#### Step 1: New Lead Intake (Absolute Maximum Detail)

### Full Technical Overview

Workflow ID: BrokerLeadIntake\_v1.0

Trigger Node: gmailTrigger\_LeadWatch

- **Type:** Gmail Trigger Node
- OAuth Credential: cred\_Gmail\_OAuth\_v1
- **Polling Interval:** 30,000ms (30 seconds)
- Inbox: brotherssdbrokerage@gmail.com
- Search Query: subject:(broker OR self-direction) OR body:(broker OR self-direction)

#### **Trigger Output Example:**

```
{
  "from": {"email": "leademail@gmail.com", "name": "Joshua Burt"},
  "subject": "Looking for a broker",
  "textBody": "Hi, I need a Start-Up Broker. Can we meet July 3rd on Zoom?",
  "date": "2025-07-01T13:45:30.000Z",
  "messageId": "<CA+auto-generated@email.google.com>"
}
```

### Node-by-Node Breakdown

#### Node 1: Gmail Trigger

- Resource Allocation:
  - o CPU: 5ms per poll
  - o RAM: 20MB per active listener
- Network Bandwidth: 10KB per poll

- Memory Allocation: 25MB reserve buffer per execution cycle
- API Throttle: 100 requests per minute limit (Google API)

#### Node 2: Parsing Node jsParse\_EmailFields

- JavaScript Extraction: NLP, regex, fallback logic.
- Extracted Variables:
  - o lead fullName
  - lead\_email
  - lead\_serviceType
  - lead\_meetingType
  - lead\_meetingDate
  - lead\_fullMessage
- Execution Time: ~15ms
- Memory Allocation: 15MB per run
- CPU Load: ~10ms processing time

#### Node 3: Google Sheets Logging gsheet\_LogLead

- Sheet: Leads\_Tracker
- File Path: /Google Drive/Broker Automation/Lead Logs/2025/Broker Automation Leads.xlsx
- Write Time: ~850ms
- API Throttle: 60 requests per minute limit (Google Sheets API)

#### Node 4: Duplicate Checker gsheet\_CheckDuplicate

Query:

SELECT \* WHERE Email = '{{lead\_email}}' AND Inquiry Date >= DATE\_SUB(CURRENT\_DATE(), INTERVAL 30 DAY)

- Branching Logic:
  - o Duplicate Leads: Follow-Up Sequence
  - New Leads: Auto-Reply Path

- Execution Time: ~700ms
- API Throttle: 60 requests per minute limit (Google Sheets API)

#### Node 5: Auto-Reply Email gmail\_AutoReplyLead

- **Dispatch Time:** <500ms
- **BCC:** automationlog@brokersystem.com
- Unique Token: Generated from messageId
- API Throttle: 100 requests per minute limit (Gmail API)

#### Node 6: Monday.com Task Creation monday CreateLeadTask

- API Endpoint: https://api.monday.com/v2
- Payload Execution Time: ~300ms
- API Throttle: 60,000 requests per minute (Monday.com API)

#### Node 7: Slack Notification slack NewLeadAlert

- Slack Channel: #broker-new-leads
- **Dispatch Time:** ~150ms
- API Throttle: 50 messages per minute (Slack API)

#### Node 8: Google Drive Folder Creation gdrive\_CreateLeadFolder

- Folder Path: /Broker Automation/Intake
   Forms/Submissions/2025/{{lead fullName}} {{log timestamp}}
- Execution Time: ~750ms
- API Throttle: 100 requests per 100 seconds (Google Drive API)

#### Node 9: HTTP Webhook Listener webhook\_WaitForIntakeForm

- Webhook URL: https://n8n.brokersystem.com/webhook/intake-form/{{messageId}}
- **Timeouts:** 48-hour reminder / 7-day expiration
- Memory Allocation: 10MB per active listener

#### **Node 10: Reminder Timer**

• Configuration: Wait Node set to 48 hours, sends reminder email.

#### **Node 11: 5-Day Inactivity Auto-Close**

- Action:
  - Monday.com Status: "Inactive Lead"
  - Slack Alert: Manual follow-up required.

### Node 12: Backup System

- Google Sheets Backup: Daily @ 2:00 AM
- Backup Path: /Broker Automation/Lead
   Logs/Backups/YYYY/MM/DD/Broker\_Automation\_Leads\_Backup.xlsx

#### Node 13: Error Catching catch\_ErrorNode

- Error Log File: /Broker Automation/Logs/Error\_Log.xlsx
- Slack Alert Channel: #broker-automation-errors

#### **Step 2: Intake Scheduling (Enterprise, Fully Saturated Detail)**

### Full Technical Overview

#### Workflow ID: BrokerIntakeScheduling\_v1.0

#### Trigger Node: webhook\_IntakeFormSubmission

- Type: HTTP Webhook Listener
- Webhook URL: https://n8n.brokersystem.com/webhook/intake-form/{{messageId}}
- Memory Allocation: 10MB per active listener
- **Timeout:** Persistent listener, 7-day expiration
- Security:
  - o IP Whitelisting enforced
  - CSRF token validation required
  - o JSON schema validation for all payloads

### 👲 Intake Form Expected Payload

```
"name": "Joshua Burt",
"email": "joshburt1@gmail.com",
"serviceRequested": "Start-Up Broker",
"preferredMeetingType": "Zoom",
"preferredMeetingDate": "2025-07-03"
}
```

### Node-by-Node Breakdown

#### Node 1: HTTP Webhook Listener

- Memory Allocation: 10MB per connection
- **CPU Load:** 5ms per request
- API Throttle: 10 requests per second per webhook

#### Node 2: JSON Schema Validation

- Schema: Enforces required fields, correct date format, valid email structure
- Failure Routing: Invalid submissions sent to manual review task board in Monday.com

#### Node 3: Google Sheets Logging gsheet\_LogIntakeDetails

- **Sheet:** Intake\_Tracker
- File Path: /Google Drive/Broker Automation/Intake Tracker/2025/Intake\_Log.xlsx
- Write Time: ~850ms
- API Throttle: 60 requests per minute (Google Sheets API)

#### Node 4: Duplicate Intake Check gsheet\_CheckDuplicateIntake

Query:

# SELECT \* WHERE Email = '{{lead\_email}}' AND Preferred Meeting Date = '{{preferredMeetingDate}}'

#### • Branching Logic:

o If Duplicate: Route to manual review queue

If New: Continue scheduling

• Execution Time: ~700ms

#### Node 5: Monday.com Task Creation monday\_ScheduleIntakeMeeting

• API Endpoint: https://api.monday.com/v2

• Payload Execution Time: ~300ms

• API Throttle: 60,000 requests per minute

#### Task Fields:

- Lead Name
- o Email
- o Preferred Meeting Date
- Preferred Meeting Type

Status: "Scheduled"

#### Node 6: Google Calendar Meeting Scheduling

• API Endpoint: Google Calendar API

Memory Allocation: 20MB

• API Throttle: 60 requests per minute

Booking: Creates Zoom link and calendar invite

• Failure Routing: Retries 3 times, then routes to manual scheduling queue

#### Node 7: Gmail Confirmation Email

• **API Endpoint:** Gmail API

• **Dispatch Time:** ~500ms

• API Throttle: 100 requests per minute

- Email Content:
- Hi {{name}},

•

- Your intake meeting has been scheduled for {{preferredMeetingDate}} via {{preferredMeetingType}}.
- Please let us know if you need to reschedule.

•

Thank you,

#### Brothers SD Brokerage Team

#### **Node 8: Slack Notification**

- Slack Channel: #broker-intake-updates
- **Dispatch Time:** ~150ms
- API Throttle: 50 messages per minute

#### Node 9: Backup System

- Google Sheets Backup: Daily @ 2:00 AM
- Backup Path: /Broker Automation/Intake
   Tracker/Backups/YYYY/MM/DD/Intake\_Log\_Backup.xlsx

#### **Node 10: Error Catching catch\_IntakeErrors**

- Error Log File: /Broker Automation/Logs/Intake\_Error\_Log.xlsx
- Slack Alert Channel: #broker-automation-errors

### Rollback Mechanisms

#### Node-Level Rollback:

- Google Sheets: Remove entry if meeting cannot be scheduled
- Monday.com: Task reverted to "Error Rollback Triggered" if Google Calendar fails
- Google Calendar: Cancel scheduled meeting if confirmation email fails

#### **System-Wide Rollback:**

- Transactional checkpoints saved per node
- Automatic rollback if any node fails within the workflow group

### Transactional Integrity Enforcement

#### **All-or-Nothing Processing:**

- If any node fails:
  - o Google Sheets entry removed
  - o Monday.com task deleted
  - o Google Calendar invite canceled

#### Commit/Fail Groups:

- Group 1: Webhook → JSON Validation → Google Sheets Logging
- Group 2: Monday.com Task → Google Calendar → Gmail Confirmation → Slack Notification

### Node-Specific Queue Prioritization

#### **Priority Assignments:**

- Priority 1: Google Calendar Booking, Gmail Confirmation
- Priority 2: Google Sheets Logging, Monday.com Task Creation
- Priority 3: Slack Notification, Backup System

### **SLA Enforcement Actions**

#### **Automated Escalation:**

- Calendar booking API failures trigger Slack alerts and retries with backup credentials
- Gmail API failures escalate to manual confirmation queue after 3 retries

#### **Alert Chain:**

- 3 consecutive failures → Send SMS via Twilio to admin
- Persistent failure > 15 min → Escalate to emergency contact

### Workflow Versioning and Rollout Strategy

#### **Deployment Phases:**

Development → Staging → Production

#### **Rollback Points:**

 If intake failure rate exceeds 5% in 10 consecutive runs, rollback to prior JSON version

### Note: The property Playbook

#### **Manual Recovery Steps:**

- 1. Restore last successful JSON version from backup
- 2. Reconnect OAuth tokens for Google Calendar
- 3. Restore Google Sheets from last 24-hour backup
- 4. Manually create calendar invite if automation failed
- 5. Send manual email confirmations

### Advanced Data Validation Layers

#### **Input Validation:**

- Email format
- · Meeting date must be future dated and within 90 days
- Valid Zoom/Google Meet platform selection

#### **API Response Validation:**

Google Calendar response must include event ID

Gmail API must return "200 OK" response

#### **Manual Exception Queue:**

Invalid payloads and API response failures rerouted to Monday.com task board

# **Step 3: Budget Development (Start-Up** Phase) (Enterprise, Fully Saturated Detail)



### **Q** Full Technical Overview

Workflow ID: BrokerBudgetDevelopment\_v1.0

Trigger Node: monday IntakeTaskCompleted

- **Type:** Monday.com Trigger Node
- **Trigger:** Status change to "Intake Meeting Completed"
- Memory Allocation: 15MB per trigger event
- **API Throttle:** 60,000 requests per minute (Monday.com API)



### 🔁 Node-by-Node Breakdown

#### Node 1: Monday.com Trigger Node monday\_IntakeTaskCompleted

- **CPU Load:** 5ms per poll
- **Memory Allocation:** 15MB per event
- **Polling Interval:** 30 seconds

#### Node 2: Google Sheets Status Update gsheet UpdateLeadStatus

- File Path: /Google Drive/Broker Automation/Lead Logs/2025/Broker Automation Leads.xlsx
- **Update Time:** ~750ms
- **API Throttle:** 60 requests per minute

#### **Node 3: Broker Agreement Document Generation**

- **Document:** Pre-configured Google Docs template
- **Memory Allocation:** 20MB for document merge operation
- **API Throttle:** 100 requests per minute (Google Docs API)
- File Path: /Google Drive/Broker Automation/Client Agreements/{{lead\_fullName}}\_BrokerAgreement.docx

#### **Node 4: Gmail Agreement Email Dispatch**

- Email Content:
- Hi {{lead fullName}},

•

 Please review and sign your Broker Agreement to proceed. Attached is your agreement.

•

- Thank you, Brothers SD Brokerage Team
- **Dispatch Time:** ~500ms
- API Throttle: 100 requests per minute (Gmail API)

### **Node 5: Webhook Listener for Agreement Submission**

- Webhook URL: https://n8n.brokersystem.com/webhook/brokeragreement/{{lead email}}
- Memory Allocation: 10MB per active listener
- **Timeout:** 7-day expiration

#### **Node 6: Google Drive Agreement Storage**

- File Path: /Broker Automation/Client
  Agreements/Signed/{{lead fullName}} BrokerAgreement Signed.pdf
- **API Throttle:** 100 requests per 100 seconds

### **Node 7: Document Submission Request Email**

- Content:
- Hi {{lead fullName}},

\_

- Please submit the following documents:
- - Most recent Life Plan
- - Level of Care Eligibility (LOC)
- Notice of Decision (NOD)
- - DDP2 Profile
- - Service Authorization Letter (if applicable)

•

Thank you,
 Brothers SD Brokerage Team

• API Throttle: 100 requests per minute

#### Node 8: Webhook Listener for Document Submission

- Webhook URL: https://n8n.brokersystem.com/webhook/documentsubmission/{{lead email}}
- Memory Allocation: 10MB per active listener
- **Timeout:** 7-day expiration

#### **Node 9: Google Drive Document Storage**

- File Path: /Broker Automation/Client Documents/{{lead fullName}}/
- API Throttle: 100 requests per 100 seconds

### **Node 10: Start-Up Budget Auto-Generation**

- **Budget Template:** Google Sheets Auto-Population
- **Memory Allocation: 25MB**
- API Throttle: 60 requests per minute
- File Path: /Broker Automation/Budgets/Start-Up/{{lead fullName}} StartUpBudget.xlsx

### Node 11: Monday.com Task Creation for Budget Review

- Task: "Start-Up Budget Ready for Review"
- API Throttle: 60,000 requests per minute

#### Node 12: Slack Notification slack BudgetGenerated

- Slack Channel: #broker-budget-updates
- **Dispatch Time:** ~150ms
- API Throttle: 50 messages per minute

#### **Node 13: Backup System**

ackup.xlsx

- Backup Path: /Broker
  Automation/Budgets/Backups/YYYY/MM/DD/{{lead fullName}} StartUpBudget B
- Google Sheets Backup: Daily @ 2:00 AM

### Node 14: Error Catching catch\_BudgetErrors

- Error Log File: /Broker Automation/Logs/Budget Error Log.xlsx
- Slack Alert Channel: #broker-automation-errors

## Rollback Mechanisms

#### **Node-Level Rollback:**

- Google Sheets entry removal if downstream nodes fail
- Agreement document deleted if submission is not completed
- Start-Up Budget file deleted if webhook submission incomplete

### **System-Wide Rollback:**

- Transactional checkpoints per step
- Auto-revert to previous system state if failure detected

## **✓** Transactional Integrity Enforcement

#### **All-or-Nothing Processing:**

- If any node fails:
  - o Google Sheets status reverted
  - Monday.com task deleted
  - o Google Drive files purged

### **Commit/Fail Groups:**

- Group 1: Monday.com Trigger → Google Sheets Status Update → Broker Agreement Generation → Gmail Dispatch
- Group 2: Agreement Webhook → Document Request Email → Document Webhook → Google Drive Storage → Budget Generation

# **Node-Specific Queue Prioritization**

### **Priority Assignments:**

- Priority 1: Gmail Dispatch, Monday.com Task Creation
- Priority 2: Webhook Listeners, Google Drive Storage
- Priority 3: Slack Notifications, Backups



### SLA Enforcement Actions

#### **Automated Escalation:**

- Agreement submission failure → triggers Slack alert, retries, manual escalation queue
- Google Drive upload failure → triggers retry and manual review

#### **Alert Chain:**

- 3 consecutive failures → Send SMS via Twilio to admin
- Persistent failure > 15 min → Escalate to emergency contact



## **Workflow Versioning and Rollout Strategy**

#### **Deployment Phases:**

• Development → Staging → Production

#### **Rollback Points:**

Rollback to prior JSON version if failure rate exceeds 5% in 10 consecutive runs



### 🔪 Disaster Recovery Playbook

### **Manual Recovery Steps:**

- 1. Restore last successful JSON version from backup
- 2. Reconnect OAuth tokens for Gmail, Google Drive
- 3. Restore Google Sheets and Start-Up Budget from last 24-hour backup
- 4. Manually generate and send Broker Agreement if automation fails

### **Recovery Time:**

- Full system restore: 15–30 minutes
- Manual broker agreement dispatch: Immediate



## 🔍 Advanced Data Validation Layers

### **Input Validation:**

- Email format
- File type verification: .pdf, .docx, .xlsx only
- Date verification: Start-Up Budget submission date within 90 days of intake

#### **API Response Validation:**

- Google Drive API must confirm file ID receipt
- Gmail API must return "200 OK" status

### **Manual Exception Queue:**

• Invalid submissions rerouted to Monday.com manual review task board

#### Step 4: Budget Approval and CNBA Execution (Enterprise, Fully Saturated Detail)

**Q** Full Technical Overview

Workflow ID: BrokerBudgetApproval\_v1.0

Trigger Node: monday\_BudgetTaskCompleted

- Type: Monday.com Trigger Node
- Trigger: Status change to "Budget Ready for Approval"
- Memory Allocation: 15MB per trigger event
- API Throttle: 60,000 requests per minute (Monday.com API)

### Node-by-Node Breakdown

#### Node 1: Monday.com Trigger Node monday\_BudgetTaskCompleted

- CPU Load: 5ms per poll
- Memory Allocation: 15MB per event
- Polling Interval: 30 seconds

#### Node 2: Google Sheets Status Update gsheet\_UpdateBudgetStatus

- File Path: /Google Drive/Broker Automation/Budgets/Start-Up/{{lead\_fullName}}\_StartUpBudget.xlsx
- **Update Time:** ~750ms
- API Throttle: 60 requests per minute

#### Node 3: Budget Submission to FI

- FI Email: Sent automatically with budget attachment
- **Dispatch Time:** ~500ms
- API Throttle: 100 requests per minute

#### Node 4: Webhook Listener for FI Approval Response

- Webhook URL: https://n8n.brokersystem.com/webhook/fi-approval/{{lead\_email}}
- Memory Allocation: 10MB per active listener
- **Timeout:** 14-day expiration

#### Node 5: Google Drive Storage for FI Approval Documents

- File Path: /Broker Automation/FI Approvals/{{lead\_fullName}}\_FIApproval.pdf
- API Throttle: 100 requests per 100 seconds

#### **Node 6: CNBA Document Generation**

- **Template:** Google Docs auto-fill with budget details
- **Memory Allocation:** 25MB per document generation
- API Throttle: 100 requests per minute (Google Docs API)
- File Path: /Broker Automation/CNBA Documents/{{lead fullName}}
   CNBA.docx

#### Node 7: Gmail CNBA Dispatch to Participant and FI

- **Dispatch Time:** ~500ms
- API Throttle: 100 requests per minute

#### Node 8: Webhook Listener for CNBA Signed Document

- Webhook URL: https://n8n.brokersystem.com/webhook/cnbasubmission/{{lead\_email}}
- Memory Allocation: 10MB per active listener

• Timeout: 14-day expiration

#### Node 9: Google Drive Storage for Signed CNBA

- File Path: /Broker Automation/CNBA
   Documents/Signed/{{lead\_fullName}}\_CNBA\_Signed.pdf
- API Throttle: 100 requests per 100 seconds

#### Node 10: Monday.com Task Creation for Budget Activation

- Task: "Budget Approved Ready for Activation"
- API Throttle: 60,000 requests per minute

#### Node 11: Slack Notification slack\_BudgetApproved

- Slack Channel: #broker-budget-updates
- **Dispatch Time:** ~150ms
- API Throttle: 50 messages per minute

#### Node 12: Backup System

- Backup Path: /Broker Automation/CNBA
   Documents/Backups/YYYY/MM/DD/{{lead\_fullName}}\_CNBA\_Backup.docx
- Google Drive Backup: Daily @ 2:00 AM

#### Node 13: Error Catching catch\_BudgetApprovalErrors

- Error Log File: /Broker Automation/Logs/BudgetApproval\_Error\_Log.xlsx
- Slack Alert Channel: #broker-automation-errors

#### Rollback Mechanisms

#### Node-Level Rollback:

- Google Sheets entry removed if FI approval not received
- CNBA document auto-deleted if not submitted within 14 days

#### **System-Wide Rollback:**

Transactional checkpoints saved per step

Workflow automatically reverted on failure

### ▼ Transactional Integrity Enforcement

#### **All-or-Nothing Processing:**

- If any node fails:
  - Google Sheets status reverted
  - o Monday.com task canceled
  - o Google Drive documents purged

#### Commit/Fail Groups:

- Group 1: Monday.com Trigger → Google Sheets Update → Budget Submission → FI
   Webhook
- Group 2: CNBA Generation → Gmail Dispatch → CNBA Webhook → Google Drive Storage

### Node-Specific Queue Prioritization

#### **Priority Assignments:**

- Priority 1: Gmail Dispatch, Monday.com Task Creation
- Priority 2: Webhook Listeners, Google Drive Storage
- Priority 3: Slack Notifications, Backups

#### **▲** SLA Enforcement Actions

#### **Automated Escalation:**

- FI approval delays > 7 days trigger Slack alerts and follow-up email automation
- CNBA submission delays > 10 days trigger manual task creation for broker review

#### **Alert Chain:**

• 3 consecutive failures → Send SMS via Twilio to admin

• Persistent failure > 15 min → Escalate to emergency contact

### ■ Workflow Versioning and Rollout Strategy

#### **Deployment Phases:**

• Development → Staging → Production

#### **Rollback Points:**

• Rollback to prior JSON version if error rate exceeds 5% in 10 consecutive runs

### Note: The Disaster Recovery Playbook

#### **Manual Recovery Steps:**

- 1. Restore last successful JSON version from backup
- 2. Reconnect OAuth tokens for Gmail, Google Drive
- 3. Restore Google Sheets and CNBA Documents from last 24-hour backup
- 4. Manually dispatch CNBA document if automation fails

#### **Recovery Time:**

- Full system restore: 15–30 minutes
- Manual CNBA dispatch: Immediate

### Advanced Data Validation Layers

#### **Input Validation:**

- Email format
- File type verification: .pdf, .docx only
- CNBA submission must occur within 14 days

#### **API Response Validation:**

- Gmail API must return "200 OK" response
- Google Drive API must confirm file ID receipt

#### **Manual Exception Queue:**

Invalid submissions rerouted to Monday.com manual review task board

#### Step 5: Budget Activation and Billing Readiness (Enterprise, Fully Saturated Detail)

### **Q** Full Technical Overview

Workflow ID: BrokerBudgetActivation\_v1.0

#### Trigger Node: monday\_CNBAApprovalCompleted

- Type: Monday.com Trigger Node
- Trigger: Status change to "Budget Approved Ready for Activation"
- Memory Allocation: 15MB per trigger event
- API Throttle: 60,000 requests per minute (Monday.com API)

### Node-by-Node Breakdown

#### Node 1: Monday.com Trigger Node monday\_CNBAApprovalCompleted

- **CPU Load:** 5ms per poll
- Memory Allocation: 15MB per event
- Polling Interval: 30 seconds

#### Node 2: Google Sheets Budget Activation Status Update

- File Path: /Google Drive/Broker Automation/Budgets/Start-Up/{{lead\_fullName}}\_StartUpBudget.xlsx
- Update Time: ~750ms
- API Throttle: 60 requests per minute

#### **Node 3: Gmail Budget Activation Notification to FI**

- **Dispatch Time:** ~500ms
- API Throttle: 100 requests per minute

#### • Email Content:

Hi Team,

This is to confirm that the CNBA has been fully approved and the budget for {{lead\_fullName}} is now active. Billing can commence immediately.

Thank you,

**Brothers SD Brokerage Team** 

#### Node 4: Google Calendar Billing Cycle Entry Creation

• API Endpoint: Google Calendar API

• Memory Allocation: 20MB

• API Throttle: 60 requests per minute

• Calendar Entry: First billing date, recurring monthly reminder

#### Node 5: Google Sheets Billing Tracker Entry

File Path: /Google Drive/Broker Automation/Billing Tracker/2025/Billing\_Tracker.xlsx

• Write Time: ~850ms

• API Throttle: 60 requests per minute

#### Node 6: Monday.com Task Creation for Billing Start

Task: "Billing Start Date Logged – FI Billing Commenced"

• API Throttle: 60,000 requests per minute

#### Node 7: Slack Notification slack\_BudgetActivated

• Slack Channel: #broker-budget-updates

• **Dispatch Time:** ~150ms

• API Throttle: 50 messages per minute

#### Node 8: Backup System

Backup Path: /Broker Automation/Billing
 Tracker/Backups/YYYY/MM/DD/Billing\_Tracker\_Backup.xlsx

• Google Drive Backup: Daily @ 2:00 AM

#### Node 9: Error Catching catch\_BudgetActivationErrors

- Error Log File: /Broker Automation/Logs/BudgetActivation\_Error\_Log.xlsx
- Slack Alert Channel: #broker-automation-errors

#### Rollback Mechanisms

#### Node-Level Rollback:

- Google Sheets entries purged if downstream nodes fail
- Google Calendar entries deleted if Gmail dispatch fails
- Monday.com task reverted to "Error Rollback Triggered" if any final billing nodes fail

#### **System-Wide Rollback:**

- Transactional checkpoints logged per step
- Auto-reversion triggered upon node failure

### Transactional Integrity Enforcement

#### **All-or-Nothing Processing:**

- If any node fails:
  - Google Sheets status reverted
  - Google Calendar entries canceled
  - Monday.com task deleted

#### **Commit/Fail Groups:**

- Group 1: Monday.com Trigger → Google Sheets Activation → Gmail Notification → Google Calendar Billing Entry
- Group 2: Billing Tracker Entry → Monday.com Billing Task → Slack Notification

### Node-Specific Queue Prioritization

#### **Priority Assignments:**

- Priority 1: Gmail Dispatch, Monday.com Task Creation
- Priority 2: Google Calendar Entries, Google Sheets Logging
- Priority 3: Slack Notifications, Backups

### **▲** SLA Enforcement Actions

#### **Automated Escalation:**

- Calendar API failures → Slack alert and retry
- Gmail API failures → Manual confirmation queue triggered

#### **Alert Chain:**

- 3 consecutive failures → Send SMS via Twilio to admin
- Persistent failure > 15 min → Escalate to emergency contact

### Workflow Versioning and Rollout Strategy

#### **Deployment Phases:**

Development → Staging → Production

#### **Rollback Points:**

Rollback to prior JSON version if error rate exceeds 5% in 10 consecutive runs

### Nisaster Recovery Playbook

#### **Manual Recovery Steps:**

- 1. Restore last successful JSON version from backup
- 2. Reconnect OAuth tokens for Gmail, Google Drive, Google Calendar
- 3. Restore Google Sheets and Billing Tracker from last 24-hour backup
- 4. Manually enter Google Calendar billing cycle if automation fails

#### **Recovery Time:**

- Full system restore: 15-30 minutes
- Manual billing cycle entry: Immediate

### Advanced Data Validation Layers

#### **Input Validation:**

- Email format
- Calendar recurrence format
- Billing start date must be within 30 days of CNBA approval

#### **API Response Validation:**

- Gmail API must return "200 OK" response
- Google Calendar API must confirm event ID

#### **Manual Exception Queue:**

• Invalid submissions rerouted to Monday.com manual review task board

#### Step 6: Ongoing Billing Cycle Management (Enterprise, Fully Saturated Detail)

Full Technical Overview

Workflow ID: BrokerBillingCycle\_v1.0

Trigger Node: googleCalendar\_MonthlyBillingReminder

- **Type:** Google Calendar Trigger Node
- Trigger: Monthly recurring billing reminder for each active budget
- **Memory Allocation:** 20MB per billing event
- API Throttle: 60 requests per minute (Google Calendar API)
- Node-by-Node Breakdown

#### Node 1: Google Calendar Billing Reminder Trigger

- **CPU Load:** 5ms per event
- Memory Allocation: 20MB per reminder
- Polling Interval: Daily, listens for scheduled event start time

#### Node 2: Google Sheets Billing Entry Generation

- File Path: /Google Drive/Broker Automation/Billing Tracker/2025/Billing\_Tracker.xlsx
- Write Time: ~850ms
- API Throttle: 60 requests per minute
- Data Fields:
  - o Participant Name
  - Billing Start Date
  - Billing Cycle Month
  - Service Type
  - o Billable Hours

#### **Node 3: Billing Calculation Node**

- Billing Rate Validation: Cross-referenced with approved budget rate table
- Memory Allocation: 15MB per calculation run
- **CPU Load:** ~10ms per billing calculation

#### Node 4: Monday.com Billing Task Creation

- Task: "Billing Entry Ready for Submission"
- **API Throttle:** 60,000 requests per minute
- Fields: Participant Name, Billing Period, Total Billable Hours, Service Type

#### Node 5: Gmail Draft Billing Email Preparation

- **API Endpoint:** Gmail API
- **Dispatch Time:** ~500ms per draft email
- API Throttle: 100 requests per minute
- Email Content: Pre-filled draft email with billing details for broker review

#### Node 6: Webhook Listener for Billing Submission Confirmation

- **Webhook URL:** https://n8n.brokersystem.com/webhook/billing-submission/{{lead\_email}}
- Memory Allocation: 10MB per active listener
- **Timeout:** 7-day expiration

#### Node 7: Google Drive Storage of Billing Documentation

- File Path: /Broker Automation/Billing
   Documents/{{lead\_fullName}}/Billing\_Month\_{{{billingMonth}}}.xlsx
- API Throttle: 100 requests per 100 seconds

#### Node 8: Slack Notification slack\_BillingSubmission

- Slack Channel: #broker-billing-updates
- **Dispatch Time:** ~150ms
- API Throttle: 50 messages per minute

#### Node 9: Backup System

- Backup Path: /Broker Automation/Billing
   Tracker/Backups/YYYY/MM/DD/Billing\_Tracker\_Backup.xlsx
- Google Drive Backup: Daily @ 2:00 AM

#### Node 10: Error Catching catch\_BillingCycleErrors

- Error Log File: /Broker Automation/Logs/BillingCycle\_Error\_Log.xlsx
- Slack Alert Channel: #broker-automation-errors

### Rollback Mechanisms

#### Node-Level Rollback:

- Google Sheets entry removed if Gmail draft creation fails
- Monday.com task reverted if billing webhook is not submitted within 7 days

#### **System-Wide Rollback:**

Full transaction checkpoints saved at each node

Auto-reversion to previous state on node failure

### ✓ Transactional Integrity Enforcement

#### **All-or-Nothing Processing:**

- If any node fails:
  - Google Sheets billing entry removed
  - o Gmail draft email deleted
  - Monday.com billing task canceled

#### Commit/Fail Groups:

- Group 1: Google Calendar Trigger → Google Sheets Entry → Billing Calculation → Monday.com Billing Task
- Group 2: Gmail Draft → Billing Webhook Listener → Google Drive Document Storage
   → Slack Notification

### Node-Specific Queue Prioritization

#### **Priority Assignments:**

- Priority 1: Gmail Draft Preparation, Monday.com Billing Task Creation
- Priority 2: Google Sheets Logging, Google Drive Document Storage
- Priority 3: Slack Notifications, Backups

#### **▲** SLA Enforcement Actions

#### **Automated Escalation:**

- Billing webhook submission failure after 7 days triggers Slack alerts and manual task creation for review
- Gmail draft preparation failure triggers manual billing preparation

#### **Alert Chain:**

3 consecutive failures → Send SMS via Twilio to admin

• Persistent failure > 15 min → Escalate to emergency contact

### Workflow Versioning and Rollout Strategy

#### **Deployment Phases:**

• Development → Staging → Production

#### **Rollback Points:**

 Rollback to prior JSON version if billing error rate exceeds 5% in 10 consecutive cycles

### Note: The Disaster Recovery Playbook

#### **Manual Recovery Steps:**

- 1. Restore last successful JSON workflow version from backup
- 2. Reconnect OAuth tokens for Gmail, Google Drive, Google Calendar
- 3. Restore Google Sheets and Billing Tracker from last 24-hour backup
- 4. Manually create Gmail billing draft and submit billing details if automation fails

#### **Recovery Time:**

- Full system restore: 15–30 minutes
- Manual billing draft preparation: Immediate

### Advanced Data Validation Layers

#### **Input Validation:**

- Email format
- Billing month must match Google Calendar trigger month
- Billing cycle start date must align with budget activation date

#### **API Response Validation:**

• Gmail API must return "200 OK" status

- Google Drive API must confirm file ID receipt
- Google Calendar API must confirm event ID

#### **Manual Exception Queue:**

Invalid billing cycles rerouted to Monday.com manual review task board

# Step 7: Budget Amendment and Service Adjustment Processing (Enterprise, Fully Saturated Detail)

### **Q** Full Technical Overview

Workflow ID: BrokerBudgetAmendment\_v1.0

Trigger Node: monday\_BudgetAmendmentRequest

- Type: Monday.com Trigger Node
- Trigger: Status change to "Amendment Requested"
- Memory Allocation: 15MB per trigger event
- API Throttle: 60,000 requests per minute (Monday.com API)

### Node-by-Node Breakdown

#### Node 1: Monday.com Trigger Node monday\_BudgetAmendmentRequest

- CPU Load: 5ms per poll
- Memory Allocation: 15MB per event
- Polling Interval: 30 seconds

#### Node 2: Google Sheets Amendment Request Log

- File Path: /Google Drive/Broker Automation/Budget Amendments/BudgetAmendment\_Log.xlsx
- Write Time: ~850ms
- API Throttle: 60 requests per minute

#### **Node 3: Amendment Calculation Node**

- Calculation Type: Addition or removal of services, rate adjustments
- Memory Allocation: 20MB per calculation
- **CPU Load:** ~15ms per amendment calculation

#### **Node 4: Budget Amendment Document Generation**

- Document Template: Google Docs auto-fill with updated budget details
- API Throttle: 100 requests per minute
- **Memory Allocation:** 25MB per document
- File Path: /Broker Automation/Budget
   Amendments/{{lead\_fullName}}\_AmendmentRequest.docx

#### Node 5: Gmail Dispatch to FI and Participant

- **Dispatch Time:** ~500ms
- API Throttle: 100 requests per minute
- Email Content:

Hi {{lead\_fullName}},

Attached is your requested budget amendment for review and processing.

Thank you,

**Brothers SD Brokerage Team** 

#### Node 6: Webhook Listener for FI Amendment Approval

- Webhook URL: https://n8n.brokersystem.com/webhook/amendmentapproval/{{lead\_email}}
- Memory Allocation: 10MB per active listener
- Timeout: 14-day expiration

#### Node 7: Google Drive Storage for Approved Amendment Documents

File Path: /Broker Automation/Budget
 Amendments/Approved/{{lead\_fullName}}\_AmendmentApproved.pdf

• API Throttle: 100 requests per 100 seconds

#### Node 8: Monday.com Task Update to "Amendment Approved"

• API Throttle: 60,000 requests per minute

#### **Node 9: Google Sheets Budget Update**

- File Path: /Google Drive/Broker Automation/Budgets/Start-Up/{{lead\_fullName}}\_StartUpBudget.xlsx
- Write Time: ~850ms
- API Throttle: 60 requests per minute

#### Node 10: Slack Notification slack\_AmendmentApproved

- Slack Channel: #broker-budget-updates
- **Dispatch Time:** ~150ms
- API Throttle: 50 messages per minute

#### Node 11: Backup System

- Backup Path: /Broker Automation/Budget
   Amendments/Backups/YYYY/MM/DD/{{lead\_fullName}}\_Amendment\_Backup.docx
- Google Drive Backup: Daily @ 2:00 AM

#### Node 12: Error Catching catch\_BudgetAmendmentErrors

- Error Log File: /Broker Automation/Logs/BudgetAmendment\_Error\_Log.xlsx
- Slack Alert Channel: #broker-automation-errors

#### Rollback Mechanisms

#### Node-Level Rollback:

- Google Sheets entries purged if downstream nodes fail
- Budget Amendment Document deleted if webhook approval is not submitted

#### **System-Wide Rollback:**

Full transaction checkpoints saved per node

Auto-reversion triggered upon node failure

### ✓ Transactional Integrity Enforcement

#### **All-or-Nothing Processing:**

- If any node fails:
  - o Google Sheets log entry removed
  - o Monday.com task reset
  - o Google Drive amendment document purged

#### **Commit/Fail Groups:**

- Group 1: Monday.com Trigger → Google Sheets Log → Amendment Calculation → Budget Amendment Document Generation → Gmail Dispatch
- Group 2: Amendment Webhook → Google Drive Storage → Google Sheets Budget
   Update → Monday.com Task Update → Slack Notification

### Node-Specific Queue Prioritization

#### **Priority Assignments:**

- Priority 1: Gmail Dispatch, Monday.com Task Updates
- Priority 2: Google Sheets Logging, Google Drive Document Storage
- Priority 3: Slack Notifications, Backups

### **▲** SLA Enforcement Actions

#### **Automated Escalation:**

- Amendment webhook submission failure triggers Slack alerts and manual task creation
- Gmail dispatch failure triggers manual amendment email process

#### **Alert Chain:**

• 3 consecutive failures → Send SMS via Twilio to admin

• Persistent failure > 15 min → Escalate to emergency contact

### ■ Workflow Versioning and Rollout Strategy

#### **Deployment Phases:**

• Development → Staging → Production

#### **Rollback Points:**

 Rollback to prior JSON version if amendment error rate exceeds 5% in 10 consecutive cycles

### Nisaster Recovery Playbook

#### **Manual Recovery Steps:**

- 1. Restore last successful JSON workflow version from backup
- 2. Reconnect OAuth tokens for Gmail, Google Drive
- 3. Restore Google Sheets and Budget Amendment Log from last 24-hour backup
- 4. Manually create and send amendment document if automation fails

#### **Recovery Time:**

- Full system restore: 15–30 minutes
- Manual amendment dispatch: Immediate

### Advanced Data Validation Layers

#### **Input Validation:**

- Email format
- Service type and rate cross-checks against approved service list
- Amendment date must align with active budget period

#### **API Response Validation:**

Gmail API must return "200 OK" response

• Google Drive API must confirm file ID receipt

#### **Manual Exception Queue:**

Invalid amendment requests rerouted to Monday.com manual review task board

# Step 8: Budget Closeout and Final Billing Submission (Enterprise, Fully Saturated Detail)

### Full Technical Overview

Workflow ID: BrokerBudgetCloseout\_v1.0

Trigger Node: monday\_BudgetCloseoutRequest

• Type: Monday.com Trigger Node

Trigger: Status change to "Budget Closeout Requested"

• Memory Allocation: 15MB per trigger event

• API Throttle: 60,000 requests per minute (Monday.com API)

### Node-by-Node Breakdown

#### Node 1: Monday.com Trigger Node monday\_BudgetCloseoutRequest

• **CPU Load:** 5ms per poll

• Memory Allocation: 15MB per event

• **Polling Interval:** 30 seconds

#### Node 2: Google Sheets Budget Closeout Logging

 File Path: /Google Drive/Broker Automation/Budget Closeout/BudgetCloseout\_Log.xlsx

• Write Time: ~850ms

• API Throttle: 60 requests per minute

#### **Node 3: Final Billing Calculation Node**

Memory Allocation: 25MB per calculation

CPU Load: ~15ms per final billing cycle calculation

#### **Node 4: Final Billing Document Generation**

- **Document Template:** Google Docs auto-fill with closeout details
- API Throttle: 100 requests per minute
- File Path: /Broker Automation/Budget Closeout/{{lead\_fullName}}\_FinalBilling.docx

#### Node 5: Gmail Dispatch of Final Billing Package

- **Dispatch Time:** ~500ms
- API Throttle: 100 requests per minute
- Email Content:

Hi {{lead\_fullName}},

Attached is your final billing package for your completed budget.

Thank you,

Brothers SD Brokerage Team

#### Node 6: Webhook Listener for Final Approval Confirmation

- Webhook URL: https://n8n.brokersystem.com/webhook/finalapproval/{{lead\_email}}
- Memory Allocation: 10MB per active listener
- **Timeout:** 14-day expiration

#### Node 7: Google Drive Storage of Final Billing Documents

- File Path: /Broker Automation/Budget
   Closeout/Finalized/{{lead\_fullName}}\_FinalBillingApproved.pdf
- API Throttle: 100 requests per 100 seconds

#### Node 8: Monday.com Task Update to "Budget Closed"

• API Throttle: 60,000 requests per minute

#### Node 9: Google Sheets Budget Status Final Update

- File Path: /Google Drive/Broker Automation/Budgets/Start-Up/{{lead\_fullName}}\_StartUpBudget.xlsx
- Write Time: ~850ms
- API Throttle: 60 requests per minute

#### Node 10: Slack Notification slack\_BudgetClosed

- Slack Channel: #broker-budget-updates
- Dispatch Time: ~150ms
- API Throttle: 50 messages per minute

#### Node 11: Backup System

- Backup Path: /Broker Automation/Budget
   Closeout/Backups/YYYY/MM/DD/{{lead\_fullName}}\_FinalBilling\_Backup.docx
- Google Drive Backup: Daily @ 2:00 AM

#### Node 12: Error Catching catch\_BudgetCloseoutErrors

- Error Log File: /Broker Automation/Logs/BudgetCloseout\_Error\_Log.xlsx
- Slack Alert Channel: #broker-automation-errors

### Rollback Mechanisms

#### **Node-Level Rollback:**

- Google Sheets entry removed if Gmail dispatch fails
- Monday.com task reverted if webhook approval is not submitted within 14 days

#### **System-Wide Rollback:**

- Full transaction checkpoints saved per node
- Auto-reversion triggered upon node failure

### ✓ Transactional Integrity Enforcement

#### All-or-Nothing Processing:

- If any node fails:
  - Google Sheets closeout entry removed
  - Monday.com task reset
  - Google Drive final billing document purged

#### **Commit/Fail Groups:**

- Group 1: Monday.com Trigger → Google Sheets Log → Final Billing Calculation → Final Billing Document Generation → Gmail Dispatch
- Group 2: Final Approval Webhook → Google Drive Final Storage → Google Sheets
   Budget Status Final Update → Monday.com Task Update → Slack Notification

# Node-Specific Queue Prioritization

#### **Priority Assignments:**

- Priority 1: Gmail Dispatch, Monday.com Task Updates
- Priority 2: Google Sheets Logging, Google Drive Document Storage
- Priority 3: Slack Notifications, Backups

# SLA Enforcement Actions

#### **Automated Escalation:**

- Final approval webhook failure triggers Slack alerts and manual task creation
- Gmail dispatch failure triggers manual final billing email process

#### **Alert Chain:**

- 3 consecutive failures → Send SMS via Twilio to admin
- Persistent failure > 15 min → Escalate to emergency contact

# Workflow Versioning and Rollout Strategy

#### **Deployment Phases:**

Development → Staging → Production

#### **Rollback Points:**

Rollback to prior JSON version if closeout error rate exceeds 5% in 10 consecutive cycles

### 🔪 Disaster Recovery Playbook

#### **Manual Recovery Steps:**

- 1. Restore last successful JSON workflow version from backup
- 2. Reconnect OAuth tokens for Gmail, Google Drive
- 3. Restore Google Sheets and Budget Closeout Log from last 24-hour backup
- 4. Manually create and send final billing document if automation fails

#### **Recovery Time:**

- Full system restore: 15–30 minutes
- Manual final billing dispatch: Immediate

## Advanced Data Validation Layers

### **Input Validation:**

- Email format
- Billing cycle verification to confirm all previous billing has been submitted
- Final budget reconciliation amount matches approved budget totals

#### **API Response Validation:**

- Gmail API must return "200 OK" response
- Google Drive API must confirm file ID receipt

#### **Manual Exception Queue:**

Invalid closeout requests rerouted to Monday.com manual review task board

#### **Step 9: Post-Closeout Audit and Record Archiving (Enterprise, Fully Saturated Detail)**

# Full Technical Overview

#### Workflow ID: BrokerPostCloseoutAudit\_v1.0

### Trigger Node: googleCalendar\_PostCloseoutReminder

- **Type:** Google Calendar Trigger Node
- Trigger: Scheduled post-closeout audit date, 30 days after budget closeout
- Memory Allocation: 20MB per audit event
- API Throttle: 60 requests per minute (Google Calendar API)

# Node-by-Node Breakdown

#### Node 1: Google Calendar Post-Closeout Reminder Trigger

- **CPU Load:** 5ms per event
- Memory Allocation: 20MB per reminder
- Polling Interval: Daily, listens for scheduled post-closeout audit events

#### Node 2: Google Sheets Post-Closeout Audit Log

- File Path: /Google Drive/Broker Automation/Post-Closeout/PostCloseout\_Audit\_Log.xlsx
- Write Time: ~850ms
- API Throttle: 60 requests per minute

#### Node 3: Monday.com Audit Task Creation

- Task: "Post-Closeout Audit Required"
- API Throttle: 60,000 requests per minute

#### **Node 4: Automated File Verification Node**

 Verification: Confirms presence of all required billing, CNBA, amendment, and final billing files in Google Drive

- Memory Allocation: 20MB per verification cycle
- **CPU Load:** ~15ms per verification task

#### Node 5: Gmail Dispatch to Broker with Audit Checklist

- **Dispatch Time:** ~500ms
- API Throttle: 100 requests per minute
- Email Content:

Hi {{brokerName}},

The post-closeout audit for {{lead\_fullName}} is now due. Please complete the attached audit checklist and verify that all billing and documentation is accurate and archived.

Thank you,

Brothers SD Brokerage System

#### Node 6: Webhook Listener for Audit Completion Confirmation

- Webhook URL: https://n8n.brokersystem.com/webhook/auditcompletion/{{lead\_email}}
- Memory Allocation: 10MB per active listener
- Timeout: 14-day expiration

#### **Node 7: Google Drive Archive Relocation**

- Action: Move all files from active budget folders to archival folders
- File Path: /Broker Automation/Archives/{{lead\_fullName}}/
- API Throttle: 100 requests per 100 seconds

#### Node 8: Google Sheets Status Update to "Audit Completed"

- File Path: /Google Drive/Broker Automation/Post-Closeout/PostCloseout\_Audit\_Log.xlsx
- Write Time: ~850ms
- API Throttle: 60 requests per minute

#### Node 9: Monday.com Task Closure

• API Throttle: 60,000 requests per minute

#### Node 10: Slack Notification slack\_AuditCompleted

• Slack Channel: #broker-audit-updates

• **Dispatch Time:** ~150ms

• API Throttle: 50 messages per minute

#### Node 11: Backup System

 Backup Path: /Broker Automation/Post-Closeout/Backups/YYYY/MM/DD/PostCloseout\_Audit\_Log\_Backup.xlsx

Google Drive Backup: Daily @ 2:00 AM

#### Node 12: Error Catching catch\_PostCloseoutAuditErrors

- Error Log File: /Broker Automation/Logs/PostCloseout\_Audit\_Error\_Log.xlsx
- Slack Alert Channel: #broker-automation-errors

# Rollback Mechanisms

#### Node-Level Rollback:

- Google Sheets log entries purged if Gmail dispatch fails
- Monday.com task reverted if webhook confirmation is not submitted within 14 days

#### **System-Wide Rollback:**

- Full transaction checkpoints saved at each node
- Auto-reversion triggered upon node failure

# Transactional Integrity Enforcement

#### **All-or-Nothing Processing:**

- If any node fails:
  - Google Sheets post-closeout entry removed

- Monday.com audit task reset
- Archive relocation process reversed

#### **Commit/Fail Groups:**

- Group 1: Google Calendar Trigger → Google Sheets Log → Monday.com Task → File
   Verification → Gmail Dispatch
- Group 2: Webhook Listener → Archive Relocation → Google Sheets Status Update → Monday.com Task Closure → Slack Notification

# Node-Specific Queue Prioritization

### **Priority Assignments:**

- Priority 1: Gmail Dispatch, Monday.com Task Creation and Closure
- Priority 2: Google Sheets Logging, Google Drive Archive Relocation
- Priority 3: Slack Notifications, Backups

# **SLA Enforcement Actions**

#### **Automated Escalation:**

- Audit webhook failure triggers Slack alert and manual task creation
- Gmail dispatch failure triggers manual audit checklist preparation

#### **Alert Chain:**

- 3 consecutive failures → Send SMS via Twilio to admin
- Persistent failure > 15 min → Escalate to emergency contact

# Workflow Versioning and Rollout Strategy

#### **Deployment Phases:**

• Development → Staging → Production

#### **Rollback Points:**

 Rollback to prior JSON version if post-closeout error rate exceeds 5% in 10 consecutive cycles

# Note: The Disaster Recovery Playbook

#### **Manual Recovery Steps:**

- 1. Restore last successful JSON workflow version from backup
- 2. Reconnect OAuth tokens for Gmail, Google Drive, Google Calendar
- 3. Restore Google Sheets and Post-Closeout Audit Log from last 24-hour backup
- 4. Manually complete archive relocation and audit checklist if automation fails

#### **Recovery Time:**

- Full system restore: 15–30 minutes
- Manual audit completion: Immediate

# Advanced Data Validation Layers

### **Input Validation:**

- Email format
- Audit due date alignment with closeout completion date
- Verification of file counts matching billing cycles

#### **API Response Validation:**

- Gmail API must return "200 OK" response
- Google Drive API must confirm file ID receipt and folder move completion

#### **Manual Exception Queue:**

Incomplete audits rerouted to Monday.com manual review task board

Step 10: Annual System Audit, Maintenance, and Workflow Optimization (Enterprise, Fully Saturated Detail)

# **Q** Full Technical Overview

#### Workflow ID: BrokerAnnualSystemAudit\_v1.0

#### Trigger Node: googleCalendar\_AnnualSystemAuditReminder

- **Type:** Google Calendar Trigger Node
- Trigger: Annual system audit and maintenance review
- Memory Allocation: 20MB per audit event
- API Throttle: 60 requests per minute (Google Calendar API)

# Node-by-Node Breakdown

#### Node 1: Google Calendar Annual Audit Trigger

- **CPU Load:** 5ms per event
- Memory Allocation: 20MB per reminder
- Polling Interval: Daily, listens for scheduled audit event

#### Node 2: Monday.com System Audit Task Creation

- Task: "Annual System Audit Required"
- API Throttle: 60,000 requests per minute

#### Node 3: System File Inventory Node

- Action: Verify all required folders and workflows exist and are accessible
- **Memory Allocation:** 25MB per verification cycle
- **CPU Load:** ~15ms per verification task

#### Node 4: Workflow Version Validation Node

- Validation: Ensure all workflow JSON files are at current production versions
- Memory Allocation: 20MB per version check

#### Node 5: Gmail Dispatch to Admin with Annual Checklist

• **Dispatch Time:** ~500ms

API Throttle: 100 requests per minute

• Email Content:

Hi Admin Team,

It is time for the annual system audit and workflow optimization review. Please complete the attached checklist and ensure all workflows are current, backups are verified, and system performance is optimized.

Thank you,

Brothers SD Brokerage System

### Node 6: Webhook Listener for Annual Checklist Completion

 Webhook URL: https://n8n.brokersystem.com/webhook/annualchecklist/{{admin\_email}}

Memory Allocation: 10MB per active listener

• Timeout: 14-day expiration

#### Node 7: Google Drive System Backup

• Action: Perform full system backup of all workflow JSON files, Google Sheets trackers, and audit logs

Backup Path: /Broker Automation/System Backups/YYYY/MM/DD/

• API Throttle: 100 requests per 100 seconds

#### Node 8: Google Sheets System Audit Log Update

 File Path: /Google Drive/Broker Automation/System Audit Logs/SystemAudit\_Log.xlsx

• Write Time: ~850ms

• API Throttle: 60 requests per minute

#### Node 9: Monday.com Task Closure

• API Throttle: 60,000 requests per minute

#### Node 10: Slack Notification slack\_SystemAuditCompleted

• Slack Channel: #broker-system-audit

• **Dispatch Time:** ~150ms

• API Throttle: 50 messages per minute

#### Node 11: Backup System

Backup Path: /Broker Automation/System Audit
 Logs/Backups/YYYY/MM/DD/SystemAudit Log Backup.xlsx

• Google Drive Backup: Daily @ 2:00 AM

#### Node 12: Error Catching catch\_AnnualSystemAuditErrors

- **Error Log File:** /Broker Automation/Logs/AnnualSystemAudit\_Error\_Log.xlsx
- Slack Alert Channel: #broker-automation-errors

## Rollback Mechanisms

#### Node-Level Rollback:

- Google Sheets entry removed if Gmail dispatch fails
- Monday.com task reverted if webhook confirmation is not submitted within 14 days

#### **System-Wide Rollback:**

- Full transaction checkpoints saved at each node
- Auto-reversion triggered upon node failure

# Transactional Integrity Enforcement

#### **All-or-Nothing Processing:**

- If any node fails:
  - Google Sheets audit entry removed
  - Monday.com task reset
  - System backup process canceled and reversed

#### **Commit/Fail Groups:**

- Group 1: Google Calendar Trigger → Monday.com Task Creation → System File Inventory → Workflow Version Validation → Gmail Dispatch
- Group 2: Webhook Listener → Google Drive Backup → Google Sheets Log Update → Monday.com Task Closure → Slack Notification

# Node-Specific Queue Prioritization

#### **Priority Assignments:**

- Priority 1: Gmail Dispatch, Monday.com Task Creation and Closure
- Priority 2: Google Sheets Logging, Google Drive System Backup
- Priority 3: Slack Notifications, Backups

#### SLA Enforcement Actions

#### **Automated Escalation:**

- Annual audit webhook failure triggers Slack alert and manual task creation
- Gmail dispatch failure triggers manual audit checklist dispatch

#### **Alert Chain:**

- 3 consecutive failures → Send SMS via Twilio to admin
- Persistent failure > 15 min → Escalate to emergency contact

# Workflow Versioning and Rollout Strategy

#### **Deployment Phases:**

Development → Staging → Production

#### **Rollback Points:**

 Rollback to prior JSON version if system audit error rate exceeds 5% in 10 consecutive cycles

# Note: The Disaster Recovery Playbook

### **Manual Recovery Steps:**

- 1. Restore last successful JSON workflow version from backup
- 2. Reconnect OAuth tokens for Gmail, Google Drive, Google Calendar
- 3. Restore Google Sheets and System Audit Log from last 24-hour backup
- 4. Manually dispatch system audit checklist if automation fails

### **Recovery Time:**

- Full system restore: 15-30 minutes
- Manual system audit checklist dispatch: Immediate

# Advanced Data Validation Layers

### **Input Validation:**

- Email format
- Audit checklist verification: file presence, version integrity, backup validation

#### **API Response Validation:**

- Gmail API must return "200 OK" response
- Google Drive API must confirm file ID receipt and backup folder creation

#### **Manual Exception Queue:**

• Incomplete annual audits rerouted to Monday.com manual review task board