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How Progress® OpenEdge® Managed Database Administration Is Using Ai

Roy Ellis

ellis@progress.com

Agenda

- The Managed Database (MDBA) Service
- Setting Up AI for OpenEdge Platform
- MDBA Monthly Reports
- MDBA Database Health Checks
- Problem-Solving
- What We've Learned About AI
- Questions



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Managed Database Administration (MDBA)

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MDBA

- Team of over 20 DBAs to support your application
- 24x7 monitoring and alerting
- Reactive and proactive
- Data available via web-based dashboard
- Not just databases





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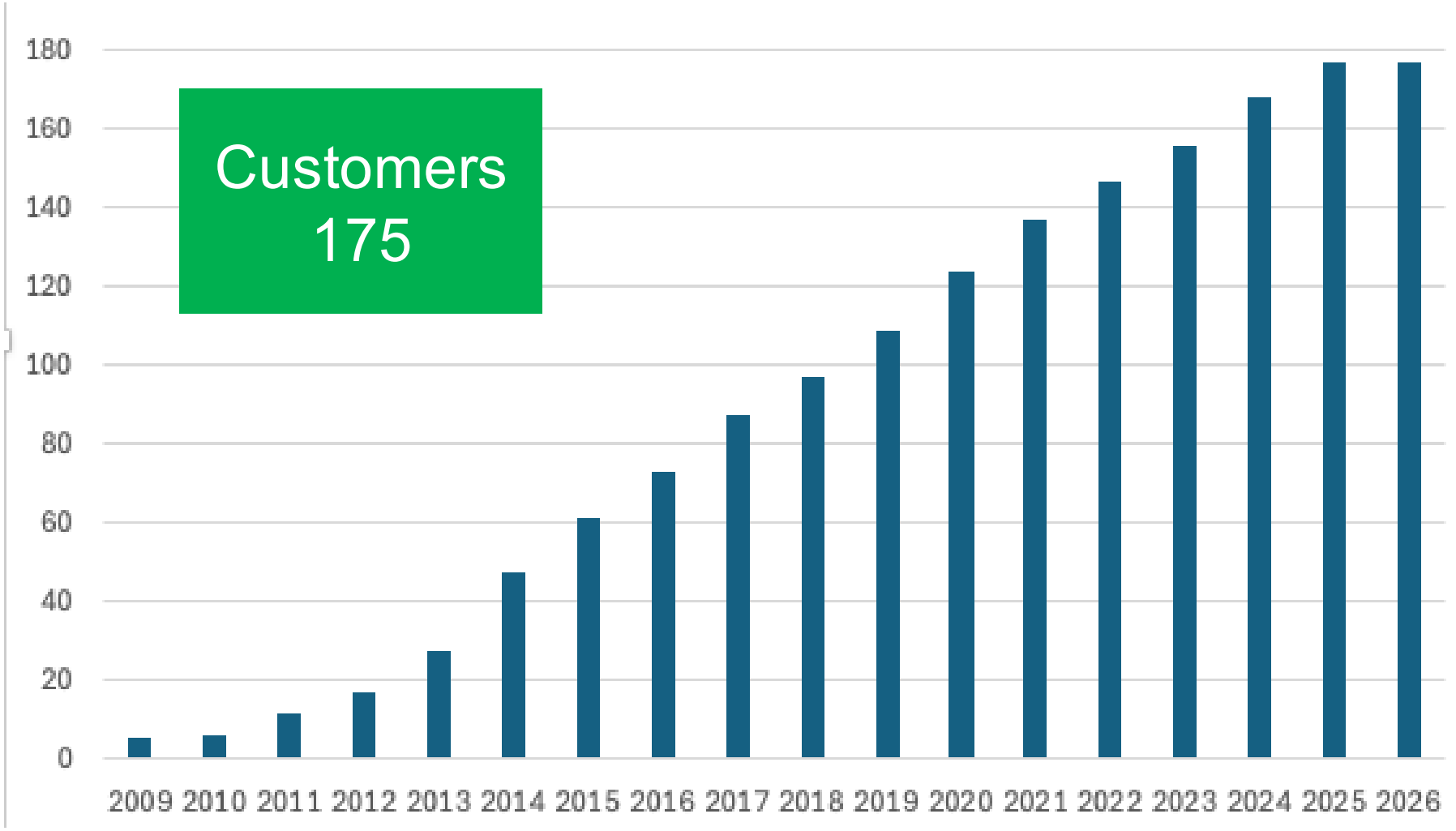
The Progress Managed Database Service (MDBA) helps run your OpenEdge database but it's more than just software.

Database Team members are experts in OpenEdge Technology.

- DBA locations cover 8 time zones in 4 countries
- 21 DBAs – The largest team in the OpenEdge ecosystem
- 20+ years experience each – The most experienced in the world

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Managed Database Administration Metrics



Customers
175

Databases
2,600+

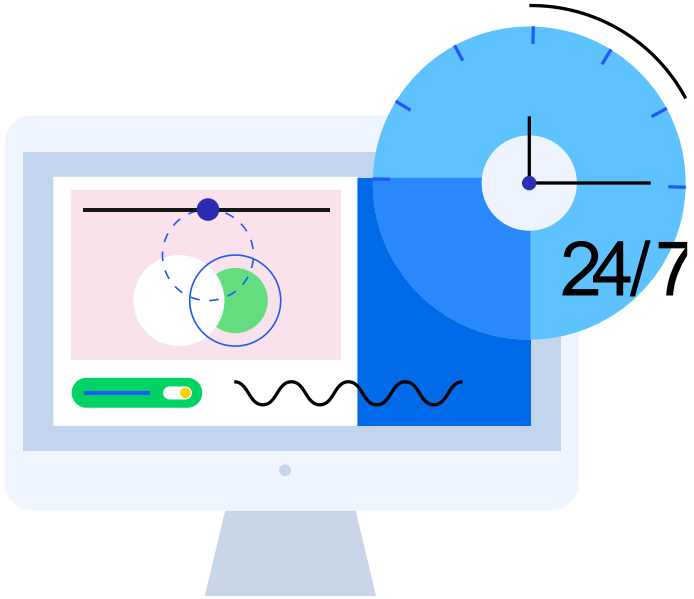
Total
Database
Size
300+ TB

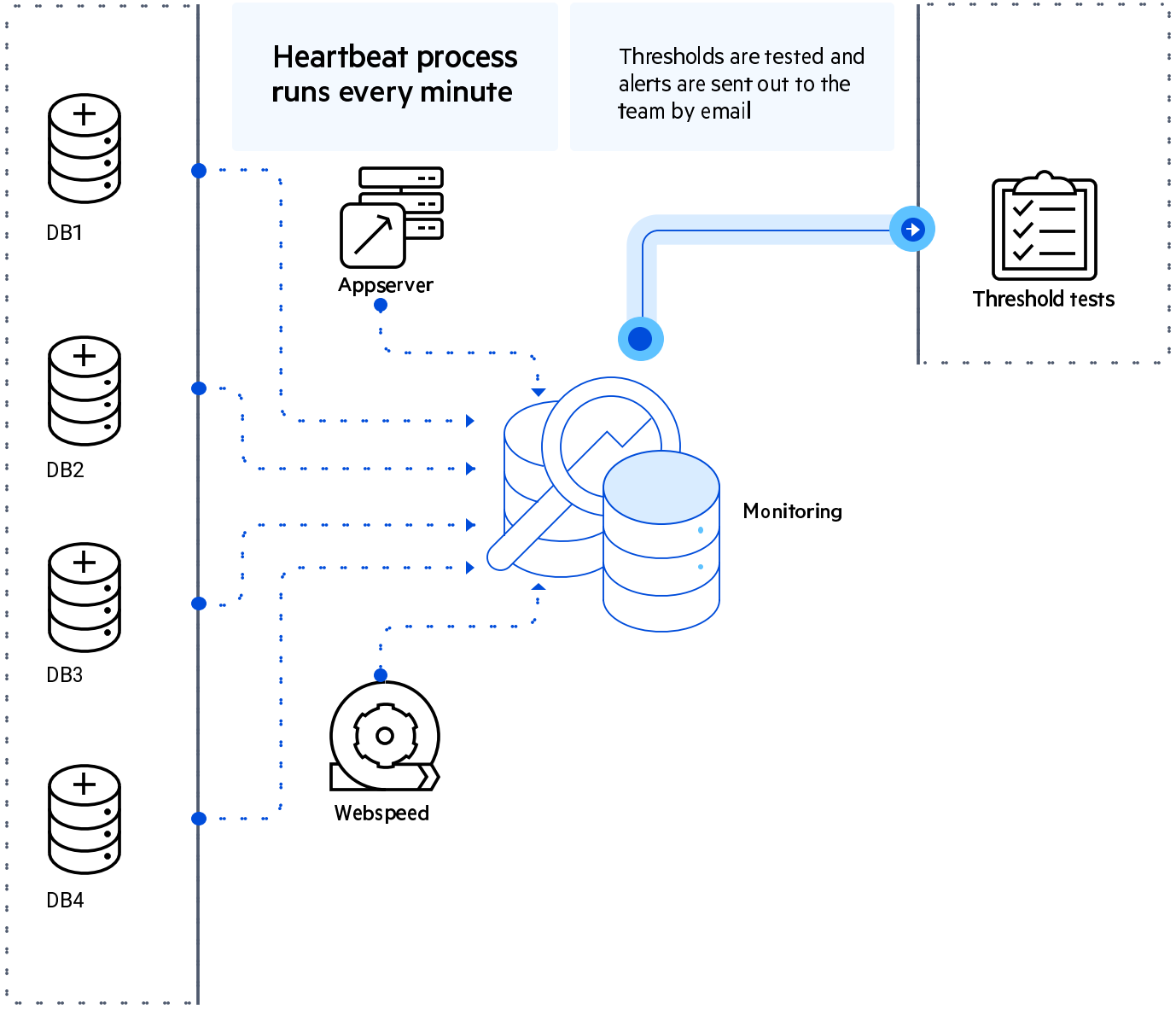
Total
Connected
Users
235,000+

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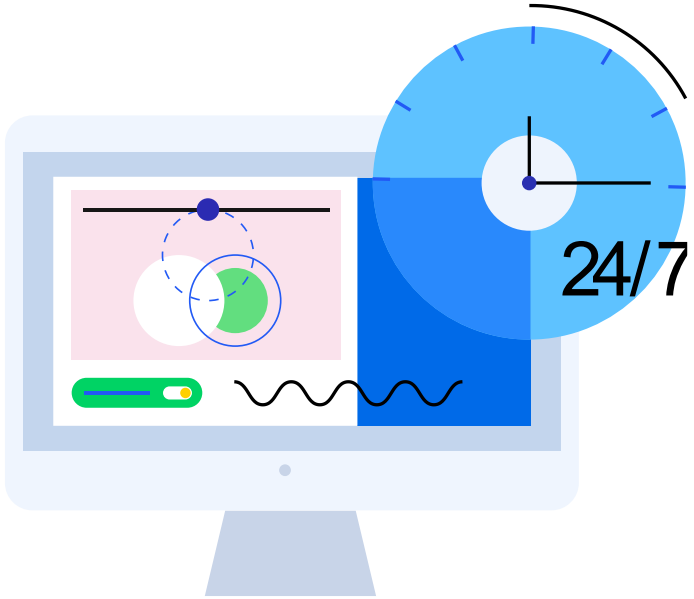
The Monitoring Infrastructure

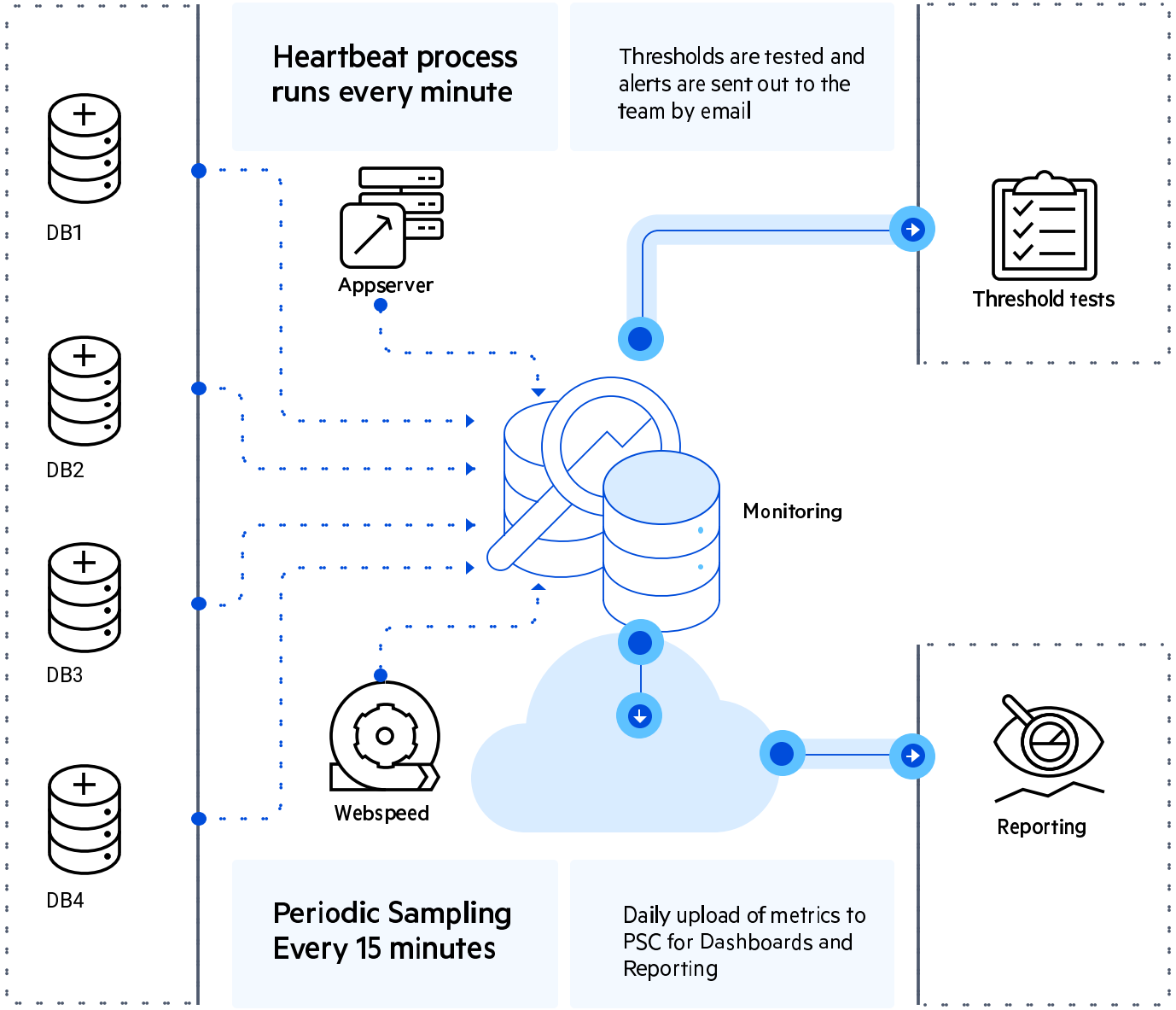




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The Monitoring Infrastructure





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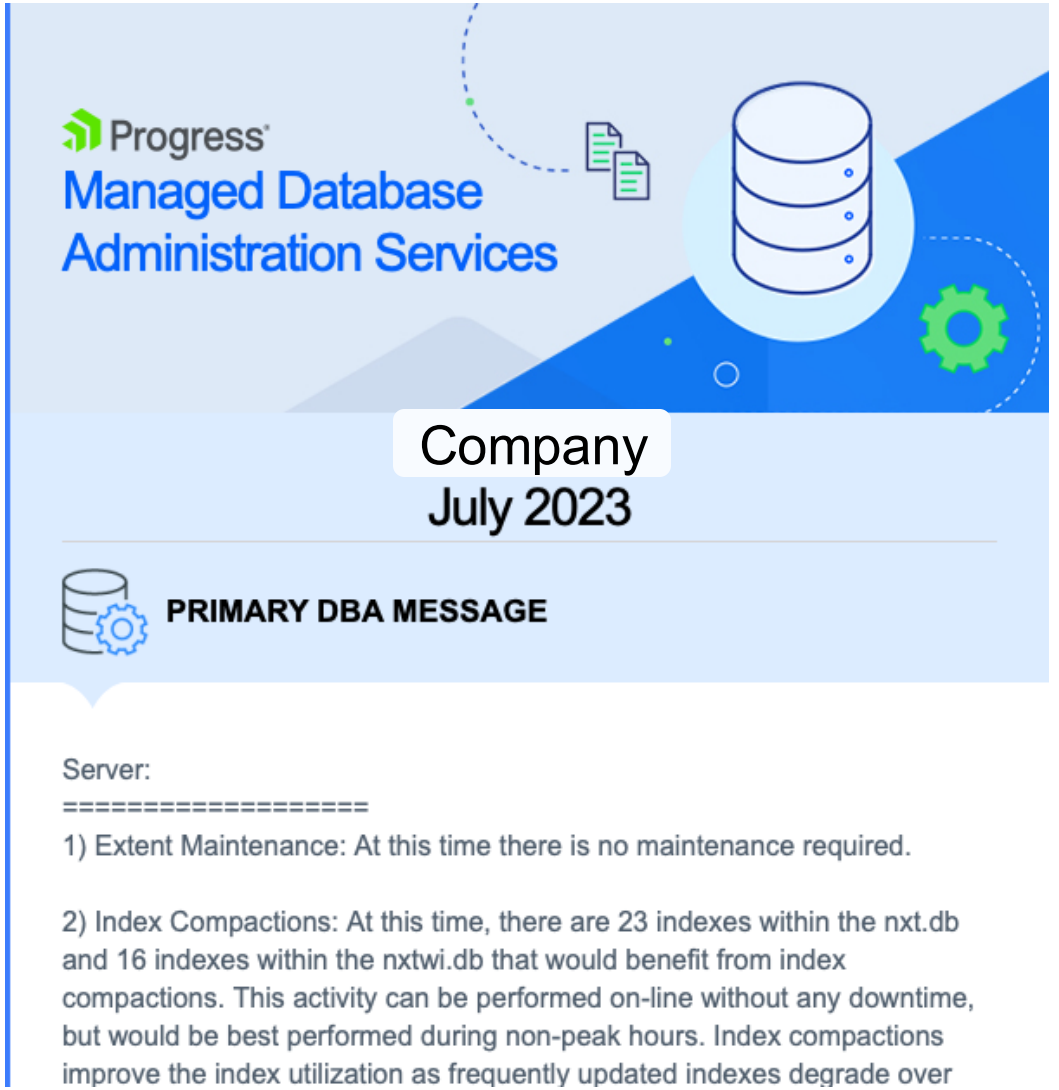
Service Level Agreements

- We stay reactive!
- Example SLA:
  - **1 hour:** Database down situation – service provider will respond to the client within one hour of being notified of the issue 24x7x365
  - **2 hour:** For questions, technical support, minor issues, service provider will respond to the client within 2 hours during client business hours Monday – Friday, excluding holidays

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Proactive

- Monthly reports
  - Primary DBA can review with meeting
  - Includes preventative recommendations
  - Review of alerts and actions for the month



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Proactive

- Summary includes:
  - Unused indexes
  - Buffer hit ration
    - DB requests and reads
  - Database growth
  - Area growth
  - Alert trend and type
  - Indexes needing compaction
  - Fragmentation and scatter

Month	Database Requests	Database Reads	Buffer-Hit Ratio
Jul	5,985,127,795	34,137,755	175
Jun	5,577,441,150	37,137,762	150
May	5,216,637,109	32,368,396	161

Previous Size	Current Size	Growth	6 Months Size (est)
154,493	156,332	1,839	167,366
25,333	25,788	455	28,518

Area	Growth	Total Size	% Full	Proj Size	Proj % Full
event	5	9,150	100	9,185	100
transient	16	21,583	99	21,695	99

Alert Type	Severity	Jul	Jun	May	Apr	Mar	Feb
Database Backup Time Limit Exceeded	Critical	0	0	1	153	0	0
Database Unavailable or Down	Critical	30	6	120	0	0	0
Transaction Duration in Minutes	Critical	8	6	0	0	0	0
BI Size in Megabytes	Critical	2	0	0	0	0	0

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New Dashboard for Proactive MDBA Service



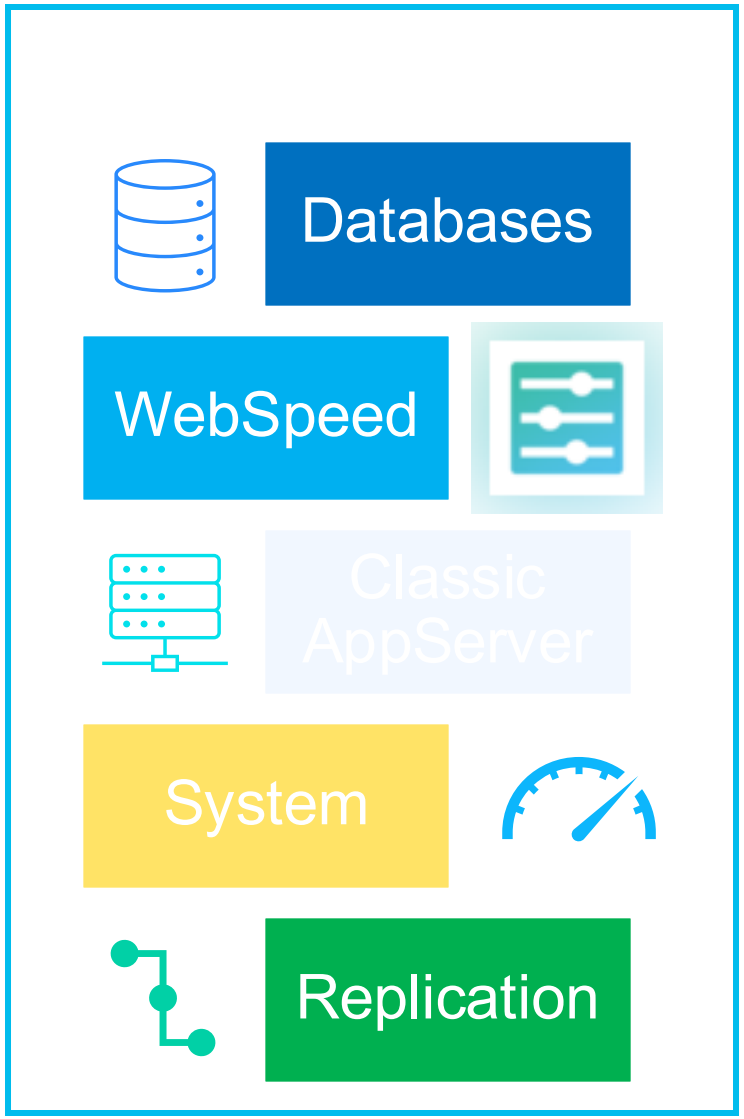






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More Than Just Databases



- OpenEdge Databases
- AppServers
- WebSpeed
- PASOE
- CPU
- Memory (NEW)
- Disk Space/Speed
- OpenEdge Replication
- Pro2SQL/Pro2Oracle

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Managed OpenEdge Replication Service

- Continuously monitor OpenEdge Replication
- Restore the replication processes as directed by the client
- Provide 24/7 support of the target replication database(s)
- Review the disaster recovery
- Provide up to 4 hours per year of unbilled support in the event of a failover
- Provide up to 4 hours per year of unbilled support for a trial run

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Managed Pro2 Service

- Continuously runs Pro2 Replication
- Monitor replication agents
- Restart replication agents when needed
- Monitor replication queue and lag
- Recommend load balancing of agents

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More Than Just Monitoring

- Install and configure products / features
  - OpenEdge Replication (for HA and DR)
  - OpenEdge Pro2 (for BI reporting)
  - TDE
  - And more
- Reorganize your data for best performance
  - Dump and load
  - Pro2Pro
- Updates and upgrades
- Platform migration

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Available MDBA Plans

	MDBA	MDBA PLUS
Onboarding and initial system review	✓	✓
24/7 monitoring, alerting and support with SLA	✓	✓
Most experienced DBA team	✓	✓
Personal DBA	✓	✓
Monthly reports and proactive recommendations	✓	✓
Web-based monitoring dashboard	✓	✓
Technical advice	✓	✓
Discounted consulting hours	✓	✓
Monthly block of highly reduced consulting hours		✓

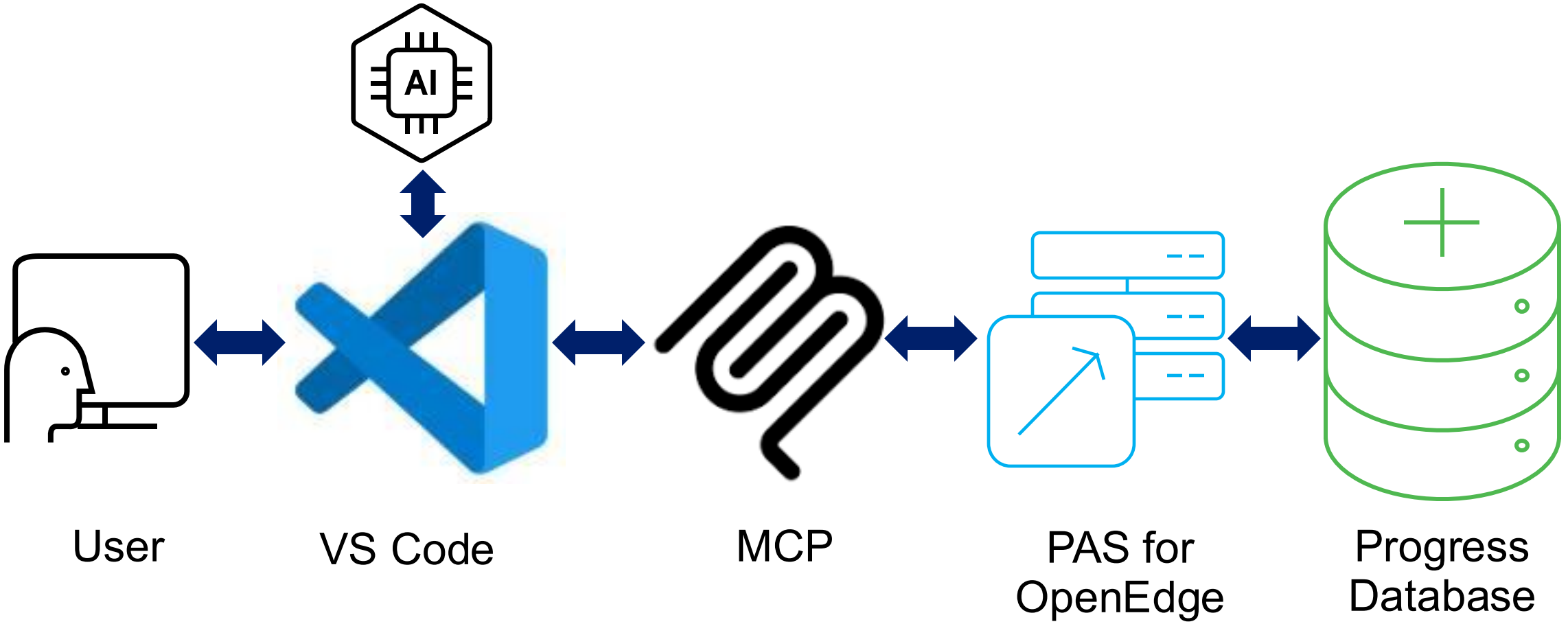
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Setting Up AI for the OpenEdge Platform

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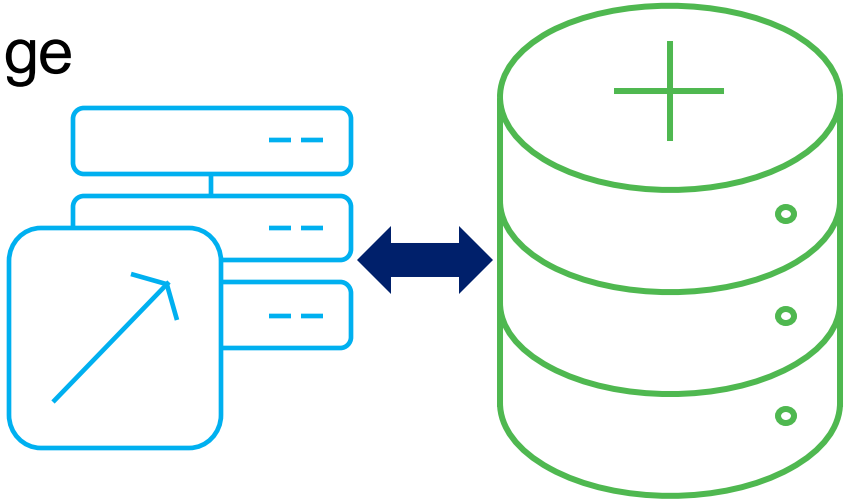
OpenEdge Model Context Protocol (MCP) Server: How Does It Work?



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MCP Server: How Does It Work?

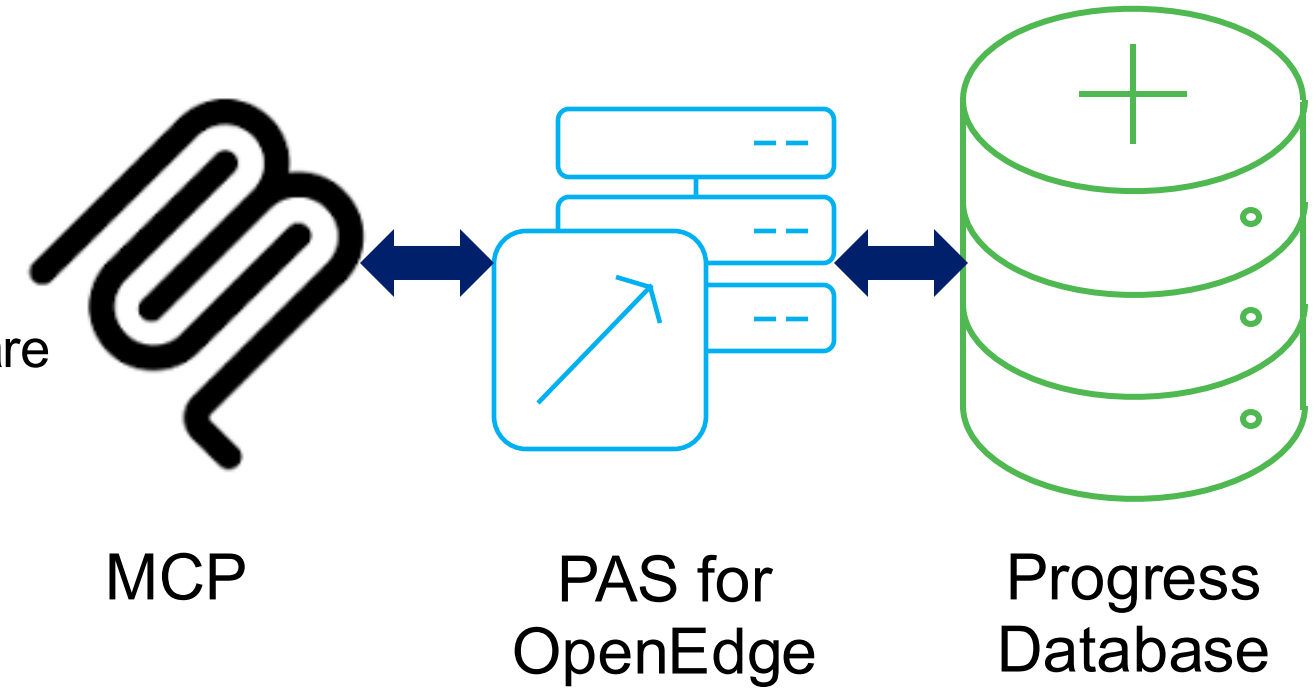
- Progress Database
  - Versions 11.7, 12.2 or 12.8
- Progress Application Server (PAS) for OpenEdge
  - Version 12.8 only
  - Can use either Business Entities
    - Wizard in OpenEdge Studio
  - Or use a more generic application
    - Available from OpenEdge Consulting



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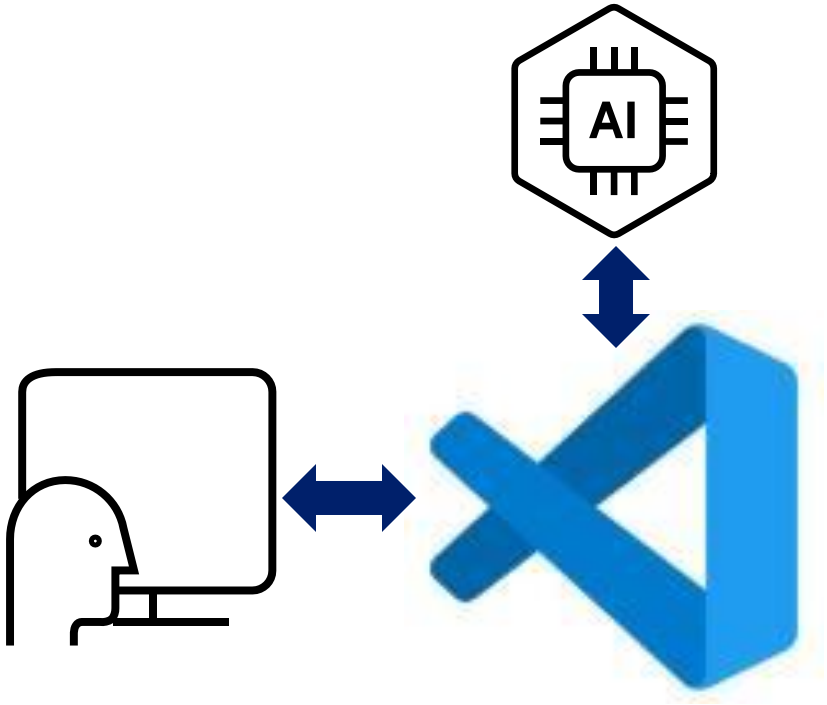
MCP Server: How Does It Work?

- OpenEdge MCP Server
  - Designed for OpenEdge platform
  - Queries PAS for OpenEdge for APIs
  - Runs in a container
  - Available on Progress Electronic Software Download (ESD) website
- Prerequisites
  - Docker or other container manager
  - Python



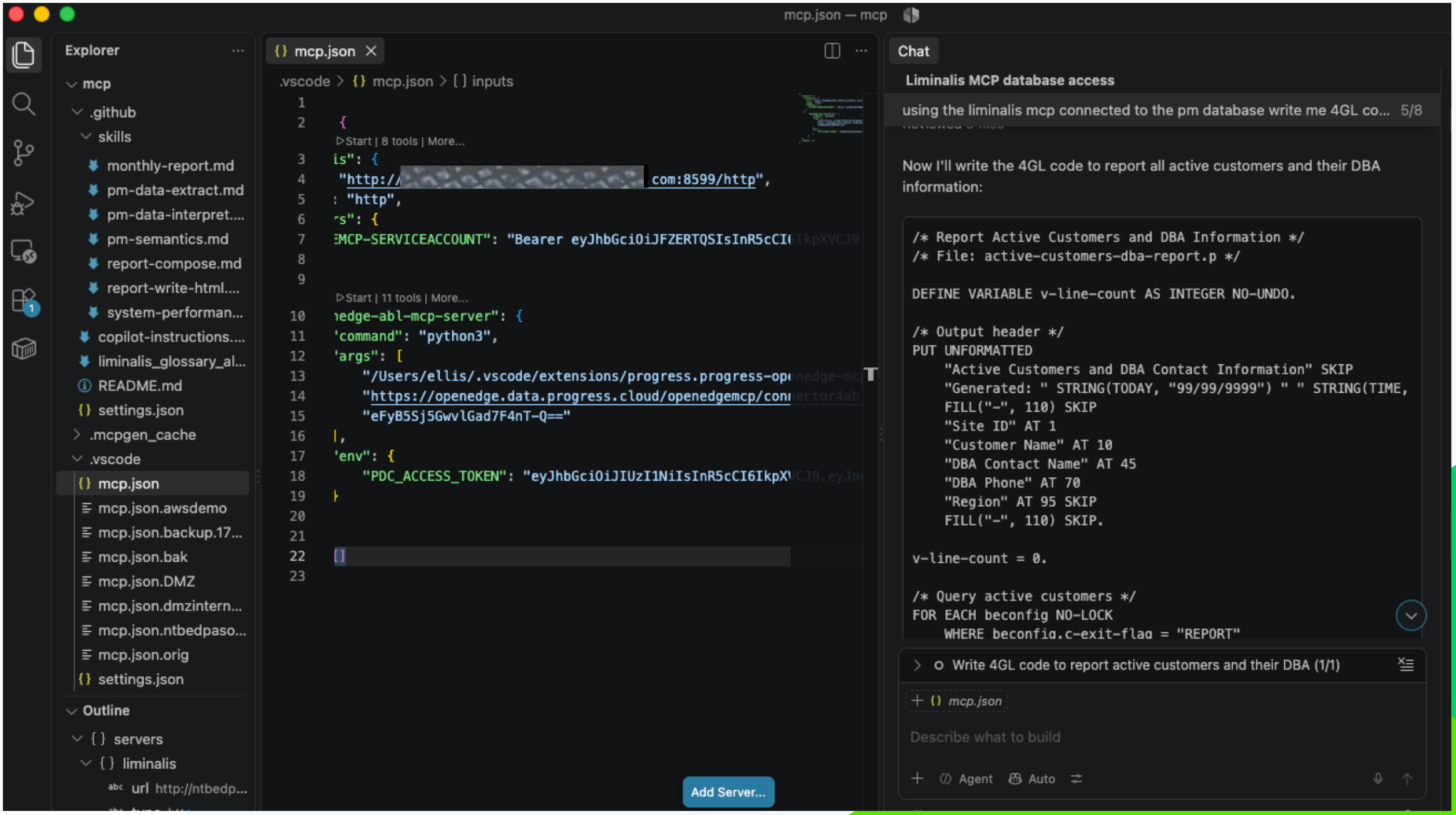
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MCP Server: How Does It Work?



- VS Code (Visual Studio Code)
- Can add the MCP server
- Comes with an AI interface
- Allows the user to request information using conversational language
- Using the AI to convert the user's request to a call the MCP can understand
- Uses AI again to present the answer
- Need a robust AI (not free)

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mcp.json — mcp
Explorer
mcp
.github
skills
monthly-report.md
pm-data-extract.md
pm-data-interpret....
pm-semantics.md
report-compose.md
report-write-html....
system-performan...
copilot-instructions....
liminalis_glossary_al...
README.md
settings.json
.mcpgen_cache
.vscode
mcp.json
mcp.json.awsdemo
mcp.json.backup.17...
mcp.json.bak
mcp.json.DMZ
mcp.json.dmzintern...
mcp.json.ntbedpaso...
mcp.json.orig
settings.json
Outline
servers
liminalis
url http://ntbedp...
mcp.json
.vscode > mcp.json > [ ] inputs
Start | 8 tools | More...
Start | 11 tools | More...
"http://[redacted].com:8599/http",
"http",
"MCP-SERVICEACCOUNT": "Bearer eyJhbGciOiJFZERTQSIsInR5cCI[redacted]
"https://openedge.data.progress.cloud/openedgemcp/con[redacted]
"eFyB5Sj5GwvlGad7F4nT-Q=="
"PDC_ACCESS_TOKEN": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpX[redacted]
Add Server...
Chat
Liminalis MCP database access
using the liminalis mcp connected to the pm database write me 4GL co... 5/8
Now I'll write the 4GL code to report all active customers and their DBA information:
/* Report Active Customers and DBA Information */
/* File: active-customers-dba-report.p */
DEFINE VARIABLE v-line-count AS INTEGER NO-UNDO.
/* Output header */
PUT UNFORMATTED
"Active Customers and DBA Contact Information" SKIP
"Generated: " STRING(TODAY, "99/99/9999") " " STRING(TIME,
FILL("-", 110) SKIP
"Site ID" AT 1
"Customer Name" AT 10
"DBA Contact Name" AT 45
"DBA Phone" AT 70
"Region" AT 95 SKIP
FILL("-", 110) SKIP.
v-line-count = 0.
/* Query active customers */
FOR EACH beconfig NO-LOCK
WHERE beconfig.c-exit-flag = "REPORT"
Write 4GL code to report active customers and their DBA (1/1)
mcp.json
Describe what to build
Agent
Auto

MDBA Monthly Reports

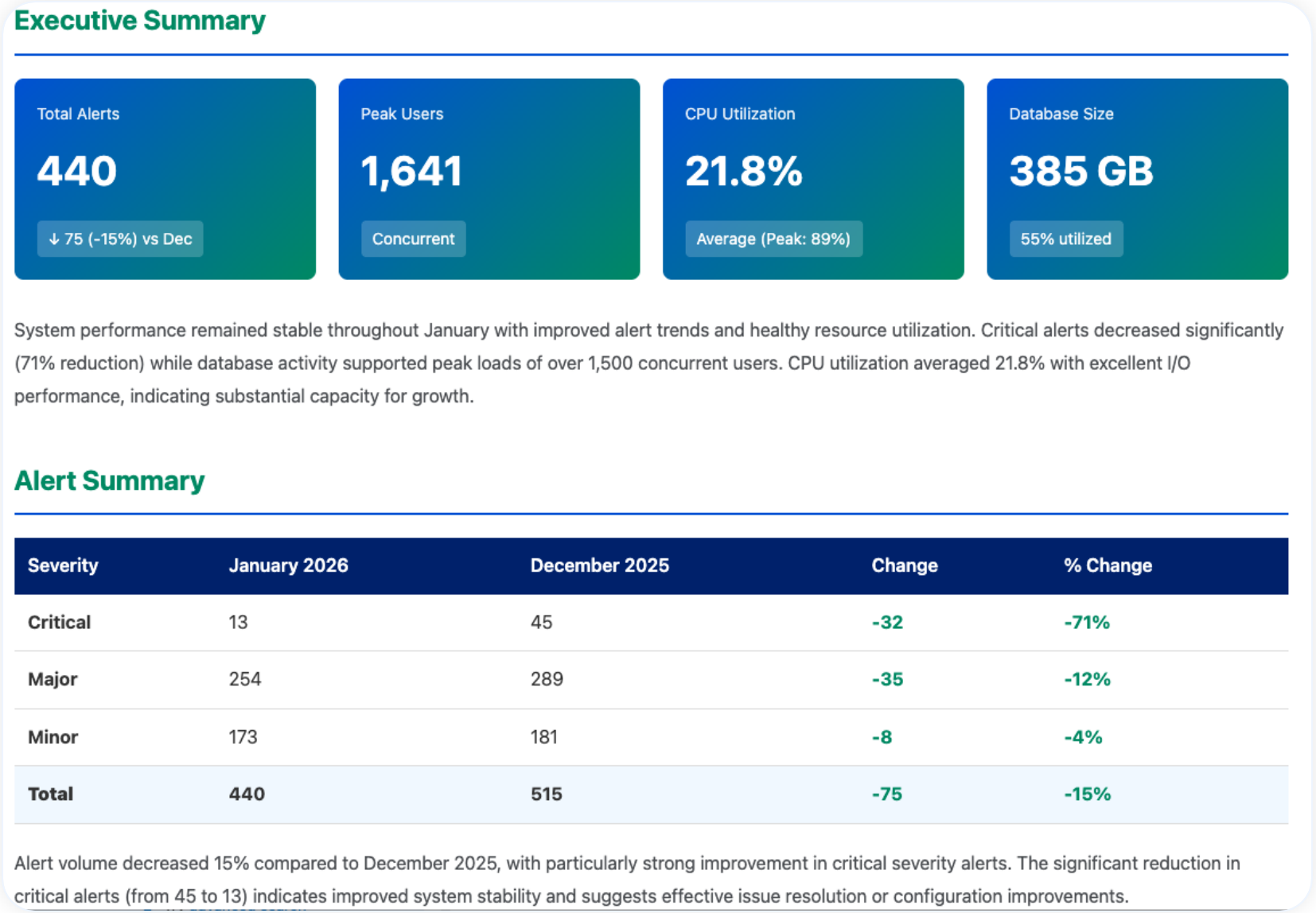
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Monthly Reports

- Every month MDBA customers get a report on their environment's performance and stability
  - The report also suggests proactive maintenance and parameter changes
  - The report delivers a summary of all metrics and compares it to the previous month
- The Primary DBA writes up a summary.
- There is usually a monthly meeting to review the report
- The new AI created monthly report delivers more information in one document and makes it easier to review

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Move to the Monthly Report HTML



Executive Summary

Total Alerts
440
↓ 75 (-15%) vs Dec

Peak Users
1,641
Concurrent

CPU Utilization
21.8%
Average (Peak: 89%)

Database Size
385 GB
55% utilized

System performance remained stable throughout January with improved alert trends and healthy resource utilization. Critical alerts decreased significantly (71% reduction) while database activity supported peak loads of over 1,500 concurrent users. CPU utilization averaged 21.8% with excellent I/O performance, indicating substantial capacity for growth.

Alert Summary

Severity	January 2026	December 2025	Change	% Change
Critical	13	45	**-32**	**-71%**
Major	254	289	**-35**	**-12%**
Minor	173	181	**-8**	**-4%**
Total	**440**	**515**	**-75**	**-15%**

Alert volume decreased 15% compared to December 2025, with particularly strong improvement in critical severity alerts. The significant reduction in critical alerts (from 45 to 13) indicates improved system stability and suggests effective issue resolution or configuration improvements.

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MDBA Database Health Check

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Database Health Checks (DBHC)

- Database Health Checks are a one-off review of a customer's OpenEdge environment
  - Data is collected for 1 to several days
  - A report is delivered to the customer
    - A list of suggestions are made
    - All data is presented in the report

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Move to the DBHC HTML

Findings and Recommendations

Findings Overview

The analysis identified 12 findings, consisting of 9 high-severity, 3 medium-severity and 0 low-severity observations. 9 high-severity observations were identified during the assessment and should be reviewed as a priority to reduce operational and performance risk.

Operational Impact

The findings identified during this assessment do not indicate immediate operational risk or evidence of active performance degradation. Instead, the observations highlight opportunities to improve resource utilization, maintain adequate capacity headroom, and reduce the likelihood of performance bottlenecks as workload demands increase. Addressing these areas proactively will help support long-term stability and operational efficiency.

Environment Health Assessment

OVERALL HEALTH
CRITICAL
60/100
The overall rating reflects buffer efficiency, CPU utilization, connection capacity, and the current findings profile.

BUFFER EFFICIENCY (PNG_DIRECT_LOM)
Healthy
50.6 BHR
Primary database png_direct_lom buffer efficiency remained within acceptable operating ranges.

CONNECTION CAPACITY (PNG_DIRECT_LOM)
Healthy
28.4%
Primary database png_direct_lom peak utilization remained well below configured limits.

CPU UTILIZATION
Watch
7.4%
Brief elevated CPU peaks were observed and should be correlated with workload activity.

FINDINGS (PNG_DIRECT_LOM)
High
9H / 3M / 0L
9 high-severity findings were identified for primary database png_direct_lom and should be reviewed.

DATA COMPLETENESS
Healthy
1/1
Startup/networking parameters are present across monitored databases.

The Environment Health Assessment provides a high-level summary of overall system health based on observed workload characteristics, resource utilization trends, connection capacity, and findings identified during the reporting period. Additional details and recommendations are documented throughout the remainder of this report.

n for environments exhibiting lower buffer cache efficiency
ted into ongoing capacity planning activities to ensure that

database block size where feasible for expected workload

ize and tune -bibufs, then recheck checkpoint-per-sample trend.
ove 40 indicate significant checkpoint pressure.

r compaction with idxcompact, then validate index utilization and
nce after maintenance.

r compaction with idxcompact, then validate index utilization and
nce after maintenance.

a dump and load during an approved maintenance window, then
n, scatter, and read efficiency after the maintenance completes.

a dump and load during an approved maintenance window, then
n, scatter, and read efficiency after the maintenance completes.

High	Scatter Factor At or Above 2.1	png_direct_lom	2.9	Medium	1	Review this table for a dump and load during an approved maintenance window, then validate fragmentation, scatter, and read efficiency after the maintenance completes.

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Problem-Solving

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Problem-Solving

- Transaction End (TXE) Storm
- Busy tables/indexes
- Other adhoc queries

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Transaction End (TXE) Storm

EXECUTIVE SUMMARY

This note summarises TXE-related latch behaviour for the [redacted] database over January and February 2026, using the **beLatch** table in the central ProMonitor repository. It compares a representative baseline day with the known TXE storm on **7 February 2026**.

OVERALL PATTERN

Very busy latch activity

[redacted]shows consistently high latch lock counts in both months, as expected for a busy production system. Latch waits are generally contained but reach extreme levels during the TXE storm window in early February.

BASELINE VS STORM

Storm day is an outlier

On a normal weekend day (for example **1 February 2026**), individual latch entries typically show waits from zero up to a few tens of thousands. On **7 February 2026**, multiple latch entries jump into the hundreds of thousands and millions of waits.

IMPACT INDICATOR

Heavy contention on storm day

The combination of very high latch waits and very large lock counts on 7 February is consistent with a TXE/commit storm, and aligns with the extreme commit volumes seen in other monitoring views for that date.

DATA CAVEATS

Latch-level sample only

Figures reflect what is present in **beLatch** for [redacted] they are intended to be illustrative rather than exhaustive, and are not a replacement for full TXE lock trace analysis at the database level.

All commentary is based on the data available in ProMonitor at the time of this report. Internal latch names, tenant IDs and other low-level fields are not shown here.

BASELINE DAY — 1 FEBRUARY 2026

As a representative "normal" day, we sampled **1 February 2026** fo[redacted]m **beLatch**. That day shows:

- Very large **l-locks** values across many latches (often in the hundreds of millions or higher), consistent with heavy ongoing activity.
- **l-waits** values that are mostly zero or in the low hundreds to low tens of thousands. Example rows on 1 February include waits such as **1,045**, **5,449**, and **24,378** for individual latch entries, alongside many entries with zero waits.
- A small number of entries where waits rise into the low tens of thousands while locks remain very large, but without the extreme, multi-million wait counts seen on the storm day.

SAMPLE DAY	EXAMPLE LATCH WAITS	EXAMPLE LATCH LOCKS	QUALITATIVE VIEW
1 Feb 2026 [redacted]	Mix of 0, hundreds, and low tens of thousands of waits (e.g. 1,045; 5,449; 24,378).	Very high lock counts (hundreds of millions and above on many entries).	Busy but controlled — latch waits are present but do not dominate, and the pattern is consistent with a large, active production workload.

This baseline is intended to illustrate typical latch behaviour. Other January dates examined show a similar profile: high lock counts with waits generally confined to low or moderate levels.

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Busy tables/indexes

Transaction Waits — 4 Databases, April 2026

Transaction Waits — 4 Databases, April 2026

Date: 2026-04-07 Heatmap scale (per metric): 0 → mid → max commit-max=895,090 update-max=1,404,590 share-max=905,617

Rows = measured time | Columns = Database → Metric

Time	abc-platte			HLSG-platte-p			lw-platte		
	commit	update	share	commit	update	share	commit	update	share
07:49	24,097	19,745	3,965	18,310	6,975	0	1,209	428	0
08:04	43,994	42,817	14,440	27,231	11,968	0	1,294	502	0
08:19	96,619	130,417	4,727	47,475	22,929	0	1,710	797	0
08:34	183,455	287,262	30,598	24,105	11,114	0	1,593	725	0
08:49	191,743	304,875	4,213	33,854	14,674	0	1,957	944	0
09:04	521,253	886,479	9,148	76,198	38,077	0	2,496	1,122	0
09:19	738,798	1,286,385	8,962	231,404	289,107	212,653	2,883	1,554	0
09:34	764,990	1,345,013	8,557	166,311	273,190	750,831	2,561	1,315	0
09:49	674,688	1,170,759	6,118	359,998	594,968	211,788	2,357	1,162	0
10:04	761,199	1,366,407	8,078	393,813	617,762	36,036	2,023	1,013	0
10:19	659,134	1,222,253	6,858	344,339	569,484	16,918	1,923	902	0
10:34	682,381	1,264,344	6,898	287,835	463,871	7,391	1,356	655	0
10:49	384,342	660,523	2,910	249,969	422,924	89,389	1,521	689	0
11:04	132,346	194,738	644	226,859	376,332	177,857	2,305	1,262	0
11:19	242,506	419,835	1,998	347,321	634,701	65,689	1,852	913	0
11:34	235,229	371,703	1,696	130,684	219,871	6,657	1,477	646	0
11:49	139,162	193,614	804	35,420	19,820	44	1,048	445	0
12:04	466,542	732,000	7,475	21,670	8,776	0	1,349	533	0
12:19	273,429	429,126	31,306	19,100	7,426	0	1,901	700	0
12:34	168,861	231,883	26,666	13,026	4,732	3	1,722	725	0
12:49	219,022	328,245	156,610	23,422	10,680	41	1,824	838	0
13:04	443,397	766,289	11,658	18,033	7,892	19	2,374	1,212	0
13:19	424,017	765,861	5,278	9,957	3,816	6	1,353	565	0
13:34	417,300	770,841	4,353	8,327	2,683	22	2,325	1,029	0
13:49	270,878	449,894	2,166	15,643	5,963	0	3,007	1,324	0
14:04	559,300	990,741	5,808	25,539	11,184	183	2,443	1,047	0

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Adhoc queries

Top 5 Databases by Daily Record Activity (8/26/2026)

Rank	Customer	Database	Daily Creates	Daily Updates	Daily Deletes	Total Daily Activity
1	Acme	prod99	46,474,633	117,096,233	36,716,122	200,286,988
2	MDBA	pmbe	100,855,242	941,244	92,134,877	193,931,363
3	MDBA	dwh-prod	95,252,977	350,020	92,323,805	187,926,802
4	MDBA	dwh-dev	95,792,894	312,164	90,093,080	186,198,138
5	Acme	prod75	35,737,927	87,112,940	25,219,491	148,070,358

NOTE: Used AI to create ABL code

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What We Learned About AI

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AI: The Toddler

- In a hurry to please, but may be wrong
- Sometimes just goes off on a tangent or leaves the room
- Sometimes needs a “timeout”
- Ask the same question twice—get 2 different answers
- Ask why its answer is wrong—it will ignore you or make something up (hallucinate)

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Steps to Corral the Toddler

- For deterministic responses use “skills”
  - AGENTS.md
    - Starting point and path to other skills
  - ~/mcp/.github/skills/*.md
    - Specific skills
- When you get the answer you want, have AI write a script to run to get the same answer consistently
- Use a good LLM (Claude Sonnet 4.5 or ChatGPT 5.6)
  - LLM – Large Language Model = AI service/model
  - Means it costs money

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Additional Information

- Both MCP Server and AI Assistant are available at no extra cost
- Can be found on the ESD site:http://downloads.progress.com/openedge
- Progress® Agentic RAG is a SaaS-based service
- OpenEdge AI Assistant FAQs & Knowledge Base: https://community.progress.com/s/article/MCP-Connector-AI-Coding-Assistant-for-OpenEdge-Frequently-Asked-Questions

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Additional Information

- Webinars
  - RAG Webinar: https://www.progress.com/campaigns/openedge/webinars/whatisrag-webinar -
  - MCP Webinar: https://www.progress.com/campaigns/openedge/webinars/whatismcp-webinar
  - Ask Me Anything about AI: https://www.progress.com/openedge/ai
- Documentation
  - https://docs.progress.com/bundle/openedge-ai-coding-assistant/page/Introduction-to-the-OpenEdge-AI-Coding-Assistant.html
  - https://docs.progress.com/bundle/openedge-mcp-server/page/Introduction-to-the-OpenEdge-MCP-Server.html

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Summary

- MDBA team started AI to make monthly reports
  - We are now expanding out with more use cases
- We used the same tools you would use
  - MCP, PAS for OpenEdge, OpenEdge Database
- We have cautiously embraced AI
  - We have plans to implement AI more





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News You Can Use

- Learn how to access the **OpenEdge AI Assistant**
- Get started with the **OpenEdge MCP Server**
- Book a demo of **Progress Agentic RAG**
- Modernize to **OpenEdge 12.8** today
- Explore what's new in **OpenEdge 13.0**
- Work with **Progress Professional Services** to accelerate adoption
- Learn about **security capabilities** across OpenEdge
- Explore the **developer tools** available for OpenEdge today
- Connect with us: **Discord, Community, CVP and more**



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Questions?

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