Accion Labs:

Site Reliability Engineering & DevOps Capabilities

Accion DevOps COE Key Goals

(DevOps, DevSecOps, SRE)

Standardizing	Standardizing Practices: Define and enforce DevOps, GitOps, FinOps and DevSecOps standards for consistent, secure, and scalable deployments.
Tool	Tool Expertise: Develop expertise in Containerization, Monitoring, observability, security and to improve efficiency.
Automate	Automation & CI/CD: Automate infrastructure and deployment pipelines using tools like Terraform, Helm, Jenkins, and GitLab for faster, reliable releases – Oneclick deployment.
Integrate	Security & Compliance: Integrate security in the DevOps pipeline with tools like SonarQube and Snyk for vulnerability detection and compliance.
Cloud	Cloud & Infrastructure: Enhance cloud services (AWS, Azure, GCP) deployment and management, IaCs and Native Scripts for ensuring seamless scaling and monitoring.
Leverage	AI/ML Integration: Leverage AI/ML tools, GenAI tool like Breeze.ai, TensorFlow and Kubeflow and GitHub plugins for predictive analytics and automated scaling in DevOps.
Promote	Continuous Learning: Promote ongoing training, workshops, and knowledge sharing to build internal proficiency.
Offer	**DevSecOps Focus** : Offer DevSecOps services to clients, to detect vulnerability early and proactively mitigates risks..
Offer	**DevOps /SRE as a Service**: Offer **DevOps/SRE** services to clients, enabling automation, reliability, and visibility in their operations.

DevOps Services

- CI/CD Pipeline Automation
- Infrastructure as Code (IaC):
- Cloud-Native Application Development
- Monitoring and Logging:
- Automation and Orchestration

DevSecOps Services

- Security Integration in CI/CD
- Cloud Security Posture Management (CSPM):
- Vulnerability Scanning and Remediation
- Identity and Access Management (IAM)
- Security Incident Response and Forensics

Cybersecurity Services

- Cloud Security Architecture Design
- Threat Intelligence and Monitoring
- Data Protection and Encryption
- Penetration Testing and Red Teaming:)
- Compliance and Risk Management

SRE Services

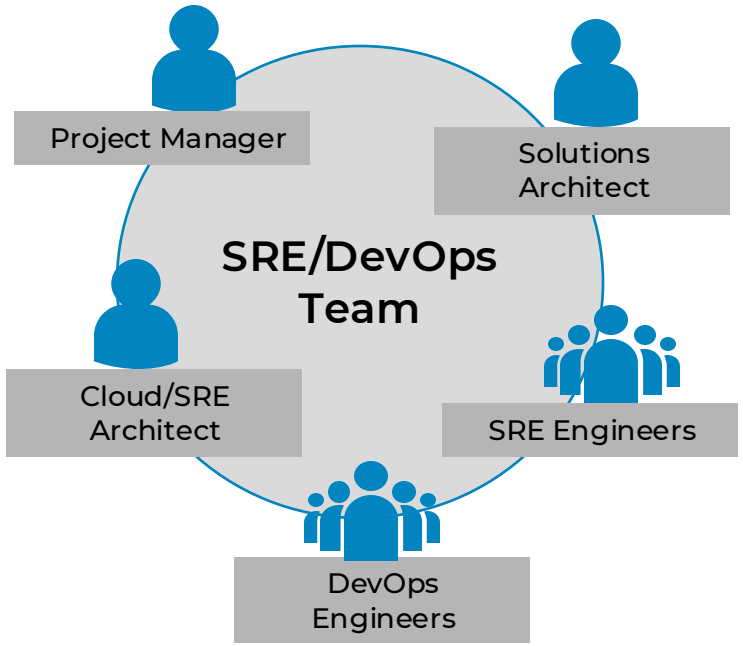
- Reliability and Availability Management:
- Incident Management and Root Cause Analysis
- Auto-scaling and High Availability Architecture
- Cost Optimization and Resource Management
- Disaster Recovery (DR) and Business Continuity

AI/ML

- Release Automation
  Automatic Infra creation
  Automated Incident Management
- Predictive Monitoring
- Log Analysis:
- Vulnerability Detection
- Automated Security Audits
- Behavioral Analysis:
- Threat Intelligence
- Intrusion Detection Systems (IDS)

Accion SRE and DevOps Practice – Key Highlights

- 100+ skilled DevOps, DevSecOps, and SRE professionals
- 500+ cloud-native engineers (AWS, Azure, GCP)
- 60+ customer projects: Observability, SRE, DevSecOps, Cloud migration, IaC and managed services
- 30+ projects with end-to-end SRE and Observability adoption from instrumentation, AIOps to auto-remediation
- 30+ accounts enhanced with advanced Observability, Monitoring, and SRE practices
- Cybersecurity experts specializing in Privileged Access Management (PAM), Zero trust and security frameworks
- 100+ trainings delivered via our Center of Excellence (CoE) and L&D teams
- Recognized Premium Partner with AWS, Azure, and GCP



PM to prepare plan of execution for overall implementation

Solutions Architect to define the roadmap & guide team

SRE Architect helps to lay the foundation for SRE roadmap implementation

DevOps Engineers implement the automation for deployments

SRE Engineers focuses on keeping the lights on and automating wherever applicable

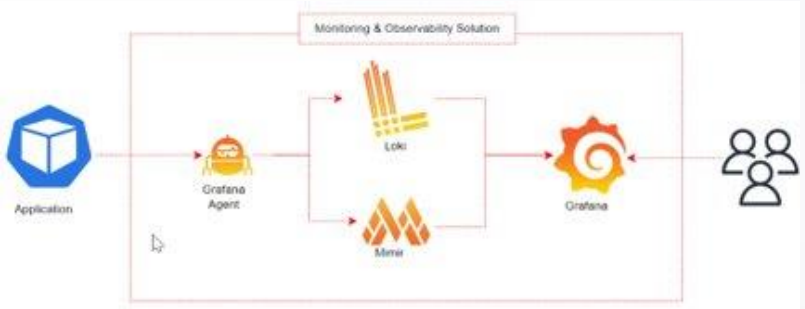
Case Studies

Case Study – Observability reduces downtime by 30%

Customer is a Leading US based Clinical trials pursuing innovations for getting new treatments to patients faster and more safely.

Key Challenges

- Develop better monitoring systems
- Collect, aggregate, index and analyze security data, help with detecting intrusions, threats and behavioral anomalies.
- Enable Alarms for CPU/MEM/Billing/Auto-Scaling Group and any other custom metric.
- Real-time monitoring and security analysis



Our Solution

AWS EKS Monitoring Solution with Grafana Agent, Loki, mimir and Grafana Dashboard.

- Grafana Agent: Lightweight data collection agent for metrics and logs.
- Loki: Log aggregation system integrated with Grafana and Prometheus.
- Mimir: Log processing tool that enhances Loki's performance.
- Grafana Dashboard: Visualization platform for metrics and logs.

Grafana Agent collects metrics and logs from EKS cluster nodes and sends them to Prometheus for metrics and Loki for logs. Loki aggregates and stores logs, while Mimir enhances its performance. Grafana Dashboard visualizes the metrics and logs for real-time monitoring. This integrated solution enables proactive issue detection, faster troubleshooting, resource optimization, and informed decision-making for efficient EKS cluster management.

Tools / TechStack

- Grafana
- Grafana Dashboard
- Loki
- Mimir

Impact delivered

- **Reduced downtime** by **30%** through proactive monitoring and issue resolution.
- **Faster troubleshooting:** Decrease mean time to resolution (MTTR) by **40%** with centralized log aggregation and visualization.
- **Resource optimization:** Optimize resource utilization, resulting in potential cost savings of up to **20%**.
- **Scalability insights:** Gain visibility into performance trends, enabling capacity planning and scaling decisions that can save up to **15%** on infrastructure costs.
- **Productivity gains:** Improve team productivity by **25%** with streamlined monitoring and alerting processes.

Case Study - 24×7 System, Application Monitoring and Alert Response

Recognized leader in cloud-based data-driven platform for delivering personalized digital advertising and marketing.

Key Challenges

- Customer has multiple workloads and multiple environments which required 24/7 monitoring.
- Customer were in need of resources with AWS skillset to track and maintain their infrastructure around the clock.
- Customer had problem overseeing the ads and videos generated as a product after they were digitized.
- Monitoring its platform was crucial to the company's continued success as it prepared to expand its advertising operations further

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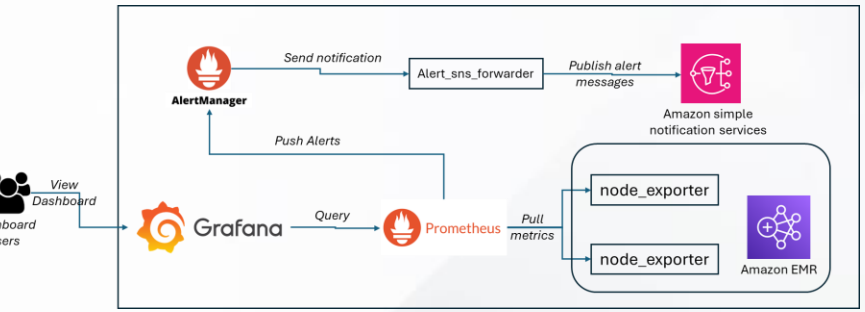


Our Solution

- Building observability platforms to Collect all the parameters that requires end to end monitoring in infrastructure and application
- Prometheus and Grafana has provided centralized Insights over components in QA.
- Structured dashboards to understand Insights and Alerting Mechanism for the Infra over every components through Datadog.
- Most of the critical Parameters are triggered in Slack channel and mail for easier to track and acknowledge
- Defined SLAs to follow and take proactive measures to prevent downtime and categorized the parameters from High to Low
- Following L1,L2 & L3 support models for the action items to work on priorities for application and infrastructure
- Plan an Architecture that can be enhanced compared to the current platform and automate the manual work programs(L3)
- Cost Optimization by identifying the under-utilized resources.
- Periodic security and vulnerability assessment at infrastructure level
- Monthly Reporting on tickets resolved and SLA status

Tools / Tech Stack

- AWS, EC2, S3, Lambda, ELB, Redshift,
- RDS,EMR,
- EKS,
- Datadog, Prometheus and Grafana,
- AWS MSK, Snowflake).

Impact delivered

- Detection of issues through log alerts and security-related monitoring reduced advertisement downtime by 90%
- Infrastructure observability leads to peak performance and reliability
- Infrastructure cost was optimized by 30%.
- Integration of alerts in slack channel and mail increased the productivity and compliance by 70%.
- End-to-End observability solution continuously tracked and ensured higher uptime and improved user experience

Case Study: Infrastructure Optimization + SRE/DevSecOps Transformation (Cision)

Boosted reliability, lowered cloud costs, and enhanced security posture across Kubernetes.

US based leading media technology company that provides a suite software and services to public relations (PR) and marketing professionals need platform transformation . Improving deployment strategies , security policy enforcement, predictive resource loading to be adopted to reduce operational costs, improve resource efficiency, and enhance system reliability and observability and scalability through seamless integration across cloud services.

Key Challenges

- High infra cost from on-demand nodes (GKE)
- No native blue-green/canary deployment in K8s
- Manual SSL & DNS config errors
- No policy enforcement in clusters (security risk)
- Costly monitoring (ELK, Datadog, New Relic)

Our Solution

Area	Solution
Cost Optimization	Used spot instances with autoscaling (HPAs, VPAs)
Safe Deployments	Introduced Argo Rollouts + ArgoCD (GitOps)
Security	Automated SSL/DNS with cert-manager + external-dns
Policy Management	Enforced policies via Kyverno
Observability	Adopted Prometheus, Thanos, Loki, Tempo, Grafana, GCS

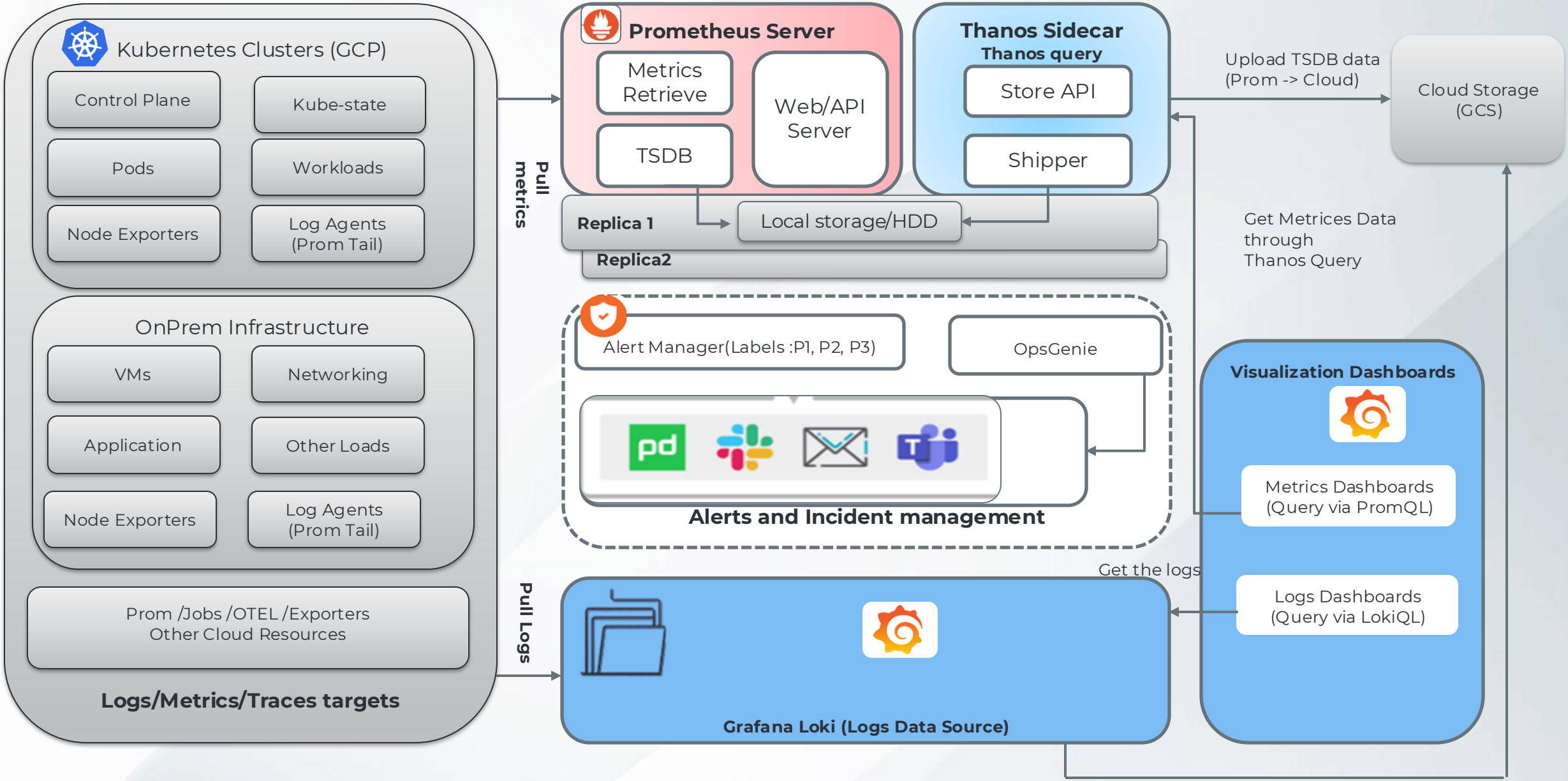
Tools / TechStack

- **Platform:** GKE, cert-manager, external-dns
- **DevSecOps:** Kyverno, ArgoCD, GitOps
- **SRE/Observability:** Prometheus, Loki, Grafana, GCS, Tempo, Thanos

Impact delivered

- **Worker node costs reduced 70–80%** via autoscaling and preemptible nodes
- **Release stability improved** with GitOps & Cloud Deploy
- **Unified observability stack** leading to Lowered TCO on monitoring

Solution Architecture –Observability Stack



Case Study: DevOps Modernization for a Leading Company - Insurance

- ***Our client (WSR Insurance) is a specialized agricultural insurance provider that supports farmers in protecting their land and crops through insurance products PRF, Annual Forage and Apiculture. Their ecosystem involves farmers, agents, approved insurance providers (AIPs), AIP public Database. Operated through a web application (CIMS), desktop application (GRIDPRO), and mobile application (WSR AG CONNECT) to manage quotations, generate reports, and track policies efficiently.***

Key Challenges

- Deployment of a 3 applications CIMS, GRIDPRO & WSR AG CONNECT for WSR Insurance with limited resources (1 service worker)
- Manual Code Build& Deployments
- Different technologies across the codebase and repository structure
- Sensitive information related to configurations which may pose security risks.
- Monitoring across environments.
- Deployment notifications and release notes.
- Run multiple process to fetch/download Data From 3rd party integrations
- Manage AIPs Data

Our Solution

- Implemented Multi-Stage CI/CD Pipelines in Azure DevOps - Automated build and deployment stages using YAML pipelines, aligned with a structured branching strategy for smooth integration and deployment across environments into App Services & App Stores.
- Used Azure DevOps libraries, Environment variables and Azure Key Vaults to securely manage sensitive information and Service connections, eliminating hardcoding and reducing security risks.
- Integrated Azure Monitoring tools:
- Implemented PowerShell & Python scripts for automations
- Web Jobs for multiple process in the azure app services.
- Azure SQL Databases & Storage Accounts

Tools / TechStack

- AZURE: App Services, SQL Databases, Storage Accounts, Key Vaults, Azure Application Insights, APIM.
- CI/CD: Azure DevOps YAML Pipelines
- Security: Azure Key Vaults, Azure DevOps Libraries
- Monitoring: Application Insights
- Scripting: PowerShell, Python

Business Outcome:

- **Reduced Deployment time from weeks to days**
- **Improved Product Quality and Monitoring Capability**
- **Saved 30% of Manual Efforts**

Capabilities

Typical Challenges in DevOps , Observability and SRE in Large Enterprises

Rising Total Cost of Ownership	→ Drives budget overruns, limits innovation
Tool Sprawl & Fragmented UX	→ Slows down incident response, increases training burden
Data Quality & Accessibility Gaps	→ Causes missed root causes, prolongs outages
Architectural Complexity	→ Creates blind spots, risks integration failures
Data Overload & Signal-to-Noise	→ Leads to missed critical alerts, alert fatigue

DevOps - Technology Capability Pillars

Technology Pillars	Tools
Automation (CI/CD & IaC) Pillar	Jenkins, GitHub Actions, Azure DevOps, Aws Code pipeline, CircleCI, GitLab CI/CD, ArgoCD /Flux, Terraform, Ansible, CloudFormation, ARM, Pulumi /AWS CDK, Puppet, Chef
SRE - Monitoring & Observability Pillar	Prometheus, Grafana, Datadog, Sumo Logic ,New Relic, ELK, Fluentd, Open Telemetry, Zipkin, Chose Engineering : Litmus Chaos / Gremlin , Istio / Linkerd / Consul. PagerDuty / Opsgenie
DevSecOps Pilar Security in DevOps	SAST(SonarQube, Checkmark), DAST(Owasp Zap), Snyk, Twistlock, Aqua Security/Prisma Cloud, HashiCorp Vault, PAM, CyberArk
Containerization & Cloud-Native	Kubernetes, Docker, Podman, Helm, Cloud Platforms (AWS, Azure, GCP), Helm/ Kustomize
AI/ML in DevOps /DevSecOps	AI based Predictive CI/CD , Auto scale, Anomaly, Threat and Incident Mgmt. : Kubeflow, MLflow, TensorFlow, and PyTorch. AI based observability(AIOps)

Observability Architecture Blueprint

DevOps Enablement

Instrumentation & Data Collection
Capture Comprehensive Telemetry
Logs, Metrics, Traces and Events

Data Processing & Enrichment Layer
Normalize, Enrich, and Structure data
Parse and Transform logs, Add context, Noise reduction and deduplication

Intelligence & Correlation Layer
AIOps, Derive Context and Insights
SLO/SLI monitoring, Error budget burn, RCA, Business impact

Visualization /Interaction
Present Insights in Actionable Formats
Dashboards, Trends, Real-time monitoring, NLP, Ad-hoc queries

Action & Automation
Automate Analysis, Decision-Making, and Recovery
AIOps, Anomaly detection, Alert management, Auto remediation, CI/CD, Chaos Engineering

Governance & Optimization
Ensure Observability Practices
Policy Enforcement, Auditing, Risk Assessment, Cost Monitoring and Reporting

AI/Gen AI Enablement

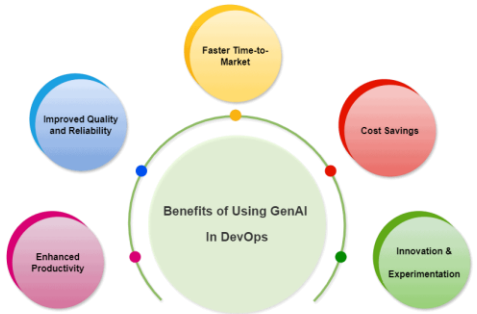
Observability Tool Stack

Layer	Open Source	Commercial
Instrumentation	OpenTelemetry, FluentBit, Prometheus	Datadog, New Relic, App Dynamics, AWS Cloud Watch
Processing & Storage	Kafka, ELK, Tempo, M3DB	Splunk, Dynatrace, Azure Monitor, App Dynamics, AWS Cloud Watch
Intelligence, Analytics & AIOps	Grafana, Kibana ML, Falco	Datadog, Dynatrace, Splunk ITSI, App Dynamics, Big Panda, Logic Monitor
Visualization	Grafana, Backstage	New Relic, ServiceNow Service Maps
Automation	StackStorm, Rundeck	PagerDuty, Harness, FireHydrant
Governance	Sloth, MkDocs, OpenCost	Nobl9, CloudHealth, ServiceNow DevOps Insights
Incident Management	osTicket, Request Tracker (RT), iTop	ServiceNow, Jira, Remedy

Example Tools Stack Combinations

- **Full Commercial Stack:** App Dynamics/Datadog/New Relic + Big Panda + PagerDuty + ServiceNow + Terraform
- **Hybrid Enterprise:** Splunk + OpenTelemetry + Ansible + GitHub Enterprise + Grafana
- **Cloud-Native Enterprise:** Datadog + AWS/Azure/GCP native tools + Terraform + GitLab + Logic Monitor

Accions' Gen AI Based Accelerators



Release and Deployment management	Automated Infra provision - IaC Generation	Framework for performance and cost optimization
Intelligent CI/CD Automation	Intelligent Policy (Policy, Template, Configuration)	Intelligent monitoring and altering
Knowledge Management and Automation	Enhanced Collaboration and Support	AI Based - code security, threat modelling, compliance

AI Based SRE Agent: Kubernetes Anomaly Deduction and Log analysis

Proprietary anomaly detection engine : Developed by Accion DevOps COE , Monitors logs, metrics, API activity, pod lifecycle events, and network flows in real time to detect deviations (e.g. CPU spike, off-hour resource surge, failed logins followed by new IP access)

ML model validation: Tested on > 30,000 Kubernetes datapoints over ~10 hours; compared approaches including Isolation Forest, One-Class SVM, DBSCAN, traditional autoencoders

Transformer-enhanced AT model : Combines autoencoder with attention/Transformer layers to capture both temporal and structural behaviour, enhancing detection across component interactions

Cloud-agnostic support : Deployable across AKS, EKS, and GKE workloads

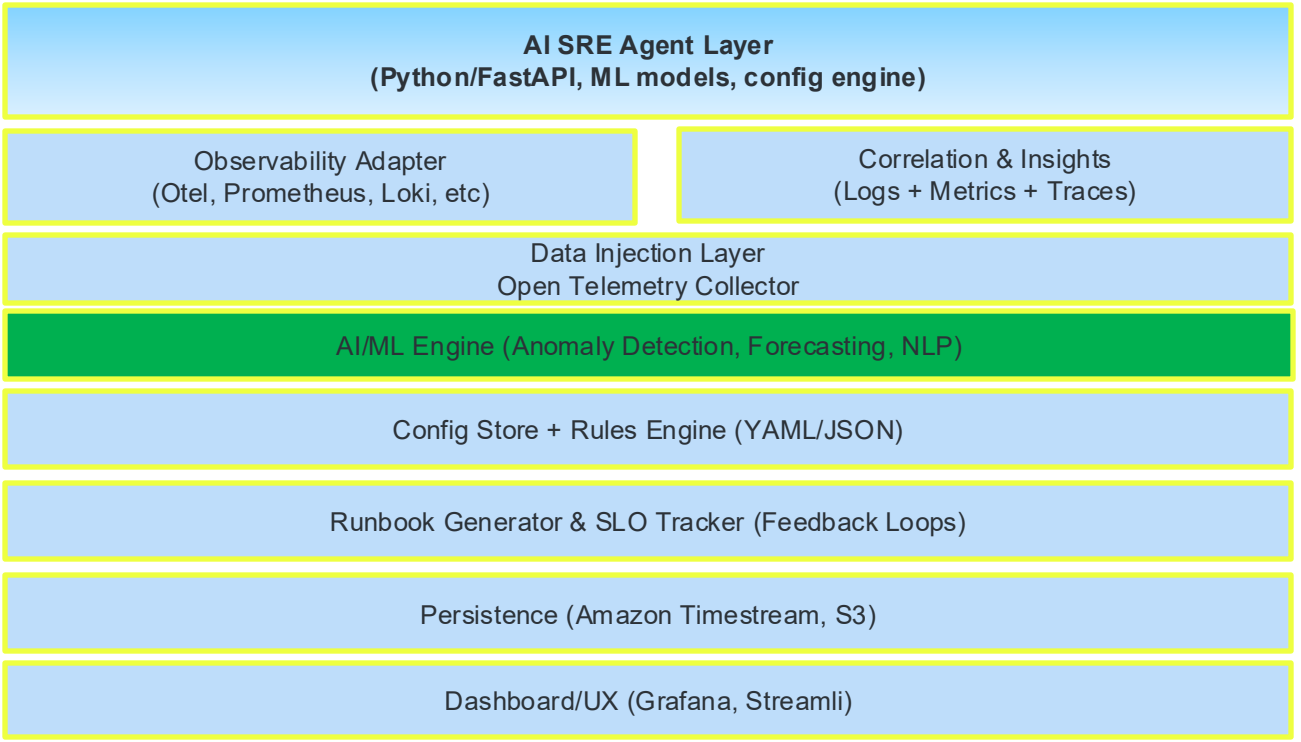
Full observability & automation stack Real-time telemetry via Open Telemetry collectors → automated remediation via runbooks → root-cause analysis, incident management dashboard

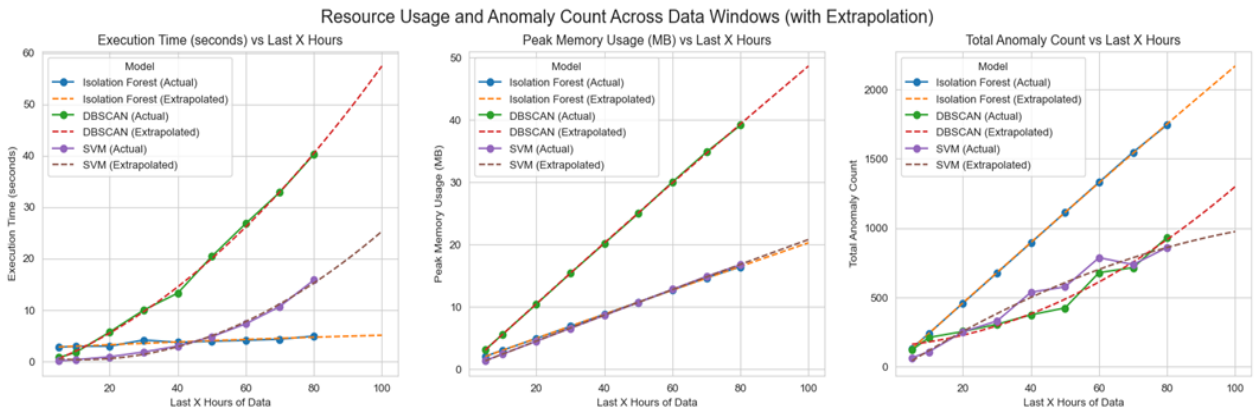
Proactive alerts and self-healing : Enables SRE engineers to forecast anomalies or allow system-initiated corrective actions or automatic healing

Upcoming feature : Adding advanced log aggregation and analysis to centralize observability and improve anomaly insights

Saves 30% of cost , reduces application downtime to near zero,
Increases productivity of Ops team by 30%

Model Architecture





Accion Value Proposition

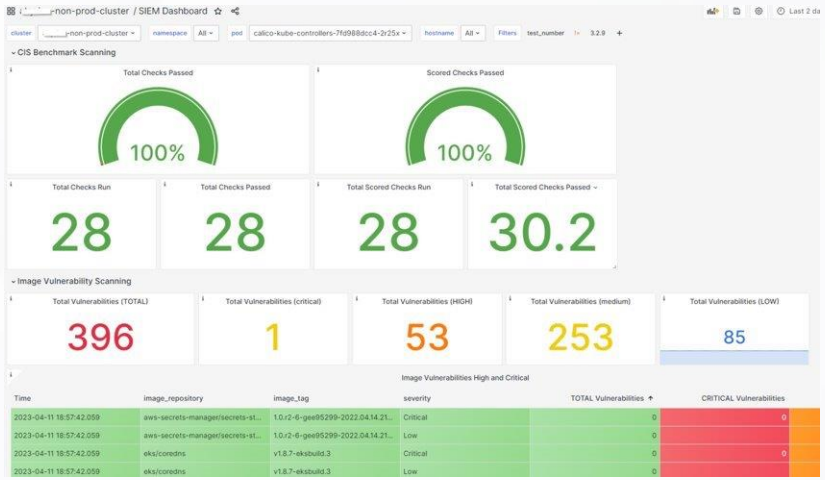
“Our Differentiators”

- Business-Centric approach to lead with value mapping to deliver improved customer experience and efficiency
- Multi-cloud expertise with deep support in AWS, GCP and Azure with native observability tooling
- GenAI Expertise – strong experience in platform/tool specific or custom GenAI capabilities
- End-to-end capability including DevOps + SRE + Observability + Auto-remediation
- Focus on cost optimization with tool consolidation, telemetry spend optimization and cloud cost optimization

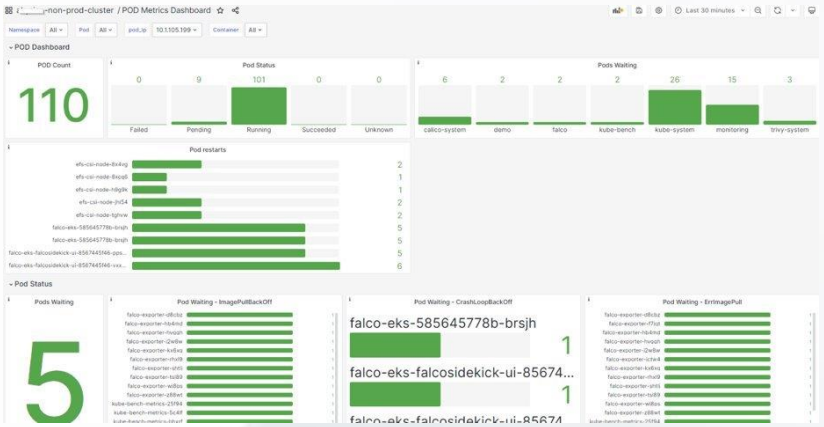
“Core DevOps ,SRE & Observability KPIs”

- **Reliability:** Uptime/Availability, SLA/SLO Compliance %, Error Budget Burn Rate
- **Incident Management:** MTTR, MTTA
- **Proactive Detection:** % of issues detected before end users report them
- **Release Stability:** % of successful deployments, Change Failure Rate
- **Alert Quality:** Alert Noise Ratio, % of actionable alerts
- **Root Cause Analysis:** RCA Time, % of incidents with clear RCA
- **Observability Maturity:** Coverage of logs, metrics, traces across services
- **Tool Efficiency:** Cost per telemetry GB or ingestion per business unit

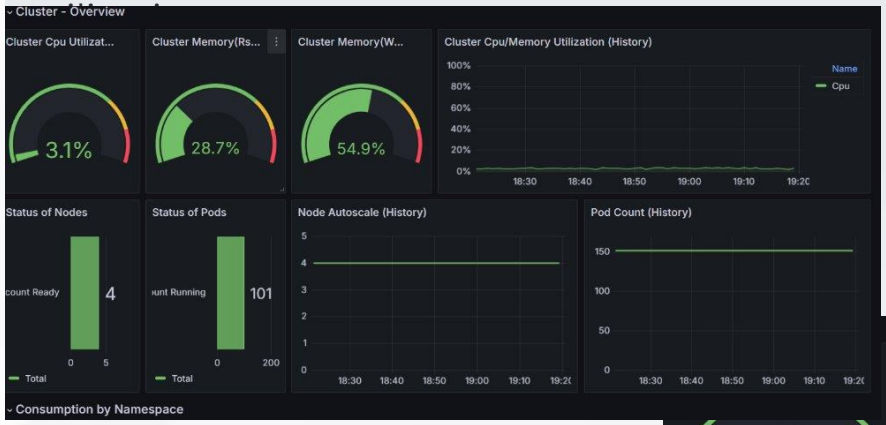
Sample SRE Dashboards

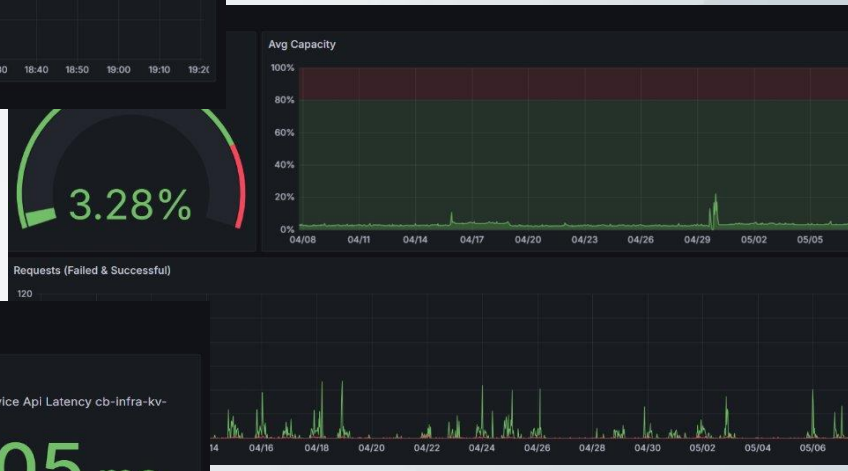


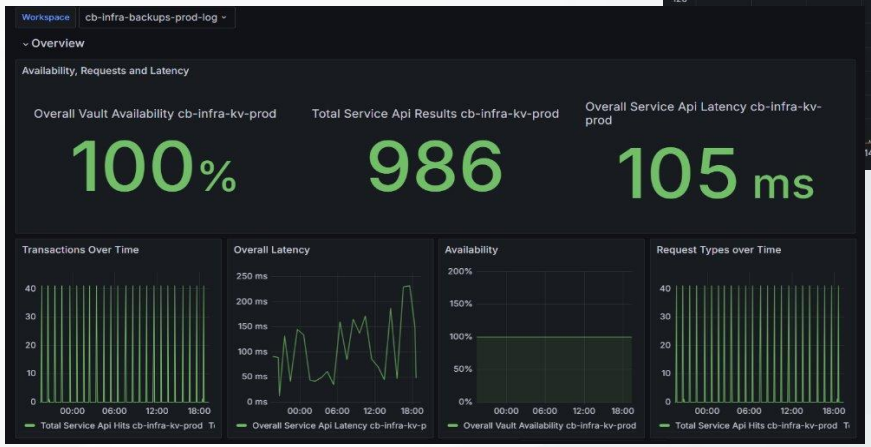
A centralized Security Information and Event Management (SIEM) dashboard. Integrated with tools like Falco, Trivy Operator, and kube-bench. Displays real-time runtime security insights, including vulnerability and compliance checks.



General-purpose Kubernetes observability dashboards. Visualize cluster health, node metrics, pod-level insights, and resource







A custom log analysis dashboard - Designed to display targeted real-time data extracted from application logs using Loki queries.

Our Methodology and Process

Strategic Assessment & Roadmap	Foundation Implementation	Expansion & Enablement	Optimization & Transformation
Key Deliverables			
• Current State Assessment Report • Observability & SRE Maturity Assessment • Strategic Implementation Roadmap • Executive Business Case • Detailed Project Plan	• Observability Platform Design • Core Platform Implementation • Critical Service Instrumentation • Initial SLO Framework • Service Ownership Registry • Initial Operational Dashboards	•Extended Service Coverage Advanced Analytics Configuration Custom Integration Development Enablement & Training Program Internal Champions Network Knowledge Repository	• Cost Optimization Report • Automation Blueprint & Implementation • Cultural Transformation Scorecard • Long-term Value Realization Framework • Continuous Improvement Program
4 to 6 weeks	**~3 months**	**~3 months**	**Ongoing**

Typical engagement timeline

Our Methodology and Process (Deeper Dive)

Strategic Assessment & Roadmap

Discovery & Assessment
- Executive stakeholder interviews
- Current state discovery (tools, processes, pain points)
- Instrumentation coverage analysis
- Incident management process evaluation

Gap Analysis
- Benchmark against best practices
- Identify capability gaps
- Technical debt and legacy constraints
- Organizational readiness and skill gaps
- Tooling for integration potential

Strategic Roadmap Development
- Develop implementation roadmap
- Define phased approach with quick wins
- Establish success metrics
- Create implementation project plan with milestones
- Develop business case

DELIVERABLES
- Current State Assessment Report
- Observability & SRE Maturity Assessment
- Strategic Implementation Roadmap
- Executive Business Case
- Detailed Project Plan

4 to 6 weeks

Foundation Implementation

Platform Selection & Design
- Tool evaluation and selection
- Platform architecture design
- Integration pattern development
- Data management strategy
- Security and compliance integration

Core Implementation
- Central observability platform deployment
- Initial instrumentation for critical services
- Base dashboard creation
- Alert configuration for high-priority services
- Service catalog and ownership mapping

Process Establishment
- SLO framework development
- Incident management process integration
- Runbook automation foundation
- On-call process refinement
- Knowledge management structure

DELIVERABLES
- Observability Platform Design
- Core Platform Implementation
- Critical Service Instrumentation
- Initial SLO Framework
- Service Ownership Registry
- Initial Operational Dashboards

~3 months

Expansion & Enablement

Instrumentation Expansion
- Extend instrumentation to all critical services
- Implement advanced correlation capabilities
- Develop custom data collection for legacy systems
- Integration with CI/CD pipelines
- Configuration of business impact mapping

Advanced Capability Development
- Implement AIOps for pattern recognition
- Deploy service dependency mapping
- Configure automated anomaly detection
- Implement advanced alert correlation
- SLO-based alerting configuration

Team Enablement
- SRE practice workshops
- Runbook development
- Knowledge transfer sessions

DELIVERABLES
- Extended Service Coverage
- Advanced Analytics Configuration
- Custom Integration Development
- Enablement & Training Program
- Internal Champions Network
- Knowledge Repository

~3 months

Optimization & Transformation

Performance Optimization
- Optimization for speed & cost
- Data retention strategy refinement
- Sampling rate adjustments
- Resource utilization optimization
- Cost allocation model implementation

Automation Expansion
- Self-healing capability development
- Automated incident response playbooks
- Chaos engineering implementation
- Continuous verification systems
- Intelligent workflow automation

Cultural Transformation
- SRE operating model implementation
- Error budget governance
- Production readiness review framework
- Innovation cycle implementation

DELIVERABLES
- Cost Optimization Report
- Automation Blueprint & Implementation
- Cultural Transformation Scorecard
- Long-term Value Realization Framework
- Continuous Improvement Program

Ongoing

Typical engagement timeline

THANK YOU