WHITEPAPER · 2026

The Build vs. Buy Decision in File Management

Why using a third-party solution beats building your own. A practical guide for technology leaders, product managers, and developers.

READING TIME
~12 minutes

TOPIC
File Infrastructure Strategy

AUDIENCE
Engineering & Product Leaders

Introduction

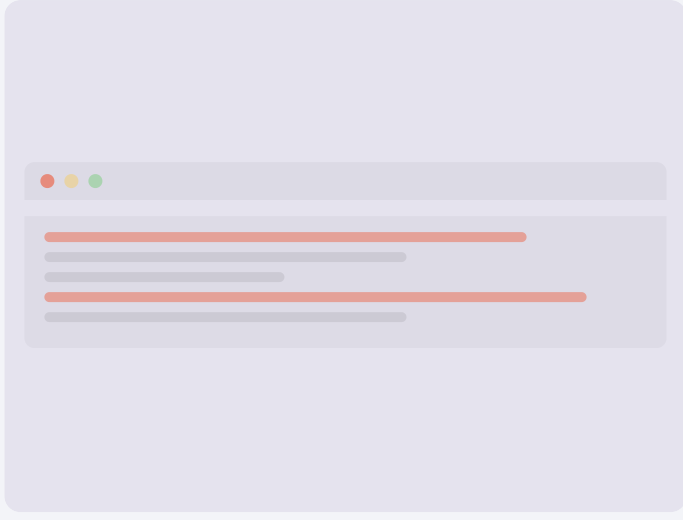
When software teams need file upload and management capabilities, they face a critical decision between building from scratch and buying a proven solution. This whitepaper shows that for the vast majority of teams, a purpose-built platform like Filestack delivers faster, at lower total cost, and with less engineering overhead than building in-house.

File management (uploading, processing, storing, transforming, and delivering files) is primarily infrastructure. Your customers pay for your core product. File management is the infrastructure that supports it, and like many supporting functions in modern software development, it has already been solved by specialists who have dedicated their entire platform to doing it well.

This paper examines the true cost of building in-house, what a production-ready file system actually requires, and why purpose-built platforms like Filestack consistently deliver faster, at lower total cost, and with less engineering overhead.

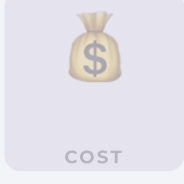
29%

of software projects complete successfully — the rest run over budget, miss deadlines, or fail entirely.



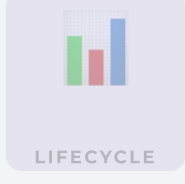
$500K+

Typical upfront cost to build a production-grade file system in-house.



65%

Of total software lifecycle costs occur after initial deployment.



SECTION 01

A Framework for the Build vs. Buy Decision

Before getting into file management specifically, it helps to understand a simple rule many engineering teams use when deciding whether to build something themselves or use an existing solution. Build what gives your business a unique competitive advantage. Buy everything else.

SECTION 01 — FRAMEWORK

A Framework for the Build vs. Buy Decision

This approach is common in the software industry because it helps teams use their time and resources more wisely. File management is primarily infrastructure. Your customers are paying for your core product. File management is the infrastructure that supports it.

It is a necessary supporting function — and like many supporting functions in modern software development, it is one that has already been solved by specialists who have dedicated their entire platform to doing it well.

CORE PRINCIPLE

Build what gives your business a unique competitive advantage. Buy everything else.

29%

Software projects complete successfully

Standish Group CHAOS Report [1]

52%

Are challenged, over budget, delayed, or missing features

Standish Group CHAOS Report [1]

19%

Fail completely

Standish Group CHAOS Report [1]

KEY TAKEAWAY

Engineering time is best spent on features that create competitive advantage. For most teams, file management is infrastructure, and infrastructure is where purpose-built platforms deliver the most value.

SECTION 02

The True Cost of Building In-House

Many teams decide to build their own file management system because they believe it will save money. However, when all costs are considered, this is rarely the case. The costs are typically spread across three phases, and teams often only account for the first.

SECTION 02 — TRUE COST

The True Cost of Building In-House

Upfront Development Costs

In the United States, a mid-level software developer typically earns a base salary between $100,000 and $160,000 per year. With benefits, taxes, equipment, software tools, and management overhead, the total cost to the company is usually **1.5 to 2.5× the base salary**.

Building a reliable file management system to support real-world use — resumable uploads, cloud storage routing, CDN delivery, virus scanning, media processing, and access control — takes a small team of three engineers several months before the system is ready for production.

Time to Market

Research shows commercial SaaS solutions can be deployed **40–60% faster** than custom-built systems. [3] For most product teams, spending six to eighteen months building file infrastructure means less time for customer-facing features, bug fixes, or core product improvements.

The Maintenance Long Tail

One of the most underestimated costs appears after the product launches. Many teams focus on development time but overlook the long-term maintenance burden that follows.

- → Responding to newly discovered security vulnerabilities
- → Supporting new file formats as standards evolve
- → Scaling infrastructure as upload volume grows
- → Maintaining compliance with changing regulations
- → Updating dependencies and patching CVEs

$150K–$500K+

Initial investment before a single user uploads a file

Typical engineering costs [2]

65%

Of total software costs occur after initial deployment

Netguru [4]

45%

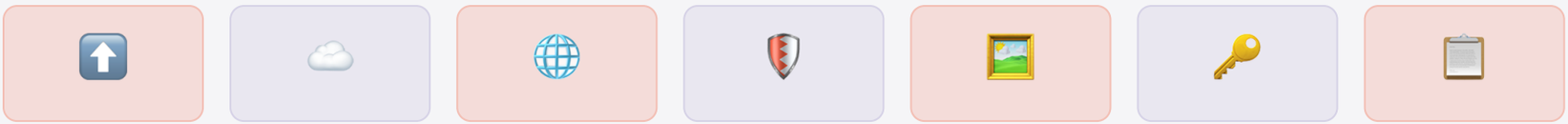
Over-budget average for large custom IT projects

McKinsey & Company [5]

SECTION 03

What a Production-Grade File System Actually Requires

One reason teams underestimate the cost of building their own file system is that the first version seems simple. Creating a basic upload form is straightforward — but things become much more complicated when the system needs to work reliably in real-world conditions and at scale.



SECTION 03 — REQUIREMENTS

What a Production-Grade File System Actually Requires

A production-ready file management system requires all of the following. Each is a serious engineering challenge on its own.

Resumable Uploads
Users can continue uploading if their connection drops. Works reliably across file sizes and formats.

Multi-Cloud Storage Routing
Support for Amazon S3, Google Cloud Storage, Azure Blob Storage, and others to avoid vendor lock-in.

CDN Integration
Files distributed across global servers for fast delivery to users everywhere.

Virus Scanning
Every uploaded file scanned server-side before storage, with mandatory enforcement at the server level.

Media Processing
Automatic resize, crop, format conversion, and compression. Fast and reliable at scale.

Access Control
Signed URLs, permissions, and authentication so only authorised users access files.

Compliance
GDPR, HIPAA, SOC 2, and industry-specific standards for regulated sectors.

99.9%+ Uptime
Monitoring tools and processes to maintain reliability in production.

Key Considerations

Security from day one.

Security cannot be bolted on after launch. Virus scanning, access control, and encryption need to be built in from the ground up — each requiring dedicated expertise and ongoing maintenance.

Scalability complexity.

A system that handles 100 uploads per day behaves very differently under 100,000. Resumable uploads, CDN routing, and storage distribution all require architectural changes as volume grows.

Compliance is a moving target.

GDPR, HIPAA, and SOC 2 requirements evolve. Maintaining compliance with a custom system requires dedicated legal and engineering effort across the full lifecycle of the product.

THE BOTTOM LINE

Each of these is a serious engineering challenge on its own. Complexity compounds as upload volume grows. Purpose-built platforms are designed to manage that complexity at scale.

SECTION 04

The Advantages of a Purpose-Built Solution

Filestack is designed to solve the challenges involved in handling file uploads and processing. It provides a complete file management platform through a simple API, covering the entire file lifecycle from the moment a user uploads a file to the final delivery of the processed result.

SECTION 04 — PURPOSE-BUILT SOLUTION

The Advantages of a Purpose-Built Solution

Upload From Anywhere

An embeddable File Picker lets users upload from local storage, Google Drive, Dropbox, Instagram, and more. Ready to use, with a built-in UI.

Security Built In

TLS encryption in transit, AES-256 at rest, HMAC-SHA256 policy auth, domain whitelisting, and automatic server-side virus scanning.

Transformations via URL

Resize, crop, compress, convert, and watermark through simple URL parameters. Fully managed, with zero additional backend infrastructure.

Global CDN Delivery

Files delivered fast, anywhere in the world. Caching, origin offloading, and performance optimization are all managed by the platform.

Platform-Managed Compliance

GDPR, HIPAA, and SOC 2 certifications maintained by the platform, so your team stays focused on the product.

Simple Integration

Deploy in hours to days. Production-ready from the start. A clean SDK and API documentation that gets you to production quickly.

SECTION 04 — PURPOSE-BUILT SOLUTION

File Transformations Without Extra Engineering

Filestack handles file transformations through simple URL-based API calls, so developers can process images and video with a single line. For example, converting an uploaded image to WebP format at a specific quality level:

```
# Convert to WebP with quality control
https://cdn.filestackcontent.com/APIKEY/output=format:webp,quality:80/HANDLE

# Set CDN cache expiration (1 year)
https://cdn.filestackcontent.com/cache=expiry:31536000/HANDLE
```

$4.88M

Average cost of a data breach in 2024

IBM Cost of a Data Breach Report 2024 [7]

$69/mo

Starting price for Filestack, scaling with usage

Filestack Pricing 2026 [8]

SECTION 05

A Direct Comparison of Build vs. Buy

When we compare building a file system in-house with using a purpose-built solution, the differences become clear across every dimension that matters to engineering and product teams.

SECTION 05 — BUILD VS. BUY COMPARISON

A Direct Comparison

FACTOR	Build In-House	Buy (Filestack) Recommended
Initial Cost	$150,000–$500,000+	Subscription from $69/month, scaling with usage
Time to Deploy	6–18 months	Hours to days
Security & Compliance	Must be built and maintained internally	GDPR, HIPAA, and SOC 2 supported out of the box
Maintenance	Requires ongoing, dedicated engineering work	Fully managed by the platform
Feature Updates	Must be developed and maintained manually	Continuous updates from the provider
Scalability	Requires additional engineering as usage grows	Built to scale automatically
Engineering Focus	Engineers spend time on infrastructure	Engineers focus on the core product
Virus Scanning	Must be integrated and maintained separately	Server-side scanning included
CDN	Must be configured and contracted separately	Global CDN included

REALITY CHECK

Many teams choose to build because they want more control. While control can be valuable, it rarely provides a real competitive advantage when it comes to file infrastructure. In practice, building in-house means taking on long-term maintenance responsibilities that continue as long as the product exists.

SECTION 06

When Building In-House Might Make Sense

To be fair, buying is not always the best option. In some specific situations, building a custom file management system can make sense. Here is how to identify those situations.

SECTION 06 — WHEN TO BUILD

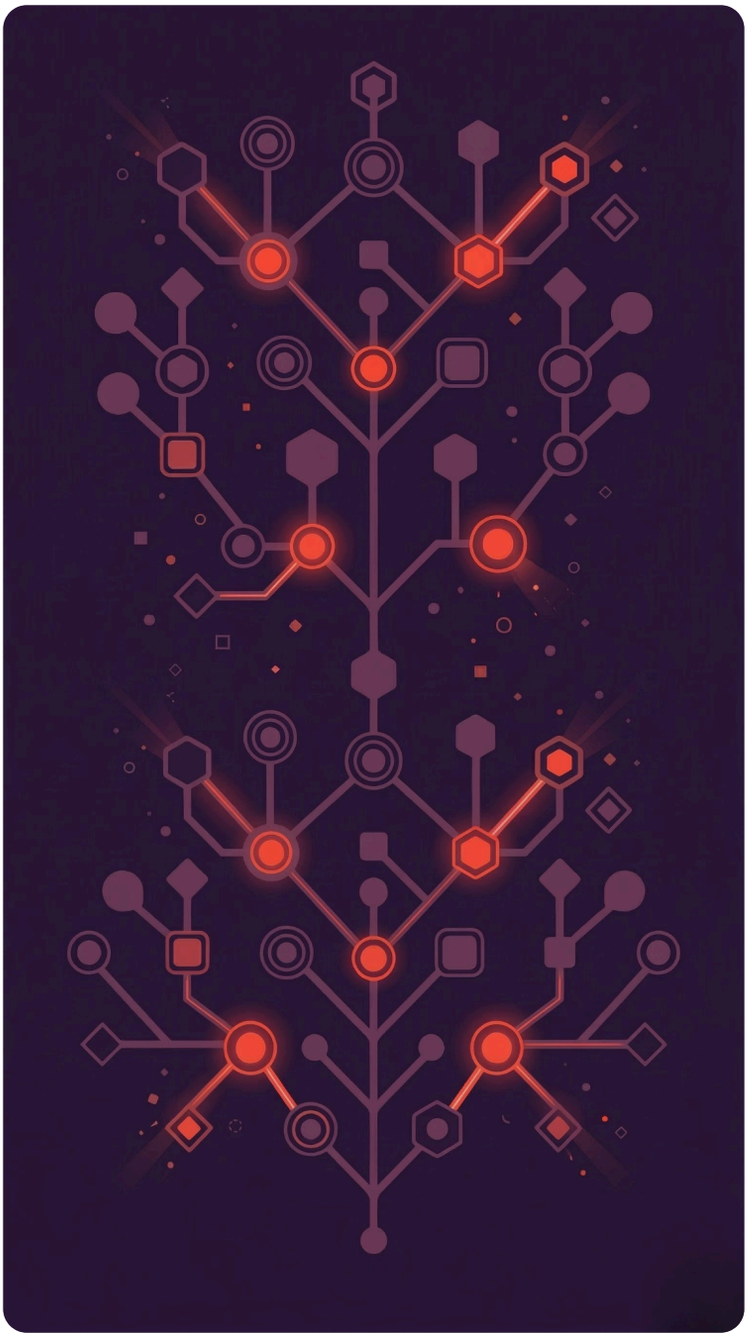
When Building In-House Might Make Sense

- **File management is the core product.** If your company's main product depends on a unique file processing technology beyond what existing platforms offer, building internally may be necessary.
- **Extremely specific compliance requirements.** If your organisation faces requirements beyond what existing solutions currently support, and you already have a dedicated security and infrastructure team to build and maintain it.
- **Massive, exceptional scale.** A well-known example is Netflix, which built its own content delivery network, Open Connect, to handle massive global video streaming traffic that required custom infrastructure at a scale beyond standard solutions. [9]

> *Situations like Netflix are rare. For most software teams — startups, growing companies, and mid-sized businesses alike — file management is simply a supporting feature.*

THE RULE OF THUMB

IF YOUR FILE SYSTEM IS A SUPPORTING FEATURE, TREAT IT LIKE ONE.



SECTION 07 — OPPORTUNITY COST

The Opportunity Cost of Building

There is another important factor in the build vs. buy decision that often goes unspoken. It is the opportunity cost of engineering time.

Every sprint that engineers spend building and maintaining file infrastructure is a sprint redirected from features that improve the product — features that attract new users, improve engagement, or increase customer retention. Over time, this trade-off has a real impact on product growth.

20%

Higher revenue growth for companies that prioritise core technology strengths

McKinsey & Company, via Suffescom [10]

Most teams can build it. The real question is whether building it is the **best use of their time and resources.**

THE REAL QUESTION

What product features could your engineering team ship in the 6–18 months spent building file infrastructure? What competitive ground could you gain instead?

SECTION 08

Conclusion

The decision to build or buy a file management system may seem complicated at first. But when all the factors are considered (development cost, maintenance, security, compliance, and ongoing engineering time), a purpose-built platform is the stronger choice for most teams.

SECTION 08 — CONCLUSION

Conclusion

Filestack is designed to handle the complexity of file management so development teams can focus elsewhere. It covers the entire file lifecycle, including uploads, processing, storage, and delivery, all through a simple API that can be integrated quickly.

This allows engineering teams to spend less time managing infrastructure and more time building the features that make their product valuable.

> *If your team is deciding whether to build or buy a file management system, or if you are already maintaining a custom solution, it may be worth exploring what a purpose-built platform can offer.*
>
> FILESTACK TEAM
>
> FILESTACK.COM

Next Steps

- → Start free and integrate Filestack in hours.
- → Explore the documentation to see how simple the API is.
- → Review pricing. Subscriptions start at $69/month.
- → Read case studies from teams who made the switch.

References

[1] Escrow London. *5 Reasons Why Software Development Projects Fail.* Standish Group CHAOS Report data.

[2] Idealink. *Understanding the Costs of Software Development.*

[3] Altexsoft (2024), cited in Neontri (2025). *Build vs. Buy Software: A 3-Model Decision Framework.*

[4] Netguru (2025). *Build vs Buy Software: Hidden Costs That Change Everything.* netguru.com

[5] McKinsey & Company. *Delivering large-scale IT projects on time, on budget, and on value.* mckinsey.com

[6] CISQ. *The Cost of Poor Quality Software in the US.*

[7] IBM (2024). *Cost of a Data Breach Report 2024.*

[8] Filestack (2025). *Security and compliance documentation.* filestack.com

[9] ISHIR (2024). *Netflix Open Connect: A build vs. buy case study.*

[10] McKinsey & Company, cited in Suffescom (2025).

ABOUT THE AUTHOR

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Shefali Jangid is a web developer, technical writer, and content creator with a love for building intuitive tools and resources for developers. She writes about web development, shares practical coding tips on her blog shefali.dev, and creates projects that make developers' lives easier.

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