

M C P S E R V E R

N O C O D E

C L O U D H O S T E D

Timelapse Calculator MCP for AI Agents

Plan your cinematography and solar lighting windows with precision.

Timelapse Calculator helps photographers and filmmakers plan the technical logistics of long-form captures. It handles the math for shot intervals, total frame counts, and storage requirements so you don't have to guess. It also helps you identify the best lighting windows for specific geographic locations.

A+ Quality Score 100/100

timelapse

cinematography

camera-settings

solar-planning

workflow



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.

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.

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.

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

Encryption at rest

Ed25519

PKI vault signatures

24h TTL

Ephemeral session keys

V8 Isolate

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.

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.

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.

06 — Honeypot Trap System

Phantom credentials are injected into isolated environments. If a honeypot 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.

FinOps

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

Firewall & DLP

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

Agent Activity

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

Tool Health

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

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.

Timelapse Calculator MCP

3 tools available

Cloud-hosted on Vinkius

The Timelapse Calculator MCP handles the technical math for your next shoot. Instead of doing mental math to figure out how many frames you need for a 30-second clip at 24 frames per second, your agent does the heavy lifting. You can ask it to build a full plan that tells you exactly how many seconds to wait between captures and how much space you'll need on your SD card. It even handles the lighting side of things. If you're trying to catch a specific solar transition, you can get the exact duration for a region to make sure you're on-site at the right time. This is one of the practical utilities in the Vinkius catalog that actually saves time during the pre-production phase. It turns a messy list of requirements into a concrete plan you can follow on set. You can stop worrying about whether your camera will run out of memory halfway through a sunset or if your playback will be too fast to see. It gives you the numbers you need to be confident in your setup. You can quickly pivot your plan if you decide to change your frame rate or target duration, getting new math instantly. This takes the guesswork out of the technical side of cinematography so you can focus on the creative side of your production.

Core Capabilities

01 — Calculate shot intervals

Get the exact timing between captures based on your desired final video length and frame rate.

03 — Find golden hour windows

Get the duration of solar transitions for specific geographic regions.

05 — Determine total frame counts

Find out exactly how many images you need to capture for a target duration.

02 — Predict final video length

Determine how long a video will play based on the number of images you captured.

04 — Estimate storage requirements

Calculate how much space you need on your media cards for a specific sequence.

One Click on Vinkius — From Prompt to Execution

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

- 01 Tell your agent the length of the real-world event you want to capture and your target video length.
- 02 Specify your desired frame rate and the average file size of your photos.
- 03 Get a full breakdown of your camera settings, storage needs, and lighting windows.

The bottom line is it turns your creative vision into a technical shot list.

Built For

This is for the visual storyteller who needs to know the technical constraints of a shot before they hit record. It's for anyone who needs to move from a 'vibe' to a concrete production plan without spending hours on a spreadsheet.

Landscape Photographer

Planning a 4-hour mountain sunset and needing to know exactly how many frames to capture to hit a 30-second playback.

Commercial Videographer

Calculating storage and interval needs for a high-speed city timelapse for a client's social media feed.

Film Student

Learning the math behind frame rates and intervals while planning a graduation project.

What Changes When You Connect

- 01 Stop guessing shot intervals by using `compute_timelapse_plan` to get exact timing every time.
- 02 Avoid running out of space on your card by getting storage estimates via `compute_timelapse_plan`.

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- | | |
|----|--|
| 03 | Know your final runtime before you start editing with <code>compute_playback_duration</code> . |
| 04 | Time your arrivals perfectly by getting solar data from <code>lookup_golden_hour_window</code> . |
| 05 | Simplify pre-production by letting your agent build your entire shot list at once. |
| 06 | Reduce on-set stress by having all your technical requirements ready before you deploy. |
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Real-World Applications

Planning a 20-second city timelapse for a 1-hour event

A photographer asks their agent to calculate the intervals and storage needed for a high-speed city sequence. The agent uses `compute_timelapse_plan` to provide a full gear checklist.

Finding the desert golden hour

A filmmaker needs to know how long they have to shoot in a specific desert region. They ask their agent to use `lookup_golden_hour_window` to find the solar transition window.

Predicting length from a folder of 500 photos

A videographer has a pile of images and wants to know the final duration. They ask their agent to run `compute_playback_duration` to see if it fits their edit timeline.

Calculating storage for a 30-minute sunset

A user wants to know if a 128GB card is enough for a long-form sunset. The agent uses `compute_timelapse_plan` to give a precise storage estimate based on photo size.

Patterns to Avoid

Doing the math by hand

✗ AVOID

Manually trying to divide seconds by frame rates while on location.

✓ INSTEAD

Use `compute_timelapse_plan` to get all your intervals and storage needs instantly.

Guessing storage capacity

✗ AVOID

Starting a shoot and finding out the SD card is full halfway through.

✓ INSTEAD

Ask your agent to run `compute_timelapse_plan` to get a storage estimate before you leave.

Arriving late for a sunset

✗ AVOID

Missing the best light because you didn't know how long the window lasted.

✓ INSTEAD

Use `lookup_golden_hour_window` to get the exact timing for your specific region.

The Right Fit

Use this if you are planning a timelapse that requires specific frame rates, duration targets, or large-scale storage planning. It's perfect for professional cinematography where the math needs to be exact. Don't use it if you're just taking random photos or if you don't care about the exact timing of your shots. If you need general weather reports or cloud cover predictions, this isn't the right tool because it only handles solar transitions. Use this for the technical pre-production phase, not for real-time weather monitoring.

Timelapse Calculator for Cinematic Planning

Most photographers and filmmakers spend way too much time on the boring math of production. You have to open multiple tabs, check your camera's frame rates, estimate your SD card capacity, and try to guess how many seconds to wait between shots. It's easy to get it wrong, which leads to running out of storage or ending up with a video that's too fast or too slow.

With this MCP, you just tell your agent what you want to see. It handles the calculations for your intervals, storage, and timing in seconds. You get a concrete plan you can actually use on set, which means less time staring at spreadsheets and more time focusing on the shot.

Timelapse Calculator for Solar Lighting Data

Planning a shoot in a new location often means guessing when the best light will hit. You might waste hours on-site waiting for a window that's already closed or miss the peak transition because you didn't know the duration.

This tool gives you the exact solar transition windows for specific regions. You can know exactly how much time you have to capture the perfect shot, making your production much more efficient.

Timelapse Calculator: 3 Tools for Cinematography

Use these tools to automate your timelapse math, from shot intervals to solar lighting windows.

#	TOOL	DESCRIPTION
01	lookup_golden_hour_window	Find the exact duration of solar transitions for specific regions. This helps you time your arrival for the best lighting.
02	compute_playback_duration	Predict your final video length based on the total number of photos. Use this to verify your production goals.
03	compute_timelapse_plan	Get your shot interval and storage needs for a specific video duration. This helps you plan your camera settings before you shoot.

See It in Action

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

U I want a 10 second clip of a 2 hour sunset at 30 FPS. How often should I take a photo?



To capture a 2 hour sunset for a 10 second clip at 30 FPS, here is your plan:

- **Shot Interval:** 240 seconds (4 minutes)
- **Total Frames:** 300
- **Estimated Storage:** ~1.5 GB (assuming 5MB per photo)

This setup ensures your final video has a smooth, cinematic flow.

U I have 400 photos taken every 10 seconds. How long is the final video at 24 FPS?



Based on your sequence of 400 photos with a 10-second interval:

- **Final Video Duration:** 166.6 seconds (approx. 2 minutes and 46 seconds)
- **Playback Speed:** 24 FPS

This will give you a steady, high-quality timelapse of your event.

U How long is the golden hour in the Grand Canyon?



The expected golden hour duration for the Grand Canyon region is approximately **45 minutes**.

Make sure to arrive early to set up your gear, as this window captures the most aesthetic solar transitions.

Frequently Asked Questions

01 Can Timelapse Calculator help me plan my camera settings?

Yes, it gives you the exact shot intervals and frame counts you need based on your desired video length. This takes the guesswork out of your technical setup.

02 How does Timelapse Calculator estimate storage?

It calculates the total space required for your entire sequence based on your target duration and the average file size of your photos.

03 Can I use Timelapse Calculator for different regions?

Yes, it provides solar transition data for various geographic regions to help you time your lighting perfectly.

04 Will Timelapse Calculator tell me the final video length?

It can predict the exact playback duration of a video based on the number of photos you've captured and your intended frame rate.

05 Is Timelapse Calculator good for commercial shoots?

It's ideal for professional work where precision is key. It ensures your production meets the client's specific duration and technical requirements.

06 Can I use it to plan for different frame rates?

Absolutely. You can specify any frame rate, and the tool will adjust the shot intervals and storage needs accordingly.

07 How do I calculate my storage needs?

Use the `compute_timelapse_plan` tool. By providing your event duration, target clip length, and average frame size, it will output the total storage required in MB.

08 Can I plan for specific lighting conditions?

Yes. Use `lookup_golden_hour_window` with a region code like 'EU-NORTH' to find the expected duration of the golden hour window for that area.

09 What if I already have a set number of photos?

You can use ``compute_playback_duration``. Input your shot interval and total shot count to see how long the resulting video will play at your chosen FPS.

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 <code>"timelapse-calculator": { "url": "..." }</code>
 Windsurf	MCP Settings → <code>mcp_settings.json</code> → 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

Timelapse 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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