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The Current IT Landscape

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Introduction

The IT landscape is in a period of rapid change. The drivers behind this pace of change should be familiar to everyone now: ubiquitous connectivity and particularly the widespread use of smartphones and tablets; the shift from bare-metal datacenters to virtualization to cloud; big data analytics and the heavy storage requirements that accompany the growing and valuable data stores of an enterprise; the “Internet of Things.” Add to this list one other: open source software (OSS). What was once a fringe movement is not just mainstream, it has become a catalyst of innovation by connecting communities of use more closely to software development than ever before. Open source has made software a marketplace of ideas in which evolution is constant, rapid, and guided by the requirements of these communities of use rather than the dictates of a hegemonic vendor.

Change is coming—*has already come*—to the world of enterprise application development as well as the infrastructure on which the applications run. Developers now drive many IT decisions that once were the exclusive province of the corporate IT department. The DevOps model (“developer operations”) of software development, testing, and deployment could not be more different than the models of the past. Applications are not updated in cycles measured in years, months, or weeks. Applications are updated *daily*. Major online retailers may push thousands of changes to their applications every single day. This rapid pace requires an architecture designed for such a pace and professionals who can provide it.

On the other hand, other enterprises all over the world are benefiting from the adage, “If it ain’t broke, don’t fix it.” Enterprise-class IT is not like the consumer technology market in which the latest and greatest always carries the day. “It works” is the goal in the enterprise, and many organizations tend to stick with proven approaches. These organizations require professionals who understand the modern datacenter and can produce architectures that drive efficiencies and scale within a more traditional paradigm.

In short, architecture choices are becoming more important than ever, more subject to rapid change and evolution, and with more opportunities for IT professionals who have deep and broad skills and knowledge.

Red Hat Certified Architect (RHCA®)

The RHCA program has from the beginning offered a multi-technology, solutions-focused credential that represents breadth and depth of knowledge and skills using Red Hat technologies. In 2005, the emphasis was on Red Hat Enterprise Linux and closely related technologies. The Red Hat product portfolio has expanded considerably since the beginnings of the RHCA program in 2005. Red Hat now offers virtualization, cloud, middleware, and software-defined storage products.

This expansion of the Red Hat product portfolio creates a multiplicity of potential Red Hat architecture options an enterprise might apply. Red Hat changed the RHCA program in 2014 to adapt to this new landscape. When the program was first introduced, one had to become a Red Hat Certified Engineer (RHCE) and then pass five additional hands-on, performance-based exams. Later, it became possible to choose between exams for one of these choices, but it was still the case that Red Hat dictated a rather specific path to RHCA.

Beginning in 2014, Red Hat changed the requirements such that one must earn RHCE and then pass any five exams from among an eligible list of fourteen. Individuals can now choose the combination of skills that comprise their RHCA. This flexibility is useful for individuals because it lets them adjust their certification path to their interests and the opportunities they see in the market. The flexibility is likewise useful to companies that are Red Hat customers because they can invest in training, development, and senior-level certification for their personnel, and have them focus on the technologies they use or are interested in using in the future.

While this new approach provides benefits in its flexibility, it can also leave some people who hope to advance their career by earning RHCA wondering what might be the right path for them. Consequently, this year Red Hat has announced *RHCA concentrations*. RHCA concentrations are recommended sets of Red Hat credentials an RHCE might apply towards RHCA that provide a specific focus. These concentrations are only recommendations—they do not confer a special RHCA, nor is one obligated to follow a particular concentration. One can choose to pursue some credentials within a concentration, but not others. The concentrations provide guidance within the flexible requirements introduced in 2014.

RHCA Concentrations

Red Hat has identified three RHCA concentrations: datacenter, cloud, and application platform.

Datacenter

Red Hat's datacenter RHCA concentration is the one most similar to the familiar RHCA, with an emphasis on Red Hat Enterprise Linux and the more traditional datacenter. Credentials in this concentration include the following:

- Red Hat Certificate of Expertise in Server Hardening
- Red Hat Certified Virtualization Administrator (RHCVA)
- Red Hat Certificate of Expertise in Clustering and Storage Management
- Red Hat Certificate of Expertise in Deployment and Systems Management
- Red Hat Certificate of Expertise in Performance Tuning
- Red Hat Certificate of Expertise in Hybrid Cloud Storage
- Red Hat Certified JBoss Administrator (RHCJA)

Some of these recommendations might not seem especially in line with the more traditional datacenter focus at first glance. Red Hat Certificate of Expertise in Hybrid Cloud Storage might seem like an outlier, for example. But recall that enterprises using a more traditional datacenter still seek cost-containment and scale. While software-defined storage is most closely associated with cloud architectures, Red Hat Gluster Storage—the technology associated with that Certificate—can provide benefits to on-site datacenters.

Cloud

Red Hat's Cloud RHCA concentration focuses more on the building blocks an enterprise needs for building and managing private and hybrid clouds. Credentials in this concentration include the following:

- Red Hat Certified System Administrator in Red Hat OpenStack
- Red Hat Certificate of Expertise in Hybrid Cloud Management
- Red Hat Certificate of Expertise in Platform-as-a-Service
- Red Hat Certificate of Expertise in Hybrid Cloud Storage
- Red Hat Certified Virtualization Administrator (RHCVA)
- Red Hat Certificate of Expertise in Deployment and Systems Management

Cloud remains a hot topic in IT. Red Hat offers a number of cloud-focused products, and many organizations are still figuring out the direction that best meets their requirements. For some organizations, a move from bare-metal to virtualization would be a critical first step. Others may have diverse, multi-vendor virtualization

infrastructures already in place and need to manage and orchestrate them and perhaps use a public cloud provider for certain workloads. An RHCA with the Cloud concentration would be well qualified to guide an organization through these decisions.

Application Platform

Red Hat's RHCA concentration in Application Platform focuses on the skills and knowledge needed to provide a robust platform for running applications. As organizations move towards a more DevOps model of application development and maintenance, choosing the right architecture becomes critical. Recommended credentials in this concentration include the following:

- Red Hat Certified JBoss Administrator (RHCJA)
- Red Hat Certificate of Expertise in Platform-as-a-Service
- Red Hat Certificate of Expertise in Data Virtualization
- Red Hat Certificate of Expertise in Hybrid Cloud Management
- Red Hat Certificate of Expertise in Application Management

In order to support goals such as continuous integration and delivery, it is essential to have a common environment available for testing and production, as well as one that lends itself to automated processes that shuttle releases through build, test, and production. An RHCA who has pursued this particular concentration would understand multiple ways of accomplishing this end.

Conclusion

IT architecture is undergoing a period of rapid change and evolution. With this change comes enormous opportunity for professionals who are not just deep in a single technology but deeply conversant in several and who can join these technologies together to meet the needs of today's enterprise. The Red Hat Certified Architect program provides a credential that represents these skills and knowledge. Through a combination of flexible requirements and recommended concentrations, Red Hat is providing a path for professionals to advance their careers and for its subscription customers to find the right architect.

Learn More

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[Red Hat® Enterprise Virtualization \(RH318\)](#)

[Red Hat® Enterprise Deployment and Systems Management \(RH401\)](#)

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About the Author

Randy Russell is the Director of Certification at Red Hat. Randy oversees exam development and all aspects of Red Hat's technical certification programs. He joined Red Hat in 1999, when Red Hat had a single office, a single location, a single exam, and a single training course. Randy has overseen exam and certification program development for most of the time since then. From 2001 through 2007, he also led curriculum development.

Randy is an active proponent of hands-on testing and has served on the Board of Directors and as chair/president of the Performance Testing Council (PTC). He has given talks on the subject at the PTC, the European Association of Test Publishers, the European Association of Test Publishers (E-ATP), the Computer Management Education Management Association (CEdMA), and the Technology Services Industry Organization (TSIA). Prior to joining Red Hat, Randy was a programmer, system administrator, and economist at an environmental economics consulting firm.