



I D C W H I T E P A P E R **A B S T R A C T**

Lowering Total Cost of Ownership for Linux Deployments

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Adapted from *Understanding Linux Deployment Strategies: The Business Case for Standardizing on Red Hat Enterprise Linux*, by Al Gillen and Randy Perry

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The Red Hat Enterprise Linux Advantage

Commercial products based on open source software have long enjoyed a symbiotic relationship with the open source world that is both cooperative and competitive. In the end, users benefit with a variety of product choices that range from free to commercially-supported, enterprise-grade fee-based solutions.

Across that range of solutions, it is easy to presume that free solutions are by definition cheaper to own simply because the original acquisition cost (\$0 out-of-pocket) is so compelling. While this might be a valid assumption if IT labor costs were also zero, as soon as there is an hourly value attached to IT labor and end-user productivity, the cost associated with free products suddenly becomes much higher.

IDC research typically finds that the cost of operating system software is a relatively minor component of an overall total cost of ownership (TCO) analysis, but that IT labor costs are generally a far greater contributor to TCO calculations. As a result, products that offer efficiency and productivity improvements for IT staff generally end up with competitive and often lower TCO metrics when all costs are considered.

The IDC White Paper, *Understanding Linux Deployment Strategies: The Business Case for Standardizing on Red Hat Enterprise Linux*, takes a closer look at a comparison of organizations using a commercial Linux subscription from Red Hat to support its Linux servers, and compares that scenario with organizations that have either a mixed environment of both commercially supported and nonpaid Linux distributions in use, and with organizations that are primarily using nonpaid Linux distributions aboard their servers.

The result of this analysis is clear: organizations that have standardized on Red Hat Enterprise Linux (RHEL) recover up-front subscription costs through more efficient operations, higher ratios of servers and users per administrator, and a significantly lower downtime cost annually when compared to organizations that maintain a Linux server infrastructure that is either mixed or is primarily nonpaid. Specific observations include:

- Organizations standardized on RHEL customers have more efficient IT staffs. A shop standardized on RHEL averages 174 servers per administrator, while mixed shops see 115 servers per admin, and primarily nonpaid shops average only 97 servers per admin.



- When measured in terms of end users per administrator, shops standardized on RHEL average 422 users per admin, compared to 373 users in mixed shops, and 358 users per admin in a primarily nonpaid shop. This efficiency combined with lower downtime and help desk issues means that RHEL shops incur an IT labor cost per 100 users of \$18,960 annually while primarily non-paid shops experience annual costs of \$37,099.
- Downtime was another real differentiator for a shop standardized on RHEL, averaging 0.4 hours per year per user, or about one-fifth the amount of downtime experienced by shops that were mixed, and slightly less for shops using primarily nonpaid Linux distributions on their Linux servers. The cost for downtime adds up quickly, with annual downtime user productivity cost for RHEL shops at \$12/year/100 users, compared to mixed shops at \$63/year/100 users, and primarily nonpaid shops experiencing end user downtime costs of \$67/year/100 users.
- Hardware and management software savings were also noted. The combination of more end users per server and more standardized maintenance operations, together with a longer useful life cycle (i.e., less-frequent replacement) resulted in lower hardware costs. Hardware combined with less need for management software tools means shops standardized on RHEL are annually spending \$12,029/year per 100 users while mixed shops spend \$19,201/year per 100 users, and primarily unpaid shops are spending at the rate of \$25,206/year per 100 users.
- Based on our findings, organizations that heavily use nonpaid Linux end up with higher total operational costs of \$62,305/year per 100 users annually compared to shops standardized on RHEL \$37,494/year per 100 users – with the up-front subscription cost for RHEL being recovered through lower operational costs in as little as 7 months.

Conclusion

Labor costs often are not readily obvious and even harder to measure and track, and usually get buried into broader operational expense metrics that larger organizations track. As a result, it becomes difficult for IT managers to understand the cost associated with supporting free software.

For many organizations, these operational costs are relatively invisible compared to a line item on a purchase order that pays for a product license or subscription, a cost item that ultimately is accounted for as a capital expense investment. Organizations typically cannot conduct the kind of multi-site cost comparison research that IDC performed for the TCO analysis described in the White Paper.

But the benefit of tapping an expert vendor to support a critical layer of the corporate infrastructure is not only justified, it is an investment that pays dividends over the long term.

Users should carefully consider Red Hat's position in the industry, and the ability of the company to deliver a strong suite of related management tools and middleware, as well as the company's ability to be a strategic partner that can provide a technology roadmap – and deliver on that roadmap – so IT professionals can focus on their key value add to their business: Maximizing the organization's competitive capabilities and delivering maximum value to corporate and end customer users.

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