

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

Layover Duration Calculator MCP

Plan flight connections with precise timing and risk analysis.

Layover Duration Calculator MCP gives your AI agent the ability to handle complex flight connection math. It calculates exact time gaps between flights, checks if connections meet minimum requirements, and evaluates the risk of missing a flight based on potential delays. You can use it to generate clear transit reports for travel itineraries.

A+ Quality Score 100/100

flights

layover

travel-planning

aviation-data

logistics



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.

Layover Duration Calculator MCP

4 tools available

Cloud-hosted on Vinkius

You can stop manually calculating time differences between arrival and departure gates. This MCP gives your AI client the specific tools needed to manage flight connections with mathematical precision. Instead of guessing if a 45-minute window is enough, your agent can use these tools to verify if a connection meets minimum connection times or to assess the likelihood of a missed flight if a delay occurs. It handles the heavy lifting of time math and risk assessment, allowing you to focus on building better travel itineraries. Whether you are checking if a tight connection is viable or need a summary of a complex transit, your agent gets the job done using real-time logic.

Core Capabilities

01 — Time Gap Calculation

Your agent calculates the exact minutes or hours between flight arrivals and departures.

03 — Risk Assessment

Your agent evaluates the probability of a missed connection using delay margins.

02 — Viability Verification

The AI checks if a layover meets the minimum connection time requirements.

04 — Transit Reporting

The AI generates readable summaries of layover details and connection status.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/layover-duration-calculator — connect your AI agent in three steps.

- 01
- Connect the MCP to Claude, Cursor, or Windsurf via Vinkius.
- 02
- Provide your flight arrival and departure timestamps to your agent.
- 03
- Ask the agent to check viability or calculate risk.
- 04
- Receive precise timing data or a written transit summary.

Connect the MCP to your client and let your agent handle the math.

Built For

This MCP is built for anyone managing complex travel logistics through AI-driven workflows.

Travel Agents

Hand off itinerary validation and connection risk checks to your agent.

Logistics Coordinators

Use the agent to verify transit windows for moving personnel or cargo.

Flight Planners

Let your agent run quick math on connection viability and buffer times.

What Changes When You Connect

- 01
- Eliminates manual timestamp subtraction errors.
- 02
- Provides objective risk assessment for tight connections.
- 03
- Standardizes connection viability checks against minimum requirements.

04 Generates instant, readable transit summaries.

Real-World Applications

Tight Connection Check

Verify if a 40-minute window is enough to make a flight given specific airport requirements.

Delay Impact Analysis

Calculate if a 20-minute flight delay will cause a missed connection.

Itinerary Auditing

Run a summary of all layovers in a multi-leg trip to ensure they are all viable.

Travel Planning

Use the agent to build flight schedules that include safe buffer times.

Patterns to Avoid

Manual timestamp subtraction

❌ AVOID

You try to manually subtract arrival times from departure times in a chat window to see if a connection works.

✓ INSTEAD

Let your agent do the math using ``calculate_layover_time`` to ensure the duration is exact and error-free.

Ignoring airport minimums

❌ AVOID

You assume a 30 minute layover is fine for any airport without checking local requirements.

✓ INSTEAD

Use ``validate_connection_viability`` to check if the window actually meets the necessary minimum connection times.

Overlooking delay risks

❌ AVOID

You plan a tight connection and ignore the possibility of a small delay causing a missed flight.

✓ INSTEAD

Run ``evaluate_layover_risk`` to see how much buffer you actually have based on specific delay margins.

The Right Fit

Connect this MCP if you manage complex travel itineraries or logistics where connection timing is critical. Do not connect it if you only book simple, single-leg flights. The decision depends on whether you need to mathematically validate transit windows against delay risks.

Layover Duration Calculator 4 Tools

These tools handle the time math and risk logic for flight connections. Your agent uses them to verify transit windows and assess the likelihood of missed flights.

#	TOOL	DESCRIPTION
01	calculate_layover_time	This tool calculates the exact duration between two specific timestamps.
02	evaluate_layover_risk	This tool assesses how likely you are to miss a connection based on provided delay margins.
03	get_layover_summary	This tool generates a human-readable breakdown of all characteristics for a specific layover.
04	validate_connection_viability	This tool determines if a layover is long enough to be considered a successful connection.

See It in Action

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

U How long is my layover if I arrive at 10:00 AM and depart at 1:30 PM?



Your layover duration is 3 hours and 30 minutes.

U Is a 45-minute layover viable if the minimum connection time is 40 minutes?



Yes, the connection is viable with a 5-minute buffer.

U Give me a summary of a layover arriving at 2024-07-04T10:00:00Z and departing at 2024-07-04T14:00:00Z with a 60-minute MCT.



The total layover is 4 hours. The connection meets the minimum requirements and provides a comfortable buffer.

Frequently Asked Questions

01 What can this MCP do for my flight planning?

It allows your AI client to calculate layover durations, check if connections are viable, and assess the risk of missing flights.

02 How does the risk assessment work?

The agent uses the `evaluate_layover_risk` tool to assess the likelihood of a missed connection based on the delay margins you provide.

03 Can I use this with Claude or Cursor?

Yes, you can connect this MCP to any MCP-compatible client like Claude, Cursor, or Windsurf.

04 Does it handle minimum connection times?

Yes, the `validate_connection_viability` tool specifically determines if a layover is long enough to be successful.

05 Do I need to host this myself?

No, Vinkius hosts and manages the MCP so it is ready to use immediately after you connect.

06 How do I check if my connection is valid?

You can use the `validate_connection_viability` tool by providing your arrival time, departure time, and the airport's minimum connection time.

07 Can I calculate the risk of missing a flight?

Yes, the `evaluate_layover_risk` tool assesses the likelihood of a missed connection based on your layover duration, minimum connection time, and any expected delays.

08 What format should the timestamps be in?

All timestamps must be provided in ISO 8601 format.

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>"layover-duration-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

Layover Duration 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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