Cloud Labeling

for dummies®
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- Supercharge your labeling and boost supply chain health

- Move to the cloud and scale labeling globally

- Manage complexity and change with ease

Steve Kaelble

About Loftware

Loftware is the world's largest cloud-based Enterprise Labeling and Artwork Management provider, offering an end-to-end labeling solution platform for companies of all sizes. Maintaining a global presence with offices in US, UK, Germany, Slovenia, China, Japan, and Singapore, Loftware boasts over 60 years of expertise in solving labeling challenges and helping companies improve the quality, speed, and efficiency of their labeling, while reducing cost. As the leading global provider of Enterprise Labeling and Artwork Management solutions, along with Clinical Trials Labeling and Content Management, Loftware enables supply chain agility, supports evolving regulations, and optimizes business operations for a wide range of industries including life sciences, manufacturing, electronics, chemicals, food & beverage, retail, automotive, consumer products and apparel.

Cloud Labeling

Loftware Special Edition

by Steve Kaelble

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Publisher's Acknowledgments

Introduction

About the only sure thing you can say about business is that tomorrow will be different from today. Probably a lot different. Your company needs to be able to scale quickly, adapt at lightning speeds, and be ready for the unknown.

Moving enterprise applications and functions to the cloud is a smart approach to managing change, with quick deployment times, lower upfront costs, easy access, and unmatched scalability and flexibility. All are good reasons to centralize your labeling in a cloud-based system.

Cloud labeling helps your supply chain and operations stay nimble enough to deal with change. It automates manual, error-prone processes, centralizes and standardizes siloed functions, and allows remote players to design, approve, and print labels anywhere. It integrates your labeling directly with data sources of truth, and enables labeling to be extended to partners, as well. It makes global regulatory and customer compliance a whole lot less of a conundrum.

As your business deals with the many challenges of the day — pandemic shutdowns, natural disasters, labor shortages, and more — your success depends on supply chain agility. Cloud labeling ensures that you can adapt and shift as needed, without being hung up by labeling issues.

About the Book

Cloud Labeling For Dummies, Loftware Special Edition, is your guide for moving your labeling to cloud-based technologies and reaping the full benefit. It introduces the concept of Enterprise Labeling, which unites all of your labeling and integrates it with the business applications that generate the data. It spells out the benefits of a centralized, standardized approach that can then be ramped up across the globe. And it offers tips for getting started. This book is brought to you by pioneers in labeling technology, with longtime expertise in Enterprise Labeling. You'll learn about a cloud-based approach from experts who have firsthand experience in bringing labeling to the cloud. It's both an introduction

and a roadmap toward truly tapping into the power of labeling — not just for efficiency, but for business growth.

Foolish Assumptions

In planning this book, I've made a few assumptions about you, the reader:

» You're involved in supply chain or logistics, or perhaps you're in IT, or labeling is one of your responsibilities.

» You're struggling to deal with the complexities of labeling today, and would appreciate pointers on how to integrate and scale your labeling across all locations, all stakeholders, and all business systems that provide data.

» You'd love to learn about how the cloud can supercharge labeling power and boost supply chain health.

Icons Used in This Book

In the margins of this book you'll see a number of eye-catching icons. When they do catch your eye, this is what they are telling your brain.

REMEMBER

This book isn't *War and Peace,* but you still may be short on time. If you're skimming, don't skip paragraphs marked with this icon.

TIP

The whole point of this book is to offer you solid ideas to act upon. This icon points to one such idea.

WARNING

You know things can go awry in the supply chain. Here's something to watch out for.

Chapter **1**

Moving Labeling to the Cloud

When is a label more than just a piece of paper with adhesive on the back? Today. More than ever. Labeling is a key to supply chain success, to innovation, to rapid growth. That's not an overstatement, especially now that cloud adoption can take your labeling to new heights.

This chapter gets into the basics of labeling and why it's important to your business and supply chain. It discusses Enterprise Labeling, which unites organization-wide labeling operations and integrates them with all relevant business processes. And it discusses how cloud capabilities take that concept and truly carry it into future success.

Appreciating the Importance of Labeling

It wasn't that many years ago that the average person gave little or no thought to the term "supply chain." A lot of people probably didn't even know what the term meant, figuring it was something you bought at the hardware store, or perhaps something made of gold to hold a pendant around the neck.

These days, most people are painfully aware that the supply chain is more valuable than gold, and supply chain problems can grab the global economy around the neck. In the past few years, countless headlines in the mainstream media have included the words "supply chain," and pretty much all those stories have been about major inconveniences, higher costs, dire concerns, occasionally even life-threatening situations.

WARNING

It's clearer than it has ever been that our society falls apart without well-functioning global supply chains. We've seen the consequences when pandemic disruptions, plant shutdowns, labor shortages, bottlenecks, and other glitches have wreaked havoc on supply chains and created shortages of everything from toilet paper to microchips.

So yes, everybody now knows how vital it is to supply chain health that we have fully operational factories, smoothly run ports, well-staffed trucking companies, and subcomponent parts in the right places at the right times.

Want to know something else that's just as vital? Labeling.

Think about all those things you bought online during the COVID-19 pandemic when you and much of the world stayed home from stores — and created a blizzard of activity in shipping and supply chains. Labels on the box directed your online purchases from the distribution center to your door and allowed you to track their progress along the way.

Before that, labels got them from the warehouse shelves into the box. Before that, labels directed those goods from the factory to the warehouse. Before that, labels got parts and components needed to assemble those items to the factory, then organized them along the production line. Before that, labels enabled the processes through which raw materials were delivered from one supplier to another, to be made into those subcomponents.

That, in a nutshell, is the supply chain working smoothly — viewed backwards from your front porch all the way back to the gathering of the raw materials needed to build whatever gadget you just had delivered to your doorstep.

None of that could have happened without labeling.

Seeing barcodes everywhere

REMEMBER

One of the keys helping labels enable supply chain success is barcoding. Barcodes are not particularly new, but they are more ubiquitous than ever before. They're on every product that gets shipped, every item on store shelves, every delivery carton, every pallet in the warehouse, and even on a lot of parts themselves.

These days, we all have a barcode reader in our pocket or purse. Your mobile device can scan the barcode on a product and with the right app, instantly access everything from ingredients to assembly instructions to ratings of a particular vintage of wine. You can scan a QR code to download a restaurant menu or an app.

It's worth a quick trip back in time to review how we got to this point. Barcodes and their predecessors date back to a graduate student who dreamed up the idea in the late 1940s. In the 1970s, barcode scanning of grocery store items got its start. And in 1986, a visionary named Andy Anderson founded one of the first barcode labeling software companies, Loftware.

By the 1990s, companies were starting to adopt powerful new enterprise applications to automate business processes, along with new technologies for printing labels. In the 2000s, those enterprise applications became more and more integrated and server-based, with new internet-enabled ways to link business functions.

Labeling had been making a splash in the supply chain, but creating those labels was still a largely manual process. The solution to that was the concept of *Enterprise Labeling*, pioneered by that same company Andy Anderson founded, Loftware — the company that has delivered this book to you.

Barcoding on an enterprise level

REMEMBER

As the world in the last section's history lesson was becoming more complex, so was labeling. There was more information needing to appear on labels, more regulations, more customer requirements, all of which was complicated by the fact that the data lived in multiple, often-disconnected systems.

The concept known as Enterprise Labeling refers to standardizing, automating and optimizing labeling processes to gain greater efficiencies. It includes linking labeling processes with all of the

other business processes and enterprise applications across the supply chain, providing consistency and improving accuracy.

REMEMBER Here's the key: Labels are linked to important information about the item to which they are attached. Kind of like a passport, that label info might include what the item is, where it came from, where it is going, when it should get there, and various other details about the customer, the product, and its journey. And because the "where" might be anywhere on the planet, label information needs to take different languages into account, as well as different sets of regulations.

Beyond fairly standard master data, labels increasingly tap into variable data, with those business applications providing sources of truth for that information. Enterprise Labeling integrates your labeling directly with those sources of truth, whether they be enterprise resource planning applications, warehouse management software, manufacturing execution systems, or product lifecycle management software. In real time, it brings in all the right data to print the exact label that's needed.

The dynamic nature of this approach lets labeling adjust and account for continuous change. It automates, integrates, and optimizes the process, applying business logic to address all of those regional, language, industry- and customer-specific, and regulatory requirements that had been obstacles before. Business rules can adjust label content and format, varying labels based on whatever parameters make sense for your business.

REMEMBER That means your labeling becomes dynamic, able to easily roll with the changes that are part of today's business environment. Your labeling must dynamically reflect regional requirements, language differences, industry-specific considerations, and details specific to individual customers — and this approach delivers on those needs. Labels can be printed natively to devices and printers anywhere, in as high a volume as possible, no matter how many locations you have or how global they or your customers are. Tapping into the cloud makes it easier than ever to fully benefit from these game-changing capabilities.

Similarly, an enterprise approach also is increasingly vital to empower those involved in packaging artwork management. That, too, becomes ever-more challenging as your business grows globally and expands offerings.

WARNING Manual artwork management processes, emails, and spreadsheets are labor-intensive and error-prone. They're slower than today's realities require, and their lack of connection to vital and relevant information causes unnecessary rework. A central, enterprise-wide approach is the answer here, just as it is with labeling.

Yes, it's possible to move forward without a full enterprise approach, and many organizations have done so — but it is far from ideal. Homegrown solutions can move your organization in the right direction, as can custom solutions or third-party products, even some of the functionality that's native within enterprise resource planning applications.

Any of those things can be helpful, but they are hard to maintain and since they're not fully integrated, they're likely not up to the task of keeping pace with rapidly changing supply chains and business processes. You may feel like these lesser-scope solutions seem more cost-effective as they take on narrower parts of the operation, and they may handle existing issues reasonably well.

WARNING *Existing* requirements are just that — the needs of today. As observed earlier in this chapter, those needs can change dramatically and rapidly, and tomorrow's requirements are likely beyond what your imagination might come up with today.

And as the COVID-19 pandemic made clear, we're not using the terms "today" and "tomorrow" in the figurative sense. Tomorrow quite literally may be an entirely different day from today. What if your patchwork, disconnected solutions aren't up to your need for scaling and other change? That's a problem that can't be put off until tomorrow.

Connecting the supply chain

They say the customer is always right. The customer's demands may not always seem reasonable, but you've got to find a way to keep customers happy. A healthy supply chain is an absolute must, even if it's the kind of thing that many people only notice when there are problems.

WARNING Labeling is a critical component in maximizing supply chain efficiency and ensuring responsiveness. Short lead times, changing market demands, lean business environments, globalization of manufacturing — all these challenges impact labeling and can be

impacted in a positive way by an integrated approach to labeling. If labeling isn't right, it can disrupt manufacturing, inventory, and movement of products. As production and delivery slow, customers get grumpy.

They also get grumpy if you can't meet their specific needs and labeling requirements. Those needs may vary by region, even language. Customers may have something to say about the format of labeling, branding, data attributes, and the barcode, and you need to be able to deliver. A centralized, integrated approach to labeling with business logic enables you to deal with these mounting changes and complexity with ease, from one customer's specifics to the next.

It's not just customers who are picky, either. Regulators are not to be messed with, and their rules vary from one region to another. So, your labels often must, too. Centralizing your labeling helps keep the regulators happy, as it can allow you to adhere to standards while allowing your labeling to vary by region and jurisdiction to be compliant.

Compliance isn't just about the looks of the label, of course. The data on the label is essential, which is why it's helpful to plug right into your sources of data truth — all the other business applications with which it is integrated. Those sources of truth can help drive the business rules that, in turn, govern how your labels adapt to specific situations.

REMEMBER

One more set of third parties is also important to consider: your supply chain partners. You have connections all up and down the supply chain. A broader, better-connected approach to labeling can integrate with their operations, too.

Imagine enabling your business partners to tap into and print labels that are approved specifically for their use. That ensures consistency and makes it unnecessary to relabel goods as they change hands. The approach is a plus not just for your organization, but also your suppliers, contract manufacturers, third-party logistics providers, and others who help make your supply chain function smoothly.

Keeping Up and Getting Ahead

What aspect of your life hasn't been impacted dramatically by adoption of cloud-based applications and technologies? Cloud technologies are all over, creating new capabilities, bringing new efficiencies, enabling much more powerful abilities to scale up and across the globe.

Deployment times are much faster, too. Upfront costs are lower, updates are automatic, access is easy. No wonder the business world has already embraced a cloud-first strategy for such critical systems as enterprise resource planning (ERP), customer relationship management (CRM), and inventory management.

Critical business operations were moving ever-rapidly toward the cloud even before the COVID-19 pandemic arrived in early 2020. The pandemic just accelerated the business shifts that already were in the works, including the move to more remote employees and a variety of supply chain disruptions.

The critical processes headed to the cloud go well beyond such things as ERP and CRM. It should come as no surprise that companies managing their inventory, logistics, and customer service in the cloud will start to do the same with their labeling.

REMEMBER

Labeling, like all of those other areas, is ripe for being supercharged by cloud adoption. The cloud has quickly become the simplest way for companies to design, manage, and print labels across their business operations and their supply chain. It makes it easier than ever to design labels once and then use them across global operations, leveraging business rules to trigger any required variability.

You may think, labeling and packaging are not the most natural things to be talking about when it comes to the cloud. The cloud is so, well, *digital*, while the most common end product of labeling and packaging is a *physical* thing — something that gets printed on a physical device in a plant or warehouse or distribution center, then applied to a product or part or package.

Just recognize that every advantage that the cloud offers ERP, WMS, and all sorts of other business apps, it also offers labeling. Among its many benefits, the cloud enables easy and dynamic connections, and you need those connections for your labeling.

That includes connections between the labeling system and all the data in the other systems, as well as connections between you and your suppliers and customers. It's powerful integration along with business rules allowing you to greatly reduce number of templates — dealing with variability by making any necessary changes to the ones you have.

That's why cloud labeling has quickly moved past the early adopter phase. A couple years ago, those tracking labeling trends found that the percentage of labeling users who were tapped into the cloud was in the single digits, or maybe low double-digits.

In this year along, preferences for cloud for labeling systems had risen up to almost half. Loftware surveys suggest that within three years, more than two-thirds, or even three-quarters, of users will prefer cloud for their labeling, as opposed to on-premises solutions.

Adjusting to Today's Realities

Businesses need flexibility now more than ever, more speed and responsiveness, and greater agility in the supply chain. This was true before the pandemic. It's all the more true now, with the permanent adoption of remote work models in so many situations, along with the ongoing supply chain shortages and disruptions that are so common.

REMEMBER

Companies that embrace these realities can expect the brightest futures. Here is a quick rundown of some of the benefits of cloud labeling, and you'll find many more details in subsequent chapters.

Enabling business innovation

REMEMBER

Cloud labeling eases a wide range of innovations in your business operations:

>> You're reducing your reliance on IT and having the business side take ownership of labeling. Business users can tap into the software and benefit the business, designing labels, creating business rules, and really taking a more prominent role in labeling.

- >> You're extending labeling to multiple stakeholders to support better and easier global processes. Stakeholders include operations, manufacturing, warehousing, distribution, packaging, regulatory, quality, IT, and more.

- >> You're converting manual or analog processes into digital and virtual ones, and you can support change in the business without changing the software you're using.

- >> With a cloud labeling system, you're benefiting from a steady stream of new software releases and features, with no need for on-premises upgrades.

Dealing with growth and unpredictability

REMEMBER

Cloud labeling helps facilitate growth and rapid scaling, along with quick solutions to challenging situations, as outlined in this section. And it does so for companies of all sizes because the cloud provider takes care of the technical complexities and capital investments:

- >> Cloud labeling speeds implementation and expansion to new locations, so you can get value sooner.

- >> You're centralizing and standardizing, ensuring continuous operation, but gaining better presence at diverse and remote locations as needed.

- >> The cloud brings lower costs and greater financial predictability to your labeling, allowing you to pay only for what you use and avoid hardware and software capital expenditures.

- >> Cloud labeling makes it easier to extend labeling beyond the walls of your business so you can connect supply chain partners, and rapidly onboard new suppliers. You'll improve the goods receipt process and put a stop to relabeling.

- >> You're enabling a mobile and remote workforce, giving users access from anywhere to design, review, change, approve, preview, and print.

- >> You're supporting mergers and acquisitions, because you can easily extend labeling and spread new branding to a new environment.

- >> In times of crisis (such as pandemics or natural disasters), you've got added agility to shift operations and labeling to less-affected locations.

Chapter **2**

Benefiting Your Business Through Cloud Labeling

E ven before the cloud took off, a centralized and integrated approach to labeling was a remarkable development for upping your supply chain game. Adding in the capabilities of cloud-based systems makes it an absolute game-changer.

Chapter 1 looks at the concept of Enterprise Labeling and the ways it can be revved up with the help of the cloud. This chapter dives much more deeply into the ways your business operations gain from cloud labeling.

The chapter discusses how cloud labeling helps your business grow and scale operations — even globally. It explores how you can make your financials more predictable and your costs more affordable. And it details why your IT department will be singing the praises of cloud labeling.

Deploying, Changing, Growing

A cloud-based labeling approach brings the utmost speed and access to your operation. You can have cloud labeling up and running in practically no time. But that's just the beginning. Beyond initial deployment, future changes can be done much more easily.

Scaling and expanding rapidly

REMEMBER

Cloud labeling makes it far smoother to add new facilities and expand into new regions. Not just new regions but entirely new countries. The growth it enables includes manufacturing new products, increasing your volumes, and complying with new and different regulations as you expand your reach or as your business grows.

What are the secrets for making that happen? One is having a labeling system you can control centrally. At first glance, that may sound like a contradiction — growing and expanding in all geographic directions, while also maintaining centralized control.

But that, again, is the power of the cloud. You're establishing, standardizing, and maintaining your corporate labeling standards in a coordinated and centralized way, but making them easier to access far from your headquarters.

One enemy of this kind of progress is your set of manual processes that have been in place for as long as many of your people can remember. When your processes are manual, they get in the way of growth and scale. Those processes also are likely not standardized from one place to another, with multiple different solutions in place, which also hampers scaling and makes maintenance a major pain.

Once you digitize your processes in a cloud-based labeling system, such problems quickly step out of the way and you gain far greater efficiency. You can still maintain many of your existing systems and the ways your users interact, but your ability to scale your labeling across the whole business ecosystem is supercharged by the flexibility of cloud labeling.

Also, as you add new sites, cloud labeling can ease the process of onboarding and minimize disruptions with simplified, consistent, and standardized training. That goes for your internal teams as well as external suppliers and partners. And if supplier labeling is part of your process, you eliminate the need for time-consuming and costly relabeling.

TIP

Running labeling in the cloud provides powerful benefits for businesses of all sizes — including small operations with just a single location and no plans to add more. Or, if you are scaling to additional locations, your users at each new address can solve their

own unique needs while staying plugged into a common set of labels along with applications and data sources that are centralized and used across the whole supply chain. That ensures business continuity, consistency, and accuracy.

Changing at today's pace

You don't just need to grow and expand to meet customer demands. You need to be able to do so rapidly. You need to be the first to deliver whatever it is that your customers are wanting.

Yesterday's approaches to labeling may have gotten in the way of the agility required by constant change, ever-increasing complexity, and ongoing evolutions in regulatory requirements. For example, the design and change cycle for labeling has often been lengthy. Changing and adjusting on the fly? Not in the old way of doing things.

WARNING

It's not just how your labeling is deployed, either. If other details of the labeling process aren't handled right, you're looking at even more delays, or even worse. Technological shortcomings that crop up as you try to adjust and adapt could mean trouble getting the right data on the right label. Now you're at risk for losing money, stalling productivity, cramping efficiency, and ultimately, watching your market share fizzle.

That was then. Cloud labeling, on the other hand, not only gets out of the way of progress, but enables it — whether you're bringing something new to market, entering a different market, rolling out new branding, or just making subtle product changes.

With cloud labeling, these evolutions or revolutions won't get hung up amid tedious label design and change cycles. You won't have to slow production and have competitors beat you to market.

By standardizing on a cloud-based solution, you're able to re-evaluate your labeling — automating processes, gaining flexibility, increasing accuracy, and improving consistency. You can support the evolving requirements of tomorrow while avoiding mislabeling.

As your labeling solution taps into data sources of truth for label information, you're better able to dynamically handle labeling variability. You configure rules that can dynamically change label

content based on data that you pull from your systems of record. Label formatting is automated and streamlined.

All that means that you're far better able to manage regional, language, regulatory, and customer-specific requirements. You can quickly update label template updates, and because you and your teams are plugged into the cloud, you can streamline the approval process.

In the end, label changes and updates can be made by business users themselves. And those changes and updates can be made in hours — not days, weeks, or months. That's the kind of agility you need to win at today's competitive game.

Enabling Financial Predictability

As outlined in Chapter 1, the cloud saves money in just about every area it touches. Just as important, it makes your financial situation a whole lot more predictable. That's true with all of the various business applications that move to the cloud — including labeling.

That financial predictability is there from the very start of your deployment. Simply put, you won't have to make extensive and costly upfront investments — what could be more predictable than that?

You won't need the same level of internal IT infrastructure, either, and your IT team won't need to be nearly as involved. That reduces costs, too, and lets you use their capabilities for other value-adds.

Like all cloud transformations, running labeling in the cloud means you are tapping into the "as-a-service" model. You're paying for the services you consume rather than the infrastructure that's delivering them. What was a capital IT investment turns instead into an operational expense. Now, instead of having to cough up that upfront capital investment that has to be depreciated over time, you're making payments as you go.

That difference really opens the door for companies of any size to affordably get into world-class labeling solutions. You're saving on capital and making it all much more financially predictable.

Reducing the Impact on IT

Just to expand on that thought a bit, by reducing your need to purchase and maintain hardware and software infrastructure, you're saving a lot more than money. That means you never have to worry about software updates and upgrades. Plus, you can really count on uptime and availability when you tap into such cloud providers as AWS and Azure.

REMEMBER

As a user of cloud labeling, you get the benefit of a flow of new features on an ongoing basis, without having to handle the updates or upgrades yourself. To put an even finer point on it, it's not just deployment where cloud labeling reduces your IT headaches. Ongoing operations are smoother for all, which makes life easier for IT.

That is an incredibly welcome development for your IT team, which no doubt is dealing with increasing demands and the ongoing drudgery of tech support. IT experts have routine day-to-day requests as well as emergency calls to deal with breakdowns.

They also are expected to maintain, update, and replace your various technology solutions and applications. Beyond deployment, that means ongoing tasks related to security, availability, performance monitoring, and on unfortunate occasions, disaster recovery.

Here's where cloud labeling comes to the rescue and frees up these vital but scarce resources. Cloud-based labeling solutions don't need an IT team to install or maintain. Automatic and regular software updates are the job of the cloud labeling solution provider. Availability is the provider's concern, not IT's, and the leading cloud providers have a great track record when it comes to uptime.

But wait, there's more! Users can do a lot more themselves, without having to call tech support. They can design, manage, and print collaboratively. They can generate essential business insights, too — including being able to allow trusted partners to keep an eye on customers' supplies.

In other situations, it would take a lot of assistance from IT to make that kind of magic happen. Not with cloud labeling. IT can stay hands-off as a cloud-based labeling platform integrates

with sources of truth and leverages business logic. Business users themselves are able to make changes and updates easily. Your IT resources can spend their days doing other vital tasks.

REMEMBER

You know what else feels a lighter impact, beyond the IT department? The planet. That's because cloud labeling has a smaller environmental footprint. Consider the fact that there aren't big servers to maintain onsite, which lessens the need for electricity. That's one way to lighten your organization's carbon footprint. Add to that the dramatic reduction in errors. That means less waste and fewer scrapped supplies — which equals a lighter environmental impact. Economies of scale are helpful, too.

Chapter **3**

Connecting Anytime and Anywhere

Where work takes place has been evolving rapidly — and it's pretty much anywhere and everywhere in addition to the usual places. Wherever that work is happening, it's more important than ever to avoid disruptions.

This chapter gets into the importance of connecting your labeling operations from anywhere, at any time. It explores the need for access and control from remote locations, and strong connections involving your partners in the supply chain. And it explores the cloud as a solution for preventing downtime.

Gaining Easy Access

Remote work was becoming more and more of a thing even before the COVID-19 pandemic. When it hit, work from home became not just an interesting trend but a daily reality for millions and millions of people, almost literally overnight. Companies had to adapt on the fly, with new policies, procedures, and technologies to meet the challenge.

Remote employees needed full access to shared files, no matter where they were working — sometimes even through mobile devices. They became accustomed to taking part in video calls, even if they did get interrupted now and then by dogs or doorbells. As we all became better and better at functioning digitally, we found we could communicate pretty well and be quite productive, with a bit of creativity.

As pandemic concerns started to ease, many people returned to the office, but some decided they wanted to hang onto the benefits of remote work. And in some cases, employers decided they'd rather get out of the business of real estate, choosing to close offices and move to 100 percent remote work.

Given that, it's plain to see that remote work is here to stay, pandemic or not. Easy, flexible access to essential business systems is as critical as ever — and remote access now clearly needs to be a forever consideration.

That means becoming more fluid on a permanent basis. It means finally giving up the ghost when it comes to on-premises, siloed business systems that are not inherently great at "anywhere anytime" connectivity.

REMEMBER

What does this mean in the area of labeling? The great news is that permanent, "anywhere anytime" solutions are already available. The concept of Enterprise Labeling already brought labeling out of siloes well before the COVID-19 pandemic. And cloud labeling means you can support critical labeling operations anywhere, from anywhere, whether your workers are permanently remote, traveling or quarantining, or operating a faraway location.

A cloud labeling system gives users in warehouses and manufacturing facilities across the globe access to labeling and label data. It can support any users, label designers, printers, production facilities, and warehouses, regardless of where they are. Users have immediate access and control even when they're as remote as can be, which creates more flexibility than you've ever had, even as you make production or supplier changes.

Surveys have shown that many organizations already have been thinking in terms of cloud-based labeling solutions for a while now, and the percentages continue to grow. Businesses are starting to fully appreciate how cloud labeling makes it easier to shift

production and adapt the accompanying labeling, and how it better accommodates remote workers.

They're recognizing the importance of systems that work regardless of location or device type. And they realize the cloud makes it that much easier to extend "anywhere anytime" access to new partners and suppliers, too (more on that later in the chapter). It all helps ensure continuous movement of parts and products, without delay, from upstream at the original source to downstream in the customer's hands.

Staying Up and Running

You don't need a book to tell you how fast the business world moves these days. Products have ever-shorter lifecycles, becoming obsolete in the blink of an eye. And as demands for variability and personalization increase, so does the number of product SKUs.

That's challenging enough on a good day, but when's the last time you had a "normal" day? The current reality has all of the usual cyclical swings, plus potential slowdowns from labor shortages and material unavailability, current or future global health crises, plus scary and unpredictable weather due to climate change.

Does your customer care about those challenges? Nope. You're still pressured to operate efficiently, keep your costs down, improve quality continually, respond promptly to customer demands — and keep operations running all the time, filling the supply chain quickly and without friction.

WARNING The costs of downtime are growing ever-more devastating. If you can't maintain continuous uptime, delays are pretty much inevitable, which can lead to customer dissatisfaction, damaged brand reputation, sometimes even fines or other financial penalties.

It's not just production that needs to stay on-track, of course. Your labeling must keep pace or you'll end up underwater. Your labeling is like a passport facilitating the supply chain journey, carrying all the information and identifiers needed for smooth operations.

Which means your labeling must be able to shift as your production shifts to meet new demands, or to deal with worker shortages or unforeseen outages or sudden partner changes. Cloud-based labeling makes it possible to do just that — quickly shift production and labeling across multiple sites, avoiding downtime.

With cloud labeling, whatever the reason is for a production shift, you can be confident your labeling won't go down. You'll have optimized uptime with high availability and the kinds of trustworthy data security you get when you involve such partners as AWS and Microsoft Azure. You'll also have the ability to failover to local instances should access to the internet at remote locations be lost — no halt to production.

Surprisingly, many companies still put their mission-critical labeling at risk by using homegrown and disparate software solutions. They may think they're saving money, or they feel too comfortable to change.

That's a recipe for eventual disaster, especially in this day and age of health, climate, and supply chain crises. A move to cloud labeling and away from patchwork systems will prevent confusion, delays, and downtime, reduce errors, cut maintenance costs, and keep you in compliance with regulations and expectations. That's the best way to keep growing and avoid losing business.

Including Your Partners

Your suppliers need easy access to labeling and label data. That includes existing suppliers as well as new ones you are trying to onboard. There are multiple reasons for this, but they basically boil down to avoiding lost time and wasted effort.

Implementing cloud-based labeling platform makes it much quicker and easier to extend your labeling to all your partners and suppliers. They gain controlled access to label templates and data (as appropriate), giving them power to do things for themselves, and giving you assurances that they're doing the *right* things.

Your business partners are able to print labels approved by you for their use. Looping them into your cloud labeling helps boost consistency, prevent delays, and eliminate mistakes, including those related to costly and time-consuming relabeling of inbound goods.

Cloud labeling also is a boost as you try to onboard new suppliers and help existing suppliers adjust to changing requirements and demands. As the pandemic and subsequent supply chain glitches made clear, not all suppliers have been able to keep up with demands and evolving requirements, and that has tanked just-in-time inventory models. The most resilient companies have been the ones with the agility to easily plug in new suppliers. Cloud labeling simplifies that process and gets those parts and supplies into your operations quickly.

Chapter **4**

Keeping Safe and Secure

What could go wrong with anything related to customer information or other business-critical data? In short, just about everything!

This chapter explores how cloud labeling solutions can ensure safe data operations, a strong focus on regulatory compliance, and a confidence in availability.

Putting Safety First

Data breaches are among the biggest nightmares of business operators these days, so data security is of vital importance. And the sources of truth for your label information contain business-critical data.

You can rest assured that cloud labeling enables next-level security for your user and label data. And there's also no need to lose sleep worrying about downtime caused by cyber incidents, if you are working with a solution with the right security certification and hosting providers like AWS and Azure. You can rest assured that your service won't be interrupted by anything.

TIP

To protect your system and data, your cloud-based labeling solution should tap into a trusted partner with teams of security experts who have extensive experience and certifications. These professionals must implement best practices across policies, processes, and controls for securing data and your overall cloud infrastructure. Indeed, the partner supporting your cloud labeling technology is as important as the technology itself.

REMEMBER

It's important to note that cloud security is often better than other traditional and on-premise systems. Cloud service providers, which are certified to be secure by third-party authorities, dedicate significant resources to solving security issues. Many individual customers don't have anywhere near that level of resources, nor the wealth of technical skills.

An ideal cloud-based solution will be built on Amazon Web Services or Microsoft Azure. Both have architectures that are the most flexible and secure cloud environments available.

TIP

When seeking a solution, look into SOC 2 certification — that's short for System and Organization Controls Type 2, and it's considered the leading benchmark for enterprise data security.

Maintaining Availability

One of the many benefits of the cloud in general is availability. As stated in Chapter 3, your production operations and supply chain must be up-and-running continually or you'll have major consequences, so the availability of your labeling solution is super-important.

TIP

With a cloud labeling solution built on Amazon Web Services or Microsoft Azure, you can rest easy knowing you'll have high availability, comprehensive disaster recovery, and maximum data security. You can be confident you'll always stay up and running around the clock, with high availability to meet all your labeling demands across the globe.

This means that even if there's an outage or workforce stoppage, you'll still have proven, high availability with continuous uptime. One more thing to look for is the ability to failover to local instances, to ensure continuous operations if any of your locations lose access to the cloud. If you have any concern about

running in the cloud but losing a local internet connection, this answers that concern and assures that the show will still go on.

Staying in Compliance

Many industries operate in a highly regulated environment, and those regulations change continually. No matter what your industry, you likely face stringent data protection requirements.

Labeling and packaging are vital functions for meeting many kinds of compliance. To secure entry into some markets, avoid fines, and ensure safety, your labeling must be dynamic and data-driven to maximize accuracy and consistency.

You also need to ascertain compliance with security requirements. Public cloud providers invest heavily in security innovation, patching, and security management. They also must maintain continuous compliance assurance with regulatory mandates, frameworks, and laws of the countries which they operate in.

In short, cloud labeling makes all of this easier for you because the cloud providers already are in tune with the regulatory needs related to the services they provide.

Chapter **5**

Charting Your Course for Labeling Success

I s your business ready to explore the benefits of labeling in the cloud? How do you assess what it could mean to your business and where do you start?

This chapter is where your journey toward cloud labeling starts to chart its path. It details some of the questions to ask, thoughts to consider, and plans to make. It discusses the importance of pick-ing the right product and vendor, then encourages you to venture forth and reap the rewards!

Examining Your Situation

So, you've learned about and been impressed by the potential for cloud labeling to make a difference in your company's operations. What comes next? Read on!

Assessing your situation

Are you presently working from siloed labeling activities, and are looking for a way to make some gains with a more integrated labeling solution? Or have you already headed down the path

toward automating and integrating labeling with the rest of your business applications and tying in all users and locations? Do you have labeling solutions in place but are thinking it's time to gain the benefits of a fully cloud-based approach?

The good news is, you'll find a pathway into cloud labeling solutions, even if your business is on the smaller side and regardless of where you presently are on your cloud journey. No matter what your business size, no matter whether you have one location or many, no matter what your scope of need might be or your plans for deployment, the door to a modern labeling solution is open to you.

Making a list

Now's the time to make some lists of requirements as well as current and potential future states. What are your requirements today? Start with what types of labels, printers, integrated data sources, customer needs, regional/language nuances, and regulatory requirements must be addressed.

Are you trying to drive labeling from multiple types of devices, from thermal to laser to coding and marking? Do you need to manage remote printing? Are you running different solutions at different facilities across your organization? Do you need to replicate your data for labeling, or do you access existing business applications?

Evaluate how well you are able to meet your requirements today, as well as how prepared you are for the demands of tomorrow. Make sure to identify areas of inefficiency and potential errors, and be aware of what they could your business.

Next is exploring the future state, what success should look like. What problems could you solve? What things could be easier? How could you save your resources time? How can you eliminate risk and cost, and maintain uptime?

Deciding cloud versus on-premise

The title of this book focuses on cloud labeling. That is certainly the easiest and most flexible way to go. We've outlined the benefits in great detail in Chapters 2 through 4. You need to ponder

them carefully, and in particular consider how a cloud deployment might benefit your business operations and facilitate growth. As shared elsewhere in the book, cloud-based labeling is the ticket for speedy deployment and the ability to take fast, corrective actions, get to market quickly, eliminate bottlenecks, ensure compliance, and future-proof your labeling.

That said, even if you're not ready for the cloud right now, you can still benefit from modern labeling capabilities, including the ability to centralize and standardize. You can still transform your business on-premise for now, and when you're ready for the cloud, all the labels, configurations, users, and printers can be easily transitioned. At that point, you can achieve that incremental value of the cloud with minimal additional effort.

Pondering deployment preferences

This is a general question that goes beyond labeling. How does your organization prefer to deploy enterprise applications? Do you have a desired future approach that's different?

The answers may determine whether you go cloud or on-premise with your labeling. They may determine how much you want or need to involve IT. The answers may be swayed by whether the dollars you plan to spend are earmarked for capital or operational expenditures.

Make no mistake, the cloud offers the most value, but you also must align with your organization's preferences.

Identifying people and priorities

Who are the key stakeholders in this decision and upcoming implementation? You need to identify all the players, from the operational roles involved in label design and supply chain health, to business-side leaders with big-picture vision, to IT professionals you may or may not need.

Understanding the needs of all of these stakeholders will help you assemble requirements for your labeling initiative and align them with the benefits of cloud deployment. They will prioritize your goals and help to determine the best approach for implementation.

Picking Your Partner

A key decision in your migration to cloud labeling is choosing the right provider. You need a partner that can offer a cloud-based labeling solution for your organization, even if you're starting out on-premise, because there's a good bet you'll eventually aim for the cloud.

TIP

Your partner and the product offered should be able to support your requirements 24/7 with global reach. Your partner should provide best practices and cutting-edge services. You need someone with years of experience in delivering cloud services and support. Your partner must be able to enable certifications that can help ensure security and trust. And your partner must be ready to deliver and innovate with new features and capabilities that will keep you ahead of the game — and your competitors' game, too.

Be sure to ask for customer references. Your chosen partner should also help you build the business case for the value your organization can achieve by moving to automated standardized and centralized labeling and tapping into the cloud. Some of the people you'll be aiming to persuade may still be thinking a piecemeal or legacy approach is best, so you'll need to prepare your best pitch.

As one example, Loftware is the world's biggest provider of cloud-based labeling and artwork management services, with end-to-end labeling solutions for companies of any size. As mentioned in Chapter 1, the company was founded more than three decades ago by a pioneer in barcode labeling and decades of innovation have followed.

REMEMBER

Among Loftware's labeling solutions are:

>> **Loftware NiceLabel Cloud:** A label management solution that can serve one location or many, promising rapid and easy deployment while designed to grow with the business. It integrates with key business systems and is a handy way for Loftware Printer Server customers to modernize and migrate to the cloud.

>> **Loftware Spectrum Cloud:** This is a global labeling solution, good for deployments that span across an entire enterprise. Use it to centralize and standardize across many locations.

It's certified to integrate with SAP and Oracle and is also a logical path for Loftware Print Server customers with large scale deployments to future proof their labeling and migrate to the cloud.

Letting Your Labeling Soar

Got your business case made, your stakeholders involved, your plans spelled out? Time to manage the launch and enjoy the benefits!

REMEMBER

A cloud labeling approach is the best way to tap into proven best practices, and continue to easily improve your approach as practices and the product improve and upgrade. A cloud-based labeling approach is the way you can scale as your business needs evolve and the world changes. And it's the easiest way to continually find new places to benefit and add value.

Why wait? A cloud approach means you don't have to clear the capital expenditure hurdle or wait for extensive IT resources to be available. The time to get started on the digital journey toward cloud labeling is now!

Chapter **6**

Six Trends that Show the Value of Cloud Labeling

More and more companies are understanding how vital cloud enterprise labeling can be for business growth, for dealing with disruptions, for speeding up digital transformation, and for bringing together related functions. Here are some of the trends reflecting where labeling is headed.

Keeping Supply Chains Healthy

Without a healthy supply chain, business success is nearly impossible. The supply chain is the key to production, storage, handling, and distribution of goods. And it's vulnerable to a seemingly ever-growing number of perils, from pandemic shutdowns to staffing shortages to disasters stemming from climate change. The supply chain needs to be agile to remain healthy.

And as companies shift production to different locations and suppliers, their labeling must be able to shift nimbly. Labeling solutions must also be flexible enough to handle new products, languages, regions, formats, and shipping routes. They must remain consistent and compliant all the while, and there's no time for downtime.

About three in four respondents to recent surveying about label‑ing say it's really important that their labeling be able to shift easily between production facilities. Just as many believe label printing and management must be able to happen remotely. And nearly as many think it's vital to be able to provide labeling access to new suppliers or partners.

Growing the Business

So we've established that labeling is vital to supply chain health and agility. And we've posited that supply chain agility is a key to business growth. Add that all together and you come to the con‑clusion that labeling can truly hold a key to business growth.

Indeed, one recent survey found 90 percent of respondents believe that standardizing and centralizing their labeling will help them keep pace with business growth. It turns out that cloud label‑ing can have a significant return on investment as it helps bring products to market more quickly, efficiently, and competitively.

TIP

A streamlined, cloud‑based approach addresses common require‑ments and resolves content and labeling challenges. It reduces overlap and redundant costs, helps manage content and label formats, and smooths workflows and approval processes. Accu‑racy and consistency are up, risks and costs are down, agility is enhanced, and the ability to grow globally is supercharged.

Unifying Coding and Marking

Many businesses report a core focus on printing at the plant and production level, but a lot don't have software to control the print process for coding and marking devices that enable direct appli‑cation to all kinds of substrates. If they're printing on boxes or water bottles or chip bags, they're probably using proprietary software from the hardware manufacturer, or some legacy cus‑tom app that runs on a desktop with an ancient OS.

REMEMBER

Even if you haven't read the rest of this book, you can appreciate the challenges posed by legacy apps running on yesterday's hard‑ware. Wouldn't it be better to manage all of your print devices,

including coding and marking technologies, from a single, comprehensive, cloud-based solution?

A centralized labeling solution can be that standard platform that integrates with all devices, including thermal and color laser printers as well as coding and marking devices, visual inspection systems, and serialization solutions. The good news is that the stars are aligning in that direction.

According to recent surveying, 78 percent of companies believe requirements for coding and marking technology will be increasing in the next few years. Some 61 percent already have a need right now for coding and marking on production or packaging lines. Meanwhile, coding and marking hardware vendors are recognizing that their customers want to manage devices from a centralized and standardized solution, and they're embracing that direction.

Speeding Digital Transformation

Digital transformation is no longer a luxury. The COVID-19 pandemic made it a necessity, but companies quickly realized digital transformation is also an opportunity. Cloud labeling is just one more way to embrace digital transformation.

Just consider how powerful a label can be amid many business processes. Scan it, any time around the clock, and you instantly tap into a wealth of digital information about a product and its journey through the supply chain.

Any way you can automate the manual processes that gather and manage that information can help meet customer and regulatory demands. In one recent survey, 46 percent of respondents said eliminating manual processes and replacing them with automated labeling would do just that.

Getting Into the Strategy

A key point throughout this book is that a label is so much more than an adhesive-backed piece of paper. Indeed, forward-thinking companies believe labeling is a genuine strategic enabler.

Adopting a centralized solution, preferably one in the cloud, can be a key driver in cost control. It can eliminate redundancies, put an end to delays and downtime, reduce waste, and prevent fines. Template management can be more efficient and less costly, too.

Such a solution can also allow businesses to tap into real-time analytics and reporting, enabling continual improvements. And it can optimize labeling requirements and processes in a way that enables strategic growth and success.

Handling Long-Term Disruptions

When our personal lives spiral out of control, we're best able to stay healthy and keep a positive perspective by controlling what we can. When the business world spirals out of control you're best able to handle disruptions by controlling what you can, like your labeling operation, through a cloud-based solution.

TIP Recent surveying shows that some transformations adopted during the COVID-19 pandemic are pretty much here to stay. That's because some of the pressures have hung around even as the pandemic has eased, and also because solutions companies adopted during the pandemic continue to hold great promise in preventing future disruptions and improving the bottom line.

Some 63 percent of survey respondents report experiencing pandemic pressures for cost cutting. Two-thirds report significant supply chain impacts. About 43 percent expect increased adoption of e-commerce business models. And 57 percent say they have more need for printing labels remotely. A cloud-based labeling solution addresses each of these disruptive challenges.

Get up and running fast with cloud labeling

To create success in the unpredictable future, your company must scale quickly, adapt nimbly, and be sure your labeling is up to the challenge. Standardized and centralized cloud labeling lets design, approval, and printing happen anywhere at anytime. It integrates labeling with data sources of truth and lets labels vary automatically as regions, languages, and other parameters change. It connects with partners, eases compliance, and defies disruption. *Cloud Labeling for Dummies,* Loftware special edition, shows you how.

Inside…

- How the cloud can be a labeling game-changer
- Allow your IT team to focus on their day job
- How labeling keeps your supply chain healthy
- Simplify label changes to support business changes
- Linking partners, enabling remote operations
- Facilitating compliance and curbing downtime
- Scaling your way into a brighter future

Steve Kaelble is the author of many books in the *For Dummies* series, and his writing has also been published in magazines, newspapers, and corporate annual reports. When not immersed in the *For Dummies* world or writing articles, he engages in health-care communications.

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