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Enabling Software Suppliers to Embrace Containerization While Boosting Monetization and Customer Experience

Why Managing Entitlements with Revenera Benefits Both Software Suppliers and their Customers

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Executive Summary

Enterprises including software suppliers and their end customers alike are increasingly adopting digital transformation initiatives, in order to understand and enhance the way that customers experience their products and services. While the latter has always been required for businesses to remain competitive, it is now being made even more critical by the rapid increase in the ability of application developers to influence and even transform business operations.

This is just as true for software suppliers as it is for other sectors of the global economy. At the same time, the software industry is undergoing its own major changes and challenges. One of these changes is that software buyers are developing a fast-growing preference for containerized software rather than conventional monolithic software. This change is being driven not just by the advantages that containerization delivers with respect to the growing use of public clouds, but also by the major benefits that containerization offers regardless of where applications are hosted.

Meanwhile, software vendors continue to grapple with the longstanding operational challenges related to monetizing their products and maximizing customer satisfaction. These include but are not restricted to the management and tracking of entitlements to software usage; delivering software in the most painless way for customers and understanding how their software is being used.

The move to containerized software is exacerbating those problems. However, they can be addressed by implementing software that automates the processes of managing entitlements and delivering software. Revenera is a long-established supplier of a comprehensive and integrated range of offerings in this field, including an entitlement management and software delivery product that supports the monetization and delivery of containerized software products.

## The Market is Moving Fast into Containerization and Micro-services

The adoption of containerized software has grown dramatically over the last two years. In a recent ESG study, 77% of enterprise survey respondents said they are currently using containers for production applications (see Figure 1.)[1] Among those organizations, well over two-thirds had been doing so for less than 23 months. Yet more adoption is expected soon, as another 21% of respondents said they expect to make their first production container deployments within the next 12 months.

These are mostly not back-end containerized applications but are generally client-facing workloads that directly support enterprise business goals. The reason why containerization is being taken up so rapidly for these key applications is because of the benefits that it provides during both software development and software usage.

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[1] Source: ESG Master Survey Results, *The Maturation of Cloud-native Security: Securing Modern Apps and Infrastructure*, June 2021. All ESG research references and charts in this white paper have been taken from this research report, unless otherwise noted.

Figure 1. Containers Are Underpinning Microservices-based Cloud-native Applications

Does your organization currently use containers or plan to use containers for production applications in the next 12 months? (Percent of respondents, N=383)
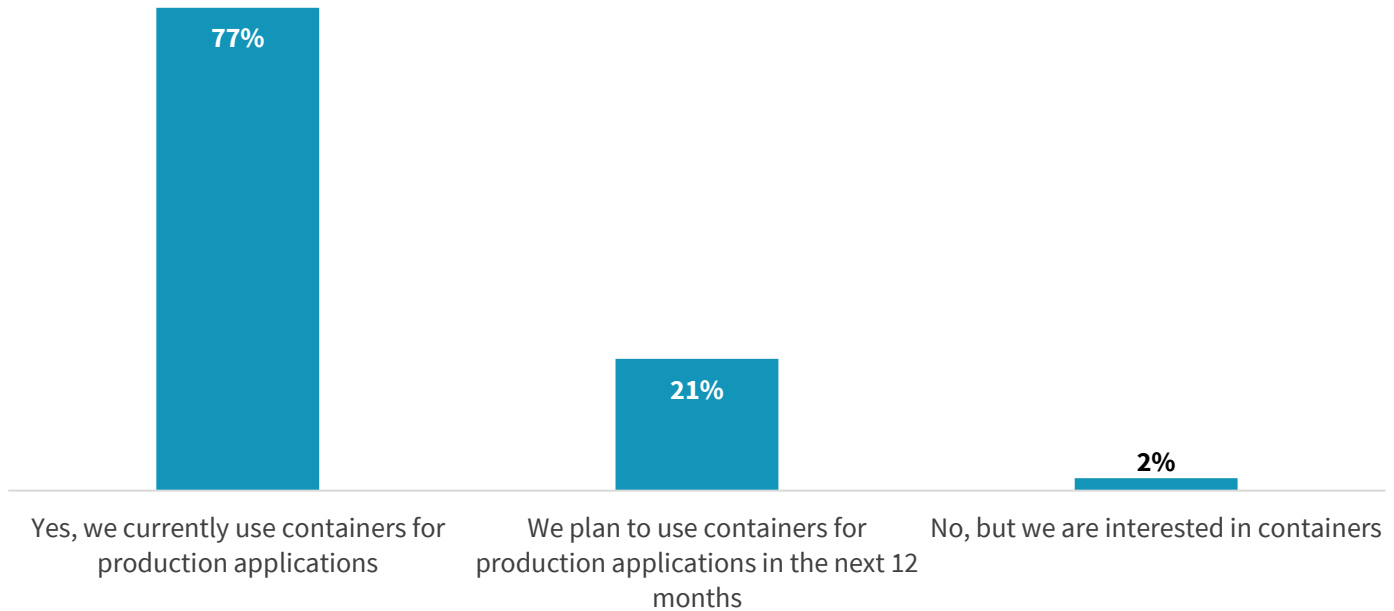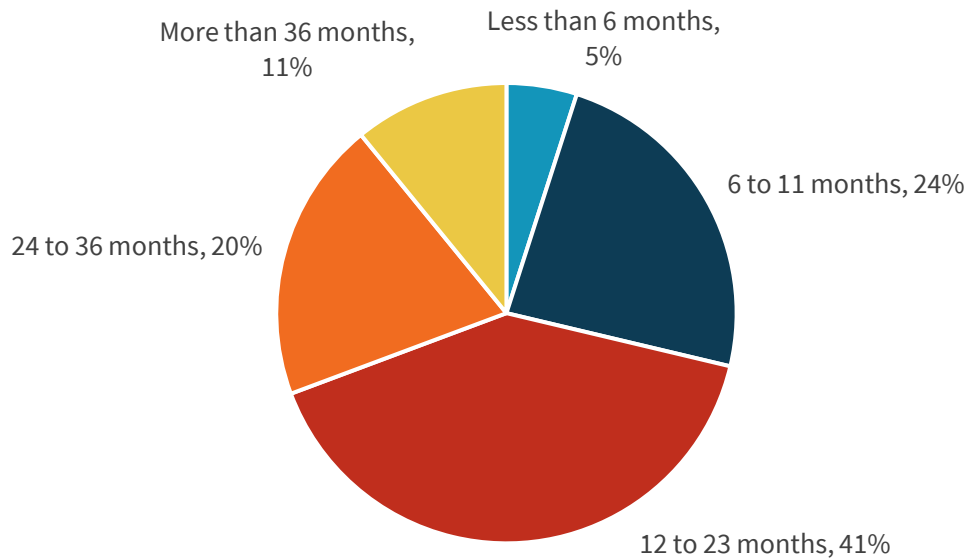

Source: Enterprise Strategy Group

On the usage side of the equation, the growing use of public clouds is a major factor in the rapid adoption of containerized code. Containerized applications are more easily migrated between customers' data centers and public clouds (as well as between public and private edge locations) than monolithic code. The resulting flexibility in the choice of execution venue for applications is highly desirable for the large and growing number of enterprises that have adopted hybrid cloud computing strategies. Therefore, the terms 'cloud-native' and 'application modernization' are almost synonymous with containerization.

But while easy portability across multiple-cloud and on-premises environments is a major virtue, it is far from the only advantage of containerization for software buyers. Working under the control of orchestration engines, containerized software also speeds and automates application deployment, and the process of scaling resources up or down to suit changing application loads. Security is also boosted. As a final and equally significant advantage, containerization is a lightweight form of virtualization that can increase the efficiency with which processor cycles, memory, and other hardware resources are used.

Containerization also delivers significant benefits to the development process, as it is ideally suited to the creation of applications as collections of micro-services, rather than as the more conventional monolithic code bases. As well as simplifying and accelerating code development and making applications more resilient, micro-services also significantly speed the creation of new features once applications are in service. Entirely new applications can also be created rapidly from existing micro-services. Containerization works well with agile or CI/CD approaches to code development, and in the same research project cited above, 35% of respondents indicated that they extensively use agile software development methods.

Figure 2. Container Growth Over the Last Two Years

**For how long has your organization run production applications on container technology?
(Percent of respondents, N=293)**

Less than 6 months, 5%

6 to 11 months, 24%

12 to 23 months, 41%

24 to 36 months, 20%

More than 36 months, 11%

Source: Enterprise Strategy Group

Why Entitlements Matter

In order to manage software and container delivery, software vendors must make sure that customers receive only what they have purchased in a seamless, automated process. This would increase end-customer success and eliminate the risk of revenue leakage. By accelerating and automating the delivery of software containers based on customer entitlements, software producers can ensure rapid revenue recognition, as well as a streamlined and positive customer experience.

Understanding Entitlement Challenges with Cloud-native Applications

CI/CD pipelines are independent from entitlement use rights, but in the context of the customer lifecycle it is critical to have intelligence on what software customers have the rights to use. Entitlement-based delivery of containers contributes to the needs of a modern and automated supplier-buyer relationship via the following:

- Automated delivery of containers to customers with their respective use rights.

- Full integration with the CI/CD pipeline.

- Straightforward customer experience.

- No revenue leakage.

Many suppliers start with a build-versus-buy decision to structure the alignment of software delivery and customer entitlements. Building a solution, however, requires an understanding of the industry-leading best practices to de-risk your project and a commitment to maintain and evolve it over time. For example, when delivering software to end customers, ever-changing export requirements and entitlements need to be enforced. Entitlements, as many others, is a difficult solution to build and maintain. Often, suppliers are better off focusing their engineers on their core product while using 3rd-party solutions for specialized functionality.

A Better Way to Monetize Cloud-native Application Delivery

Entitlement management has long offered the capabilities referenced above for software suppliers and has grown to include cloud-native delivery to enable suppliers to leverage the benefits of CI/CD pipelines without introducing risk to revenue recognition or back-office orchestration.

Software suppliers are often using entitlement management solutions to centrally manage all customer use rights and all related software lifecycle transactions. With that, software suppliers benefit from a 360° view of their on-premises Cloud and SaaS solutions, and use a single system to manage use rights, enforcement, and the delivery of software packages or containers to end customers.

Big software suppliers often deliver many products using different deployment and monetization models. While SaaS is growing, many software offerings are managed by end-users in a private cloud. This is where container delivery plays a strong role. Also, suppliers are increasingly delivering containers even for on-premises applications that are installed onsite at the end customer. This involves both connected and disconnected use cases. Often, software is run in air-gapped environments. Still, software delivery, licensing, and entitlement checks need to work, and that is another point software monetization companies excel in.

Entitlement management delivers peace of mind for organizations' software and application delivery. Regardless of the different deployment models (SaaS, on-prem, embedded, or air-gapped), license usage and tracking are key for organizations to understand how to deliver on their applications and clients' expectations. It is also important for an entitlement management system to have abilities to capture usage data to present a clear picture of how customers are consuming products and services to give suppliers the insights they need to take the proper action: renewals, upsell opportunities, product adoption, engagement insights, and more.

Why Consider Revenera for Entitlement Management

When understanding entitlement management requirements, it is important for organizations to define their business objectives. Areas to consider include:

- Focus on net new revenue opportunities for your offering.

- Quickly move prospect from the trial to purchase.

- Monetize revenue growth from upgrades and renewals in existing accounts.

- Provide enhanced customer response and reduce churn.

- Use customer insights to position software for upsell/cross-sell initiatives.

- Software delivery tied to entitlement management systems and export controls.

While building your own entitlement management process may seem to be an option, the complexities and unknowns often cause challenges for software application vendors when it comes to supporting that homegrown solution long term and expanding it into future use cases. As monetization models change and evolve, an entitlement system needs to be able to support them, or it will become an inhibitor for innovation.

Revenera removes the friction between entitlement and delivery and enables software delivery for containerization. As well as doing this for suppliers of containerized applications, Revenera's software also provides analytic insights into application-usage patterns.

The 30-year-old company has gained more than 50,000 customers including multiple blue-chip software suppliers. Each year, Revenera's software is used to manage more than 100,000 products and more than 10 million entitlements. Revenera's comprehensive product suite includes a single, fully integrated back-office system to manage licenses, and the Helm charts used with container orchestration engines.

The Bigger Truth

One of the major roles of application developers is to automate business processes. In order to improve their ability to do this, software automation technology has been applied to the process of developing software itself. By folding its automation abilities back into the technology in this way, software suppliers have increased their scope and abilities in what might be described as a type of virtuous circle. In software development, examples of this phenomenon include the evolution from low-level to high-level languages, through to the current adoption of container-based, micro-services architectures. (In containerization, Kubernetes and other orchestration engines hide complexity by automating the coordination of multiple micro-services.)

This virtuous circle is also driven by the need to handle or mask the complexities created by the increasing scope of IT. For software suppliers, the task of monetizing their products, managing entitlements, and ensuring an optimal experience for their customers has become increasingly challenging. Some software suppliers have attempted to address these issues by assembling semi-automated systems that comprise home-grown elements with point solutions for entitlement management and software delivery. But with the changes occurring in the software industry, the writing is on the wall for such approaches, and the need to adopt fully integrated, specialist management systems is becoming paramount. ESG believes that in exactly the same way businesses across multiple industries have used IT to automate and transform their operations, the majority of software suppliers will do the same for their entitlement and delivery processes, and reap the benefits of using automated and integrated monetization platforms.

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