

MCP SERVER

NO CODE

CLOUD HOSTED

John Deere MCP

Manage every field, machine, and alert via chat.

John Deere MCP connects your AI agent directly to John Deere Operations Center APIs. Manage everything—from tracking specific equipment and mapping fields to reviewing yield reports and monitoring alerts—all through natural conversation. Stop jumping between apps; get full farm visibility in one chat.

A+ Quality Score 100/100

precision-agriculture

fleet-tracking

farm-management

machine-telemetry

crop-data

field-operations



The infrastructure that powers AI agents in the real world.



Vinkius connects AI to the world's software through secure, enterprise-grade infrastructure — enabling real-world execution at scale, built on the Model Context Protocol (MCP).

Your AI Connections Run Through Vinkius Cloud

The world's largest
managed MCP catalog

Vinkius is the cloud infrastructure where AI agents connect 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.

John Deere MCP

7 tools available

Cloud-hosted on Vinkius

This MCP lets you manage complex farm operations without juggling multiple dashboards or digging through dense reports. You connect your AI agent once, and it gains access to all John Deere data, letting you talk about your entire operation using plain English. Instead of logging into the Operations Center app to check on equipment status or field boundaries, you ask your agent directly. It pulls together machine locations, alerts, historical yields, and even lists every farm or co-op you manage. If you're already connected to Vinkius, you can start managing this data immediately from Claude, Cursor, or any other MCP-compatible client. You get real-time updates on your fleet, deep insights into planting and harvest records, and a clear picture of what needs attention across all acres.

Core Capabilities

01 — Get Live Equipment Status

Know exactly where every tractor or sprayer is right now using real-time GPS data.

02 — Review Farm Boundaries and Plots

List all managed fields, including their acreage and current crop assignment.

03 — Check Operational History

Pull comprehensive records of past work, like planting rates, yields, or tillage activities for any plot.

04 — Monitor Machine Health

Review active equipment alerts by severity and identify machines needing immediate maintenance.

05 — View Organizational Assets

List all farms, cooperatives, and client accounts linked to your operation profile.

One Click on Vinkius — From Prompt to Execution

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

- 01** Subscribe to this MCP and provide the required John Deere credentials (App ID, App Secret, and OAuth Access Token) from developer.deere.com.
- 02** Connect your preferred AI client—like Claude or Cursor—to Vinkius for access. This links your agent to the operational data streams.
- 03** Ask your agent a question: 'What were the yields on the North Quarter field last season?' The MCP executes the necessary calls and returns the structured answer.

The bottom line is, you talk to your AI client like talking to a human assistant who already has access to every piece of farm machinery data.

Built For

This MCP is for anyone whose job requires deep visibility into large-scale agricultural operations. If you spend your day clicking between asset trackers, yield reports, and machine status dashboards, this saves hours.

Farm Manager

Uses the tool to check current machine locations or review operational history for specific fields without opening the full Operations Center app.

Agronomist

Pulls detailed planting and yield data for multiple fields instantly, allowing them to build season analysis reports on demand.

Fleet Coordinator

Monitors alerts across the entire machine fleet simultaneously and quickly identifies which pieces of equipment need maintenance or attention.

What Changes When You Connect

-
- 01** Check live equipment status without logging into the Operations Center. Use the `get_machine_locations` tool to know exactly where your entire fleet is operating right now.

 - 02** Build instant season analysis reports. The `get_field_operations` tool gives you product rates, yields, and operator data for any plot, saving manual report generation.

 - 03** Keep your assets running smoothly. By listing machine alerts with `list_alerts`, you monitor critical issues by severity across the whole fleet.

 - 04** Gain full visibility into organizational structures using `list_organizations` to see all managed farms and co-ops in one place.

 - 05** Simplify planning by viewing field boundaries and acreage through `list_fields` before a single seed is planted.
-

Real-World Applications

Checking Fleet Readiness Before Deployment

A coordinator needs to know if the combine, sprayer, and tractor are all ready for harvest. They ask their agent, which uses ``list_machines`` and then checks machine alerts using ``list_alerts``. The agent immediately flags that the sprayer needs a nozzle calibration update before work can start.

Tracking Equipment Movement in Real Time

A farm manager needs to know if a specific tractor has moved from its usual spot. They ask their agent, which uses ``get_machine_locations`` to provide the precise GPS coordinates and confirms the machine's current operational field.

Comparing Yields Across Different Seasons

An agronomist wants to know how this year's corn yield compares to the 5-year average for the East 160 field. They ask their agent, which calls ``get_field_operations`` and pulls the relevant historical data points automatically.

Auditing Past Work for Compliance

A manager needs proof of what product was applied where. They ask their agent, which executes ``get_field_operations`` to pull records including the date, rate, and specific operator details.

Patterns to Avoid

Mixing up data sources

✗ AVOID

Trying to manually cross-reference machine status from a separate IoT dashboard with harvest reports in an accounting system.

✓ INSTEAD

Use this MCP. Ask your agent directly for the required data, combining inputs like ``list_machines`` and ``get_field_operations`` into one conversational request.

Focusing on credentials

✗ AVOID

Getting stuck in the setup process, spending time managing OAuth tokens instead of using the tool.

✓ INSTEAD

Once connected through Vinkius and providing your John Deere App ID/Secret, you just need to talk. Use ``list_organizations`` to start seeing what data is available.

Asking vague questions

✗ AVOID

Just asking the agent 'Tell me about my farm.' The response will be too generic and unhelpful.

✓ INSTEAD

Be specific. Ask, 'What were the yields for Corn in North Quarter?' This targets ``get_field_operations`` and gives you a precise answer.

The Right Fit

Use this MCP if your workflow requires synthesizing data from multiple John Deere sources into one narrative. If you need to know machine location AND field yield AND open alerts, this is your tool. Don't use it if you only need to view a static PDF report or if you are only managing non-John Deere equipment (in which case, look for an alternative fleet management MCP). You must have detailed operational data access; simply knowing farm boundaries isn't enough—you need historical activity recorded via `get_field_operations` to make this valuable.

The headache of switching between farm dashboards is real.

Today, tracking a field operation means logging into the Operations Center dashboard. You check machine locations on one tab, then switch to another tab to view planting records, and might need a third window just to review open alerts. You spend time clicking through tabs, cross-referencing serial numbers by hand, and copying data points into an email summary.

With this MCP, you talk to your agent once. Instead of opening three different dashboards, you ask: 'Show me the status of machines in North Quarter.' The system uses `get_machine_locations` and pulls the necessary alert details, giving you a single, comprehensive answer without lifting a finger.

John Deere MCP Gives You Full Operational Visibility

Manual checks for machine status are slow. Reviewing operational history requires finding the correct field ID and then navigating through date filters to find yields or rates.

Now, you ask your agent, 'What was the corn yield on North Quarter?' It executes `get_field_operations` and delivers the full, analyzed report immediately. The difference is going from hours of clicking to a single conversational query.

John Deere: 7 Tools for Field Data Management

Use these seven tools to query every aspect of your operation, from listing client details to getting real-time GPS coordinates for specific equipment.

#	TOOL	DESCRIPTION
01	<code>list_organizations</code>	Retrieves a list of all associated farms, cooperatives, and organizational profiles.
02	<code>list_machines</code>	Lists every piece of equipment in your fleet, including details like make, model, and serial number.
03	<code>get_machine_locations</code>	Fetches the current GPS coordinates and telemetry data for specified machines.
04	<code>list_fields</code>	Retrieves a list of all agricultural fields or plots, showing boundaries and acreage.
05	<code>get_field_operations</code>	Gets records detailing past field work, including the product used, rate applied, yield recorded, and operator name.
06	<code>list_alerts</code>	Shows a list of machine alerts, providing severity level, timestamp, and which machine is affected.
07	<code>list_clients</code>	Retrieves the contact information for all associated farm clients.

See It in Action

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

U Show me all machines in my main farm and their current locations.



Your farm 'Sunrise Acres' (org: 384721) has 6 machines:

1. John Deere 8R 410 (SN: 1RW8410RJP002871) — 2,340 hrs — GPS: 41.284° N, 96.012° W (Field: North Quarter)
2. S790 Combine (SN: 1H0S790SJN0770123) — 890 hrs — Parked at equipment barn
3. R4045 Sprayer (SN: 1N04045XLMD210456) — 1,120 hrs — GPS: 41.291° N, 96.008° W (Field: East 160)

Showing 3 of 6. Want me to check active alerts for any of these?

U What was the corn yield on the North Quarter field this season?



Harvest operation for North Quarter (Field ID: F-4821):

- Crop: Corn (Zea mays)
- Harvest date: October 12, 2025
- Yield: 218 bu/acre (area: 156.3 acres)
- Total harvest: 34,073 bushels
- Moisture: 15.2%
- Operator: Mike Johnson

This is 8% above your 5-year average of 202 bu/acre for this field. Want me to compare with your other corn fields?

U Are there any active alerts on my fleet?



3 active alerts found:

1. HIGH — 8R 410 Tractor: Engine oil pressure low (triggered 2h ago). Recommend stopping for inspection.
2. MEDIUM — R4045 Sprayer: Nozzle calibration overdue (last calibrated 45 days ago)
3. LOW — S790 Combine: Scheduled maintenance at 900 engine hours (currently at 890 hrs)

The tractor alert is urgent. Should I pull the full machine details?

Frequently Asked Questions

01 Can John Deere MCP list all my managed farms?

Yes. You can use `list_organizations` to get a full profile and list of every farm, co-op, or organization you manage within the system.

02 How do I check if my tractors are running right now using John Deere MCP?

You ask your agent to use `get_machine_locations`. It provides real-time GPS data and telemetry, telling you exactly where each machine is operating.

03 Does the John Deere MCP help me with historical yield reports?

Absolutely. Use `get_field_operations` to pull records for any field. You'll get details on yields, total harvest bushels, and which operator was responsible.

04 What kind of alerts can the John Deere MCP monitor?

The agent monitors machine health using `list_alerts`. It tells you the alert type, severity (High/Medium/Low), timestamp, and precisely which piece of equipment is affected.

05 Do I need to know specific field IDs to use John Deere MCP?

Not necessarily. You can first run `list_fields` to see all available plots. Then you can ask your agent about a plot by name or location.

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 `"john-deere": { "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

John Deere 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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