Approaches to Software Licensing

Selling and Distributing Software Products in the 21st Century

Introduction

If you are an Independent Software Vendor (ISV) selling software products, you are in a consistently fast-growing market. The global software market for enterprise software is forecasted to reach $625.2 billion by 2030, up approximately 80% from 2022.[1] This growth represents a vast opportunity for software developers, but in today's rapidly changing digital landscape, how do ISVs best deliver their applications to customers in a frictionless manner? And one that also protects their IP, ensures a great customer experience and helps to maximize revenue?

Providing software on a perpetual license has long been the dominant software monetization model. However, IDC Futurescapes predicts that by 2025 the subscription business model will represent 83% of the total software revenue.[2]

To deliver them, the licensing engines that underpin the provision of software are fast evolving to enable an ISV to choose from a variety of license models. This same change is also leading to a switch from on-premise licensing servers towards pure Licensing-as-a-Service solutions, plug and play and cloud-based licensing solutions.

Business doesn't stand still and traditional, key-based licensing solutions are coming up short in the face of today's sophisticated software markets. This whitepaper aims to cover the three major pitfalls of traditional software licensing solutions as well as introduce identity-based licensing. It details the reasons why many ISVs are moving away from traditional software licensing

solutions to more modern 21st century solutions that are better able to cope with the software licensing challenges of the user-centric, online, multi-app, multi-device world.

Traditional licensing solutions

There are three main touch points involved in the use of any software licensing solution:

1. Onboarding the customer: the issuing of a license, activating a software product and validating that a license exists so that a new customer can get started with an ISV's product.

2. Supporting customer use in production: the product is deployed and licensed. The ISV can put their feet up, right? Wrong. This is where the real work begins with a traditional licensing solution.

3. Revoking access rights. The license has expired. Is the licensor able to verify that a customer can't use their software anymore?

As the licensing demands of modern software products have evolved, these three main touchpoints have become the three major failure points of traditional licensing models. Even in the most straightforward scenarios, traditional licensing approaches - those that rely on static license keys or dongles and deployed with on-premise license servers - run into major problems at each main touchpoint:

1 https://www.marketresearchfuture.com/reports/enterprise-software-market-2442
2 https://www.idc.com/getdoc.jsp?containerId=US47143021

1. Onboarding the customer: Activating software with software license keys

Every application has an activation process and ideally, software will only be allowed to run when a valid license is in place. At best, execution of this process will be logical and transparent. More normally, the process is complicated, poorly executed and frequently fails resulting in significant software downtime.

The traditional method of activating an instance of software is by using a software license key. The key itself is usually a string of characters, which when entered into the installer or the software itself will 'unlock' the product for authorised users. The basic idea is that only users that have acquired a license and agreed to the terms will be issued with a license key that enables them to run the software.

In practice this process is very manual and prone to failure and delays. First, the ISVs need to get the correct keys to the correct people. In a B2B environment, the licenses will typically be acquired centrally and then the corresponding software keys will be distributed to end-users. As a vendor, the ISV may be in touch with the main account rep, but it may not know who the ultimate end users of its product will be. Ideally, a clear mapping between keys issued and end-users is put in place in order to facilitate license tracking and this same information also has to be available throughout the organisation, from sales team through to licensing ad min teams. Static, key-based approaches to licensing make this very difficult to do efficiently in practice.

Many ISVs will use a CRM system to help with this process (although it adds several steps to an already manual process) to help keep track of which customer has received license keys and to which users or devices these have been assigned. But even assuming this information is accurate and the vendor has a clear idea of who is using what, the actual distribution of keys introduces another layer of uncertainty.

Have the correct users received the license keys or are they waiting in a company admin's inbox, awaiting distribution?

Have they got the correct license key, but there's a problem with the installer? Even after a license sale has been made, traditional licensing solutions involve several potential pitfalls just during the process of getting a new customer up and running. Regardless of whether they're delivered digitally or attached to physical media, product keys typically present many opportunities for distribution to go wrong and have been an increasing pain-point for ISVs adapting to customers who expect fast, efficient product delivery and access.

2. In production - the challenge continues

Let's assume an ISV is using a traditional licensing solution, and has been able to successfully issue a number of keys to end users, and that those end-users are now up and running. End of the story right? Wrong. Traditional licensing solutions really start to creak at the seams as soon as anything in the system changes. This could include:

An existing user leaves

If a user leaves the customer company, they will have a license key paired with a valid instance of the ISV software. Normally, that key should be returned back to the vendor. The customer license admin will need to keep track of the status of a redundant key and ensure that it is returned to the vendor - more often, that key is forgotten. In larger customers, you can imagine that this key reconciliation process may apply to tens, hundreds or even thousands of keys and represents both an internal administration hassle for the customer as well a significant potential mismatch between licenses they are paying for and the actual software in use within their company.

Returned keys also represent a significant administrative hassle for the ISV. Maintaining an accurate map between keys issued and end users is tough enough to do when a new customer is on-boarded. Keeping abreast of changes to that mapping is an additional challenge when relying on information provided by the customer which, at best, will be slow in being provided.

Issuing licenses to new people

A customer will have likely purchased a certain number of licenses for their business. If a user has left the customer will be keen to ensure that a replacement license key is issued to a new user as quickly as possible. This takes us back to step 1 of onboarding new users and reintroduces the complexities experienced there.

Changing license terms or model

Once in production with a traditional licensing solution, it is impossible to switch the license model upon which a product has been licensed. This ultimately restricts the amount of flexibility that an ISV can offer to a customer if the customer's requirements change. What if a project has just received an injection of budget and needs 20 more licenses to be issued according to a floating license pool basis? Tricky to deploy if all existing licenses have been issued on a perpetual model. Want to introduce a free trial to an existing customer to showcase the value of a new business unit or product? Difficult to implement using license keys and for products normally only provided on the basis of a floating license model.

Existing user maintenance

Traditional, key-based licensing solutions that require licensing servers to be deployed on the customer site also run into numerous maintenance issues. Even in very straightforward scenarios software license keys can still create support issues.

Users can suddenly become "deactivated" if they lose connection to the license server or if they change or accidentally remove a piece of hardware. Both hardware based and license server solutions always become an issue when customers need to reinstall or update their hardware. License keys get lost and damaged and software dongles, in particular, present their own set of challenges with hardware failure and compatibility.

Typically customers without access to a license key (for whatever reason) will find that their software is useless, creating ongoing support requirements for ISVs as well as frustration on the part of the customer.

Measuring consumption

ISVs that use traditional software licensing solutions normally also experience two further issues. As licensor, they suspect that one or more of their customers are over-using their license entitlement but they are unable to verify this. On the flip-side of the coin, the licensees can also struggle to internally reconcile the number of paid for licenses with actual usage, but here too traditional licensing solutions leave a significant gap in information.

Traditional key-based licensing solutions do not solve the problem of effective license management. Any ISV using traditional solutions will still have to dedicate a lot of resources to software license reconciliation and lengthy and expensive audit processes. Customers lose track of their end users as people move through or leave organisations and pushing updates and tracking software overuse can still be very cumbersome and time-consuming. In today's world of BYOD and the evolution of remote working environments, these problems are only being compounded.

3 Revoking access rights

How an ISV chooses to license its software is going to play a significant role in how or even if it can fully revoke access rights when the time comes. This is the third main friction point caused by using a traditional approach to software licensing and the most costly from the perspective of lost revenue.

An ISV can rely on its customers to get in touch when they want new software licenses or product updates, because without them they may not be able to do their job - or at least not as efficiently. But how likely is it that a customer will contact the ISV to ensure that it can't use the ISV's software? How does the licensor get its license keys back? In theory, an ongoing manual or computational comparison verifies license details and allows software to continue to execute and finally, once entitlements have been removed, licenses are revoked and software should fail to run. But with traditional licensing, this is likely not the case.

> Software protection is a critical requirement for any software vendor as it helps ensure that customers can only unlock the programmes and data that they're allowed to be using.

Many software vendors simply leave the doors wide open and are unable to verify that usage has ceased when a license has expired. No-one should have permanently privileged access to a software product - not even with perpetual licensing.

The license dongle was once the software licensing solution of choice for ISVs as it offers a simple way to limit overuse - the number of hardware keys issued is equal to the number of licenses purchased. However, even with hardware-based IDs, there's no way of reliably knowing where and how your software is being used.

Hardware can be cloned and license dongles can easily be passed from one user to another. In the case of lost devices, you often have to simply trust that your customer is only using newly issued product keys and not the old ones that have been lost.

> Processor-based or node-locked licensing can offer security on the one hand when issuing licenses, however, become a major issue when trying to revoke access to software.

In the case of lost license keys - or for example a computer breaks down with the software key installed on it, ISVs have, in the past, asked their customer to fill out a declaration form and issued a new license key. Many companies have multiple protection keys and manage entitlements across a number of employees and platforms, mergers take place, employees leave, roles change and companies evolve and grow, losing track of their assets in the process. Often the ISV simply has to trust that their customer isn't over-using its software. Formal audits are the ultimate backstop but one that is expensive for both the ISV and the customer. Vendors have to be rigorous in order to prevent illegal software usage and protect their revenue, however, unsurprisingly, no one likes getting audited.

Introducing complexity into licensing models means having to have even tighter control over access rights and user entitlements. You can ask customers about software deployment, you can ask them to complete license verification questionnaires, or more formally you can carry out an assessment of customer usage through a third party auditor. But ultimately you still have very little control over your software unless you have a tightly controlled authorisation process.

The very idea of 'usage' is an anathema in traditional solutions - there is no ability to track usage nor limit it in any way once a license has

expired, except through very laborious, typically manual, means.

For traditional, key-based licensing solutions, 'revoking access' remains more a pipe-dream than a reality. However, if traditional licensing solutions struggle across the three main touchpoints of a deployed licensing solution (onboarding, in production and revoking) what's the alternative?

Dynamic software licensing

Gathering good quality data is arguably the most important aspect of every aspect of the software licensing process. Onboarding a customer requires knowing who the end-user is. The efficient, dynamic reconciling of software licenses involves comparing customer consumption data with their entitlement and ensuring that this information matches. Revoking licenses in turn can only be done if an ISV has an accurate idea of who is using what and where. But if key-based solutions struggle to capture the necessary data in order to enable dynamic licensing, what is the alternative? In today's fast-paced, multi-app world, the best licensing solution that can be used to underpin an ISVs product distribution is one using identity-based licensing.

Identity-based software licensing by 10Duke

Identity-based licensing is a method of controlling access to digital products based on the authenticated identity of an individual. It offers the flexibility to license according to a variety of constraints such as company, device, location and application type, as well as the ability to choose from a variety of license models.

Identity-based licensing is enabled by three components. An identity component, which is responsible for authenticating the end user. An entitlement or licensing component that authorizes access to apps for authenticated users, and a reporting component that stores all data related to a customer's access and license consumption in order to provide key data to understanding usage.

This data enables dynamic license reconciliation as well as a comprehensive understanding of overall system usage. In an identity-based licensing solution, end-users have an individual user account, which they sign in to each time they want to access an application. This applies irrespective of whether they are using a desktop, web or mobile application.

Once they have an active session, they are able to access those products for which they have a valid license. This allows for very tight license control between end-user and the software product. The client application will only grant access to the end-user if they have been both authenticated and authorised. When you consider the benefits of identity-based licensing as applied to the three main touchpoints in any licensing solution, the benefits become immediately obvious.

Onboarding

With identity-based licensing, licenses are assigned to individual users or groups of users. Therefore the ISV needs to know exactly to whom the licenses are being granted in order to enable access. And 'knowing' is simply a valid email address or username for a particular end user. This simple but powerful piece of information is all that needs to be transmitted from customer to the vendor in order to enable a license to be granted and this can be done from a simple web-based administration tool or triggered by an external system like a CRM application[3].

There are no license keys to issue, no installers to run, no dongles to distribute and no on-premise license server that the customer has to install.

In production

With identity-based licensing, administration of the licensing system once in production is also dramatically simplified - purchases or renewals can be done online either for individuals or for teams, and activation is automatic once a user downloads an application and logs into it.

If that user leaves their company, their access to the software application can be immediately revoked on the backend. They may still have the application installed locally, but it won't run if they can't log in to it. This means that there is no more return and reconciliation of license keys and less software downtime.

The status of the licensing system in terms of who is accessing what and who has access to a valid license is always real time and available to the ISV so they can see what licenses they have in issue and whether those licenses are actually being used.

Another key benefit of identity-based licensing once in production is the ability of the ISV to offer different combinations of their product to a customer according to differing license models. Identity-based licensing can accurately enable a variety of licensing models from trial SaaS subscriptions, site-based floating licenses, PAYG (Pay As You Go) subscription models and even aggregate use time licensing models.

Identity-based licensing can provide businesses with the ability to choose the license model that is most suited to maximising revenues, rather than being forced to adopt an inflexible license model that is unsuited to its business because of the inflexibility of a traditional licensing solution.

Revoking

When it comes time to end a customer's access to a licensed application, id-based licensing makes it incredibly simple. All that needs to happen is that the end-user's account is terminated and they are unable to access the application any longer.

Alternatively, the ISV may wish to maintain their relationship with that end user, perhaps to be able to offer them a second product at some point in the future. The ISV can then simply remove the user's specific entitlement to a particular product (via a simple web-based admin tool) and while the user will be able to log in to

their ISV account, they will no longer be able to access the previously licensed product.

The ISV has 100% certainty that their IP is protected and that their product can no longer be accessed by that user.

Additional benefits

In addition to offering major benefits in regard to the three main touchpoints of a licensing solution, identity-based licensing also offers major additional benefits in regard to user experience, user insights, and license model support.

User experience

Particularly if an ISV offers more than one application to its customers, identity-based licensing offers flexibility in terms of improving the ease with which customers can access and interact with multiple products. The same licensing engine can be used to provide licensed access across multiple applications and across desktop, mobile (native), mobile (web) and browser-based applications.

Providing access to an integrated product suite with the same set of authentication credentials means that products are easier to manage securely while improving the customer's experience of how they access products. End-users are familiar with using one set of login credentials to access products they use in their private lives - think Google and all of the services it provides - all accessed from the same end-user account.

Even in a B2B context, end-users expect the same simplicity and elegance from software vendors. Business customers now expect providers to deliver a consumer - like experience for all of their digital products and it's no longer a case of whether or not ISVs and software producers have to change; they must change in order to step into the future.

Insights

Understanding how, when, from what device, and similar usage data can provide a better understanding of how customers are using products. At a basic level, identity-based licensing enables a real-time view on licenses issued, consumption of licenses, licenses expiry and similar data.

At a more advanced level, identity-based licensing can show usage data across a suite of products. It can help software vendors tap into a rich stream of data to help customers optimise costs, uncover latent demand for products, as well as help to reveal potential product improvements, all of which speak directly to the ISV's bottom line.

License model support

Modern software licensing is not just about counting. Software vendors need to be thinking about how they can use this process to maximise their revenue as well as add value for their customers. Here too, identity-based licensing can come to the rescue. Software must be licensed in order to protect revenue, however, thinking of software protection as simply minimizing unauthorised use of software is a huge mistake. Software vendors don't just need to know who their customers are; they need to know if they are getting value out of their products. ISVs then need to ask how they can use their software licensing solution to better leverage revenues and efficiency and even shorten time to market by pushing new software products and trial features to their existing customers. In short, the ISV needs to have the flexibility to apply different license models to different products in order to best be able to maximize revenues.

Summary

Activating an instance of software is just the beginning of what will hopefully be a very long and mutually beneficial relationship between an ISV and the customer. Software suppliers that want to succeed need to align product pricing with the value delivered to customers and to do that they need to be able to easily apply the best license model to their product line. With its support for perpetual, subscription, floating, aggregate use time license models, identity-base licensing allows an ISV to do exactly that.

Software licensing solutions that require lots of 'touch points' in a deployment don't scale. Software vendors need to be able to offer their products with greater flexibility, however, to do this effectively they must first let go of the mindset of license keys, license files and license servers. In a multi-app, multi-device world, identity-based licensing by 10Duke offers significant competitive advantages when compared with more traditional device-based licensing models.

About 10Duke Enterprise

10Duke Enterprise is a powerful, cloud-based software licensing solution designed for fast-growing software businesses. It is used by leading consumer and technology brands worldwide such as Trimble, Maxon, Seequent, Causeway and Steinberg.

Designed for scalability and flexibility, 10Duke Enterprise helps to reduce revenue leakage with a real-time licensing and access control solution.

It also enables you to gain a single point of control for license management for desktop, SaaS, and mobile applications, APIs, VMs and devices, helping you reduce your internal cost of license management.

As a cloud-native solution, 10Duke Enterprise reduces the manual steps needed for licensing for both you, the software vendor, and your customers. There are no license keys or on-premise license servers to manage, but instead a frictionless, dynamic licensing solution that can help drive your license sales.

It also comes with built-in Customer Identity Management capabilities, enabling you to give your customers easy access to your products via SSO and to learn who your customers are and how they actually use your products.

10Duke Enterprise is fully documented and easy to integrate with the leading CRM and Ecommerce solutions, to create a seamless automated system. If support is needed, our expert team is there to help you.

https://www.10duke.com/products/enterprise/