

Linux-Related Technical Support Comparative Study Executive Summary

April 2007

Prepared by



1292 West 12700 South
Riverton, Utah 84065

LINUX-RELATED TECHNICAL SUPPORT COMPARATIVE STUDY EXECUTIVE SUMMARY

In March 2007, Lighthouse Research & Development, Inc., a full-service independent US-based marketing research firm, conducted a research study designed to evaluate customer satisfaction with the Linux-related technical support services provided by Novell, Red Hat, and Oracle.

PROJECT OBJECTIVES

The research is designed to assist IT professionals needing Linux-related technical support to make informed decisions regarding effective support services based on actual experiences of current customers. The research measures customer perceptions and satisfaction with the quality of Linux-related technical support by examining and comparing the services provided to customers by Novell, Red Hat, and Oracle in the past twelve months. The questionnaire was designed to enable clear, statistically valid comparisons of specific aspects of each vendor's Linux-related support services. Specific objectives for this research study were as follows:

- Determine customer usage levels and satisfaction with the delivery of each type of support, including: online, telephone, onsite, and community forums provided by Novell, Oracle, and Red Hat
- Evaluate customer satisfaction with the overall quality of services, level of Linux knowledge and expertise, ease of access, speed of resolution, and effectiveness of resolution for each vendor
- Compare the level of satisfaction customers have with the Linux-related technical support provided by Novell, Red Hat, and Oracle, identifying statistically significant differences
- Define the valued attributes and the areas of improvement of the technical support provided by each of the examined vendors

PROJECT SCOPE

The scope of the research project included the completion of 532 online surveys as a result of sending out over 35,000 email invitations to technical personnel working at companies who had a high probability of using Linux-related technical support services from Novell, Red Hat, and Oracle in the past twelve months. To ensure international participation, respondents were given the opportunity to respond to the survey invitations in one of the four following languages: English, French, Spanish, and Portuguese. The overall statistical confidence level created by the 532 responses from individuals receiving Linux-related technical support services in the past twelve months provides a 95% confidence level with a $\pm 4.2\%$ margin of error.

The online survey results were supported by conducting 37 in-depth follow-up telephone interviews, gathering customer perceptions and opinions of the Linux-related technical support services provided by Novell, Red Hat, and Oracle. This research model

combining quantitative and qualitative methodologies provides the statistical validity of the online study with the greater understanding, detailed reasons, and verbatim customer comments provided by the in-depth interviews.

In consideration of the large differentiation in the segment sizes of users in the dataset, use of the traditional parametric statistical analysis was inappropriate. In order to ensure a valid statistical comparison of the vendors evaluated in the research, a non-parametric equivalent of the ANOVA procedure called the Kruskal-Wallis test was used to analyze ordinal data, and a weighted Chi-Square analysis was used to analyze the categorical data.

KEY RESEARCH RESULTS

Customer Satisfaction Comparison

In evaluating the satisfaction of responding customers with the Linux-related technical service they received, respondents were asked to first rate the overall quality of service received, and then rate several specific aspects of the support services provided by Novell, Oracle, and Red Hat *using a zero-to-ten point scale*. A statistical analysis comparing the average mean scores of customer satisfaction ratings for each aspect of support provides clear indicators of where a vendor's support is perceived to excel, where vendors are performing at a similar level, and where a vendor's support is perceived as less competent than others.

Customers Satisfaction Scores Indicate Superior Performance by One Vendor

The research identified the following three aspects of Linux-related technical support where one vendor's services were distinctly superior to the other two vendors evaluated.

Overall Quality of Service

When asked to rate their satisfaction with the "overall quality of service" received from the examined vendors, respondents rated Novell (7.09 average mean) significantly higher than Red Hat (6.56) and Oracle (6.34). Those respondents using Novell Linux-related services cited the reasons for their satisfaction as: ease of access; good response time; effective resolution, especially within mixed platforms; and competent technician knowledge.

Time to Reach a Phone-based Support Engineer

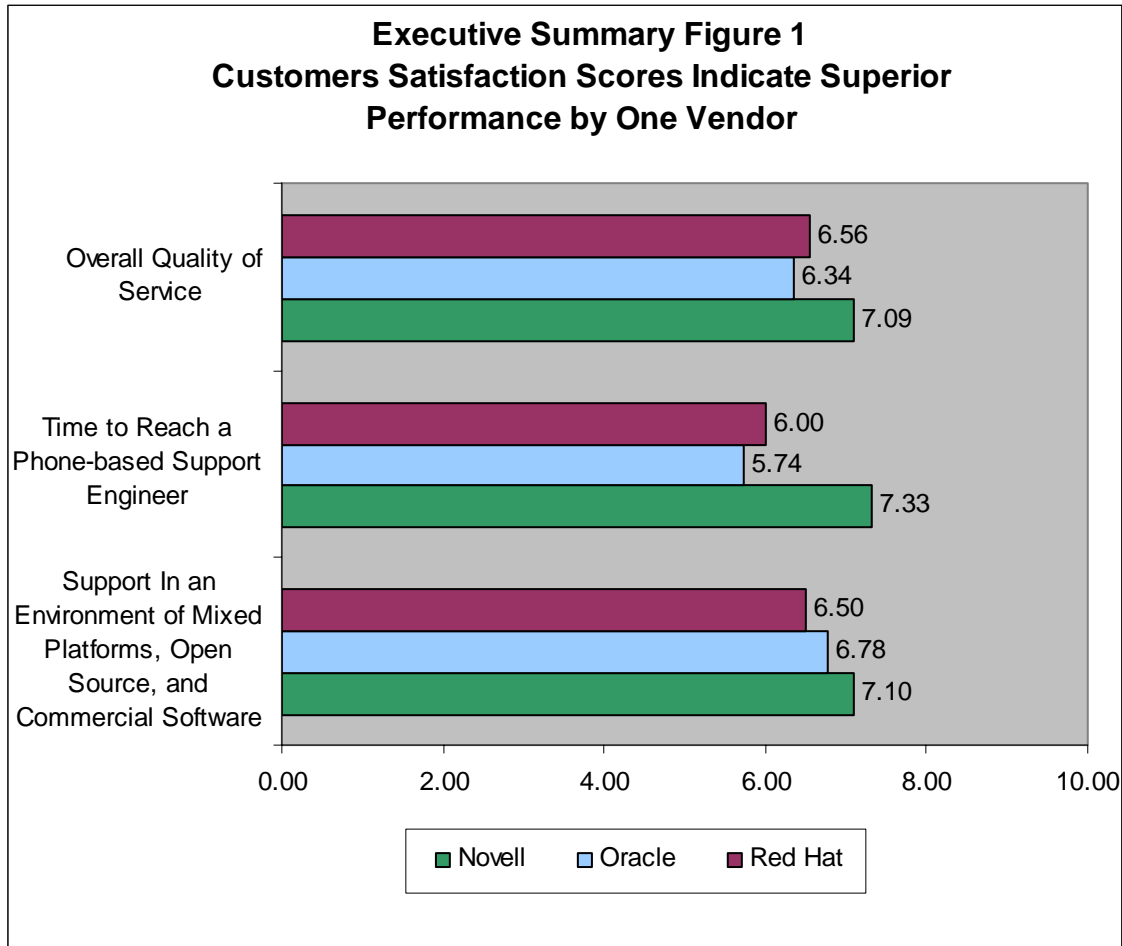
In comparing specific aspects of the various service delivery methods, respondents were asked to rate their satisfaction with telephone-based technical support. Respondents reported being significantly more satisfied with "the time it takes to reach a phone-based Linux support engineer" at Novell (7.33 average mean) than at Red Hat (6.00) or Oracle (5.74). When asked to explain why they rated Novell high in this aspect of support, respondents reported timely responses to their phone requests, with some respondents reporting immediate contact.

Support in an Environment of Mixed Platforms, Open Source, and Commercial Software

In evaluating which vendor best enables the use of mixed platforms, respondents were significantly more satisfied with how Novell (7.10 average mean) supports their Linux-based solutions in an environment of mixed platforms, open source, and commercial software than Red Hat (6.50). Respondents perceive Novell technicians as providing better solutions for mixed platforms and mixed-source environments because their technicians are knowledgeable and are willing to provide assistance on a variety of products.

Customers rated Oracle’s support in an environment of mixed platforms, open source, and commercial software at 6.78. This satisfaction rating fell between the ratings of Novell and Red Hat and is not analytically differentiated from the Linux-related support of either of the other vendors.

Please refer to Executive Summary Figure 1 to provide a visual comparison of the distinctions among customer satisfaction of the three evaluated vendors regarding overall quality of service and two other critical aspects of support previously discussed.



Customers Satisfaction Scores Indicate Equivalent Performance among Vendors

The research results indicated customer satisfaction with Novell and Red Hat's Linux-related technical support services were very similar in the following three areas: Linux knowledge and expertise, proactive nature of the vendor in providing support information and updates, and the ability to support and maintain Linux distribution long-term. Oracle's Linux-related technical support for these same three aspects was rated significantly lower than the other two vendors.

In addition, there is no actual analytical difference among the three vendors regarding the effectiveness of their self-help and web-based support and the time they take to resolve issues through phone-based support.

Linux Knowledge and Expertise

Customers rated their satisfaction with the level of Linux knowledge and expertise the same for Red Hat (7.51 average mean) and Novell (7.51). Overall, these satisfaction scores are the second highest ratings for all of the support aspects evaluated. The reasons customers gave for positive satisfaction ratings for Red Hat's Linux knowledge and expertise included the expertise of their staff, the longevity of their Linux support services, and the magnitude of their resources. The reasons customers gave for rating Novell's Linux knowledge and expertise positively were: effective resolution, technical competency, staff experience, and willing technicians.

Although customers were equally satisfied with the Linux knowledge and expertise of Red Hat and Novell, Oracle's Linux knowledge and expertise (6.80) was rated significantly lower.

How Proactive Vendors are in Providing Linux-related Support Alerts, Updates and Patches

Customers rated their satisfaction with Novell (7.40 average mean) and Red Hat (7.01) in providing proactive Linux-related support alerts, updates, and patches significantly higher than Oracle (6.36). Although the average mean scores between Novell and Red Hat demonstrate some difference, there is no decisive analytical differentiation. Respondents reported Novell's email alerts for updates and patches to be frequent and timely, but suggested more attention to the pertinence of such alerts to the products they use. Respondents using Red Hat Linux-related support services also reported regular, thorough patch delivery and newsletter emails.

Ability to Support and Maintain Linux Distribution Long-term

Again, Red Hat (7.90 average mean) and Novell (7.91) are seen by customers as equivalent in their ability to support and maintain Linux distribution long-term. These two ratings were the highest satisfaction ratings in the research. Red Hat has long been seen as the leader in Linux-related support with wide distribution and large resources. Novell is perceived as a strong, well-established company with good infrastructure and quality distribution.

On average, Oracle's ability to support and maintain Linux distribution long-term was rated significantly lower (6.95) than Red Hat's or Novell's.

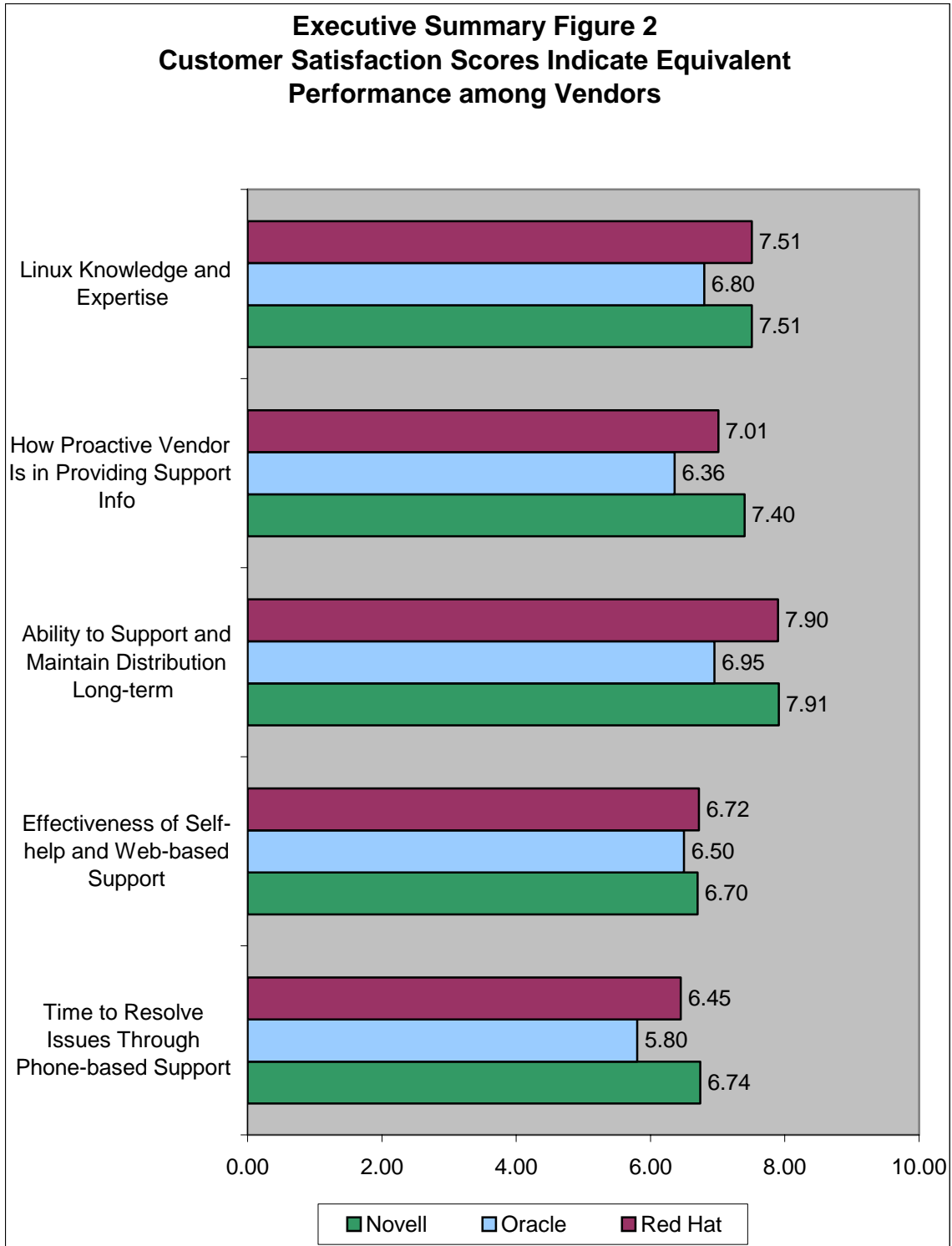
Effectiveness of Self-help and Web-based Support

Based upon the average ratings given by respondents, customers perceive Novell, Red Hat, and Oracle as providing equally effective self-help and web-based support. Customers gave an average mean rating of 6.72 to Red Hat, an average mean rating of 6.70 to Novell, and an average mean rating of 6.50 to Oracle when rating how satisfied they were with the effectiveness of the Linux-related self-help or web-based support they receive from each respective vendor. This illustrates that customers perceive the web-based support of all three vendors as similar, offering no distinction in support.

Time to Resolve Issues through Phone-based Support

In addition, customers have similar satisfaction with the amount of time Novell, Red Hat, and Oracle take to resolve issues through phone-based support. Although there is some apparent difference in satisfaction with the amount of time needed to resolve issues through phone-based support between Novell, Oracle, and Red Hat, this difference is not large enough to indicate actual, reliable higher performance of any one vendor.

Please refer to Executive Summary Figure 2 for a visual illustration of the similarities of customer satisfaction with Linux-related technical support among the vendors examined.



It is important to note that while satisfaction with on-site and dedicated support resources are evaluated within the research, they are not considered key results as the usage of these types of Linux-related technical support across all vendors is low. Therefore, they are not included in the Executive Summary but are available in the Detailed Results.

The Importance of Issue Resolution

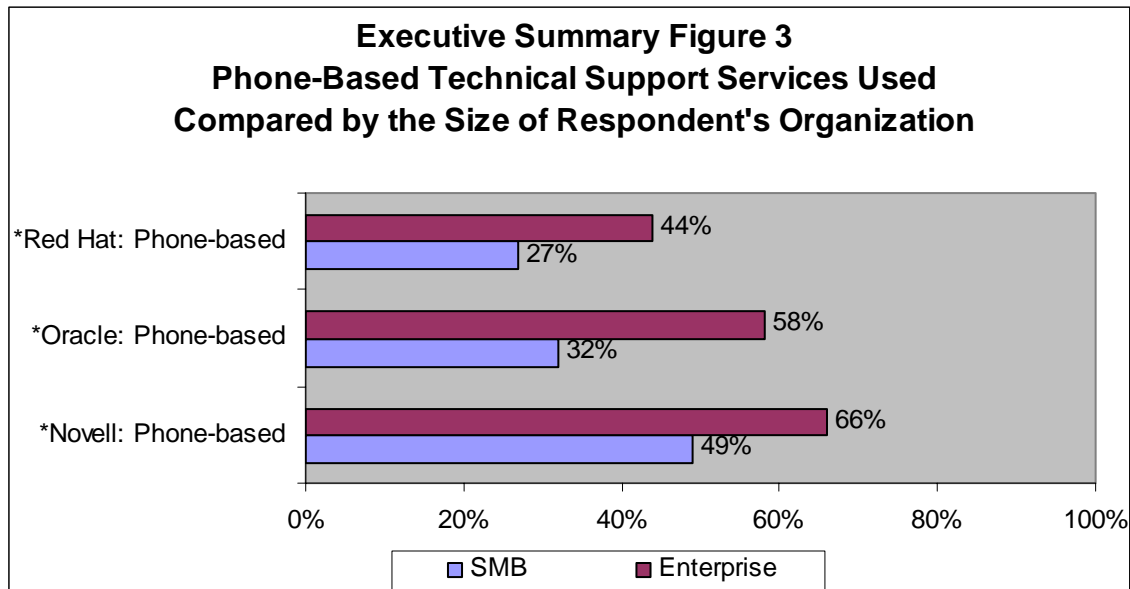
Almost two-thirds of respondents rated the importance of the “effectiveness of resolution” with Linux-related technical support as “10” on a zero-to-ten point scale. This is a clear indication that receivers of Linux-related technical support want their issues and concerns handled accurately and effectively. Respondents rated the importance of the “effectiveness of resolution” (9.26 average mean) significantly higher than either the “ease of access to technical support” (8.62) or the “speed of resolution” (8.55).

Linux-related Technical Support Needs of SMB Companies Versus Enterprise Companies

When analyzing the needs and satisfaction of SMB companies (fewer than 500 employees) versus the needs and satisfaction of Enterprise companies (500 or more employees), the general results demonstrated no definitive difference.

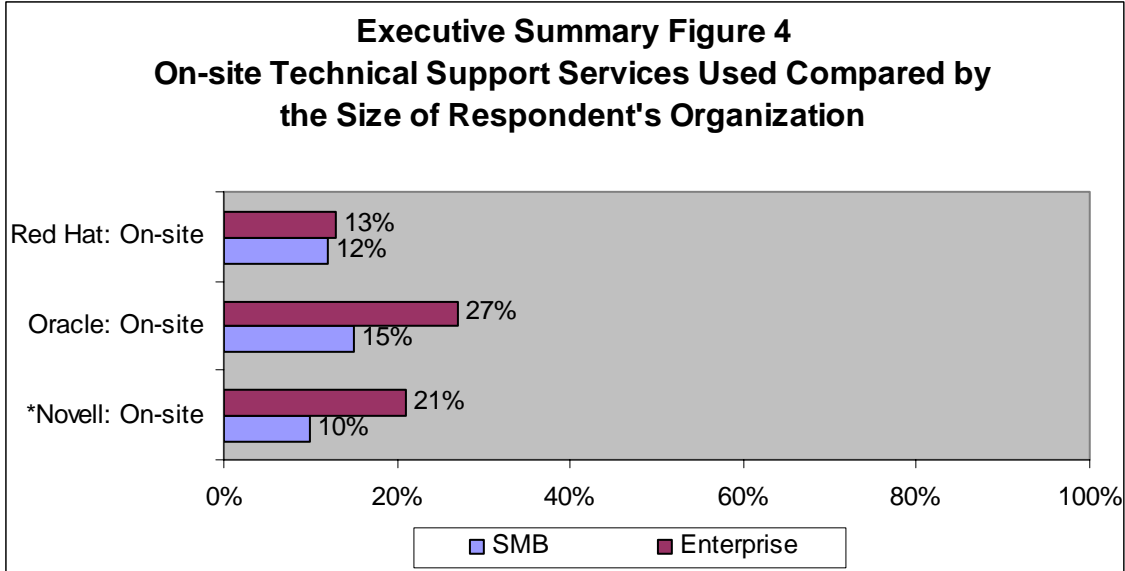
The one notable exception was the level of confidence in the ability of the vendor to support and maintain their Linux distribution long-term. While all respondents had a high level of confidence in Red Hat’s and Novell’s ability to maintain Linux support and distribution, SMB companies had a significantly higher level of confidence in Novell’s ability to support and maintain their Linux distribution long-term (8.17 average mean) than Enterprise companies (7.66).

In general, Enterprise companies were more likely to have used phone-based Linux-related technical support than were SMB companies. As illustrated in Executive Summary Figure 3, Enterprise companies are using significantly more phone-based Linux-related technical support than SMB companies regardless of which vendor they selected for support.



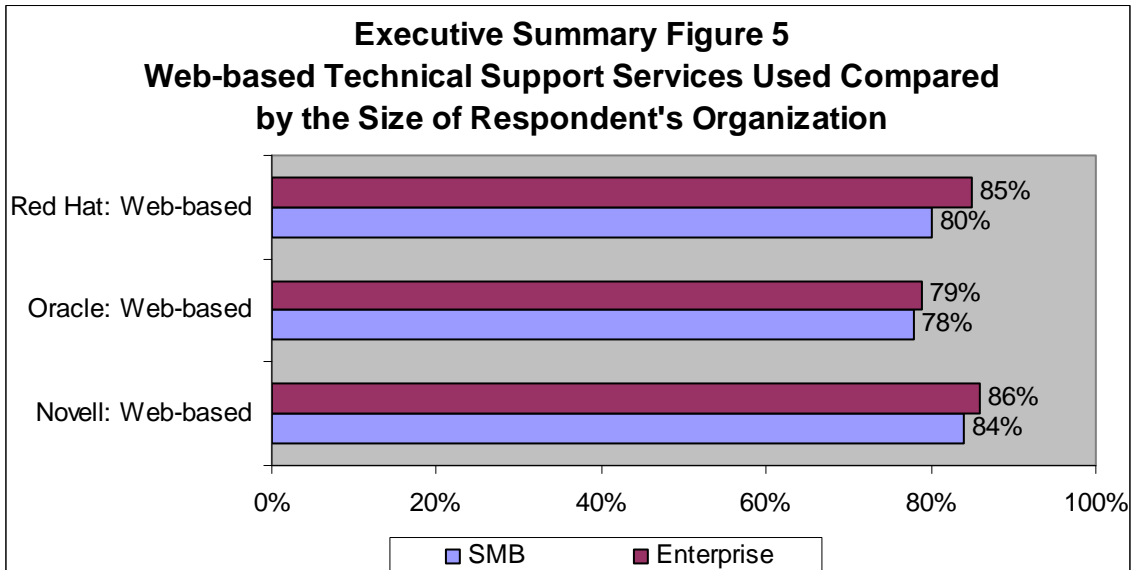
**Denotes a statistically significant difference between the segments being compared.*

In addition, Enterprise companies are using more Novell and Oracle on-site Linux-related technical support than SMB companies. Twenty-one percent of Enterprise companies are using significantly more Novell on-site compared to 10% of SMB companies. Please refer to Executive Summary Figure 4 for more information.

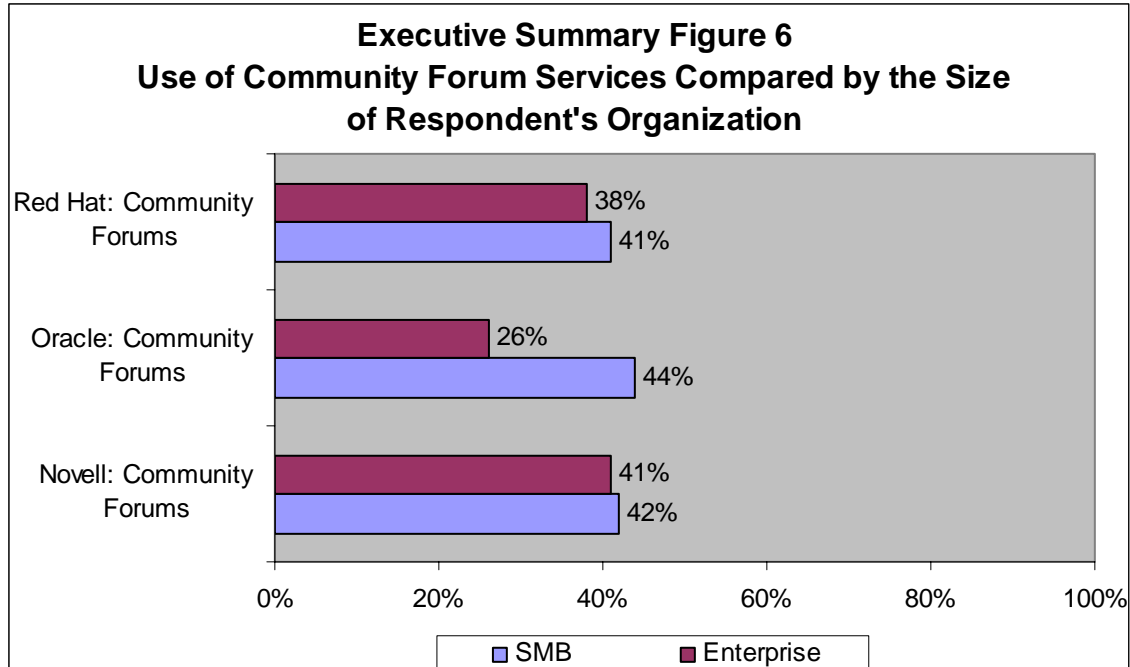


**Denotes a statistically significant difference between the segments being compared.*

Overall, companies of all sizes are using web-based Linux-related technical support more than all other types of support offered. The usage of web-based technical support is similar regardless of whether they are categorized as a SMB or Enterprise company. Please refer to Executive Summary Figure 5 for details.



In general, Enterprise and SMB companies are using Linux-related community forums to the same extent. Although there appears to be some differentiation in usage of community forums provided by Oracle, the number of respondents using Oracle's community forums was insufficient to be conclusive.



Enterprise companies were significantly more likely to subscribe to a premium level of Linux-related technical support, regardless of the vendor, than were SMB companies. Those SMB companies using Novell Linux-related technical support tend to subscribe to basic or standard level Linux-related technical support.

Differences in Satisfaction among Geographical Regions

Respondents from North America and Europe/Middle East/Africa were compared to discover differences in attitude and satisfaction.

Respondents from North America perceived the “ease of access” (8.81 average mean), the “speed of resolution” (8.68), and the “effectiveness of the resolution” (9.38) of Linux-related technical support more important to their organization than respondents from Europe/Middle East/Africa. Comparatively, respondents from Europe/Middle East/Africa rated the “ease of access” 8.24, the “speed of resolution” 8.10, and the “effectiveness of the resolution” 9.09.

North American Customers Report Higher Satisfaction Compared to Customers from Europe/Middle East/Africa

Overall, North American respondents are more satisfied with the Novell and Red Hat Linux-related support they are receiving than their Europe/Middle East/Africa counterparts. North American respondents rated the overall quality of Novell's (7.34 average mean) and Red Hat's (6.81) Linux-related technical support services higher than did respondents located in Europe/Middle East/Africa (6.74, 5.41).

Respondents from North America were also more satisfied than respondents from Europe/Middle East/Africa with the time Novell took to resolve issues using phone-based support, the effectiveness of Novell's web-based support, Novell's overall level of knowledge and expertise, and Novell's support of Linux-based solutions in a mixed environment. Additionally, North American respondents rated Novell as more proactive in sending Linux-related support information.

North American respondents (6.68 average mean) perceived Red Hat as better at supporting Linux-based solutions in mixed environments than European/Middle Eastern/African respondents (4.71).

The distribution of Oracle respondents across geographical regions was not considered robust enough to be conclusive.

North American Customers Indicate Higher Use of Phone-based Linux-related Support Compared to Customers from Europe/Middle East/Africa

In general, North American respondents are more likely to use phone-based Linux-related technical support than respondents from Europe/Middle East/Africa. Specifically, North American respondents (41%) were more likely to use Red Hat's phone-based technical support services than were respondents from Europe/Middle East/Africa (15%). In addition, respondents from North America (69%) were more likely to use Novell's phone-based technical support than respondents from Europe/Middle East/Africa (49%). Thus, it may be concluded that respondents from Europe/Middle East/Africa are more reliant on web-based support and Linux-related support alerts, updates and patches.

Conclusion

In conclusion, let us review the customer-defined strengths and similarities of each vendor's Linux-related technical support services.

Customer Satisfaction Scores Indicate Superior Performance by One Vendor

The research identified three aspects of Linux-related technical support where one vendor's services were distinctly superior to the other two vendors evaluated. Customers clearly demonstrated higher satisfaction with Novell's support compared to satisfaction with Oracle or Red Hat in the following three areas:

- Overall Quality of Service
- Time to Reach a Phone-based Support Engineer
- Support in an Environment of Mixed Platforms, Open Source, and Commercial Software

Customer Satisfaction Scores Indicate Equivalent Performance among Vendors

In contrast, five of the areas of Linux-related technical support that were evaluated in the research, illustrate equivalent or similar performance among vendors.

In the following three areas, Novell's and Red Hat's performance are perceived by customers as equal or very similar to each other:

- Linux Knowledge and Expertise
- How Proactive Vendors Are in Providing Linux-related Support Alerts, Updates and Patches
- Ability to Support and Maintain Linux Distribution Long-term

The performance of all three vendors is perceived as similar in regards to:

- Effectiveness of Self-help and Web-based Support
- Time to Resolve Issues Through Phone-based Support

The results of the research will assist those needing Linux-related technical support in the future to identify which vendor would provide the most effective technical support for their organization.