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E-BOOK

The Cloud Adoption Roadmap for Every Video Surveillance System

The ultimate guide for a smooth transition from on-premises surveillance storage to a fully cloud-based model.



NOTE: The following information is Proprietary and Confidential to Wasabi Technologies, 2025

The Future of Video Surveillance Data is in the Cloud

How do you get there?

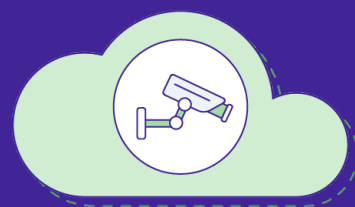
For decades, the standard model in video surveillance has been to use traditional, on-premises storage. Companies have relied on racks of physical hardware (servers, storage arrays, and more). But that setup is showing its age. On-premises storage has major limitations: it's expensive to maintain, hard to scale, and vulnerable to failure and security lapses. At the same time, video surveillance itself is changing. Growing camera counts, higher resolutions, and longer retention periods for footage are pushing on-premises storage systems to their limit. Something has to change.

Enter the cloud.

Cloud storage systems deliver flexibility, scalability, and security for modern video surveillance systems. But for many security professionals, the transition to the cloud still feels daunting. Overwhelmed by concerns about infrastructure changes, cost uncertainties, and the complexity of managing cloud-based video storage, many decision-makers are delaying or avoiding the transition.

This isn't the first time that the market has undergone a major technology shift. Think back to 1996, when the first IP camera was introduced by Axis. Analog cameras were everywhere, and organizations were hesitant to shift away from the status quo. Streaming over a network felt futuristic, and infrastructure upgrades required time and investment, so adoption was slow. Still, over the next 15-20 years, IP cameras became the new standard.

Today's transition to cloud video surveillance isn't so different. It's no longer a question of if organizations will adopt the cloud, but when and how.



This eBook is your step-by-step roadmap for transitioning to the cloud. Whether you're just starting to explore hybrid options or ready to take on a full migration to video surveillance as a service (VSaaS), we'll walk you through how to make the transition work for your organization.

You don't have to compromise on security or control. You don't need a complete overhaul. You just need a plan and the right partners to unlock the power of the cloud for video surveillance.

The State of the Video Surveillance Market

Video surveillance is central to physical security for organizations of all sizes. That's not changing any time soon.

66%

of end users ranked access control and/or video surveillance as top processes or capabilities for 2024.

31%

of end users said they're prioritizing video surveillance projects in 2025.

The video surveillance market is generating more and more data every day. The number of security cameras is growing rapidly: New York City has 235 cameras per square mile, though that's small in comparison to Delhi, India, which has 1,490. This means increasing storage needs across industries (from healthcare and retail to manufacturing and law enforcement). End users are deploying more cameras with higher resolutions, facing longer data retention times, and sharing data across internal departments. **Can your storage keep up?**

22%

of end users want data available to collaborate with other departments

50%

of end users reported that executive leadership already access security data to inform decisions

57%

of end users say the top challenges of physical security were aging outdated physical security and/or information technology (IT) infrastructure

Channel partners reported that customers want to replace legacy systems to access new capabilities, including higher quality video, streamlined video management systems, and video analytics tools. This all means increased storage needs.

Sources:

<https://wasabi.com/blog/video-surveillance/video-cloud-storage-for-digital-assets>

Genetec State of Physical Security 2025

While every organization's cloud journey looks different, hybrid cloud is quickly becoming the preferred approach. In fact, an average of 57% of respondents across organization sizes view hybrid cloud deployments as the best solution for the next 5 years. Why? This blend of on-prem and cloud-based solutions offers flexibility without full disruption.

Even as some organizations take a more cautious approach to full cloud adoption, hybrid offers a practical path forward. It's not about choosing between old and new. It's about getting the best of both worlds.

Today, 49% of end users still operate entirely on-prem and 38% are incorporating cloud or hybrid models. For many, hybrid is the most realistic and strategic next step.

The stats tell a story: organizations need more storage and the cloud has major scalability appeal, but many video surveillance systems are still grounded in on-premises infrastructure. For your organization, this is where the cloud journey begins: looking closely at what's already in place, what's working, and what's not.

Where You Are Now: Full reliance on on-site servers for video storage and management

On-premises storage has been the gold standard for video surveillance for years. It's familiar and controlled. Plus, for many, it feels more secure because it's physically close. But on-premises storage comes at a cost—both in dollars and day-to-day effort.

Breaking it down: The biggest challenges for on-premises system users

- **High total cost of ownership:** This includes the cost of servers and storage arrays, as well as maintenance and power costs.
- **Limited scalability:** We've covered the growing data needs faced by organizations with more cameras, higher resolutions, and longer retention times. Expanding storage capacity to meet these requirements in on-premises systems is costly and time-consuming.
- **Risk of hardware failures:** Physical video archives are vulnerable to data loss from natural disasters, theft, damage, or failures that compromise data.

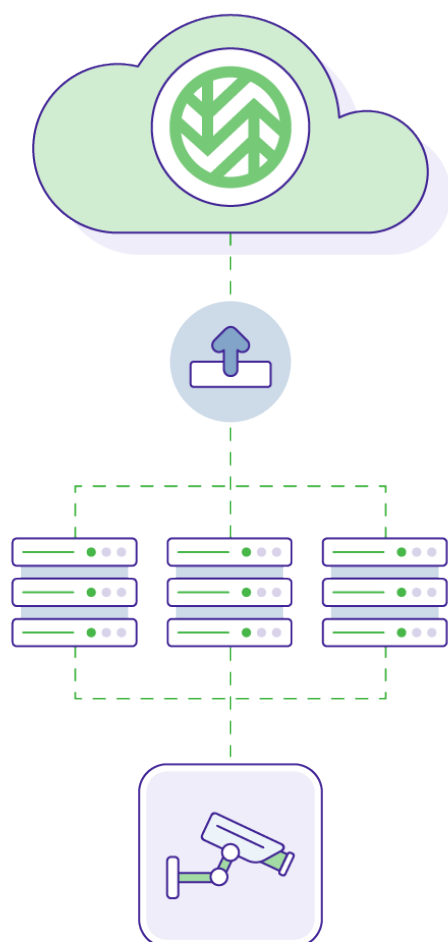
The reality: **49%** of end users in 2024 reported that their physical security systems are still 100% on-prem. These challenges are their daily reality.

Source: Genetec State of Physical Security 2025

Taking the next step: Considerations for moving to the cloud

Common vulnerabilities in on-premises systems:

- No end-to-end encryption
- No multifactor authentication
- Flat file systems with no access controls
- No protections against deleted or tampered footage



It's time to consider future-proofing your video surveillance storage. If you're thinking about a cloud transition, take a look at the considerations below to help make your decision.

- **On-premises storage systems have increased security vulnerabilities**

Unlike cloud-based systems, on-premises systems are more vulnerable to cyber attacks and ransomware, and there is increasing pressure to improve digital security. 67% of end users said their organizations were affected by new cybersecurity regulations, up from just 13% in 2023, according to Genetec's "State of Physical Security 2025" report.

- **Understanding data retention policies**

Different industries have different retention requirements. Are you holding footage for 30 days? 60? 90? A year? Indefinitely? Your on-premises storage capacity might not be able to keep up, but cloud storage options are scalable.

- **Evaluate costs beyond just hardware**

On-premises servers aren't a one-time purchase. They incur additional costs like physical space, power, and cooling. Don't forget costs like maintenance staff and time-consuming backups. These can sneak up over time, making on-premises systems more expensive than they first look. Factor these in when thinking about the costs of a cloud setup.

- **Complex data management**

Managing videos in on-premises systems can get messy quickly, especially with more cameras or increased requests for sharing footage. Cloud-enabled tools can centralize access and make it easier to share exactly what you need (and nothing you didn't want to share).

If you're still comfortable with your existing, on-premises system, but want to leverage some of the additional benefits of the cloud after taking a look at our list above, we've got a solution that's the best of both worlds: hybrid cloud. This approach is a great option for some teams. Let's check it out.

Hybrid Cloud: The First Step to Cloud Adoption is Storage

Why think about hybrid cloud?

The perfect bridge between on-premises and cloud.

The hybrid cloud approach offers the best of both worlds: you don't have to choose between ripping out your existing system or being left behind. Instead, cloud storage can add on to your existing system, letting you keep what's working and strengthen it with scalable, secure cloud storage. This is a perfect fit for organizations looking for an easy transition into the cloud space.

What does hybrid cloud look like?

Hybrid cloud isn't a full system overhaul, and that's what makes it so appealing to many (like that 57% of organizations who view hybrid cloud deployments as their next solution). Here's what it can do for you:

- Retain your on-site cameras and video management system (VMS)
- Extend your storage to the cloud
- Protect against local failures with cloud-based backup and redundancy
- Add scalable cloud storage on demand as your system grows

You'll keep all the aspects of your on-premises system that you like, but with a lot more storage flexibility behind the scenes.

What you gain: Key benefits of a hybrid approach

- **Protects against local failures.** Flood, fires, theft, and ransomware won't wipe out your video archives if they're backed up to the cloud.
- **Scale as your system grows.** Hybrid storage means you can easily add new cameras or increase resolution and frame rates without new local infrastructure.
- **Protect mission-critical cameras and video.** Choose which cameras (like those in high traffic areas) go straight to the cloud and prioritize easy access to certain videos (like video for investigations).
- **Simplify data management.** Reclaim local space, archive old footage, and meet retention policies, all without complicating your workflow.
- **Seamless systems.** Playback and search functionalities can be done through your existing system, just like before.

Getting started: Modernize your video surveillance system with hybrid cloud

If you're ready to make the most of simplicity and flexibility with hybrid cloud, start with our implementation steps below:

1. Deploy a cloud storage gateway:

Most video management systems require a software or hardware bridge, but some already support direct cloud storage integrations. For instance, Wasabi Surveillance Cloud connects on-premises VMS systems to Wasabi Hot Cloud Storage without needing additional hardware. Whatever you choose, check for a native integration first.

2. Start with archived footage, long-term retention, or disaster recovery:

Archive older footage or backup specific cameras before anything else. This reduces the load on your local infrastructure and protects video in an offsite location.

3. Set security and access controls:

Ensure encrypted uploads, role-based access, and audit logs to meet compliance requirements.

Whether you're ready to start small or take big steps, hybrid cloud gives you options.

If you're **not ready to remove all on-site hardware**, hybrid storage lets you modernize without disrupting your existing workflows. Protect your mission-critical video, extend your long-term storage, and scale up as your needs change.

If you're **ready to remove all hardware from on-site locations**, especially in remote or hard-to maintain places, the hybrid model can be your launch point. Start with backup or long-term retention for smaller hardware options and then don't hesitate to expand when you're confident in transitioning fully to the cloud. We'll cover your options full cloud storage in the next section.

No matter where you're going, explore how Wasabi's hybrid cloud solutions help you get there. What we bring to the table:

- ✓ Seamless integrations with leading VMS platforms
- ✓ Secure, scalable storage to your existing system
- ✓ Keep your most important video where it makes sense to you
- ✓ No hidden fees, keeping costs low and predictable
- ✓ Built-in immutability and security for compliance peace of mind

[Learn more about Wasabi for hybrid cloud surveillance](#)



Video Surveillance as-a-Service (VSaaS) and Fully Cloud-Based Solutions

When is it time to go all-in on the cloud?

For some organizations, hybrid cloud could be the right long-term fit— flexibility without an infrastructure overhaul. But if you're managing multiple locations or have limited IT resources, a complete cloud-based model might be a better fit. Whether you're looking to eliminate on-premises storage completely, simplify data management, or tap into advanced AI-driven analytics, full cloud gives you the scale and agility to move faster, with less overhead.

What full cloud surveillance looks like

- All video is stored on camera and then replicated to the cloud. No on-site servers required.
- Camera feeds are accessed and managed through a web-based platform or cloud VMS.
- Storage, redundancy, and backup are handled automatically.
- Analytics and AI features are often built-in (or at least integrated)

Your options: VSaaS vs. build-your-own-cloud

Both VSaaS (video surveillance as a service) and build-your-own-cloud options will get you to the same destination, but with different levels of control. Check out some differences below:

VSaaS	Build-Your-Own-Cloud
All-in-one platform from a single vendor	Custom deployment with your preferred VMS and cloud storage
Fully managed	You control updates and infrastructure
Subscription-based pricing	Pay-as-you-go cloud storage
Built-in analytics	Integrate your own

VSaaS is a managed, subscription-based solution and often a great fit for small-to-medium deployments looking for simplicity. If you need more control, want to avoid vendor lock-in, or already have a preferred VMS, **building your own cloud solution** using cloud storage might be a better move.

What to know before you commit: The challenges and benefits of a full cloud model

Before going all-in on either a VSaaS or build-your-own-cloud model, make sure to take a close look at the challenges and benefits of the implementation.

Potential challenges:

- **Bandwidth and latency concerns:** Uploading high-resolution video in real time requires strong, stable connectivity.
- **Vendor lock-in:** Many VSaaS providers bundle storage, VMS, and hardware. This can limit flexibility and mean long-term costs if you need to switch in the future.
- **Security risks:** Cloud systems are often more secure than on-premises systems, but they can introduce risks if they're not deployed properly.
- **Complex subscription pricing models:** VSaaS vendors offer a subscription-based pricing model based on various factors like number of cameras, resolution, and retention.

What full cloud gets right:

- **Hands-off data management:** No more maintaining physical infrastructure. Storage, updates, and uptime are managed by the VSaaS vendor.
- **All-in-one security systems:** Some VSaaS solutions bundle cameras, VMS, analytics, and access control. This makes VSaaS a great option for organizations that want a fully integrated system.
- **Smart analytics and AI:** Many full-cloud platforms include (or support) built-in analytics tools.
- **Perfect for multi-site deployments:** Full cloud makes sense for businesses with many locations where local storage would be expensive and hard to maintain. Streamline security with centralized access and no hardware to manage.

Getting started: Implementing a cloud storage solution

1. **Choose your model.** Choose a pure cloud VSaaS provider that meets your needs or, if you opted to build your own solution, choose a cloud storage provider that supports video surveillance workflows.
2. **Prioritize security.** Look for the right security features, like encrypted transfers and storage, multi-factor authentication, and the role-based access control you need.
3. **Plan for AI and analytics.** Make sure your platform supports AI-driven analytics for smarter surveillance and insights that can support your entire organization.

Not all cloud storage is built for video. Wasabi is.

Whether you're using VSaaS or designing your own cloud solution, Wasabi offers hot cloud storage at a fraction of the cost. Wasabi is built for high-volume video and offers seamless integration with security systems of all kinds, without hidden fees or vendor lock-in.

[Compare cloud storage options with Wasabi.](#)

Protecting What Matters: Security and Compliance in the Cloud

Security and compliance are key issues for storage decision-makers. How does this impact your transition to the cloud?

As organizations shift to cloud or hybrid models, questions about data protection, access control, and regulatory compliance come up often. Today, you're not just responsible for video storage— you're responsible for protecting sensitive video data. That means where and how that data is stored matters more than ever.

What decision-makers are prioritizing

Storage decision-makers rank native data protection, security, and compliance features as their **#1 consideration** when choosing a cloud provider.

67% of end users said they've been **directly impacted** by changing cybersecurity regulations.

What to look for (and ask about) in a secure cloud solution

Data ownership and access control

Who owns the footage? Who can access it? Can you revoke that access or audit usage? These are must-haves: you need complete control over your video data, even when it's in the cloud.

Cybersecurity measures

Ensure that your cloud storage partner offers end-to-end encryption, immutability, and multi-factor authentication as a baseline.

Legal and regulatory compliance

Your video data may need to meet legal or regulatory requirements, and may fall under rules like GDPR, CJIS, or HIPAA. Failing to meet these standards can mean fines or lost evidence.

Practical implications

Retention periods are growing, and video needs to be kept for longer, often to protect against liability or support investigations. Courts or insurers could subpoena video for a slip and fall case, a workplace injury, or to support a claim. Missing or compromised footage is simply not an option.

Stay compliant without the complexity.

Wasabi is purpose-built for secure, compliant video storage. Ensure your surveillance data is protected with Wasabi's immutable storage and compliance-ready cloud solutions. Wasabi takes care of the hard part, so you can focus on protecting people, not data.

[See how we meet industry regulations.](#)

Unlock the Power of Scale for Your Security System

The more your surveillance system grows, the more your storage needs to keep up. Cloud makes that possible, without compromise.

From growing camera networks to higher video resolution and longer retention times, surveillance systems today are pushing traditional, on-prem storage to the limit. What worked for 20 cameras doesn't work for 200 or 2000. That's where cloud—especially Wasabi's cloud storage built for video—makes a difference.

Wasabi's cloud storage, purpose-built for video surveillance

Scale without sprawl

Cloud storage offers infinite scalability for growing demand and higher-resolution cameras, without worrying about server capacity. Just scale up your storage as needed, without adding infrastructure.

Predictable pricing

Wasabi offers flat-rate storage with no egress fees, so you can budget confidently even as your data grows.

Security that scales with you

Your storage needs to stay protected as it grows. Wasabi provides immutable storage to guard against ransomware and tampering, encryption at rest and in-transit, and role-based access controls like Multi-User Authentication.

Seamless integration (no overhaul required)

Surveillance systems of all kinds (VMS, cameras, cloud native apps) can connect to Wasabi using the S3 API, cloud gateways, or the Wasabi Surveillance Cloud software client.

Real world example:
Northeast Wisconsin Technical College prevented data loss while simplifying data management with Wasabi Surveillance Cloud.

<https://wasabi.com/resources/case-studies/northeast-wisconsin-technical-college>



A strong surveillance system starts with storage

Whether you're running a legacy system or building something new, Wasabi fits in without disrupting operations.

- **Hybrid cloud:** Combine the familiarity of your existing VMS with the scalable benefits of cloud storage.
- **Cloud connected cameras:** Elevate your camera offerings with Wasabi as your trusted backend storage solution with cameras recording directly to the cloud.
- **Cloud-native applications:** Meet the needs of modern video surveillance environments by developing cloud-native applications in conjunction with Wasabi Hot Cloud Storage.
- **Wasabi Surveillance Cloud:** Not cloud enabled? No problem. Quickly and easily connect any VMS to Wasabi.
- **Wasabi Hot Cloud Storage:** The ideal storage target for video management systems already enabled with S3 connectivity.

The Future of Cloud in Surveillance

The shift to cloud-based video surveillance isn't on the horizon: It's already happening

Demand for smarter, more scalable, more secure video storage is growing fast. Whether you're looking to supplement your on-premises system, back up critical footage, or make a full migration to the cloud, there's a clear path forward. And it doesn't require ripping out everything that already works.

Hybrid cloud gives you the flexibility to move at your own pace.

Full cloud offers simplicity and scale for the right environments.

Either way, your storage foundation needs to be built for video.

That's where Wasabi comes in. Wasabi is purpose-built for video surveillance. That means we can help you scale without surprise costs, no matter how many cameras you manage. That means we have high-performance architecture and compliance-ready security. That means we're the ideal storage target for any surveillance environment.

Wherever you are in your cloud journey, the important thing is to move forward with a strategy that fits your organization. Start small, scale smart, and choose partners who give you flexibility without the fine print.

Cloud isn't a trend. It's a strategy. Start your transition today.

Ready to make the move to the cloud, your way?

Explore cloud solutions that fit your security, your budget, and your scalability needs. Take the first step on your journey to secure, scalable, and cost-effective cloud storage with Wasabi.

See how Wasabi can power your video surveillance strategy today.