# Functional Requirement

1.1 Email Sending Function

Function Number: FR-01

Description: Users can send emails through a unified platform. The system supports adding attachments, recipients, CC recipients, and BCC recipients, and generates email copies and backup records according to the archiving policy.

Input: Email content (subject, body, attachments), recipient information, CC/BCC information.

Output: Successfully sent email copy, backup records, audit logs, and updates to the Sent Items folder.

1.2 Email Receiving Function

Function Number: FR-02

Description: The system receives emails and performs anti-spam filtering, virus scanning, and archiving policy categorization.

Input: New emails (email headers, MIME content), mail server responses.

Output: Emails stored in designated folders, backup records, audit logs, and email metadata synchronization.

1.3 Email Formatting Function

Function Number: FR-03

Description: Users can apply formatting settings in the email editing interface, such as font, font size, color, paragraph styles, etc., and ensure format compatibility.

Input: User-selected formatting options, email body content.

Output: Formatted email content, format operation audit logs, and email flow version control records.

1.4 Email Search Function

Function Number: FR-04

Description: Users can search for emails using various search criteria (keywords, senders, time ranges, etc.) and filter out invisible emails according to the archiving policy.

Input: Search keywords, time range, folder/distribution group filtering criteria.

Output: Email list sorted by relevance, search operation audit logs, and high-frequency search word cloud updates.

1.5 Email Move Function

Function Number: FR-05

Description: Users can move emails to specified folders and trigger the automatic execution process of the archiving policy.

Input: List of emails to be moved, target folder path.

Output: Email storage location change records, archiving policy execution records, audit logs, and backup records.

1.6 Contact Addition Function

Function Number: FR-06

Description: Users can add new contact information and associate it with distribution groups.

Input: Contact information (name, email, phone, etc.), distribution group selection.

Output: Contact database update, distribution group member list update, audit logs, and backup records.

1.7 Contact Management Function

Function Number: FR-07

Description: Users can edit, delete, and merge contact information and trigger dynamic reorganization of distribution group members.

Input: Contact information modification requests, delete/merge operations.

Output: Contact information change records, distribution group updates, audit logs, and version control snapshots.

1.8 Address Book Import Function

Function Number: FR-08

Description: Users can batch import address book files and handle duplicate contact entries according to rules.

Input: CSV/vCard format files, duplicate handling policy.

Output: Address book database update, distribution group member relationship update, audit logs, and version control snapshots.

1.9 Contact Export Function

Function Number: FR-09

Description: Users can export contact lists and filter restricted contact entries according to retention policies.

Input: Export format selection, field customization, distribution group filtering.

Output: Contact list file, backup records, audit logs, and email flow metadata updates.

1.10 Distribution Group Creation Function

Function Number: FR-10

Description: Users can create new distribution groups and set visibility, email distribution rules, and approval processes.

Input: Distribution group name, visibility settings, member filtering criteria, advanced options configuration.

Output: Distribution group records, member relationship updates, audit logs, and incremental backup snapshots.

1.11 Distribution Group Member Management Function

Function Number: FR-11

Description: Users can manage distribution group members, including adding, deleting, and replacing members, and trigger cross-system synchronization.

Input: Distribution group selection, member addition/deletion requests.

Output: Distribution group member list updates, cross-system synchronization status, audit logs, and incremental backup snapshots.

1.12 Distribution Group Deletion Function

Function Number: FR-12

Description: Users can delete obsolete distribution groups and perform data cleanup and cold backups.

Input: Obsolete distribution group selection, deletion reason.

Output: Distribution group logical deletion records, cold backup snapshots, audit logs, and storage quota updates.

1.13 Folder Creation Function

Function Number: FR-13

Description: Users can create new email folders and set access permissions and initial archiving policies.

Input: Folder name, location selection, access permission configuration.

Output: New folder entity, permission configuration updates, archiving policy application, and audit logs.

1.14 Folder Organization Function

Function Number: FR-14

Description: Users can organize folder structures, including moving, merging, renaming, and deleting folders.

Input: Folder organization operation type, target path selection.

Output: Folder structure updates, archiving policy adjustments, audit logs, and storage layout optimization.

1.15 Folder Deletion Function

Function Number: FR-15

Description: Users can delete expired folders and perform data cleanup and cold backups.

Input: Expired folder selection, deletion reason.

Output: Folder status change records, cold backup snapshots, storage quota updates, and index rebuilding.

1.16 Task Creation Function

Function Number: FR-16

Description: Users can create new to-do tasks and associate them with related emails.

Input: Task title, due date, priority, associated email selection.

Output: Task records, task reminder scheduling, archiving policy application, and audit logs.

1.17 Task Reminder Setting Function

Function Number: FR-17

Description: Users can set task reminders and define the reminder method and time.

Input: Task selection, reminder time configuration, reminder channel selection.

Output: Task reminder configuration updates, cross-platform reminder scheduling, audit logs, and backup records.

1.18 Task Priority Adjustment Function

Function Number: FR-18

Description: Users can adjust task priorities and trigger the reminder service to reorder.

Input: Task selection, new priority settings.

Output: Task priority updates, reminder service adjustments, audit logs, and backup records.

1.19 Task Completion Marking Function

Function Number: FR-19

Description: Users can mark tasks as completed and execute the archiving policy.

Input: Task selection, completion type settings.

Output: Task status change records, archiving policy execution, audit logs, and backup records.

1.20 Email Automatic Archiving Policy Configuration Function

Function Number: FR-20

Description: Administrators can configure email automatic archiving policies, including trigger conditions, retention periods, and processing actions.

Input: Archiving rule definition, advanced parameter settings.

Output: Archiving policy records, email flow processing pipeline updates, audit logs, and backup snapshots.

1.21 Email Archiving Execution Function

Function Number: FR-21

Description: The system executes email archiving operations according to the retention policy and generates audit logs.

Input: List of emails meeting archiving conditions, archiving policy configuration.

Output: Archiving email records, email flow index updates, audit logs, and backup records.

1.22 Email Classification Archiving Label Application Function

Function Number: FR-22

Description: Users can add classification archiving labels to emails and trigger the execution of archiving policies.

Input: Email selection, classification label application.

Output: Email label updates, archiving policy triggering, audit logs, and backup records.

1.23 Storage Quota Management Function

Function Number: FR-23

Description: Administrators can allocate and manage user storage quotas and execute over-quota processing rules.

Input: User/group selection, quota settings parameters.

Output: Storage quota updates, email flow quota verification, audit logs, and backup snapshots.

1.24 Email Retention Policy Configuration Function

Function Number: FR-24

Description: Administrators can configure email retention policies, including retention benchmark periods, trigger conditions, and disposal actions.

Input: Retention policy definition, multi-dimensional correlation rules.

Output: Retention policy records, email flow lifecycle updates, audit logs, and backup snapshots.

1.25 Email Transport Encryption Policy Configuration Function

Function Number: FR-25

Description: Administrators can configure email transport encryption policies, including TLS version selection and end-to-end encryption settings.

Input: Transport layer encryption parameters, application layer encryption protocol selection.

Output: Encryption policy records, email flow engine updates, audit logs, and certificate backups.

1.26 Full Database Backup Function

Function Number: FR-26

Description: Administrators can initiate full database backups and generate backup snapshots and audit logs.

Input: Backup type selection, storage location configuration.

Output: Full database snapshot, blockchain evidence, audit logs, and storage directory updates.

1.27 Specific Version Data Restoration Function

Function Number: FR-27

Description: Users can restore data from a specific version and generate audit logs.

Input: Backup version selection, target location configuration.

Output: Data restoration records, email flow index updates, audit logs, and backup directory updates.

1.28 Email Flow Monitoring Function

Function Number: FR-28

Description: Administrators can monitor the status of email transmission, including latency, throughput, and error rates.

Input: Monitoring dimension selection, time range configuration.

Output: Real-time transmission status data, audit logs, exception event analysis, and health status updates.

1.29 Permission Matrix Management Function

Function Number: FR-29

Description: Administrators can manage the permission matrix, including permission allocation, approval processes, and compliance checks.

Input: Permission configuration requests, approval process definitions.

Output: Permission matrix updates, cross-system permission synchronization, audit logs, and backup snapshots.

1.30 Email Metadata Recording Function

Function Number: FR-30

Description: The system records email metadata, including transmission status, digital signatures, and other information.

Input: Email transmission events, encryption status information.

Output: Email metadata records, email flow monitoring data updates, audit logs, and backup records.

1.31 Classification Label Library Management Function

Function Number: FR-31

Description: Administrators can manage the classification label library, including label definitions, hierarchical structures, and associations with archiving policies.

Input: Label definition requests, label structure configurations.

Output: Classification label library updates, email flow index updates, audit logs, and backup snapshots.

1.32 Email Flow Capture Function

Function Number: FR-32

Description: The system captures email flow data for compliance audits and security analysis.

Input: Email transmission events, system configuration parameters.

Output: Email flow data records, audit logs, backup records, and threat analysis data.

1.33 Email Archiving Search Function

Function Number: FR-33

Description: Users can search for archived emails and filter out invisible emails according to retention policies.

Input: Search keywords, time range, email classification selection.

Output: Archived email search results, audit logs, backup records, and compliance check reports.

1.34 Email Retention Compliance Audit Function

Function Number: FR-34

Description: Administrators can audit email retention compliance and confirm the disposal methods for emails.

Input: List of emails to be audited, disposal recommendations.

Output: Compliance audit records, disposal execution results, audit logs, and compliance reports.

1.35 Email Flow Analysis Function

Function Number: FR-35

Description: The system analyzes email flow data and generates visual reports and performance metrics.

Input: Email flow data, analysis parameter configurations.

Output: Email flow analysis reports, audit logs, performance optimization suggestions, and storage health assessments.

1.36 Audit Log Management Function

Function Number: FR-36

Description: The system manages audit logs to ensure that all operation records are traceable.

Input: Audit log query requests, time range selections.

Output: Audit log records, compliance assessments, risk score updates, and report exports.

1.37 Storage Quota Monitoring Function

Function Number: FR-37

Description: The system monitors the usage of storage quotas and triggers quota warnings and automatic cleanup.

Input: Storage quota status, user behavior data.

Output: Quota warning records, automatic cleanup execution results, audit logs, and quota updates.

1.38 Server Node Management Function

Function Number: FR-38

Description: Administrators can manage server nodes, including storage capacity, load status, and health checks.

Input: Server node selection, storage/load status updates.

Output: Server node status records, backup node updates, audit logs, and health reports.

1.39 Email Flow Processing Engine Function

Function Number: FR-39

Description: The system executes email content filtering, format conversion, and routing policies through the email flow processing engine.

Input: Email content, filtering rules, routing policies.

Output: Processed emails, email flow version control, audit logs, and backup records.

1.40 Email Flow Version Control Function

Function Number: FR-40

Description: The system maintains version control records for email flows and supports email status rollback.

Input: Email status change events, version control parameters.

Output: Email flow version records, version difference reports, audit logs, and backup snapshots.

1.41 Task Reminder Setting Function

Function Number: FR-41

Description: The system sets task reminders and defines the reminder method and time.

Input: Task selection, reminder time configuration, reminder channel selection.

Output: Task reminder configuration records, cross-platform reminder scheduling, audit logs, and backup records.

1.42 Task Lifecycle Management Function

Function Number: FR-42

Description: The system manages the lifecycle of tasks, including creation, execution, completion, and archiving.

Input: Task creation requests, completion markings, archiving policies.

Output: Task status updates, task archiving records, audit logs, and backup records.

1.43 Email Flow Integrity Verification Function

Function Number: FR-43

Description: The system performs integrity verification on email flows to ensure that email transmissions are untampered.

Input: Email flow data, integrity verification algorithm selection.

Output: Integrity verification results, isolation of abnormal emails, audit logs, and repair reports.

1.44 Task Reminder Engine Function

Function Number: FR-44

Description: The system executes task reminder scheduling, including in-site notifications, email reminders, and SMS push notifications.

Input: Task reminder configurations, timestamps, reminder rules.

Output: Reminder event triggers, reminder status updates, audit logs, and backup records.

1.45 Email Flow Monitoring Data Collection Function

Function Number: FR-45

Description: The system collects email flow monitoring data, including transmission latency, throughput, and error rates.

Input: Email transmission events, monitoring parameter configurations.

Output: Monitoring data records, health status updates, audit logs, and predictive analysis reports.

1.46 Email Flow Monitoring Visualization Function

Function Number: FR-46

Description: The system provides visual displays of email flow monitoring data, including network topology maps and performance metrics.

Input: Monitoring data, visualization parameter configurations.

Output: Interactive monitoring dashboards, topology map updates, audit logs, and performance reports.

1.47 Email Flow Monitoring Alarm Function

Function Number: FR-47

Description: The system triggers alarms during email flow monitoring when abnormal transmission statuses are detected.

Input: Monitoring data, alarm threshold settings.

Output: Alarm event records, abnormal handling suggestions, audit logs, and health check tasks.

1.48 Email Flow Monitoring Log Recording Function

Function Number: FR-48

Description: The system records email flow monitoring logs, including operation times, participants, and transmission statuses.

Input: Email flow monitoring events, log parameter configurations.

Output: Monitoring log records, blockchain evidence, audit logs, and backup records.

1.49 Email Flow Monitoring Data Backup Function

Function Number: FR-49

Description: The system performs backups of email flow monitoring data to ensure data recoverability.

Input: Backup configurations, monitoring data selections.

Output: Monitoring data backup records, audit logs, recovery point creation, and backup directory updates.

1.50 Email Flow Monitoring Data Recovery Function

Function Number: FR-50

Description: The system supports restoring email flow monitoring data from backups and generates recovery reports.

Input: Backup recovery requests, target location configurations.

Output: Email flow monitoring data recovery, pre- and post-recovery difference reports, audit logs, and index rebuilding records.