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Observability

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Challenges in Observability

Modern observability struggles with overwhelming data, fragmented tools, and manual root cause analysis, slowing issue resolution. As systems scale, costs rise and traditional tools lack AI-driven insights, limiting actionable intelligence and automation.

Data Overload & Noise

Modern systems generate massive volumes of logs, metrics, and traces every second.This data flood overwhelms teams, making it hard to separate meaningful insights from noise.As a result, critical issues often go unnoticed, delaying detection and RCA.

Fragmented & Siloed Tools

Monitoring, logging, and tracing tools often operate independently without shared context.Engineers are forced to switch between dashboards and manually correlate data during incidents.This fragmentation leads to slower response times and incomplete visibility across systems.

Manual RCA & Reactive Analysis

Most existing platforms rely heavily on human intervention for root cause identification.Teams spend hours analyzing scattered data instead of focusing on resolution.The lack of automation results in reactive firefighting rather than proactive prevention.

Scalability, Cost & Limited Intelligence

As infrastructure scales, storage, query performance, and cost become major bottlenecks.Traditional observability tools focus on visualization but lack contextual AI-driven insights.This limits their ability to deliver real-time, intelligent, and cost-efficient observability.

Our Solution

Our observability system filters noise with MCP, unifies AI-driven analysis, automates root cause detection via Claude Sonnet 3.7, and scales efficiently on AWS with real-time insights.

Intelligent Log Filtering with MCP

Our system uses MCP-powered inner filtering to automatically separate noise from valuable logs, ensuring only meaningful data reaches the analysis layer — improving clarity and efficiency.

Unified AI-Driven Platform

By combining logging, analysis, and RCA under one system, we eliminate tool fragmentation. Git integration further enables module-wise analysis and complete visibility into system behavior.

Automated RCA & Contextual Insights

Filtered logs are sent to Claude Sonnet 3.7 LLM, which performs automated root cause and solution generation. This reduces manual effort and accelerates incident resolution.

Scalable, Efficient & Contextual Architecture

As infrastructure scales, storage, query performance, and cost become major bottlenecks.Traditional observability tools focus on visualization but lack contextual AI-driven insights.This limits their ability to deliver real-time, intelligent, and cost-efficient observability.

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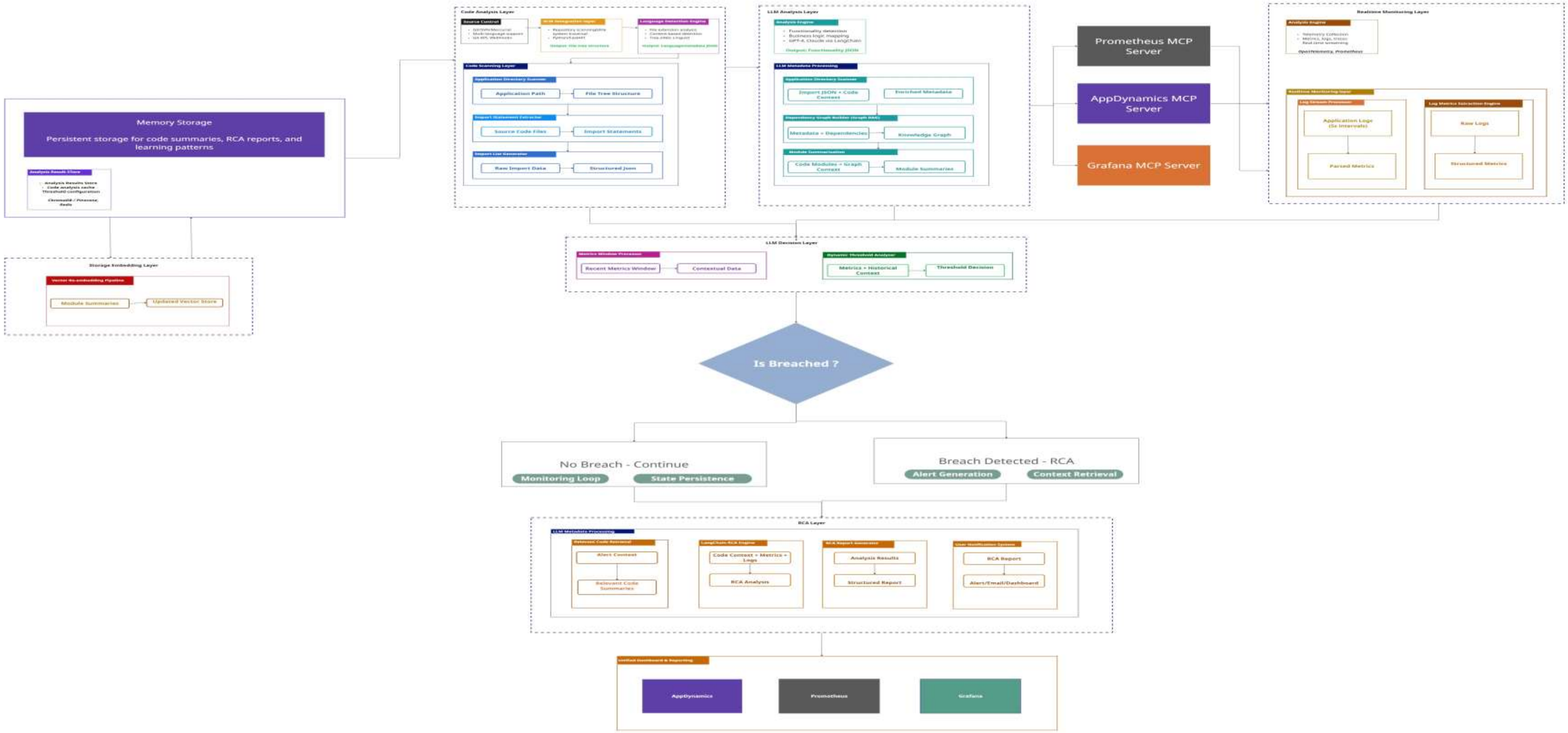
Architecture



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Observability

Our Observability System is an AI-powered platform that automates log analysis, root cause detection, and solution generation. Using MCP-based filtering, RAG analysis, and LLM intelligence, it transforms raw logs into actionable insights. With Git integration, ChromaDB, and scalable AWS deployment, it delivers real-time, module-wise observability with speed, context, and precision.

PRODUCT DESCRIPTION

WHAT IT IS?

An AI-driven observability platform that automates log analysis, RCA, and insight generation.

WHO IT IS FOR?

Designed for DevOps teams, SREs, and developers managing complex, large-scale cloud applications and systems.

WHAT IT REPLACES?

Replaces fragmented monitoring tools, manual RCA workflows, and repetitive log analysis with unified AI intelligence.

OUTCOMES

- Faster root cause detection with AI-powered automation.
- Unified observability across modules and repositories.
- Reduced noise and improved clarity in log analysis.
- Lower operational costs with scalable, intelligent data.

POSITIONING PILLARS:

Unified Intelligence

Brings logging, tracing, RCA, and solution generation into one cohesive system powered by contextual AI.

Proactive Automation

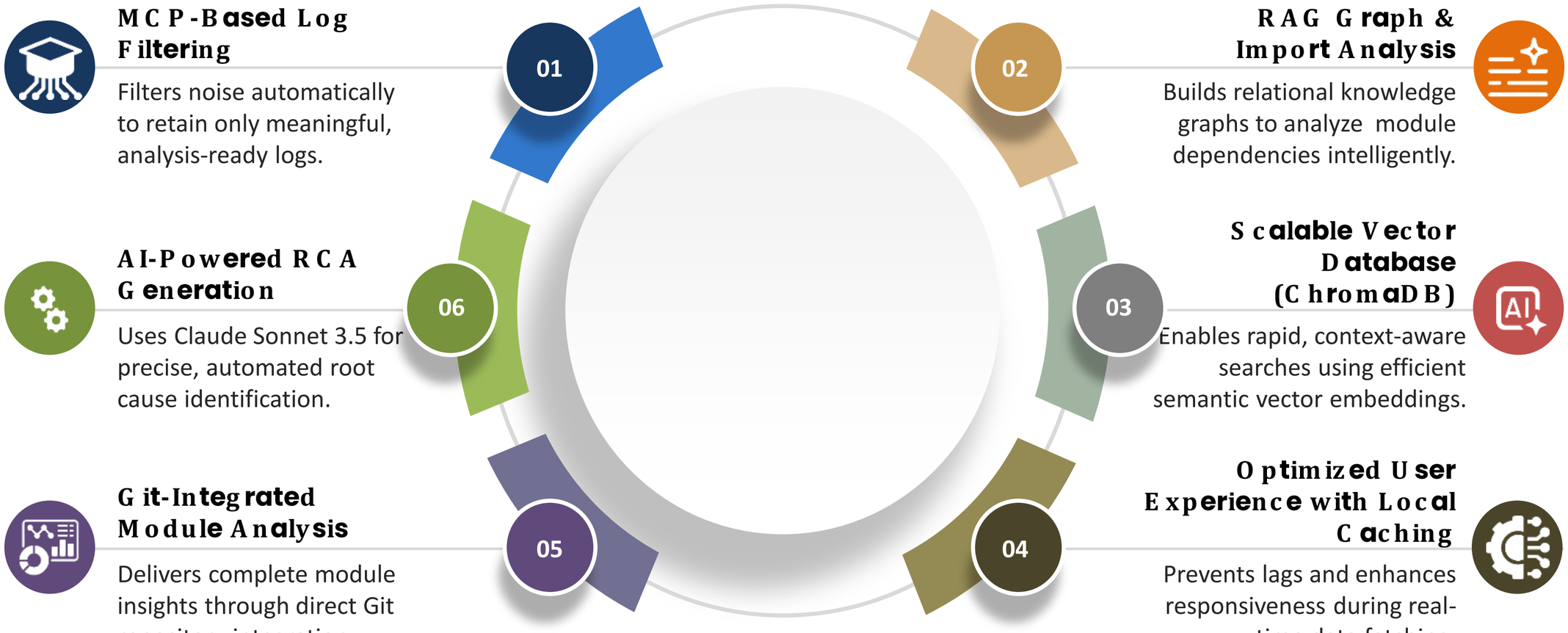
Transforms reactive troubleshooting into automated, real-time issue detection and resolution with minimal human input.

Scalable Precision

Combines ChromaDB, transformer embeddings, and AWS scalability to deliver fast, cost-efficient insights at any scale.

Product Capabilities

Our Observability System empowers teams with intelligent, automated, and scalable observability. It unifies log management, RCA generation, and system insights to deliver faster, more contextual decisions with minimal manual effort.



How It Works?

Use case — Automated RCA from Application Log Data

System detects anomalies, filters logs, and generates AI-driven RCA with solutions.

Log Ingestion

Application logs are continuously collected from multiple services and sent to the observability system for processing, ensuring real-time data capture and complete system visibility.

Contextual Embedding Generation

Logs are converted into semantic embeddings using **Sentence Transformer (all-MiniLM-L6-v2)** to preserve context, enabling intelligent correlation between related events and deeper understanding.

MCP-Based Filtering

MCP engine filters out redundant or noisy logs, keeping only relevant insights crucial for RCA, improving clarity and reducing data overload before **AI analysis.**

Vector Storage in ChromaDB

Filtered embeddings are stored in **ChromaDB**, allowing **high-speed semantic retrieval and comparison,** ensuring efficient RCA generation even with large-scale datasets.

Git Repository Integration

The system connects to the project's Git repo**, mapping modules and dependencies** to create structured module-wise analysis and complete code-context awareness.

RAG Graph & Import Analysis

RAG graph maps inter-module imports, **feeding dependency relationships into the LLM**, which enhances reasoning during RCA creation and identifies impacted areas precisely.

LLM-Powered RCA & Solution Generation

Claude Sonnet 3.7 analyzes all structured inputs, identifies the **root cause, and proposes an optimized fix, reducing manual investigation and accelerating resolution**.

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Product Benefits

Our Observability System empowers teams with AI-driven automation, unified insights, and scalable performance. It simplifies RCA, enhances visibility, and accelerates resolution delivering faster, smarter, and more cost efficient observability for modern systems.

Accelerated Root Cause Analysis

- Automatically identifies issues within seconds using AI-driven log insights..
- Reduces manual troubleshooting time through contextual log correlation and filtering.
- Delivers faster incident resolution, improving overall system uptime and reliability.

Unified & Intelligent Observability

- Combines logs, RCA, and Git data into a single AI-powered platform.
- Provides complete visibility across distributed modules and dependencies.
- Enables seamless collaboration and reduces tool-switching fatigue for engineers.

Scalable, Cost-Efficient Performance

- Leverages ChromaDB and AWS for efficient, scalable observability operations.
- Optimizes data storage and retrieval with semantic embeddings and local caching.
- Ensures smooth user experience even under heavy system load or high data volume.

Business impact:

- Reduced Downtime
- Faster RCA
- Improved Productivity
- Lower Costs
- Enhanced Reliability

Future Scope

Will be provided by Akash.

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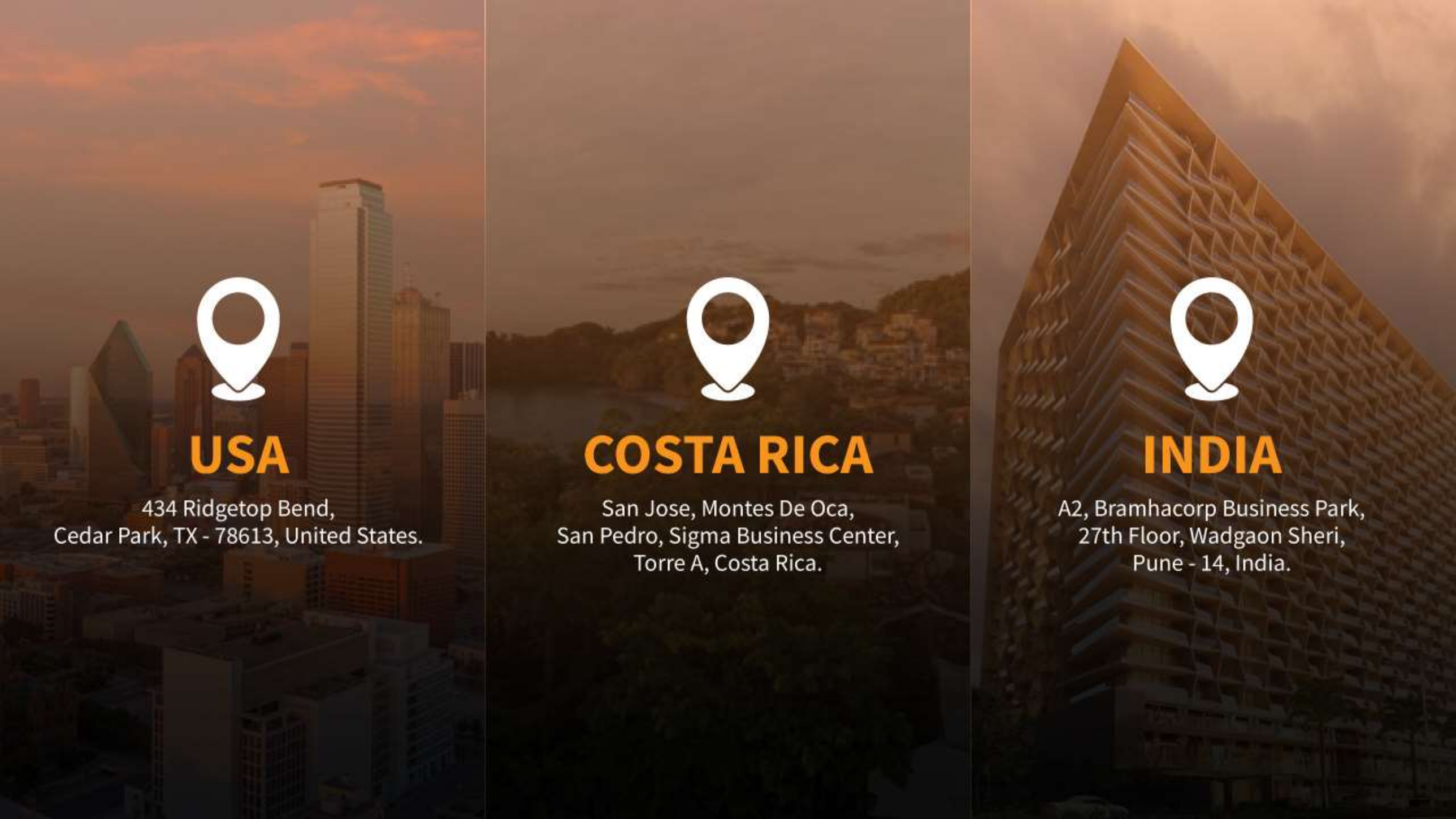

USA

434 Ridgetop Bend,
Cedar Park, TX - 78613, United States.

COSTA RICA

San Jose, Montes De Oca,
San Pedro, Sigma Business Center,
Torre A, Costa Rica.

INDIA

A2, Bramhacorp Business Park,
27th Floor, Wadgaon Sheri,
Pune - 14, India.