

DOCUMENTATION

HEAL Glossary

HEAL Software Inc.

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A

Term	Definition
Access Logs	Logs that capture all login, logout, and permission-based activity performed by users across the HEAL platform.
Account	An account is a HEAL tag that ties all the applications, services, and instances together. Every enterprise or organization would be considered an account.
Advance DS	Internal â??Advance Data Serviceâ? that periodically pulls policy and configuration metadata for the Machine-Learning Engine (MLE) from the **Percona** MySQL cluster.
AIOps Platform	A big-data & ML system that ingests observability signals and automates event correlation, root-cause isolation, and remediation.
Alert Management	A feature that lets users define custom alert thresholds, notification rules, and escalation policies.
Anomaly	A fully qualified anomaly created when a metric value violates the NOR or SOR thresholds.
Anomaly Score	A severity indicator between 0 and 1 that quantifies the abnormality of an event.
Apdex Score	A user-centric performance index from 0 to 1 that classifies response times as *Satisfied, Tolerating,* or *Frustrated*
Application	Application is a virtual concept, like a tag, that groups a set of services.
Auto Discovery	Automatically discovers hosts, components, connections, and their attributes to populate the Service Dependency Map.
Auto-Instrumentation	Automatic injection of tracing hooks or metrics into code at runtime or build time (e.g., OpenTelemetry auto-instrumentation).
Automated Anomaly Detection	Advanced algorithms that automatically detect unusual patterns or behaviors in the system, alerting teams to potential issues before they escalate.
Automated Root Cause Analysis (RCA)	Automatically identifies the root cause of issues by correlating events and analyzing causal relationships.

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Term	Definition
Availability Metric	A binary health metric that indicates whether an instance, process, port, or connection is **Up (1)** or **Down (0)**, usually derived from heartbeat or ping checks.

B

Term	Definition
Batch Incident	A type of Incident specifically tied to long-running or scheduled jobs, raised when anomalies occur in batch job execution.
Batch Job Alerts	Alerts generated when scheduled or background batch jobs behave abnormally or fail.
Behavior KPI	Key performance indicators about how the monitored instances behave or function.
Behavior Metrics	Metrics that reflect how an instance behaves operationally (e.g., CPU, memory usage).

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C

Term	Definition
Calls	Discrete client-to-server requests (HTTP, gRPC, JDBC, AMQP, etc.) exchanged between services or from users. In HEAL each call can be captured as a span within an end-to-end trace and rolled up into Transaction KPIs.
Capacity Forecasting	Predicts future infrastructure requirements and choke points using regression models and historical usage data.
Category	KPIs similarly impacting the systemâ??s performance are tagged together as a category.
Causal Graph	Directed graph built by HEALâ??s AIOps engine where **nodes** are events/metrics and **edges** represent statistically inferred cause-effect relationships. Traversing the graph surfaces the most probable root cause for an incident.
Cluster	Clusters are groups of instances in a service. A cluster can be created for the host and component.
Cluster (K8s)	The full Kubernetes control-plane and all worker nodes that run containers. In HEAL this maps one-to-one with a monitored **Service Dependency Map** domain.
Cluster-Level Metrics	Aggregated metric data presented at the cluster level, providing a high-level view of health service.
Component	A software element that runs on a host server (Ex: Apache Tomcat, Weblogic, WebSphere, Oracle)
Component Instance	A single running copy of a software component (e.g., one JVM, one Oracle DB process) deployed on a host and monitored independently for KPIs.
Component Instance Attributes	Attributes that are required to collect the KPI data of the component instance.
Component Monitoring	Provides detailed metrics from Server, JVM, Host, and Application components.
Comprehensive Dashboards	Intuitive, user-friendly interfaces that present complex data in an accessible format, allowing teams to quickly assess system health and performance metrics.

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Term	Definition
Computed Metric	A metric that is derived from other metrics using custom formulas, often used for availability.
ConfigMap / Secret	Key-value objects that inject non-confidential (ConfigMap) or sensitive (Secret) config into pods.
Configuration Watch	A feature that monitors configuration changes (e.g., file changes, system properties) and raises Info Incident when deviations occur.
Consul	HashiCorp Consul cluster used by HEAL for distributed **service discovery**, health checking, and a strongly-consistent key/value store for dynamic configuration.
Control Center UI	Administrative workspace within the HEAL UI where authorised users: 1) register Accounts/Applications, 2) start/stop agents and connectors, 3) define NOR/SOR thresholds and maintenance windows, 4) manage alert policies and notification channels, and 5) set RBAC roles. All changes are versioned and stored centrally in the HEAL configuration database.
Custom Metric Framework	A framework for collecting custom metrics using scripts (e.g., shell, PowerShell), enabling support for non-standard environments.
Custom Reports & Dashboards	Allows users to create tailored views and exportable reports for operational insights.
Customizable Alerts	Flexible alerting mechanisms that can be tailored to the specific needs of the business.

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D

Term	Definition
DaemonSet	Ensures one (or more) pod copies run on every node (common for log or metric collectors).
Data Center (DC)	A physical facility that houses HEALâ??s servers, storage, and networking hardware for data collection and processing.
Data Sources	Data Source is a name given to the connection from an application such as UI-Service to DB, CC to DB. The name is commonly used when creating a query to the database.
Database Server	Engine (e.g., Oracle, MySQL, Percona) that stores and serves structured data via SQL. Monitored in HEAL as a **Component** with KPIs like query latency, cache hit %.
Deep Dive Data	Deep dive is comprehensive performance data (code level, SQL level). This data can be collected only by instrumenting a component.
Dependency	A logical entity represents how a service depends on another service.
Deployment	A K8s object that maintains a specified number of pod replicas and supports rolling updates.
Disaster Recovery (DR)	A backup setup mirroring the production system to ensure failover and high availability.
Docker	OCI-compliant container runtime and image format that packages applications + dependencies into immutable layers. HEAL can both **monitor** Dockerised workloads and **ship its own micro-services** as Docker images.

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E

Term	Definition
Early Warning	A proactive incident raised when HEAL detects related anomalies that signal emerging risk, even though entry-point transactions are **not yet impacted**.
End User Monitoring	Captures performance and errors from *actual* end-user sessions in browsers or mobile apps.
Event Correlation	Combines related or duplicate alerts into a single actionable incident to reduce alert fatigue.
Event Ranking	Prioritize events based on relevance scores to highlight the most critical issues affecting metrics and services.
Events	Discrete state changes or alerts (e.g., deployment, pod restart, threshold breach) that provide context around metric behaviour. In HEAL, related events are auto-correlated into **Incidents**.

F

Term	Definition
Forensic Action Grouping	Forensic actions are grouped based on instance and metrics category to avoid duplicate collection within a time window.
Forensic Plugin	Collects Forensics
Forensics	Just-in-time diagnostic data collected when an event occurs, used for root cause analysis and troubleshooting.

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G

Term	Definition
Grafana Dashboard (Custom Dashboards)	A Grafana instance bundled with HEAL, pre-wired to the HEAL time-series and trace APIs. It lets SREs create ad-hoc or business-specific visualisations, mixed with third-party data sources, without altering the core HEAL UI.
Group Metric	A collection of related Metrics grouped together for consolidated monitoring and visualization.

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H

Term	Definition
HAPROXY	HAProxy (High Availability Proxy) is an open-source proxy and load balancing server software. It provides high availability at the network (TCP) and application (HTTP/S) layers, improving speed and performance by distributing the workload across multiple servers.
HEAL App Server	Middleware (e.g., WildFly, WebLogic, Tomcat) that hosts business logic, manages threads, pools, and JEE services, often running inside a JVM.
HEAL Connectors	Interfaces used to pull telemetry data from third-party systems like AWS CloudWatch, Azure AppInsights, Prometheus, and Elasticsearch.
HEAL Control Center	To add and manage accounts.
HEAL DB Server	Stores configuration data, metrics, incidents, events, command jobs, and forensic records.
HEAL UI (Out-of-Box Dashboard)	The default, single-page web interface shipped with HEAL. It presents pre-built dashboards (health overviews, service maps, incident timelines) that visualise KPIs, traces, logs, and AI insights without any additional setup
HEAL UI Service	To manage HEAL UI.
HEAL Web Server	Software (e.g., Nginx, Apache HTTPD) that handles HTTP/S requests, serves static content, and forwards dynamic calls to application servers.
Heat Map	A visual representation of service health and metrics across instances, using color coding to show anomalies or normal states
Host	Representation of actual or physical server on which an operating system runs and the component instances are deployed. (Ex: AIX, Linux, Windows Server.)
Host instance	Host instance is the Representation of a single instance of the host on which one or more component instances are deployed.
Host Instance Attributes	Attributes that are required to collect the KPI data of the Host instance.

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Term	Definition
HTTP (HyperText Transfer Protocol)	A protocol used for transmitting data over the web in an unsecured format.
HTTPS (HyperText Transfer Protocol Secure)	A secure version of HTTP that encrypts data using SSL/TLS for safe communication over the internet.

I

Term	Definition
Incident	A collection of temporally related events that together indicate abnormal service behaviour. Incidents are classified as **Early Warning, Problem,** or **Info**.
Incident Status	The lifecycle state of an incident â?? typically Open, Closed, or Upgraded
Incident Timeline	A chronological view of all events and affected services associated with an incident, helping users track the evolution of issues.
Info Incident	A non-critical incident generated for informational metrics (e.g., configuration changes) that do not impact system performance directly.
Ingress	K8s object that routes external HTTP/S traffic to cluster services, often terminated with TLS.
Instance-Level Metrics	Detailed metric data for a specific instance within a cluster, used for fine-grained analysis.
Instances	Is a single, running copy of a service or application component that operates independently and is monitored separately.
Integration Capabilities	Seamless compatibility with a wide range of technologies and platforms, enabling a unified view of all data sources for more effective monitoring and analysis.
Intrusive Monitoring	Monitors methods and tracks exceptions, errors, and slowness in code execution.
IP (Internet Protocol)	A unique numerical address assigned to each device connected to a network that identifies it for communication.

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J

Term	Definition
JIM	Monitors Java Applications that are running on JVM. It runs only on Target Server.
JMX	JMX is the Java Management Extension used to manage java applications, systems, and networks.

K

Term	Definition
Kairos DB	To fetch time series data from Cassandra.
Key Performance Indicator	KPI, or Metric, is an attribute with a numeric or binary value for the Behavior, Workload.
Keycloak	To provide SSO (Single sign-on).
Kubernetes and OpenShift Monitoring	Specialized monitoring tools for Kubernetes and OpenShift

L

Term	Definition
Log file	A log file is a file that records either events that occur in an operating system or other software runs, or messages between different users of communication software
Log Forwarder	Collects transaction data from log files. It runs only on Target Server.
Log Monitoring	Monitors and alerts on specific pre-configured error patterns in log files.
Logs	Timestamped text records emitted by applications, OSs, and middleware. HEAL parses them for error patterns, transactions, and forensic details.

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M

Term	Definition
Maintenance Window	A predefined period during which services are marked under maintenance, preventing alerts or incident from being raised.
Metric	A measurable value that indicates the performance, behavior, or availability of a service or component.
Metric Pod	A HEAL UI widget that shows a single metricâ??s current value, threshold bands, and recent trend for rapid visual assessment.
Metrics	Numeric time-series measurements collected at regular intervals (e.g., CPU %, JVM heap MB, Transactions Per Second). In HEAL they feed ML models to establish **NOR/SOR** bands.
ML Batch Job Monitoring	Monitors long-running batch jobs using machine learning to detect anomalies, delays, and cascading failures.
ML Insights	AI-generated insights showing key metrics and patterns leading to an incident or anomaly, aiding in root cause analysis.
MLE	A machine learning Engine (MLE) is a type of artificial intelligence (AI) that allows software applications to become more accurate at predicting outcomes without being explicitly programmed to do so. Machine learning algorithms use historical data as input to predict new output values. It generates NORs.

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N

Term	Definition
Namespace	A logical partition that isolates resources (pods, services, secrets) within a clusterâ ??useful for multi-tenant dashboards.
Node	A single VM or bare-metal host in the cluster. Node-level KPIs include CPU %, Memory %, Disk IO, and Kubelet health.
Noise Reduction	ML or rules that suppress duplicates and low-value alerts before they reach humans.
Nomad	Job orchestration.
Nomad File	A configuration file used to deploy HEAL services (like Notification Processor, Supervisor).
Normal Operating Range (NOR)	A dynamic threshold band generated by HEALâ??s ML engine that defines healthy values for a KPI. Values outside the band are flagged as anomalous.
Notification Plugin	Sends SMS and Email notifications.

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O

Term	Definition
OOB (Out Of Box) Component	A component with a built-in functionality that comes directly from the vendor and works immediately when the product is placed in service.
OOB Reports	Predefined reports covering transaction trends, metric thresholds, server utilization, and alert analysis.
OpenSearch	OpenSearch is a community-driven search and analytics suite that simplifies data ingest, search, visualization, and analysis
Operator	Kubernetes controller that encodes domain knowledge to automate the lifecycle (install, upgrade, backup) of complex apps.
Organization	Representation of an organization, which may contain one or more applications.
OTLP (OpenTelemetry Protocol)	gRPC/HTTP protocol used by OpenTelemetry collectors and SDKs to export metrics, logs, and traces.

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P

Term	Definition
PERCONA	Percona is an open-source version of the MySQL database management system. Percona is used for storing configuration and master data.
Performance Metric	Represents the performance information of the component and host instances. The values can be numerical values of different types.
Persistence	The minimum count of consecutive threshold breaches that must occur before HEAL generates an event, preventing alerts on transient spikes.
Persistent Volume (PV)	Cluster-provisioned storage resource.
Persistent Volume Claim (PVC)	A podâ??s request for a PV with specific size and mode.
Pipeline	Stream-processing topology that ingests raw metrics/logs/traces, performs real-time aggregation, and persists roll-ups into the time-series store.
Pod	The smallest deployable unitâ??a group of one or more containers sharing network + storage. HEAL associates **Sidecar** agents or **OpenTelemetry** collectors here.
Port	A logical endpoint used to distinguish different types of network services running on the same IP address.
Predictive Insights	Utilization of AI and ML to forecast potential future issues based on historical data, allowing for proactive measures to prevent downtime.
Problem	A critical incident raised when abnormal service behaviour is **actively impacting** end-user transactions or service availability.
Producer	The producer is known as scripts, procedures, or methods used to collect data for KPIs via Component Agent.
Producers	Sources of telemetry such as applications, agents, or services that generate and send metrics, logs, and traces into HEAL.

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Q

Term	Definition
Query APIs	To extract details of HEAL entities.

R

Term	Definition
RABBITMQ	RabbitMQ is a message-queueing software known as a message broker or queue manager. Said, it is software where queues are defined to which applications connect to transfer a message or messagesâ??queue manager (AMPQ).
RAN	Static web server for storing and downloading docker images and creating HTTP web server.
Real-time Monitoring	Continuous tracking of application and infrastructure performance to identify issues as they occur.
Recommendations Validated	Recommendations Validated are validating the solutions provided at the backend with the help of some logicâ??
Request	The request is a specific technical request (ex: URL call) received by a service from an external actor or another service.
Root cause	The primary underlying fault (e.g., â??DB CPU starvation by runaway query *order_history*â?□) that triggers downstream anomalies; identified by correlating **Causal Graph**, **Forensics**, and **Topology** data.
Root Cause Analysis	The act of analyzing related â??incidentsâ?□ to get to the source of a â??problem.â?□

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S

Term	Definition
Safe Operating Range (SOR)	A static range defined manually to detect metric threshold violations.
Sampling Rate	Percentage of traces kept and sent to the backend (e.g., *â??10 % probabilistic samplingâ?*).
Scalable Architecture	Designed to support environments of any size, from small deployments to large-scale, distributed systems.
Scheduler	The HEAL component is responsible for arranging periodic tasks such as data ingestion, report generation, and alert evaluations.
Service	Logical entity representing multiple homogenous component instances running on one or numerous host instances.
Service Account	Identity used by pods to access the API-server or other resources securely.
Service Dependency Map (SDM)	The auto-generated topology view that visualises services and their inter-dependencies, including call flow and real-time health status.
Service Mesh (Istio / Envoy)	Sidecar-based data plane plus control plane that provides uniform traffic management, security, and built-in telemetry.
Services	Logical groupings of one or more instances representing a distinct application function or microservice in HEAL.
Sidecar	An auxiliary container in the same pod that intercepts traffic or collects telemetry (e.g., HEAL proxy, Fluentd).
Simple Network Management Protocol (SNMP)	Is an application-layer protocol used for monitoring and managing network devices such as routers, switches, servers, and printers by enabling communication between these devices and a central network management system.
SNMP Monitoring	Allows monitoring of network and hardware devices using SNMP protocol.
Solution Recommendation Validation	Allows users to validate or provide feedback on recommended solutions to improve future suggestions.

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Term	Definition
Solution Recommendations	Automatically generated, ranked remediation steps based on historical fixes and expert rules; users can validate or rate their effectiveness.
Solutions Recommended	Solutions recommended for the root cause when there is a Problem / Early Warningâ??
Span	The atomic unit of work in a trace that records operation name, start/end time, and attributes.
StatefulSet	Manages ordered, persistent pods (e.g., databases) ensuring stable hostnames and storage.
Static Operating Range	Static Operating Range is a fixed value along with conditions (like â??less than,â?□ â??greater than,â?□ and â??not betweenâ?□) defined by the Administrator user in HEAL Control Center. KPIs for which the SOR is limited are expected not to breach the set value.
Supervisor	Executes the forensic scripts. It runs only on Target Server.
Supervisor Controller	Collects forensic action.
Suppression	A noise-reduction mechanism that temporarily withholds new events for repeated, similar violations after the first occurrence, preventing alert storms.
Synthetic Monitoring	Scheduled scripts or â??robotsâ?□ that emulate user journeys from multiple locations to measure uptime & latency.

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T

Term	Definition
Threshold	A point beyond which there is a change in the metrics. When either a workload or behavior metric breaches a threshold set by MLE or SOR mechanisms even once, it is termed as a violation. It can be static or dynamic.
Tickets	Ticket is the alert raised by any Alerting/Ticketing tool. E.g., ServiceNow, SolarWindsâ??
Topology	A real-time map of interdependencies and communication paths among services and instances within HEAL.
Trace ID / Parentâ?? Child Context	Unique IDs that tie spans together and propagate across service boundaries
Traces	End-to-end request flows broken into timing **spans** across services. Traces reveal latency hotspots and are stitched into the **Service Dependency Map**.
Transaction	Metrics that represent the volume and performance of application transactions (e.g., request count, response time).
Transaction Monitoring	Monitors all transactions end-to-end, with the ability to mark specific transactions for detailed monitoring.

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U

Term	Definition
Unified Ticketing Plugin (UTP)	Consolidates HEAL Incidents into ITSM tickets (ServiceNow, BMC, Remedy). Ensures one ticket per incident, and maintains bi-directional status sync.
Unknown Service	Service(s) identified but not monitored and send/receive a request to/from the service under monitoring are known as â??Unknown Services.â??
User ID	A unique identifier that tracks actions or configurations applied by a specific user across HEAL components.
User Roles	Role-Based Access Control (RBAC) used in HEAL to manage what users can view, configure, or modify.
User Session Timeout	A predefined period of user inactivity after which the session is automatically terminated for security purposes.
UTP (Unified Ticket Plugin)	A module which consolidates and manages incident tickets across multiple monitoring tools.

W

Term	Definition
Wildfly	WildFly provides a Java web application, an extension to the JVM with a complete runtime environment that will connect the database on one end to the web client on the other.
Workload KPI	Key Performance Indicators about the amount of load in the Request-Response pair served by the instance, status, and response time of the request are known as Workload KPI.

Z

Term	Definition
Zulu	It is an open-source JRE/JDK and open-source Java that can be used to run all jar files.

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