise	A powerful and secure Linux software management solution that provides IT administrators and managers with centralized control over Linux software configurations across their server and workstation infrastructures.	\$200 per host (initial purchase) <sup>21</sup> \$42 per host (annual upgrade protection) <sup>22</sup>	\$160 per host (initial purchase) <sup>23</sup> \$34 per host (annual upgrade protection) <sup>24</sup>
Premium 2000 Support	Annual contract that covers all authorized servers within the environment. Premium 2000 service was selected for the Medium Business scenario because it provides 24x7 access to problem resolution support for a fixed number of incidents and provides a maximum of 2 hours response time.	\$16,000 Annually <sup>25</sup>	\$15,200 Annually <sup>26</sup>
Premium 3000 ASE Support	Annual contract that covers all authorized servers within the environment. Premium 3000 ASE service was selected for the Enterprise Business scenario because it provides 24x7 access to problem resolution support for a fixed number of incidents and provides a maximum of 1 hour response time. In addition to 24x7 access to call center support, Premium 3000 ASE provides 12x5 access to an Advantage Support Engineer for case	\$65,000 Annually <sup>27</sup>	\$61,750 Annually <sup>28</sup>

<sup>17</sup> Pricing from quote received from Novell on 3/29/04

<sup>18</sup> Pricing from quote received from Novell on 3/29/04

<sup>19</sup> Pricing from quote received from Novell on 3/29/04

<sup>20</sup> Pricing from quote received from Novell on 3/29/04

<sup>21</sup> Pricing from quote received from Novell on 3/29/04

<sup>22</sup> Pricing from quote received from Novell on 3/29/04

<sup>23</sup> Pricing from quote received from Novell on 3/29/04

<sup>24</sup> Pricing from quote received from Novell on 3/29/04

<sup>25</sup> Pricing provided by Novell on 3/29/04. Discounted pricing assumes 5% discount based upon discussion with Novell representative.

<sup>26</sup> Pricing provided by Novell on 3/29/04. Discounted pricing assumes 5% discount based upon discussion with Novell representative.



Item	Description	Published Price	Quoted Price
	management and escalation management.		
Media Fee	Minimal charged for software media kit	\$109 (total one-time charge) <sup>29</sup>	

## End Notes

<sup>i</sup> "Profiling Business Server Environments"; January 2004 authored by a custom market research team at Harte-Hanks. Report based on survey conducted from August to October, 2003 with 940 US-based businesses that currently had one or more servers and have 5 or more employees

<sup>ii</sup> "Profiling Business Server Environments"; January 2004 authored by a custom market research team at Harte-Hanks. Report based on survey conducted from August to October, 2003 with 940 US-based businesses that currently had one or more servers and have 5 or more employees

<sup>iii</sup> Server licensing fees associated with client PC's only applied to the Microsoft cost calculation because of Microsoft's Windows Client Access License (CAL) requirements. Red Hat and Novell/Novell/SUSE cost calculations did not include fees for client access

<sup>iv</sup> While no scenario required greater than 4 CPUs or clustering services, Microsoft Windows 2003 Server Enterprise Edition was used to price the mission critical servers to provide comparability across the vendors of their high-end product offerings, even though Windows Server 2003 Standard technically fulfilled the requirements of the scenario. Red Hat Server AS and Novell/SUSE LINUX Enterprise Server were considered to be Red Hat's and Novell/SUSE's mission critical server product offerings.

<sup>v</sup> In addition to the Base Support Case, which requires 24/7 support on all servers, a Limited Support Case was developed because Red Hat's annual per server support model did not provide for a satisfactory comparison with 24/7 support on all servers.

<sup>vi</sup> See <http://www.redhat.com/software/rhel/purchase/>; (as of 4/28/04) "Red Hat's Enterprise Linux family of operating systems is available on a per-system, annual subscription basis. The subscriptions are offered in three editions: Basic, Standard, and Premium -- each with varying support levels and delivery options -- so you can choose the subscription combination that best meets the needs of your business.

<sup>vii</sup> "Profiling Business Server Environments", January, 2004. Research conducted by a custom market research team at Harte-Hanks.

<sup>viii</sup> Server licensing fees associated with client PC's only applied to the Microsoft cost calculation because of Microsoft's Windows Client Access License (CAL) requirements. Red Hat and Novell/Novell/SUSE cost calculations did not include fees for client access

<sup>ix</sup> While no scenario required greater than 4 CPUs or clustering services, Microsoft Windows 2003 Server Enterprise Edition was used to price the mission critical servers to provide comparability across the vendors of their high-end product offerings, even though Windows Server 2003 Standard technically fulfilled the requirements of the scenario. Red Hat Server AS and Novell/SUSE LINUX Enterprise Server were considered to be Red Hat's and Novell/SUSE's mission critical server product offerings.

<sup>x</sup> Server licensing fees associated with client PC's only applied to the Microsoft cost calculation because of Microsoft's Windows Client Access License (CAL) requirements. Red Hat and Novell/Novell/SUSE cost calculations did not include fees for client access

<sup>27</sup> Pricing provided by Novell on 3/29/04. Discounted pricing assumes 5% discount based upon discussion with Novell representative.

<sup>28</sup> Pricing provided by Novell on 3/29/04. Discounted pricing assumes 5% discount based upon discussion with Novell representative.

<sup>29</sup> Pricing provided by Novell on 3/29/04. Discounted pricing assumes 5% discount based upon discussion with Novell representative.

---

<sup>xi</sup> While no scenario required greater than 4 CPUs or clustering services, Microsoft Windows 2003 Server Enterprise Edition was used to price the mission critical servers to provide comparability across the vendors of their high-end product offerings, even though Windows Server 2003 Standard technically fulfilled the requirements of the scenario. Red Hat Server AS and Novell/SUSE LINUX Enterprise Server were considered to be Red Hat's and Novell/SUSE's mission critical server product offerings.

PAGE INTENTIONALLY LEFT BLANK