MCP SERVER | NO CODE | CLOUD HOSTED

Retention Risk Scorer MCP

Predict who will leave, before they even start looking.

Retention Risk Scorer predicts which employees are likely to leave and estimates the real financial cost of that loss. This MCP analyzes key employee data—like salary gaps, tenure length, and promotion history—to generate an immediate turnover risk score (0-100). It doesn't just guess; it quantifies the economic burden of attrition and suggests specific management actions you can take right now to keep top talent.

A+ Quality Score 100/100

turnover | retention | hr-tech | attrition | employee-engagement

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vinkius.com/mcp/retention-risk-scorer

SCAN TO VIEW

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.

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.

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.

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	Ed25519	24h TTL	V8 Isolate
Encryption at rest	PKI vault signatures	Ephemeral session keys	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.

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.

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.

06 — Honeytoken Trap System

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

Agent Activity

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

FinOps

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

Tool Health

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

Firewall & DLP

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

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.

Retention Risk Scorer MCP

3 tools available
Cloud-hosted on Vinkius

Employee turnover costs companies more than just a replacement salary. This MCP helps HR teams move beyond gut feelings by giving them concrete data on who is at risk and why. You feed in an employee's profile—their tenure, their pay compared to the market, how long it's been since they got promoted—and your agent calculates a specific turnover risk score. It then tells you exactly what needs fixing. For example, if the risk score jumps up because of a salary gap, the MCP immediately suggests targeted actions to close that gap and keep the employee engaged. You can also run an estimate on how much it costs the business when a key person walks out the door. By accessing this tool through Vinkius' catalog, you get predictive analytics without needing specialized data science staff or expensive enterprise software.

Core Capabilities

01 — Score Employee Turnover Risk

Calculates an employee's likelihood of leaving based on tenure, salary gaps, and engagement metrics.

02 — Estimate Financial Loss from Attrition

Provides a specific dollar amount representing the total cost (recruitment, onboarding, lost productivity) if an employee leaves.

03 — Generate Retention Strategies

Offers actionable recommendations to managers and HR on how to improve engagement or address specific risk factors.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/retention-risk-scorer** — connect your AI agent in three steps.

01 You give your AI client an employee's profile data: their years of service, salary details, and recent performance metrics.

02 The MCP processes this data against current industry benchmarks to determine the primary risk drivers and calculates a normalized turnover score.

03 Your agent receives three outputs: the overall risk score, the financial cost estimate for that role, and prioritized management actions.

The bottom line is you get a clear picture of who's leaving, why they're leaving, and what to do about it—all in one go.

Built For

HR Business Partners and Department Heads need this. They wake up needing to know which high-value employees are silently planning their exit. The pain point isn't just losing talent; it's the unexpected, massive financial hit that loss causes. This MCP turns reactive damage control into proactive retention strategy.

HR Business Partner

Uses this to run cohort analyses on specific departments, flagging multiple employees with high risk scores before they even raise it in a performance review.

Department Manager

Runs quick checks on their key direct reports to see if compensation gaps or lack of promotion activity are spiking the turnover score for that specific individual.

VP of People Operations

Uses this MCP to model potential attrition across entire business units, estimating total financial risk and allocating budget for retention initiatives.

What Changes When You Connect

01 Instead of reacting to exit interviews, you predict them. Use `calculate_risk_score` to spot at-risk employees weeks in advance, allowing managers to intervene with targeted conversations.

02 Quantify the pain point. You don't just lose a person; you lose value. The MCP uses `estimate_replacement_cost` so leadership understands exactly what they're paying for inaction.

03 Stop guessing on fixes. When an employee scores high, use `get_retention_levers` to get concrete, actionable management strategies—not vague advice like 'improve communication.'

04 Move beyond basic metrics. This MCP analyzes deep data points like salary competitiveness and promotion history, giving a much more nuanced view than standard HR dashboards.

05 Speed is key. You run the entire analysis chain in one go: calculate risk, find cost, and get solutions—all through your AI client.

Real-World Applications

The Salary Gap Dilemma

A manager noticed a top engineer was starting to seem disengaged. Instead of just giving them a raise, they ran the MCP analysis. The system revealed that the primary risk driver wasn't performance, but a 15% salary gap compared to market rates. Using `get_retention_levers`, the manager immediately closed the compensation gap and stabilized the employee.

Budgeting for Attrition

The VP of People needed to justify a new retention budget. They input data on their most senior roles, running `estimate_replacement_cost` for ten key positions. The resulting total cost figure—in the millions—made the business case for proactive talent investment undeniable.

Identifying High-Value Targets

The HR team needed to identify who was most valuable and most at risk simultaneously. They ran `calculate_risk_score` on their entire senior leadership cohort, instantly flagging five individuals with scores over 80 that required immediate attention.

Post-Layoff Planning

After a departmental restructure, leaders needed to know which remaining roles were most vulnerable. They used the MCP to analyze role profiles and determine both the risk score of incumbents and the replacement cost if that role suddenly went vacant.

Patterns to Avoid

Using HR Dashboards Only

✗ AVOID

Looking only at 'low engagement scores' on a dashboard tells you *what* is wrong, but it doesn't tell you if that problem will actually cause the employee to quit, or how much money the company stands to lose.

✓ INSTEAD

Don't just check engagement. Use `calculate_risk_score` first to prioritize who needs attention most. Then, run `estimate_replacement_cost` to attach a clear financial weight to that risk.

Manual Spreadsheet Modeling

✗ AVOID

Building complex spreadsheets to model potential salary gaps or replacement costs is time-consuming and highly prone to manual calculation errors when updating thousands of records.

✓ INSTEAD

Let your agent handle the math. Use `estimate_replacement_cost` and `calculate_risk_score`. The MCP handles all the financial modeling, giving you instant, reliable data.

Vague Intervention Plans

✗ AVOID

When a high-risk score comes up, managers often just default to 'hold a check-in.' This is vague and lacks measurable goals.

✓ INSTEAD

Get specific. Use `get_retention_levers` immediately after running the risk score. It tells you if the fix needs to be a salary review or a promotion evaluation.

The Right Fit

Use this MCP if your primary goal is predictive talent management and financial accountability related to HR turnover. You need to know *when* an employee will leave, not just that they are unhappy today. This tool excels at linking human capital metrics (like tenure or salary gaps) directly to a quantifiable risk score and a dollar cost. Don't use it if you simply need to check an employee's current

department structure, or if your problem is purely tactical (e.g., 'who needs their direct manager assigned'). For simple directory lookups, use basic HR tools. If you just want to know general industry salary bands, a standard database lookup works. But when the stakes are high and you need a measurable intervention plan—knowing what levers pull and how much money is on the line—this MCP is essential.

The Cost of Knowing Nothing

Today, retaining talent means juggling multiple systems. You check engagement surveys in one dashboard; you cross-reference salary bands against a separate spreadsheet; and then you manually calculate the cost of replacing that person using an old HR guide. It's slow, it’s disjointed, and by the time all those tabs are open, the employee has already started looking at LinkedIn.

With this MCP, you just ask your agent for a profile review. It pulls tenure data, salary gap metrics, and engagement scores instantly. You get one single risk score that tells you exactly where the weakness is—be it compensation or career path—and what to do next.

Retention Risk Scorer: Actionable Insight Now

You eliminate the need for multiple people—the data analyst, the finance coordinator, and the HR specialist—to interpret a single profile. The MCP combines all three functions into one output.

The difference is simple: you stop managing symptoms (disengagement) and start solving root causes (salary misalignment or stalled career growth). You get predictive actionability.

Retention Risk Scorer MCP (3 Tools)

These tools let your agent score employee turnover risk, calculate replacement costs, and suggest specific management actions to boost retention.

#	TOOL	DESCRIPTION
01	`estimate_replacement_cost`	Calculates the full monetary expense involved in backfilling an employee's role.
02	`get_retention_levers`	Provides a ranked list of management actions, like salary adjustments or training programs, proven to improve retention.
03	`calculate_risk_score`	Generates a precise turnover risk score for any employee by analyzing their current HR metrics and career data.

See It in Action

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

U Calculate the turnover risk for an employee with 48 months tenure, 24 months since last promotion, a -15% salary gap, and an engagement score of 60 at the Senior level.

The calculated turnover risk score is 72 (High Risk). The primary risk driver identified is the salary gap percentage.

U What is the estimated replacement cost for an Executive level employee earning $150,000 per year?

The estimated replacement cost is $375,000. This includes recruitment, onboarding, and lost productivity components.

U What actions should I take for an employee with a 85 risk score, -20% salary gap, and 36 months since last promotion?

The prioritized levers are: 1. Review compensation to close the market gap; 2. Evaluate recent performance for potential promotion.

Frequently Asked Questions

01 **How does the Retention Risk Scorer MCP calculate employee turnover risk?**

It calculates a normalized score from 0 to 100 by analyzing multiple human capital metrics, including salary competitiveness, tenure length, and promotion history.

02 **Does this MCP tell me why an employee is leaving?**

Yes. After generating the risk score using `calculate_risk_score`, it pinpoints the primary driver—for example, identifying salary gap percentage or lack of recent promotion as the main concern.

03 **What does estimate_replacement_cost include?**

It provides a total financial figure that accounts for recruitment expenses, mandatory onboarding processes, and quantifiable lost productivity components.

04 **If I have a high risk score, what should I do next using the MCP?**

You run `get_retention_levers`. This tool takes your specific risk profile and provides prioritized, actionable management strategies tailored to close the identified gap.

05 **Is this better than just running a salary survey?**

Yes. A salary survey only gives you market data. The Retention Risk Scorer connects that market data directly to your employee's personal history and engagement, making the advice actionable.

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 `"retention-risk-scorer": { "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

Retention Risk Scorer 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 →

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