



HEALTH INDUSTRY INSIGHTS ANALYST CONNECTION



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Open Source Adoption Gaining Momentum in Healthcare IT

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Open source has proven itself to be more than ready to meet the demanding requirements of healthcare IT. Linux, in particular, is already widely deployed in healthcare with many users ranging from major integrated delivery networks (IDNs) and teaching hospitals to small community clinics. The need to significantly reduce capital and operating expenses and the inherent quality of open source software make the technology especially attractive in these trying economic times. In fact, the American Recovery and Reinvestment Act of 2009 highlights open source software as an area of interest due to these advantages. More specifically, the act directs the Secretary of Health and Human Services to study the availability, cost, utility, and interoperability of open source health information technology.

With this in mind, Red Hat posed the following questions to Scott Lundstrom, vice president of research at Health Industry Insights, an IDC company.

Q. What key trends are you seeing with open source adoption in healthcare?

A. Open source has been steadily gaining ground in healthcare for the past 10 years. Large IDNs, payers, and healthcare providers have all found that open source provides numerous advantages compared with traditional proprietary alternatives. Healthcare providers are being driven to integrate data within their own organizations and to increase the exchange of data electronically with others in the healthcare value chain. Support for standards-based integration such as HL7 has accelerated interest in Linux as well as open source integration and middleware solutions because legacy vendors have been slow to add these new capabilities and often require lengthy and expensive upgrade cycles to take advantage of them.

Healthcare IT organizations know that more frequent and complex changes will be required in the future to support standards-based integration. Changes mandated by the U.S. economic stimulus package include improved availability and management of data, secure and private communication of patient and outcome data, and compliance with a number of new regulations focused on clinical data collection and reporting. While this represents a significant move forward for many healthcare providers, few can afford the cost and delay

associated with waiting for a legacy software vendor to provide all of the required capabilities in an integrated fashion.

In addition to new capabilities, healthcare providers must improve system performance and availability while simultaneously reducing costs. Virtualized Linux servers running on commodity hardware provide significant opportunities to reduce cost and improve performance versus existing workloads running on legacy hardware. With the recognition of these benefits, we see increased interest in and adoption of open source among all participants in the healthcare value chain.

Public health systems outside the United States are also recognizing the value of open source. For example, new requirements in the United Kingdom require government health agencies to consider open source for all new projects. Government departments will be required to adopt open source software when "there is no significant overall cost difference between open and non-open source products."

Q. What are the benefits healthcare organizations realize from deploying open source solutions?

A. Open source has been proven to reduce costs and at the same time improve reliability, availability, and the integration of healthcare information. These benefits have been borne out in data from a number of healthcare provider organizations running open source. The most significant and immediate cost savings are with hardware expenses and operating system licensing costs. This is especially true when the operating environment is configured to support high availability where customers have reported savings of up to 50% over traditional proprietary, clustered, high-availability solutions.

Over the past few years, organizations have also increasingly recognized the quality of support being another key benefit to using open source software. The growing ubiquity of open source software has led to a number of enterprise software companies supporting open source software, such as Red Hat, HP, and IBM. All of these organizations (and others) offer global, 24 x 7 support for open source software. For many users, this is only the beginning. Additional savings and performance improvements are also available through the adoption of open source middleware for application integration and ultimately via open source applications.

Q. Is open source software ready for the demanding requirements of healthcare IT?

A. Open source software is already widely deployed in healthcare. Linux has proven itself in some of the most demanding healthcare IT environments. A number of significant clinical application vendors have added support for Linux. Many other vendors are also adding support for Linux, and there is already a robust set of tools and applications to aid in the deployment, operation, and systems management of large-scale open source deployments.

Q. Many enterprises are migrating from legacy Unix-based systems to standards-based commodity x86 hardware running Linux. What workloads should healthcare organizations evaluate or consider moving from Unix to Linux?

A. Healthcare organizations are finding that Linux is an excellent alternative to legacy Unix-based systems to significantly reduce costs while enhancing system performance and reliability. Linux is suitable for a wide range of tasks, but it is especially suited for mission-critical applications that require high availability and resource efficiency such as databases and middleware. Virtualized Linux servers running on commodity hardware provide significant advantages when scaling up applications, allowing inexpensive, incremental increases in hardware resources without lengthy implementation cycles or system outages. Data from our most recent *Healthcare IT Spending Guide* shows solid growth in volume

server spending (7–8% annual growth) in spite of the economic downturn; this growth is due in part to the accelerated adoption of Linux-based applications in healthcare.

Q. How are healthcare organizations adopting open source middleware?

A. Open source middleware is a natural extension of the success of open source operating systems. In healthcare, many disparate applications and data sources must be brought together to create a comprehensive view of patient information. Clinical care, laboratory results, pharmacy orders, and previous history must all be integrated to improve the quality of care and reduce costs. Open source is an especially attractive solution to this problem because it brings together the robust engineering and performance advantages of open source and a true vendor-neutral, standards-based view of integration.

Open source middleware from vendors such as JBoss and BEA is focused on being inclusive — the availability of a vendor-neutral solution ensures the flexibility to improve and enhance the use of integrated clinical data in the future. Many provider organizations are examining more extensive and efficient options for clinical data integration to improve interoperability between in-house applications and external users of clinical data. New requirements to communicate treatment data and outcomes to regional health information exchanges in combination with compliance requirements driven by economic stimulus spending in healthcare IT will accelerate this trend. We expect that many providers will choose open source middleware as the most pragmatic and cost-effective way to meet the integration challenge of transforming clinical IT.

ABOUT THIS ANALYST

As research vice president, Scott Lundstrom is responsible for managing Health Industry Insights' research-based advisory and consulting offerings, which provide full coverage of the healthcare industry value chain, including payer, provider, and life science segments. Lundstrom's experience has given him a thorough understanding of market dynamics, business strategies and processes, and technology solutions.

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