



WOMBATOAM

OPERATIONS & MAINTENANCE
FOR ERLANG & ELIXIR SYSTEMS



WOMBATOAM
version 3.0.0

WOMBATOAM 3.0.0 IMPROVEMENTS OVER 2.0.0

- + Extensive dashboard redesign with a new, more intuitive user interface using GridStack.
- + WombatOAM automatically generates frontpages for RabbitMQ, Phoenix, MongooselM, Riak, Erlang, and Elixir with graphs of the most important metrics related to each application.
- + From now the number of listed notifications are configurable and set to 40 by default.
- + Now WombatOAM can run on Erlang / OTP 20.
- + WombatOAM supports Phoenix Web Framework metrics, such as average response time, request count, errors, etc.
- + WombatOAM logs query runtimes and other metrics from Ecto and collects logs from Elixir's Logger.
- + A Slack integration was created that sends messages about raised and cleared alarms. The format of the text and fields are configurable in the wombat.config file.
- + WombatOAM provides 11 metrics about the performance of SumoDB and a service that displays the current data for a particular model in a table view.

- + Improved Mnesia netsplit service to detect and fix partitions when some nodes are not reachable.
- + Tags introduced to WombatOAM's alarms, allowing users to define an alarm's target; yourself, a group, or someone else based on specific, definable conditions.

WOMBATOAM 3.0.0 BUG / ISSUE FIXES

- + When using SSL, the minimum recommended Erlang version for running WombatOAM is R16B02. Without SSL the minimum required Erlang version is R15B03. WombatOAM can manage nodes running on R14B04 or later versions regardless of using SSL or not.
- + Some browsers don't accept the self-signed certificates shipped with WombatOAM with certain Erlang/OTP versions. In that case, either install proper certificates or switch to HTTP. See "Configuration" in the manual for details.

MONITORING

- ERLANG
- ELIXIR
- RABBITMQ
- RIAK
- MONGOOSEIM
- ECTO
- PHOENIX

AGENTS

- OSMON
- CODE_TRACER
- COWBOY
- PHOENIX
- TRAILS
- ELIXIR LOGGER
- ERROR LOGGER
- EXOMETER
- FOLSOM
- LAGER
- MNESIA
- RABBITMQ
- RIAK (RIAK CORE, RIAK KV, RIAK REPL)
- SASL
- YOKOZUNA
- MONGOOSEIM
- POOLBOY
- ECTO
- SUMODB
- ELARM



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WOMBATOAM 3.0.0 MAIN FEATURES

NODES

- + Auto-discovery of your node topology
- + Visualise the node topology and inspect node-specific information, even on machines with restricted access

WEB DASHBOARD

- + An interactive web dashboard that provides all of the information in one place
- + Application-specific front pages based on the product running on the managed node
- + Live gauges on the front page

METRICS

- + Automatic collection of more than a hundred built-in metrics from the Erlang runtime system
- + Metrics from plugin modules of other supported OTP applications
- + Seamless collection of metrics from Folsom and Exometer
- + Historic and live metrics
- + Create Docker images containing Wombatoam

INTEGRATIONS

- + A REST interface to support automation and integration with your existing tool chain and scripts
- + Built-in application-specific plugins for many standard and popular open source OTP applications
- + Seamless integration with existing OAM infrastructure. Integration plugins with Slack, AppDynamics, Logstash, Nagios, Graylog, Grafana, Cacti, Splunk, Graphite, PagerDuty, and Zabbix

NOTIFICATIONS & ALARMS

- + Anomaly detection and early warnings, in the form of alarms and notifications
- + Send notifications and alarms to specific team members

DEPLOYMENT

- + Deploy Erlang nodes in the cloud or on specified machines

INTEGRATIONS

- SLACK
- APPDYNAMICS
- GRAPHITE
- LOGSTASH
- NAGIOS
- ZABBIX
- DATADOG
- GRAYLOG
- GRAFANA
- SPLUNK
- PAGERDUTY
- CACTI

SOFTWARE REQUIREMENTS

- UNIX/Windows
- ERTS
- OPENSSL
- LIBCRYPTO

CLOUD

- AMAZON EC2
- HP
- RACKSPACE
- + PHYSICAL



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PERFORMANCE

- + WombatOAM orchestration and monitoring has been tested on a cluster of **10,000** Erlang VMs, and is linearly scalable beyond that
- + WombatOAM is non-intrusive: the overhead of monitoring is less than **1.5%**
- + Monitoring has no effect on the deployment procedure

ORCHESTRATION

With WombatOAM orchestration, you can deploy Erlang nodes in heterogeneous clouds or on specified machines, scaling to tens of thousands of nodes with no single point of failure. WombatOAM can use cloud providers (like Amazon EC2, HP Cloud and Rackspace) as well as physical machines.

ARCHITECTURE

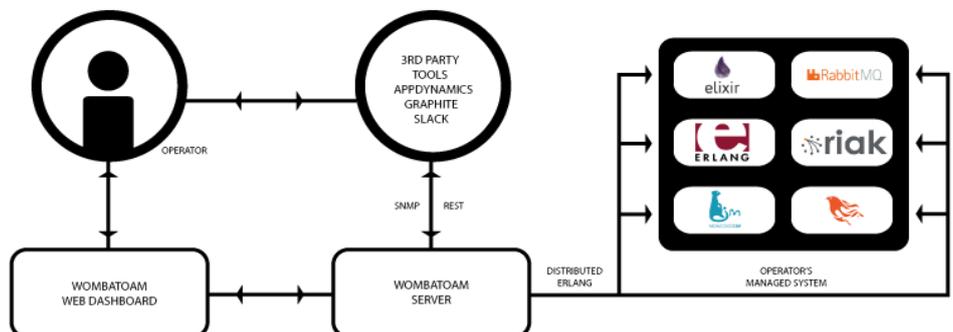
WombatOAM is easy to install and use, with a friendly interactive web dashboard, a straightforward API, and the ability to hook into your existing OAM and SaaS tools. It makes minimal demands on your system resources.

Depending on the OTP applications you are running, it starts agent modules which enable the server to monitor alarms and notifications and collect information such as metrics and logs. Provide a node and a cookie and with its auto-discovery mechanism, WombatOAM will do the rest.

HOW DOES IT WORK?

- + WombatOAM can connect to any node running on the Erlang VM, using Distributed Erlang. Your system may consist of one or more Erlang VMs (that may be running different releases), and include proprietary applications or standalone open source applications such as CouchDB, Riak, RabbitMQ, or Phoenix.
- + You don't need to install WombatOAM on any node other than the machine running WombatOAM.
- + To start monitoring, just provide a node's name and its cookie. WombatOAM will discover all existing nodes in your cluster and start monitoring them right away.
- + WombatOAM starts non-intrusive agents that enable it to monitor alarms and notifications, and collect information such as metrics and logs. This agent code is loaded on the fly - you don't have to include any proprietary WombatOAM applications in your release, and you don't have to restart the nodes. WombatOAM will connect to your nodes seamlessly, even if they have been running for years, or are running older versions of the Erlang VM.

ARCHITECTURE DIAGRAM





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WOMBATOAM IN ACTION: WEB DASHBOARDS

- + WombatOAM automatically generates product-based frontpages for Erlang, Elixir, RabbitMQ, MongooselM, Riak, and Phoenix
- + Frontpages are auto-populated with graphs of the most important metrics related to each application
- + The panels are configurable, movable and resizable to allow a more personalised layout

Monitor multiple metrics on the same graph

WombatOAM comes pre-loaded with Dashboards for Erlang, Elixir, RabbitMQ, MongooselM, Riak, and Phoenix

Configure and customise your dashboard



Monitor live performance metrics in the dashboard

Resize sections of your dashboard to focus on what's important to you

View metrics as a gauge



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WOMBATOAM IN ACTION: TOPOLOGY

- + Quickly add new and connected nodes
- + View System, Application and Module information for each node
- + Node details
- + View the status of all the nodes in your system
- + View and manage plugins for individual nodes

See node status and relationship to the cluster, family, and app visualised as a graph

Configure system applications

Manage system modules

View system details

Manage system agents

The screenshot displays the WOMBATOAM 3.0.0 TOPOLOGY interface. The navigation bar includes 'WOMBATOAM 3.0.0', 'TOPOLOGY', 'METRICS', 'NOTIFICATIONS', 'ALARMS', and 'TOOLS'. Below the navigation bar, there are tabs for 'NODES' and 'NODE GRAPH'. The main content area is divided into several panels. On the left, there are panels for 'Evaluate Erlang expression', 'Garbage Collect Processes', and 'Soft purge old modules'. On the right, there are panels for 'Terminate process' and 'Terminate shell processes'. A 'NODE GRAPH' panel is visible at the top right, showing a node 'Erlang/OTP 20 / test@127.0.0.1' with a status of 'UP'. A 'ALL NODES' panel is also visible on the right side of the interface.

Evaluate an Erlang expression on the managed node

Run garbage collector to free up memory



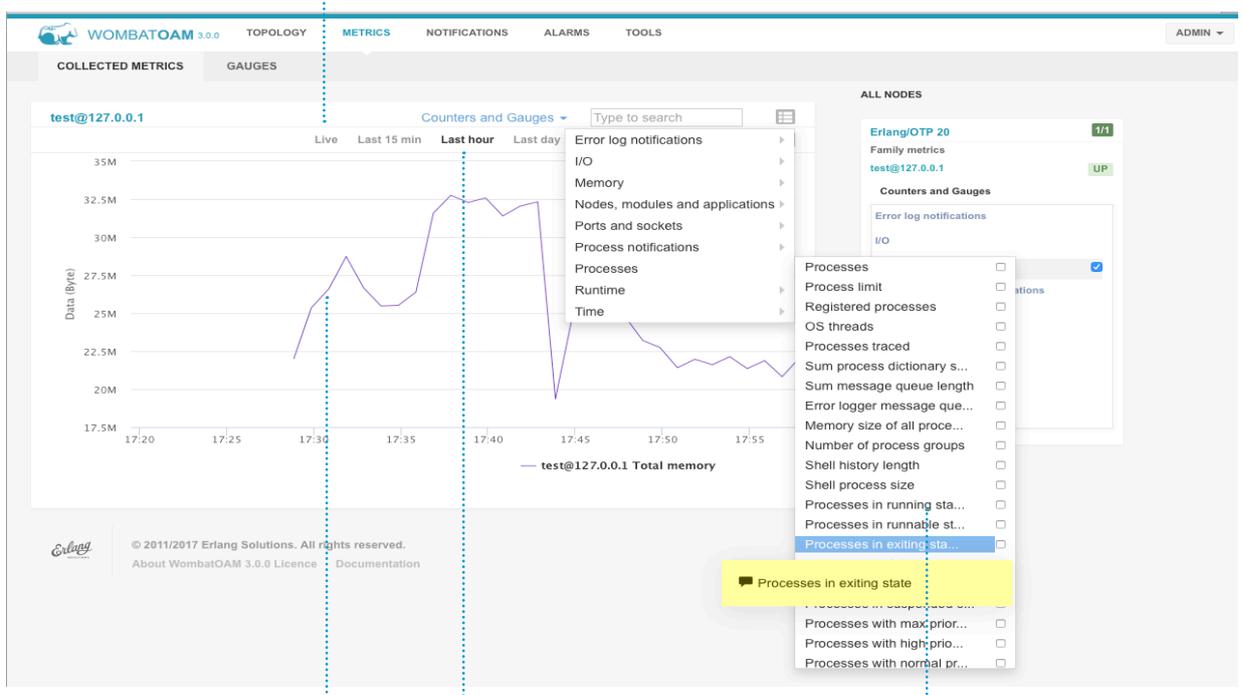
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WOMBATOAM IN ACTION: METRICS

- + The dashboard plots both historic and live metrics
- + View different periods, or zoom in/out on the graph
- + Configure metrics display and refresh rate
- + View details about an individual measurement
- + A range of metrics categories and views
- + Place different metrics on the same graph
- + Over 100 built-in metrics, plus those from plugins
- + Save your view as a bookmark (that you can retrieve later)
- + Search and access metrics through the list on the right-hand side.

Plot both live and historic metrics



Hover over the graph to view details about individual measurements

View different periods or zoom in or out of the graph

Over 100 built-in metrics plus those from the plugins

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WOMBATOAM

WOMBATOAM IN ACTION: NOTIFICATIONS

WombatOAM monitors, logs, aggregates and filters the most common events from applications using SASL or Lager. These events include:

- + Node crashes
- + System warnings
- + Major state changes
- + Error log entries

View all notifications, or per node or node family

Filter and search notifications

WOMBATOAM 3.0.0 TOPOLOGY METRICS NOTIFICATIONS ALARMS TOOLS ORCHESTRATION

MANAGE NOTIFICATIONS

Erlang/OTP 17 / family logs All applications Type to search

Open logs Click to add date filter

Origin	Date	Node	Preview
observer_processes	2017-11-20 16:38:04	erlangnode@127.0.0.1	Request "Observer processes" started by the user...
observer_processes	2017-11-20 16:23:00	erlangnode@127.0.0.1	Request "Observer processes" started by the user...
config	2017-11-20 15:53:14	erlangnode@127.0.0.1	Changed configuration parameter(s) of application...
Changed configuration parameter(s) of application kernel: error_logger = ltn			
config	2017-11-20 15:53:13	erlangnode@127.0.0.1	Request "Set configs" started by the user "admin"...
user_command	2017-11-20 15:52:35	erlangnode@127.0.0.1	Request "Evaluate Erlang expression" started by...

ALL NODES

Erlang/OTP 17 1/1

Family logs

erlangnode@127.0.0.1 UP

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About WombatOAM Licence Documentation

View notification detail



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WOMBATOAM IN ACTION: ALARMS

- + Set up customised alarms against a given threshold
- + WombatOAM comes with over 25 alarms out of the box
- + Popups for new alarms and other events
- + Respond to multiple alarms
- + View alarm details
- + Respond to or clear an alarm
- + Retrieves alarms from existing alarming applications to integrate with existing monitoring infrastructure tools

The screenshot shows the WOMBATOAM web interface. At the top, there is a navigation bar with links for TOPOLOGY, METRICS, NOTIFICATIONS, ALARMS, TOOLS, and ORCHESTRATION. Below this is a 'MANAGE ALARMS' section. The main content area displays an alarm for 'Erlang/OTP 17 / erlangnode@127.0.0.1'. The alarm is in a 'new' state with a 'major' severity, dated '18:28:04'. The alarm ID is 'process_message_queue_major'. The interface includes a table with columns for State, Severity, Date, and Alarm id. Below the table, there is a detailed view of the alarm, including a 'Probable cause', 'Proposed repair action', 'Additional Info', and 'Raw source info'. On the right side, there is an 'ALL NODES' section showing a list of nodes with their status (UP or 1/1). The interface also features buttons for 'Acknowledge', 'Clear', and 'Post comment'.

View alarm details

Respond to clear alarms

Monitor multiple alarms



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HOW TO GET WOMBATOAM?

WombatOAM licenses are available as part of Erlang Solutions' business and enterprise support offerings to manage your in-house proprietary systems.

Get a 45-day free trial of WombatOAM 3.0.0!

We also have licenses to ship WombatOAM with your products. We provide professional services to integrate WombatOAM in your existing OAM infrastructure and we also develop plugins for your proprietary applications.

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