



Product Introduction

Kingdee Apusic Distributed Message Queue
V2.0.6_for_rocketmq

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1 Preface

This document is a product introduction for Kingdee Apusic Distributed Message Queue for RocketMQ (Apusic Distributed Message Queue for RocketMQ, abbreviated as ADMQ for RocketMQ), helping users quickly understand the features, technical characteristics, and typical application scenarios of ADMQ for RocketMQ.

1.1 Target Audience

This document is intended for IT information business leaders, R&D managers, software project managers, software architects, and operations engineers.

1.2 Related Documents

To learn more about ADMQ for RocketMQ, please refer to the following product documentation:

No.	Document	Description
1	Kingdee Apusic Distributed Message Queue for RocketMQ Quick Start Guide	A brief introduction on how to quickly get started with ADMQ for RocketMQ.
2	Kingdee Apusic Distributed Message Queue for RocketMQ Installation Guide	Detailed instructions on installing ADMQ for RocketMQ on various operating systems, as well as starting and stopping ADMQ for RocketMQ services.
3	Kingdee Apusic Distributed Message Queue for RocketMQ Message Engine User Guide	Detailed instructions on using, configuring, and managing ADMQ for RocketMQ message engine features and supporting tools.
4	Kingdee Apusic Distributed Message Queue for RocketMQ Console User Guide	Detailed instructions on using and operating the ADMQ for RocketMQ console.
5	Kingdee Apusic Distributed Message Queue for RocketMQ Development Guide	Detailed instructions on developing ADMQ for RocketMQ client applications in various programming languages.
6	Kingdee Apusic Distributed Message Queue for RocketMQ Migration Guide	Detailed instructions on migrating from RocketMQ to ADMQ for RocketMQ.
7	Kingdee Apusic Distributed Message Queue for RocketMQ Operations Guide	Detailed instructions on monitoring, operations, and security hardening for ADMQ for RocketMQ.

8	Kingdee Apusic Distributed Message Queue for RocketMQ Performance Optimization Guide	Detailed instructions on performance tuning for ADMQ for RocketMQ.
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1.3 Technical Support

ADMQ for RocketMQ provides comprehensive technical support services. You can obtain technical support through the following channels:

- Website: www.apusic.com
- Phone: 400-855-5800
- Email: support@apusic.com
- Kingdee Cloud Community: <https://vip.kingdee.com/?productId=73&productLineId=14&lang=zh-CN>

When seeking technical support, please provide the following information:

1. Your name
2. Company information and contact details
3. Operating system and version
4. Product version number
5. Detailed information such as logs and screenshots of errors and exceptions

2 Product Overview

2.1 Product Positioning

Kingdee Apusic Distributed Message Queue for RocketMQ (Apusic Distributed Message Queue, abbreviated as ADMQ for RocketMQ) is a cloud-native message middleware designed specifically for RocketMQ users as an alternative for domestic IT (Xinchuang) environments. It fully follows the RocketMQ core architecture design and protocol specifications, achieving full compatibility with protocols, clients, ecosystem tools, and business scenarios. It can replace existing RocketMQ clusters without modification, meeting the requirements of Xinchuang project deployment.

2.2 Core Value

Following the core characteristics of RocketMQ—distributed, high reliability, low latency, and support for rich message types—while adapting to Xinchuang software and hardware environments, it provides more stable operation guarantees, more convenient operations support, and more comprehensive security capabilities, making it the preferred solution for RocketMQ Xinchuang replacement.

2.3 Core Capabilities

Core Capability	Description
Full RocketMQ Protocol Compatibility	Fully implements RocketMQ core protocols including production-consumption protocol, NameServer routing protocol, and message storage protocol, with behavior consistent with native RocketMQ.
Full-Version Client Adaptation	Supports Java, Go, Python, C++ and other official RocketMQ clients (versions 4.x-5.x) as well as third-party open-source clients, connectable without code modification.
Seamless Ecosystem Tool Reuse	Compatible with native tools such as mqadmin and RocketMQ Console, supporting ecosystem capabilities like message tracing and monitoring alerts.
Deep Xinchuang Environment Adaptation	Adapts to mainstream Xinchuang operating systems (Kylin, UOS, etc.), Xinchuang chips (ARM, RISC-V, etc.), and is compatible with Xinchuang databases and middleware ecosystems.
Inheritance of RocketMQ Core Features	Supports RocketMQ native core features such as ordered messages, transactional messages, scheduled/delayed messages, broadcast consumption, message tracing, and message filtering.

3 Product Architecture

3.1 Architecture Overview

ADMQ for RocketMQ adopts the classic RocketMQ distributed architecture, fully following the RocketMQ communication protocol and storage model. The overall product architecture consists of modules including the Console and Core Engine, featuring high reliability, high availability, and scalability.

3.1.1 Console

- The Console is a visual operation interface for operations personnel and administrators, providing full lifecycle management capabilities:
- Cluster Management: Access and status monitoring of message cluster nodes.
- Namespace Management: Create, delete, and configure namespaces.
- Topic Management: Create, delete, and configure message topics, manage read/write queue counts.
- Subscription Group Management: Manage consumer groups, subscription relationships, and consumption offsets.
- Message Query: Query historical messages by Topic, time, Key, message ID, etc.
- Dead Letter Queue: View dead letter messages in the cluster's dead letter queue, support resending.
- Cluster Channels: Establish channels between clusters, support message replication and reception.
- Metadata Import: Import metadata information from other clusters.

3.1.2 Core Engine

The Core Engine is the heart of message processing, compatible with the RocketMQ protocol, ensuring reliable message transmission and storage:

RocketMQ Protocol Access & Security Access Control

- Provides a standard RocketMQ protocol compatibility layer, supporting seamless migration of existing RocketMQ clients.
- Integrates authentication (e.g., ACL), authorization, and transport encryption (TLS) to ensure access security.

Message Processing Service

- Message Production Access: Receives messages from producers, performs validation and routing.
- Message Consumption Service: Pushes messages to consumers, supporting cluster consumption and broadcast consumption.

- Message Persistence Storage: Writes messages to disk, supporting high-throughput writes and efficient retrieval, ensuring no data loss.
- Metadata Service: Manages metadata such as Topics, queues, and consumer groups, ensuring cluster state consistency.

High Availability & Load Management

- Master-Slave Replication: Ensures data redundancy through master-slave synchronization (synchronous/asynchronous replication), preventing single points of failure.
- Failure Recovery & Queue Migration: Automatic recovery monitoring on Broker failure, supporting queue migration within the cluster for load balancing.
- Load Balancing: Evenly distributes production and consumption requests across cluster nodes, improving overall throughput.
- Status Monitoring: Real-time monitoring of Broker, Topic, and consumer health status, providing basis for failure recovery.

4 Product Advantages

- Zero-Modification Xinchuang Replacement: No need to modify business code or adjust client configurations (only change the connection address) to directly replace existing RocketMQ clusters, with near-zero migration cost.
- Full Ecosystem Compatibility: RocketMQ native tools, monitoring systems (Prometheus+Grafana), message tracing, etc., can all be directly reused without additional adaptation development.
- Xinchuang Environment Adaptation: Fully compatible with the Xinchuang software and hardware ecosystem, meeting government and enterprise Xinchuang project deployment requirements, providing end-to-end Xinchuang solutions.
- Full Feature Compatibility: Fully follows RocketMQ core feature specifications, supporting all familiar business scenarios (such as ordered messages, transactional messages, scheduled messages, etc.), with business-unaware switching.
- Enhanced Security Compliance: While retaining RocketMQ's original security capabilities, adds new security features to meet Xinchuang project security compliance standards.

5 Application Scenarios

- Xinchuang Project Replacement Scenario: In government and enterprise Xinchuang transformation, directly replace existing RocketMQ clusters without refactoring business systems, quickly meeting Xinchuang deployment requirements.
- High-Reliability Message Transmission Scenario: Such as financial transactions, order processing, etc., leveraging RocketMQ's transactional message and ordered message features to ensure messages are not lost and are processed in order.
- Scheduled/Delayed Message Scenario: Supports message delivery at specified times, suitable for timeout notifications, scheduled tasks, and other scenarios.
- Distributed System Decoupling Scenario: Based on RocketMQ's native publish-subscribe model, enables asynchronous communication between distributed systems, reducing system coupling.

UNIFIED SERVICE HOTLINE

4008-555-800

Kingdee Apusic Cloud Computing Co., Ltd. (referred to as “Kingdee Apusic”) was founded in 2000. Its predecessor was “Kingdee Middleware Company.” It is a basic software platform provider under Kingdee Group, a national standards-setting enterprise for cloud computing, and a core software enterprise in the national IT application innovation industry. Kingdee Apusic is an enterprise undertaking the National 863 Key R&D Program and the National Major Science and Technology Project for Core Electronic Components, High-end General-purpose Chips and Fundamental Software, and is also a basic platform provider for the national key projects of “Two Networks, One Website, Four Databases, and Twelve Golden Projects.” Its products are widely used in key industries such as government, military, finance, and energy, and it has cumulatively served more than 100,000 customers.



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