MCP SERVER | NO CODE | CLOUD HOSTED

Video Storage Calculator MCP for AI Agents

Predict disk space requirements for 4K and 8K video production.

Video Storage Calculator helps you figure out exactly how much hard drive space you need for video projects. It calculates storage requirements based on resolution, frame rate, codec, and duration so you don't run out of room mid-render. It's built for precise planning of high-resolution media.

A+ Quality Score 100/100

video | codec | storage | encoding | bitrate | media

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vinkius.com/mcp/video-storage-calculator

SCAN TO VIEW

The connectivity layer between AI and the world's software.

Vinkius sits between AI and every application. All communication passes through Vinkius Cloud via the Model Context Protocol (MCP) — with governance, observability, and security at every layer.

Your AI Connections Run Through Vinkius Cloud

The world's largest managed MCP catalog

Vinkius is the connectivity layer where AI connects to the software your business already runs. We handle the hosting, the security, the credentials, the uptime — you get agents that actually do things.

We operate the world's largest managed MCP catalog. Major SaaS platforms, CRMs, databases, and cloud providers — running, monitored, production-ready. This MCP server is hosted and maintained by the Vinkius Cloud for AI Agents.

> *The agent doesn't manage credentials, doesn't manage uptime, doesn't manage security. Vinkius does.*
>
> — Architecture principle

Four Pillars of the Vinkius Runtime

01 — Security by design

Credentials stay encrypted at rest via AES-256. The AI agent never touches raw keys — they're injected into a sandboxed V8 isolate at runtime. Actions are logged, and connections have an emergency kill switch.

02 — Built on MCP Fusion

This MCP server was built with **MCP Fusion**, the open-source framework (Apache 2.0) that powers the entire Vinkius catalog. Schema-as-firewall strips undeclared fields, compiled PII redaction runs at zero overhead, and cryptographic lockfiles produce git-diffable audit trails.

03 — Deterministic observability

Eight immutable metrics per endpoint: request volume, p95 latency, error rate, active connections, cost attribution. A live payload feed logs every tool call with mutation detection.

04 — Autonomous operations

Servers are deployed, monitored, and patched autonomously. New capabilities and security patches ship weekly. Zero-downtime deployments ensure continuous availability across all managed MCP servers.

AES-256	Ed25519	24h TTL	V8 Isolate
Encryption at rest	PKI vault signatures	Ephemeral session keys	Sandboxed execution

One Token. Instant Access.

Every MCP server on Vinkius is accessed through a **Connection Token**. Tokens are generated in the cloud dashboard and produce a unique MCP endpoint URL. Paste this URL into any MCP-compatible client — no SDK required.

A single token can serve **multiple AI clients simultaneously**, or you can issue separate tokens per client for granular access control. Each token tracks its own request count, last activity timestamp, and can be individually enabled or revoked.

MCP ENDPOINT

```
https://edge.vinkius.com/{token}/mcp
```

Claude · Cursor · VS Code · Windsurf · Grok · Gemini

Security Is the Architecture

Security in Vinkius is not a feature — it's the foundation of the runtime. The gateway enforces multiple independent protection layers between AI agents and third-party APIs.

01 — Ed25519 PKI Vault

Every workspace has an Ed25519 Master Key. Session keys are generated ephemerally (24h TTL) and signed by the Master Key. Credentials never leave the vault boundary.

02 — V8 Isolate Sandboxing

Tool code runs inside isolated-vm V8 isolates with 64 MB memory caps and per-request timeouts. No filesystem access, no network access except through the SSRF-guarded fetch bridge.

03 — SSRF Guard

All outbound HTTP requests are DNS-resolved and validated before execution. Private IP ranges (10.x, 172.16-31.x, 192.168.x, AWS metadata 169.254.x) are blocked at the network layer.

04 — DLP & PII Redaction

A ResponseGuard pipeline intercepts every tool response. Configurable redaction patterns strip sensitive fields (emails, SSNs, card numbers) before data reaches the AI agent.

05 — Cryptographic Audit Trail

Every request is signed into a SHA-256 hash chain with Ed25519 signatures. Events form a tamper-proof, SIEM-exportable forensic record.

06 — Honeytoken Trap System

Phantom credentials are injected into isolated environments. If a honeytoken is used outside Vinkius infrastructure, the server is quarantined instantly.

Emergency Kill Switch

EU AI Act Art. 14(1) Compliant

The kill switch is an **emergency halt** mechanism — not a simple toggle. When triggered, it executes three actions atomically:

01 — Server deactivated

The MCP server is immediately taken offline across the entire cluster.

02 — All tokens revoked

Every connection token is invalidated. Total lockout — reconnection blocked until new tokens are issued.

03 — WebSocket connections killed

Active connections terminated via Redis pubsub broadcast. Propagates to every runtime node in the cluster.

Full Visibility. Zero Guesswork.

The Vinkius cloud dashboard includes a full MCP Governance suite — real-time analytics and security controls for production AI operations.

Control Plane

KPI dashboard with request volume, latency, success rate, token consumption, and AI-generated operational briefings.

Agent Activity

Which AI clients are connecting, how often, and what they're doing — real-time session tracking.

FinOps

Cost tracking per tool, payload compression savings, budget optimization signals, and consumption trends.

Tool Health

Slowest and most error-prone tools, with actionable root-cause insights and performance baselines.

Firewall & DLP

PII redaction activity, sensitive data protection counters, and security event timeline.

Incident Log

Error trends, failure rates, status-code breakdowns, and forensic audit trail access.

> Get started at **cloud.vinkius.com** — connect your AI agent in under 60 seconds.

Video Storage Calculator MCP

3 tools available
Cloud-hosted on Vinkius

Planning a high-bitrate video project shouldn't involve guessing how much storage you'll need. This MCP lets you get precise estimates for different video configurations, from standard 1080p to high-end 8K. If you're deciding between H.264 and AV1, or trying to figure out the storage footprint of a ProRes master, you can get those numbers instantly. It takes the guesswork out of media management by providing technical details on bit depths and chroma subsampling for various codecs. Whether you're prepping a production pipeline or just trying to see if your current drive can handle a long 4K export, this tool gives you the data you need to plan ahead. You can find this and thousands of other tools in the Vinkius catalog to keep your production workflow organized.

Core Capabilities

01 — Get storage size estimates

Calculate the exact disk space needed for a video based on your specific resolution and codec.

02 — Compare codec profiles

See the storage differences between multiple encoding settings side-by-side.

03 — Check bit depth support

Look up the technical capabilities and chroma subsampling for any given codec.

04 — Predict 8K requirements

Get accurate data for high-end 8K video files before you start a heavy render.

05 — Analyze codec trade-offs

Compare H.264 against AV1 or other formats to see how much space you'll save.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/video-storage-calculator** — connect your AI agent in three steps.

01 Tell your agent the video specs like resolution, frame rate, and codec.

02 The MCP processes the technical requirements for that specific configuration.

03 You get a precise storage estimate in gigabytes or terabytes.

The bottom line is you get accurate storage predictions before you ever start a render.

Built For

Video editors and production managers who need to plan storage for massive 4K or 8K files without overbuying or underestimating hardware needs.

Video Editor

Planning a rough cut for a 4K project and checking if their external SSD has enough overhead.

Media Architect

Designing a storage pipeline for a studio and comparing ProRes vs. H.265 requirements.

Content Creator

Checking how much space a 10-minute 8K video will take up before hitting export on a laptop.

What Changes When You Connect

01 Stop guessing storage needs. Use calculate_storage_estimate to know exactly how much space a 1-hour 4K export needs.

02 Make smarter codec choices. Use compare_codec_profiles to see the storage trade-offs between H.264 and AV1.

03 Get technical specs instantly. Use get_codec_capabilities to check bit depths without digging through manuals.

04 Plan high-end workflows. Accurately estimate requirements for 8K and ProRes files before starting a project.

05 Avoid mid-render crashes. Know your disk limits ahead of time by predicting file sizes for any duration.

Real-World Applications

Planning a 4K YouTube project

An editor asks the agent how much space a 30-minute 4K 60fps video in H.265 will take. The agent uses calculate_storage_estimate to provide a precise number.

Studio hardware planning

A manager asks for a comparison between ProRes 4444 and H.264 for a high-end production. The agent uses compare_codec_profiles to show the storage impact.

Checking 8K feasibility

A creator wants to know if an 8K 10-bit file will fit on a 2TB drive for a specific duration. The agent uses calculate_storage_estimate to verify the space.

Comparing codecs for streaming

A dev checks the storage difference between AV1 and H.264 for a 1080p video. The agent uses compare_codec_profiles to highlight the storage savings.

Patterns to Avoid

Guessing storage for 8K

✗ AVOID

Trying to estimate space manually for 8K files without knowing the bitrate.

✓ INSTEAD

Use calculate_storage_estimate to get the exact numbers based on your specific resolution and codec.

Picking codecs without data

✗ AVOID

Choosing a codec without knowing what bit depths it actually supports.

✓ INSTEAD

Use get_codec_capabilities to see the technical limits before you commit to a specific encoding profile.

Overbuying drives

✗ AVOID

Buying a massive array without knowing the real needs of your project.

✓ INSTEAD

Use compare_codec_profiles to see the actual storage footprint of your intended workflow and buy only what you need.

The Right Fit

Use this if you need to plan storage for video production, especially when dealing with high-bitrate codecs or high resolutions like 4K and 8K. It's great for estimating file sizes before you start rendering or for comparing the storage impact of different encoding settings. Don't use this if you need to actually transcode a video file or compress an existing clip; this MCP is for estimation and technical specs only, not for active file processing.

Video Storage Calculator for Precise Video Production Planning

Production teams often waste time guessing how much storage a new project will eat. You end up clicking through multiple tabs, checking codec specs on different websites, and trying to do mental math on bitrates and frame rates just to see if your server can handle the next export.

This MCP lets you skip that mess. Just tell your agent the specs, and it gives you the exact storage footprint. You get the data you need to make a call in seconds.

Video Storage Calculator for Comparing Video Codec Profiles

Instead of manually looking up the differences between H.264, AV1, and ProRes, you can now compare them instantly. You don't have to hunt for

You get a clear picture of the trade-offs between quality and file size. It makes choosing the right codec a data-driven decision.

bit depth limits or chroma subsampling details anymore.

Video Storage Calculator: 3 Tools for Video Production

Get storage estimates, compare codec profiles, and check bit depth capabilities for your video projects.

#	TOOL	DESCRIPTION
01	`get_codec_capabilities`	See the supported bit depths and chroma subsampling for any specific codec. This helps you understand the technical limits of your chosen format.
02	`compare_codec_profiles`	Look at the storage differences between multiple video profiles in one go. It makes it easy to see how much space different settings will save you.
03	`calculate_storage_estimate`	Get a specific size estimate for a video based on your chosen duration and resolution. Use this to predict your final file size before you start rendering.

See It in Action

Real prompts you can use once this MCP is connected to your AI agent through Vinkius Cloud.

U How much space do I need for 30 minutes of 4K 60fps video using H.265?

For a 30-minute 4K video at 60fps using the H.265 codec, you'll need approximately **6.2 GB** of storage.

This assumes standard high-quality settings. If you increase the bitrate or use a higher bit depth, this number will go up.

U Compare H.264 and AV1 for a 1080p 30fps video at 10 minutes.

Here is the storage comparison for 10 minutes of 1080p 30fps video:

- **H.264**: ~1.5 GB
- **AV1**: ~0.8 GB

AV1 saves you about **46%** in storage space for this specific configuration.

U What bit depths does ProRes 4444 support?

ProRes 4444 supports two primary bit depth settings:

- **10-bit**
- **12-bit**

Frequently Asked Questions

01 **Can the Video Storage Calculator help me plan my hard drive space?**

Yes. It calculates exactly how much storage you'll need based on your video resolution, frame rate, and codec choice.

02 **How does the Video Storage Calculator handle different resolutions?**

It covers everything from standard 720p up to 8K, giving you accurate numbers for each.

03 **Can I use the Video Storage Calculator to compare different video codecs?**

Yes, you can see the storage requirements for multiple codecs side-by-side to help you choose the best one for your project.

04 **Will the Video Storage Calculator tell me about bit depths?**

It provides technical details on supported bit depths and chroma subsampling for various codecs.

05 **Is the Video Storage Calculator good for 8K video projects?**

It's perfect for 8K. You can get specific estimates for high-resolution files to ensure your hardware is ready.

06 **How accurate are the storage estimates from the Video Storage Calculator?**

The estimates are based on standard technical profiles for common codecs like H.264, ProRes, and AV1.

07 **How can I estimate the size of an 8K video?**

You can use the `calculate_storage_estimate` tool by providing parameters like 8K resolution, your desired frame rate, and the codec you plan to use.

08 **Can I compare two different codecs?**

Yes, the `compare_codec_profiles` tool allows you to input multiple profiles to see a side-by-side storage comparison.

09 **Does it support ProRes?**

Yes, the server supports various mezzanine codecs including ProRes 422 and ProRes 4444 via `get_codec_capabilities` for technical verification.

Go Live in 60 Seconds

Get your connection token from **cloud.vinkius.com**, then paste the endpoint URL into any MCP-compatible client.

YOUR MCP ENDPOINT

```
https://edge.vinkius.com/[TOKEN]/mcp
```

CLIENT	WHERE TO CONFIGURE
Claude AI	Profile → Customize → Connectors → "+" → Add custom connector → Paste endpoint
Cursor	Settings → Features → MCP Servers → "+ Add New MCP Server" → Type: SSE → Paste endpoint
VS Code	Ctrl/Cmd+Shift+P → "MCP: Add Server" → add `"video-storage-calculator": { "url": "…" }`
Windsurf	MCP Settings → `mcp_settings.json` → Add endpoint URL
ChatGPT	Settings → Tools & plugins → Add MCP server → Paste endpoint
Gemini	Extensions → Add MCP Server → Paste endpoint URL

ASK AN AI ABOUT THIS

Let your preferred AI explain this MCP server

- Ask ChatGPT
- Ask Claude
- Ask Perplexity
- Ask Gemini
- Ask Grok

READY TO CONNECT

Video Storage Calculator is live on Vinkius Cloud.

Get your connection token, paste it into your AI agent, and start building. No SDK. No deployment. Just results.

Start at cloud.vinkius.com →

vinkius.com · support@vinkius.com

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DOCUMENT INFORMATION

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