

MCP SERVER

NO CODE

CLOUD HOSTED

Multi-Monitor Arrangement Math MCP for AI Agents

Accurate Desktop Geometry Calculation for Complex Workstations

Multi-Monitor Arrangement Math calculates total desktop dimensions and coordinate offsets for complex multi-monitor setups. This MCP helps you map out the exact 2D coordinate space, anchoring a primary monitor at (0,0) to determine precise bounding box dimensions and screen real estate distribution across any connected display array.

A+ Quality Score 100/100

multi-monitor

coordinate-system

desktop-setup

geometry

display-math



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.

Multi-Monitor Arrangement Math MCP

3 tools available

Cloud-hosted on Vinkius

Designing interfaces or working with physical displays that span multiple screens requires accurate geometry. Manually calculating total desk size or figuring out where the secondary monitors start is a huge time sink. This MCP handles all of that, providing precise calculations for unified 2D coordinate planes in multi-monitor environments.

Whether you're setting up a complex workstation or need to calculate dimensions for graphic design assets, this tool figures it out. You can use one function to find the total desktop span, get another to retrieve the exact top-left coordinates of every connected display, and finally analyze how much screen real estate each monitor occupies as a percentage. It gives you a complete map of your workspace. By connecting through Vinkius, your AI client gains instant access to this calculation engine, letting you stop guessing dimensions and start building with absolute precision.

Core Capabilities

01 — Calculate total desktop boundaries

Determines the overall bounding box size for an entire multi-monitor arrangement.

02 — Map individual monitor starting points

Retrieves the precise top-left (X,Y) coordinates for every connected display in the setup.

03 — Analyze screen area distribution

Calculates what percentage of the total workspace is occupied by each individual monitor.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/mcp/multi-monitor-arrangement-math — connect your AI agent in three steps.

- 01 First, provide the dimensions and arrangement details for your connected displays.
- 02 The MCP processes these inputs to calculate the unified 2D coordinate plane, determining the total bounding box and individual monitor offsets.
- 03 You receive a detailed map containing overall dimensions, specific origins (X,Y), and area percentages for every screen.

The bottom line is that you get a perfect mathematical model of your physical multi-monitor setup, ready for any design or development task.

Built For

This MCP is essential for UI/UX designers and developers who work across multiple screens. It's also critical for technical artists or anyone needing accurate measurements of large-scale display setups. If your job involves translating physical screen dimensions into digital coordinates, this tool saves hours.

UI/UX Designer

They use this to calculate how elements will flow across a multi-screen workspace, ensuring that interactive components align correctly regardless of the monitor arrangement.

Front-End Developer

Developers rely on it to accurately model viewport dimensions and coordinate systems when building web applications intended for complex, multi-display setups.

Technical Artist

They use this to plan asset scaling or calculate required canvas sizes for projects that span multiple physical monitors, guaranteeing dimensional accuracy.

What Changes When You Connect

-
- 01** Eliminate guesswork about total screen size. Use `get_bounding_box` to instantly find the overall width and height of your entire setup.

 - 02** Stop guessing where things start. Get precise monitor origins with `get_coordinate_map`, knowing exactly which (X, Y) point every display occupies.

 - 03** Analyze resource allocation quickly. figure out screen real estate distribution by calling `get_monitor_area_percentage` to see which monitors take up the most space.

 - 04** Build dimensionally accurate prototypes. Your agent can now model complex setups for testing before you write a single line of code or design an asset.

 - 05** Save time on tedious math problems. Instead of opening multiple calculators and drawing diagrams, your AI client gives you definitive numbers instantly.
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Real-World Applications

Designing a multi-panel dashboard

A UX designer needs to know the total dimensions for a control panel spanning three monitors. They ask their agent to use `get_bounding_box`, which returns the exact overall pixel width and height needed for the design mock-up.

Asset scaling for diverse displays

A technical artist needs to know if one monitor is proportionally smaller than others in a mixed setup. Using `get_monitor_area_percentage` gives them the breakdown, ensuring assets scale correctly across all screens.

Mapping interactive element placement

A developer needs to place a widget that must start precisely at the corner of the secondary screen. By invoking `get_coordinate_map`, they receive the exact (X, Y) offset needed for perfect alignment.

Patterns to Avoid

Treating monitors as separate entities

✗ AVOID

Just summing up the widths of three monitors (1920+1920+1920) without considering potential overlap or total frame size.

✓ INSTEAD

Always use `get_bounding_box` to calculate the true, unified outer dimension. This accounts for gaps and ensures you get the actual usable canvas space.

Ignoring primary monitor offset

✗ AVOID

Assuming all secondary monitors start at (0, 0) just because they are second or third.

✓ INSTEAD

Use `get_coordinate_map`. It provides the true starting point for every screen, confirming if a display starts at (0, 0) or somewhere else based on your setup.

Over-relying on single-axis math

✗ AVOID

Calculating height changes based only on vertical placement and ignoring horizontal spread.

✓ INSTEAD

Use the full suite of tools. Combine `get_bounding_box` for totals, and then use `get_monitor_area_percentage` to confirm proportional distribution.

The Right Fit

You need this MCP if your work requires absolute mathematical accuracy regarding digital screen geometry. Use it when you are

planning a multi-display workspace, designing an interface that must flow across multiple physical monitors, or calculating asset dimensions based on complex display arrangements. Don't use it if you just need simple size math for one single object; other utility tools handle that fine. Also, don't rely on it to figure out connection cables—it only handles the mathematics of the active displays using `get_coordinate_map` and `get_bounding_box`.

Multi-Monitor Arrangement Math MCP: Solving Display Geometry Issues

When you build or design for multi-monitor setups, manually tracking total dimensions is a nightmare. You're constantly copying and pasting pixel values, drawing little diagrams, and making sure your element placements are relative to the correct (X, Y) coordinate system. If one monitor shifts an inch, your entire calculation breaks.

With this MCP, you eliminate manual measurement entirely. Your agent handles the geometry instantly. You get a single source of truth—a perfect map showing total desktop dimensions and where every screen starts, so you can focus on design instead of math.

Multi-Monitor Arrangement Math MCP: Calculating Screen Real Estate Distribution

Before this tool, figuring out how much space each monitor actually takes up relative to the whole setup was a guessing game. You'd have to calculate every single area manually just to prove that your primary screen wasn't suddenly taking up 70% of the total real estate.

Now, simply asking for the percentage distribution is enough. The MCP provides this analysis instantly, letting you balance your designs and ensure proportional space usage across all connected displays.

Multi-Monitor Arrangement Math: 3 Tools for Display Geometry Calculations

Use these tools to calculate everything from the overall dimensions of your setup to the precise starting coordinates of every single connected monitor.

#	TOOL	DESCRIPTION
01	<code>get_bounding_box</code>	Calculates the total outer dimensions encompassing all connected displays in a multi-monitor setup.
02	<code>get_coordinate_map</code>	Retrieves the specific top-left (X, Y) coordinates for every individual monitor in the arrangement.
03	<code>get_monitor_area_percentage</code>	Calculates and returns the percentage of total desktop area that each connected monitor occupies.

See It in Action

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

U I've got a main 2560×1440 monitor, and I added two smaller 1920×1080 monitors on either side. What are the total dimensions?



Multi-Monitor Setup Geometry

Based on your setup:

- Primary Monitor: 2560 × 1440
- Secondary Monitors (x2): 1920 × 1080

The total calculated bounding box is **6320 pixels wide** and **1440 pixels high**. This assumes the monitors are aligned to the top edge.

U Tell me where every monitor starts. Main screen (1920×1080) at center, plus a secondary one below it.



- * **Primary Monitor:** Starts at coordinates (X: 0, Y: 0).
- **Secondary Monitor:** Starts at coordinates (X: 0, Y: 1080).

This means the primary monitor occupies the space from (0, 0) to (1920, 1080), and the secondary one starts exactly where the first one ends vertically.

U How much of my desktop area is taken up by each screen in a symmetrical setup?



Screen Area Breakdown

MONITOR	DIMENSIONS	% OF TOTAL AREA
Primary (L)	1920×1080	33.3%
Secondary (R)	1920×1080	33.3%
Tertiary (B)	1920×1080	33.3%

Frequently Asked Questions

01 How does the Multi-Monitor Arrangement Math MCP calculate total desktop dimensions?

It calculates the overall bounding box by considering all connected displays and their physical arrangement relative to a primary monitor at (0, 0). This gives you one single number for the maximum width and height of your entire usable workspace.

02 I need to know where my secondary monitors start. Can Multi-Monitor Arrangement Math handle that?

Yes. The MCP provides a coordinate map, giving you the exact (X, Y) top-left starting point for every single display in your setup, which is crucial for accurate development.

03 Does Multi-Monitor Arrangement Math help me with proportional screen sizing?

It does. You can use it to determine what percentage of the total area each monitor occupies. This helps you ensure that your design elements are proportionally distributed across all screens.

04 Is this MCP only for square monitors? Can I input different sizes?

No, it handles varied aspect ratios and dimensions easily. You provide the specific size of each connected display—whether it's 16:9 or something else—and it maps the geometry correctly.

05 What if I move one monitor? Will Multi-Monitor Arrangement Math update?







The MCP processes the current configuration you provide. If your physical setup changes, just input the new dimensions and arrangement details; the math will update to reflect the new geometry.

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>"multi-monitor-arrangement-math": { "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

Multi-Monitor Arrangement Math 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

Generated	July 2026
MCP Server	Multi-Monitor Arrangement Math MCP
Server ID	019f26f0-afca-72b1-adcc-f87947238e66
Platform	Vinkius Cloud for AI Agents
Endpoint	https://edge.vinkius.com/{token}/mcp

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