

MCP SERVER

NO CODE

CLOUD HOSTED

Competition Peak Planner MCP for AI Agents

Optimizing Marathon and Endurance Race Day Performance

Competition Peak Planner helps athletes nail their race day performance by managing every detail of the pre-competition cycle. It generates tailored training taper schedules, calculates ideal supercompensation windows, maps out specific carb loading nutrition plans, and builds comprehensive checklists so nothing gets missed.

A+ Quality Score 100/100

tapering

athlete

performance

nutrition

competition



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.

Competition Peak Planner MCP

4 tools available

Cloud-hosted on Vinkius

Hitting peak physical condition isn't luck; it's meticulous planning. The Competition Peak Planner guides athletes through the critical weeks leading up to a major event. It takes your current training volume and race date, generating structured taper schedules that safely reduce load while keeping intensity high. You can predict the optimal performance window when you'll be at your best, then build out specific 3-day nutrition plans focused on carbohydrate loading for maximum glycogen storage. Plus, it compiles detailed checklists covering everything from travel logistics to physiological checks. This MCP fits into Vinkius's catalog of specialized tools, giving your agent a deep playbook specifically for elite athletic performance management.

Core Capabilities

01 — Generate training load reduction schedules

The MCP calculates week-by-week adjustments to volume and intensity needed for optimal tapering.

02 — Predict peak performance timing

It forecasts the ideal period when an athlete's body will be physiologically ready for competition.

03 — Design carbohydrate loading nutrition plans

The system outlines specific 3-day dietary strategies focused on maximizing energy stores.

04 — Build pre-competition logistics checklists

It compiles essential physical and logistical tasks that must be addressed before the event day.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/mcp/competition-peak-planner — connect your AI agent in three steps.

- 01** You provide your agent with key data points, such as your current weekly training volume, race date, and any specific goals for performance.
- 02** The MCP runs these inputs through its models to calculate the necessary adjustments, generating structured plans for nutrition, scheduling, or checklists.
- 03** Your agent compiles these various outputs into a coherent, actionable sequence of steps you can follow immediately.

The bottom line is that it turns complex sports science guidelines into simple, step-by-step action items for athletes and coaches.

Built For

This MCP is essential for athletic trainers, endurance coaches, and sports nutritionists who deal with the high stakes of peak performance. If you manage an athlete's preparation for a major event like a marathon or competition weightlifting meet, this tool handles the complex planning that usually takes hours of spreadsheet work.

Endurance Coach

Uses it to create safe and effective taper schedules and monitor an athlete's readiness across multiple macro cycles.

Sports Nutritionist

Designs precise, multi-day carb loading menus based on weight and event type, ensuring optimal fueling.

Athletic Trainer

Checks off critical pre-competition physiological requirements and travel logistics using the comprehensive checklist tool.

What Changes When You Connect

-
- 01** Achieve peak timing with the `calculate_peak_performance_window` tool, ensuring you don't overtrain or undertrain your athlete.

 - 02** Eliminate guesswork from fueling by using `get_carb_loading_nutrition_plan` to provide precise 3-day carb loading strategies.

 - 03** Maintain intensity while safely reducing workload; `generate_tapering_schedules` manages the complex drop in training volume week by week.

 - 04** Stop missing critical steps: `generate_pre_competition_checklist` compiles every necessary logistic and physiological task into one place.

 - 05** Move beyond general advice. These tools provide concrete, data-driven plans for both nutrition and physical training load.
-

Real-World Applications

Creating the final taper schedule for a marathon

A coach needs to know exactly how much to drop volume in the last three weeks leading up to the race. The agent runs `generate_tapering_schedules`, receiving a precise week-by-week reduction plan (e.g., 80km down to 40km) that keeps intensity high enough for readiness.

Getting ready for an international competition

An athlete needs to make sure they haven't forgotten any travel documents, medical checkups, or gear checks. The agent uses `generate_pre-competition-checklist` and instantly produces a comprehensive list covering logistics and physiology.

Planning nutrition for a cross-country meet

A sports nutritionist needs a fueling strategy for an athlete weighing 75kg who races in three days. Using `get_carb_loading_nutrition_plan`, the agent gets a day-by-day menu that specifies complex carbs on Day -3 and high glycemic foods on Day -1.

Determining the best race date

A coach wants to know if the athlete is ready for the fall season's major event. By using `calculate_peak_performance_window`, the agent predicts the optimal time frame when the body will peak, helping schedule the competition accordingly.

Patterns to Avoid

Treating nutrition planning as general advice

✗ AVOID

Asking an AI simply, 'What should I eat before a race?' The response is vague and generic, offering only high-level suggestions that don't account for weight or specific day counts.

✓ INSTEAD

Use the `get_carb_loading_nutrition_plan` tool. Specify your exact weight and the number of days needed to receive a concrete 3-day plan with targeted food types.

Forgetting non-training related details

✗ AVOID

A coach only focuses on training volume and forgets about travel logistics, realizing too late that visas or specific equipment checks were missed.

✓ INSTEAD

Run `generate_pre-competition-checklist`. This tool ensures the plan covers both physical readiness and external logistics, giving you a complete picture.

Calculating taper schedules manually

✗ AVOID

Trying to calculate the volume drop across several weeks using complex spreadsheets and formulas that are prone to human error.

✓ INSTEAD

Use `generate_tapering-schedules`. Input your current weekly load and target date, and it generates a mathematically safe week-by-week reduction plan.

The Right Fit

Use this MCP if you need a holistic view of peak performance management for endurance athletes. This tool shines when you must coordinate multiple inputs—nutrition *and* training load *and* logistics—to hit one specific date. You need to know the 'when' and the 'how' across weeks, not just generalized advice. Don't use it if your only goal is simple data retrieval, like reading an existing checklist; in that case, a basic document reader tool is enough. Conversely, don't rely on this MCP for injury diagnosis or immediate emergency care plans; always consult a physical therapist. This MCP manages the optimization cycle, while external medical tools handle acute health events.

Optimizing Tapering Schedules with Competition Peak Planner

Right now, managing an athlete's taper is guesswork and spreadsheet hell. You track miles run, calculate percentages of volume reduction, and try to manually adjust intensity week over week. It's complex, error-prone, and if you miss one variable, the entire cycle fails.

With this MCP, your agent handles that math for you. Provide the race date and current load, and it generates a structured taper schedule instantly. You get a clear roadmap showing exactly how much volume to cut each week while keeping the intensity high enough to stay sharp.

Optimizing Race Day Fueling with Competition Peak Planner

Before connecting this MCP, nutrition planning meant reading conflicting articles and guessing about carb timing. You'd get general advice like 'eat more carbs,' which tells you nothing actionable for your specific weight or race date.

Now, the agent uses the MCP to create a precise 3-day plan tailored to your body mass. Instead of vague advice, you receive targeted menus specifying what kind of complex and high glycemic foods to focus on day by day.

4 Competition Peak Planner Tools for Athletic Training

These tools allow your agent to manage every phase of athletic preparation, from initial training load reduction to final day logistics.

#	TOOL	DESCRIPTION
01	<code>get_carb_loading_nutrition_plan</code>	It creates a specific, actionable 3-day diet plan designed to maximize glycogen stores before an event.
02	<code>generate_pre_competition_checklist</code>	This tool outputs a detailed list covering everything from equipment checks to required medical confirmations for race day.
03	<code>calculate_peak_performance_window</code>	The MCP predicts the specific time frame when an athlete is most likely to perform at their absolute best.
04	<code>generate_tapering_schedules</code>	It generates a detailed, week-by-week reduction schedule for training volume while maintaining necessary intensity.

See It in Action

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

U I'm training for a half marathon in 6 weeks. My current weekly volume is 50km.



Here is your recommended taper schedule:

- **Week 6 (Pre-Taper):** 50 km total (Mix of High/Moderate intensity).
- **Week 5:** 38 km total (Focus on Moderate intensity).
- **Week 4:** 25 km total (Keep a short, sharp interval session).
- **Week 3:** 18 km total (Easy pace only. Rest up.)
- **Race Week:** 6-8 km max (Just keep the legs moving).

U What carb loading plan should I follow for a weightlifting competition in three days? I weigh 85kg.



3-Day Carb Loading Plan (Weight: 85kg)

- **Day -3:** Focus on complex carbohydrates. Meals centered around oats, quinoa, and sweet potatoes.
- **Day -2:** Increase intake with pasta and rice portions; add lean protein sources like chicken breast.
- **Day -1 (Pre-Meet):** High glycemic index foods are key. Include white bread, sports drinks, and low-fiber snacks for quick energy.

U Generate a final checklist for my triathlon competition next week.



Triathlon Competition Checklist (Next Week)

- ✓ **Logistics:** Confirm travel itinerary and accommodation details.
- ✓ **Equipment:** Check bike fit, swim cap, and nutrition gels supply.
- ✓ **Physiology:** Ensure hydration levels are optimal; book a final blood marker test.
- ✓ **Timing:** Confirm the competition start time with local officials.

Frequently Asked Questions

01 How does the Competition Peak Planner help me structure my training load?

The planner generates detailed taper schedules that automatically adjust your weekly volume while keeping intensity at the right level. It prevents you from either burning out or under-training, giving you a safe path to race day.

02 Can I use Competition Peak Planner for marathon nutrition planning?

Yes, it provides specific 3-day carbohydrate loading plans based on your weight. You get actionable menus detailing exactly what type of carbs and foods you should consume in the final days.

03 What kind of checklist does the Competition Peak Planner generate?

It creates a comprehensive list that covers everything needed, from equipment checks to confirming travel logistics and basic physiological readiness before any major event.

04 How far in advance can I use this MCP for planning?

You can use it as early as you know your race date. The tool helps set the initial timeline by calculating the optimal performance window, so you start training with a clear goal.

05 Is the Competition Peak Planner only for running events?







No. While excellent for endurance sports like marathons, it works with general athletic principles and can be adapted for strength-based or other competitive disciplines too.

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>"competition-peak-planner": { "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

Competition Peak Planner 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](https://cloud.vinkius.com) →

vinkius.com · support@vinkius.com

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