MONGOOSEIM

PLATFORM FOR BUILDING HIGH
PERFORMANCE MESSAGING SYSTEMS

MONGOOSEIM

Erlang SOLUTIONS

MONGOOSEIM 3.0

SINGLE NODE

WW200-300k
concurrent online
users

from 8GB to 32GB
of RAM

2 to 4 cores

100MB of disk space

*nix OS

CLUSTERED NODES
(3-12)

500k to 2M
concurrent online
users

from 32GB to 128GB
of RAM

4 to 16 cores

100MB of disk space

*nix OS

DATABASE
BACKEND

Persistent data
Choose from MySQL,
PostgreSQL and
ODBC-compliant
databases
Or Riak KV, Mnesia
Or Cassandra

Transient data
Redis (session table
only)or Mnesia sup-
ported out of the box

Global Distribution
requires Redis with
Dynomite
distribution layer

CONTENT

MONGOOSEIM HIGHLIGHTS

+ Global Distribution extension

+ Inbox functionality

+ SASL EXTERNAL (client certificate based) authentication method

+ Jingle/SIP proxy

+ New XML parser (more efficient in terms of CPU and memory
consumption)

+ Flexible event pushing framework: SNS, HTTP, push notifications

+ Secure (TLS) connections to MySQL, PgSQL, Riak, Cassandra,
ODBC

+ Significant improvements to ODBC support

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PLATFORM FOR BUILDING HIGH PERFORMANCE MESSAGING SYSTEMS

+ MongooseIM is a platform for building high performance instant messaging and presence systems.

+ It is a robust and efficient XMPP server aimed at large installations, providing communication for millions of online users.

GETTING STARTED

+ Getting started with MongooseIM is easy - you can be up and running in minutes, on commodity hardware, with a single node capable of handling hundreds of thousands of users. With MongooseIM, you can bring a fully featured instant messaging system to the market in a minimal amount of time, while adhering to open standards.

MAIN FEATURES

+ Global Distribution service - transparent inter-cluster communication

+ Secure (TLS) connections to a wide range of databases (MySQL, PostgreSQL, ODBC, Riak, Cassandra [archive only], Mnesia)

+ Passwordless authentication with JWT and TLS certificates

+ Inbox - your application may easily synchronise the list of conversations between devices, including the unread message count

+ Session data storage in Mnesia or Redis

+ MUC light - simplified and modernised variant of multi-user chat (group chat), optimised for mobile users

+ Multi-User Chat or MUC (XEP-0045) for real-time communication in gaming and social media interactions

+ SOver 80 different XMPP-related metrics, for monitoring and full business analytics

+ Jingle/SIP proxy (XMPP <-> SIP translation)

+ Support for mobile clients with message status (sent, delivered, read), message reliability, push notifications, and multi-device support

+ Client REST API for rapid development of simple client apps)

+ Support for XMPP over WebSockets and long polling HTTP, enabling bidirectional and real-time communication between the browser and server for modern web applications

+ Client REST API for rapid development of simple client apps)

+ Security and privacy features include TLS connections, Privacy Lists (XEP-0016) and Blocking Command (XEP-0191)

+ HTTP authentication interface for integration with other systems

+ Administration REST API for easy integration with existing systems (management)

+ Message Archive Management (XEP-0313)

+ PubSub (XEP-0060) - a scalable publish-subscribe system

+ ... and more!

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FOR DEVOPS:

+ Easy operations with cluster management tools

+ Pre-built packages for Ubuntu/Debian Linux; Docker image is also available on Docker Hub.

FOR DEVELOPERS:

+ Modular design and extensive API, allowing easy modifications and custom feature implementation.

+ Open source functional regression suite and load test tooling with Escalus (test-oriented XMPP client) and Amoc (load generator)

MAIN FEATURES

PROPERTIES

+ Based on the industry-standard XMPP (eXtensible Messaging and Presence Protocol)

+ Seamless integration with a wealth of existing XMPP-enabled libraries and applications

+ Platform approach, with software components to choose from and build on top of

+ Highly memory-efficient with modest hardware requirements

+ Horizontal cluster scalability

+ Agnostic to message content, accommodating different data formats transparently - data can be in XML, JSON or just plain text

+ Based on extremely efficient RapidXML library

+ Highly memory-efficient with modest hardware requirements

+ Free and open source under GPLv2 and can be used at any volume without license fees, with the source code available on GitHub

+ A vibrant and active developer community and ecosystem

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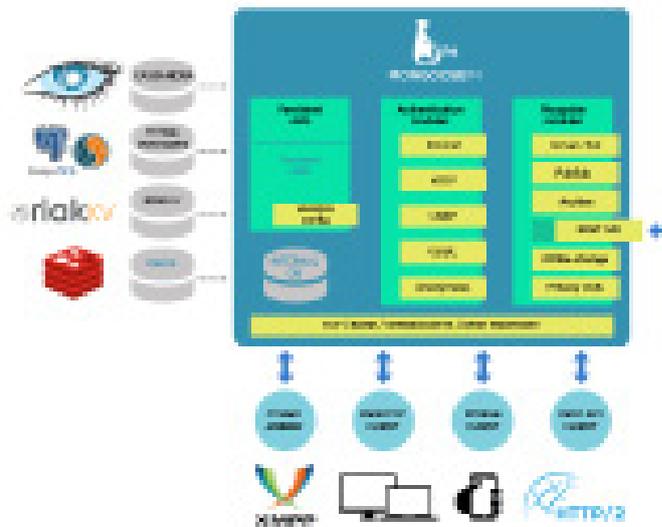PLATFORM FOR BUILDING HIGH
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PERFORMANCE

+ Horizontal cluster scalability comes as standard for performance. Your cluster can be grown and scaled according to traffic profiles and user base. There is no need to redesign the system as customer use increases.

ARCHITECTURE

+ MongooseIM's architecture is based on a set of pluggable modules that enable different features, such as WebSockets, BOSH (HTTP long-polling), multi-user chat (groupchat), rosters (contact lists), message archive management, message carbons, last activity, push notifications, privacy settings, and vCards. This modular architecture allows high customisability and easy access to the features that are required.

ARCHITECTURE DIAGRAM

CORE SERVICES DIAGRAM
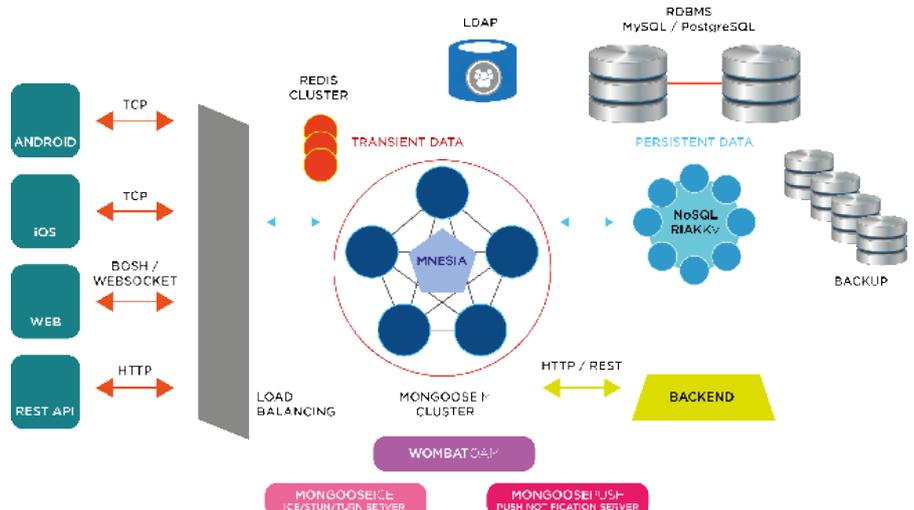
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SECURITY

MongooseIM implements a wide range of features and mechanisms to ensure your application's security. These include:

+ SCRAM-SHA1 authentication method, which stores user passwords as safe hashes

+ Every exposed enDpoint may be secured with TLS

+ TLS may be enabled for every outgoing database connection

+ Traffic between MongooseIM nodes in a cluster may be encrypted as well

GLOBAL SCALE

Global Distribution extension introduces a new inter-cluster communication protocol. Classic XMPP federations involve distinct domains served by each cluster. It means that users are bound to a single cluster and in order to contact a friend in another location, they must provide not only a username, but also the correct domain. It impacts user experience and limits the application flexibility.

With GD enabled, users may freely migrate between clusters and stanza routing is completely transparent to the clients. This is thanks to the global session table, maintained in Redis with the Dynomite distribution layer. It is MongooseIM's unique feature within the XMPP server, and works just like a cellular network.

ENTERPRISE READY

Many enterprise-grade systems are inherently bound to a range of requirements and technologies. MongooseIM is fit for such applications with:

+ Passwordless authentication with JWT and client certificates (SASL EXTERNAL)

+ Integration with LDAP user base

+ A large set of exposed metrics, that can be processed either with dedicated WombatOAM software, or with popular alternatives, such as statsd

+ In order to implement custom use cases and gain an edge over competitors, experienced consultants may design and develop improvements for you

+ 24/7 support plans are available for mission-critical deployments

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MOBILE READY

MongooseIM delivers features that focus on bringing reliable, scalable XMPP messaging to mobile users and helping developers build feature-rich mobile applications. To meet the challenges of an environment that includes mobile devices, MongooseIM supports:

+ Message carbons letting you deliver a seamless real-time experience across all devices by letting users view the full conversation on any device that is online

+ Stream management allowing both the server and the client to request an acknowledgement on sent messages, addressing lost or intermittent connectivity. It also allows the server to detect unresponsive clients

+ Message archive management to synchronise conversation history seamlessly between multiple devices and clients

+ MUC Light a custom extension of XMPP, providing groupchats for mobile users

+ We contribute to third-party XMPP libraries (e.g. Smack for Android and XMPPFramework for iOS) to ensure they are fully compatible with MongooseIM

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HOW TO GET MONGOOSEIM?

We have a dedicated team that specialise in designing, optimising and implementing instant messaging solutions. They are experienced in providing expert advice on building, scaling and customising messaging platforms, and we can train your technical staff and service support. Contact us to discuss your project or simply to ask a question.

GET IN TOUCH

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