The Agency Operating System Playbook

How small agencies escape scattered client channels, manual SLA reporting, project-tracking chaos, and high software fees with a unified core.

Centralize Memory
Save all projects, SLA tiers, and client state in a secure relational database.

Automate SLAs
Dispatch notifications and alert internal teams before deadlines breach.

Streamline Intake
Wire Webflow, Stripe, and n8n together for sub-second, hands-off client onboarding.

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For digital agencies, development shops, and consultants

The Agency Operations Trap

Why scaling a boutique agency usually results in structural communications breakdown.

01

Most small-to-mid digital agencies hit a scaling wall not due to poor delivery, but because of **operational fragmentation**.

Clients send requests via email, Slack, WhatsApp, and WhatsApp threads. Team members lose hours copying metadata between boards. Meanwhile, strict Service Level Agreements (SLAs) are missed because deadlines live only inside workers' heads or individual tasks.

> When you manage client projects through six separate SaaS platforms, your actual operating system is human copy-paste.

An Agency Operating System replaces these disconnected silos with a single central memory (Supabase) and a flexible automation worker (n8n). It gives you complete control over database security, client state, and custom routing.

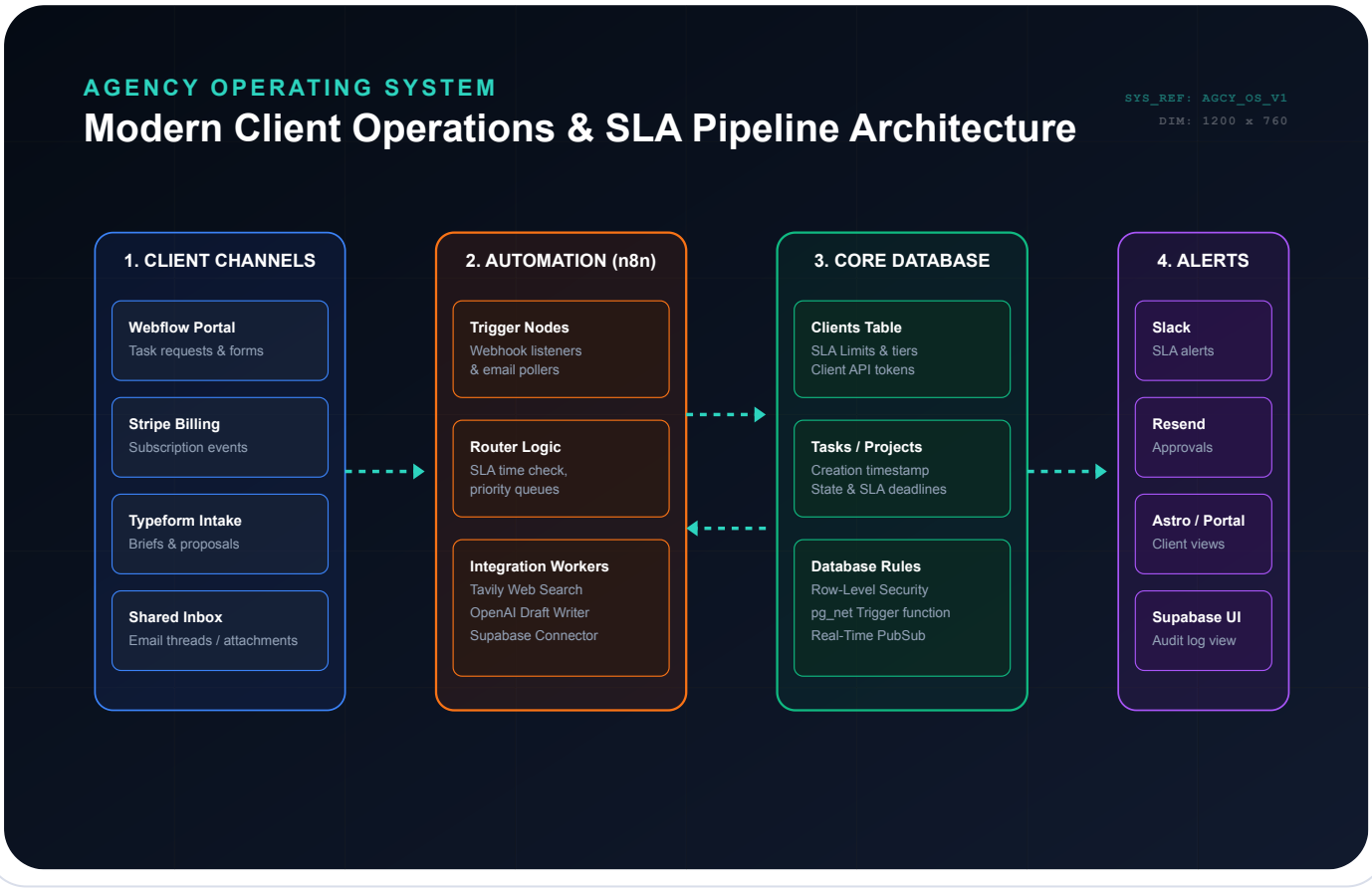
The Blueprint Objectives

- **Zero manual intake:** Client bookings and requests feed the database instantly.
- **Automated SLA tracking:** Live alerts are sent to the team long before commitments are broken.
- **Consolidated software costs:** Replace high-tier CRM platforms with open databases and simple logic.
- **Complete control:** Run client data behind custom security logic (RLS) with instant audit trails.

System Architecture

A unified blueprint mapping client channels to your core database and automated alert networks.

02



Module	Core Tech Stack	Operational Duty
1. Channels	Webflow, Stripe, Typeform, Resend	Accept client requests, onboarding details, and billings.
2. Logic Node	n8n Webhook / API Routers	Checks client priority tiers, routes tasks, and initiates external lookups.
3. Memory Core	Supabase (PostgreSQL)	Secures SLA limits, project backlogs, and team ownership states.
4. Alerts Node	Slack webhooks, SMS Pagers, Email	Tags team lead on warnings and updates clients when status updates.

Relational Memory Core (SQL)

Supabase schema for defining client profiles, SLA margins, and active tasks.

03

Designing a Clean Database Schema

By enforcing relationships at the database level, we prevent duplicate records. The `clients` table defines monthly allocations, priority tiers (e.g. `'premium'` vs `'basic'`), and custom SLA hours.

Tasks references `client_id` and includes automatic timestamps to track creation, QA review start, and completion states.

Securing Client Records (RLS)

Row-Level Security (RLS) guarantees that premium clients can only query their own task logs. No client can ever inspect records belonging to another account.

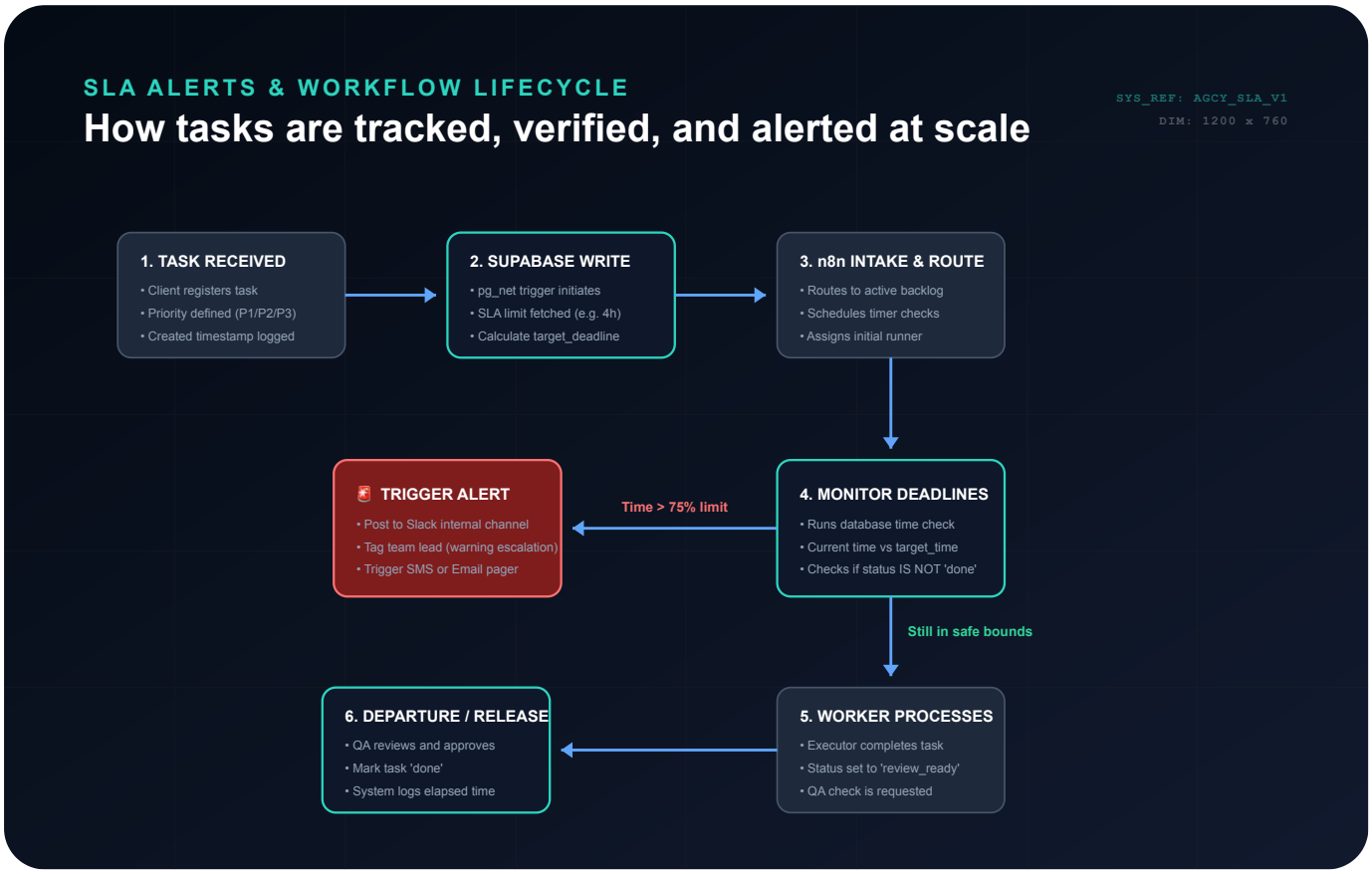
Supabase SQL: Core Tables

```
create table clients (
  id uuid default gen_random_uuid() primary key,
  company_name text not null,
  slack_channel_id text,
  sla_tier text default 'standard',
  sla_hours_limit int default 24,
  created_at timestamptz default now()
);

create table agency_tasks (
  id uuid default gen_random_uuid() primary key,
  client_id uuid references clients(id) on delete cascade,
  task_title text not null,
  status text default 'backlog' check (status in
    ('backlog', 'in_progress', 'review', 'done')),
  assigned_to text,
  target_deadline timestamptz,
  created_at timestamptz default now(),
  completed_at timestamptz
);

alter table agency_tasks enable row level security;

create policy "Clients read own tasks only"
  on agency_tasks for select using (
    client_id = auth.uid()
  );
```

Real-Time SLA Alert Lifecycle

How tasks are tracked, verified, and automated to ensure zero breached commitments.

04



Setting SLA Warnings

Waiting for a deadline to pass before alerting the team is an operational failure. Safe delivery requires a **warning threshold** (e.g. 75% of the SLA duration).

If a client has a 4-hour SLA tier, n8n triggers an warning sequence at the 3-hour mark, sending a rich message containing the task scope, executor, and direct escalation links.

n8n JavaScript: SLA Threshold check

```
// Input contains created_at and sla_hours_limit
const created = new Date(item.created_at);
const now = new Date();
const limitHours = item.sla_hours_limit;

// Calculate hours elapsed
const elapsed = (now - created) / (1000 * 60 * 60);
const percentageUsed = (elapsed / limitHours) * 100;

return {
  elapsed_hours: elapsed.toFixed(2),
  sla_pct_used: percentageUsed.toFixed(1),
  is_warning_zone: percentageUsed >= 75.0,
  is_breached: percentageUsed >= 100.0
};
```

Hands-Free Client Onboarding

Triggering Supabase actions immediately following Stripe checkout completions.

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The Manual Bottleneck

In traditional agency setups, after a client signs up or completes a payment checkout, account creation, Slack setup, and folder provisioning require manual administrative steps.

Event-Driven Onboarding

By wiring your checkout success webhooks straight into n8n, this entire sequence completes in under two seconds:

1. Stripe fires a `checkout.session.completed` event to your secure n8n webhook.
2. n8n inserts a new record into your Supabase `clients` table with correct SLA settings based on the purchased tier.
3. n8n triggers a Slack channel creation API call, naming the channel `#client-companyname`, and invites the key emails.
4. n8n dispatches a beautiful transactional email welcoming the client with access tokens for their private workspace dashboard.

Stripe Webhook n8n Schema Node

```
// n8n Webhook input validation
const event = items[0].json;

if (event.type === 'checkout.session.completed') {
  const session = event.data.object;
  const companyName = session.custom_fields
    ?.find(f => f.key === 'company_name')?.text?.value;

  return {
    email: session.customer_details.email,
    name: session.customer_details.name,
    company: companyName || 'Boutique Client',
    tier: session.amount_total > 200000 ? 'premium' :
'standard',
    sla_limit: session.amount_total > 200000 ? 12 : 24
  };
}
```

💡 **Security Tip: Verify Stripe Webhook Signatures**

Never trust incoming HTTP POST requests without verification. Configure your n8n Webhook node to require Stripe Signature Headers (`stripe-signature`) and verify the secret locally to block malicious requests.

Client SLA & Operations Scorecard

A self-audit grid for measuring agency execution speed, tool sprawl, and process friction.

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Metric Area	Current Number	Target Goal	Friction 1-5	Action to Improve
Avg Response Time (Intake to Confirmation)				
Avg Resolution Time (Intake to Completion)				
Weekly SLA Breaches (Count per month)				
Manual Data Transports (Copying between boards)				
Client Communication Silos (Email/Slack/Chat)				
QA / Review Bottlenecks (Time drafts sit waiting)				
SaaS Subscriptions Cost (Total CRM, Intake fees)				
Client Retention / Turnaround Speed				

Health Indicators

- **Green (Optimal):** <5% SLA breach rate; zero manual data synchronization; unified team Slack alerts.
- **Amber (At Risk):** No warning alerts triggers; reviews require multi-step logins; client records are fragmented.
- **Red (Danger):** Frequent SLA breaches; clients ping team across 3+ communication channels; manual invoices.

Consolidation Math

By migrating from premium client portals, complex workflow platforms, and database wrappers to a self-managed Supabase and n8n stack, typical agencies save over **$400/month** in software fees while locking down complete API access control.

Automated Proposal Generation

How to turn a 4-hour manual drafting process into a 10-second approval queue.

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The Agency Bottleneck

Custom proposals and Statements of Work (SoWs) often take hours to assemble. Account managers copy-paste from past documents, risking errors and delaying sales cycles.

The AI-Structured Flow

By connecting an intake form to n8n and an LLM, you can dynamically generate highly personalized proposals based on a structured agency template:

1. **Intake:** Client fills out a Typeform with budget, goals, and timeline.
2. **Processing:** n8n sends the data to OpenAI, applying a strict "Agency Proposal Prompt" to ensure tone and formatting.
3. **Storage:** The markdown proposal is saved to Supabase.
4. **Review:** The Account Manager receives a Slack link to review, edit, and send the final PDF.

Supabase SQL: Proposals Schema

```sql
create table client_proposals (
  id uuid default gen_random_uuid() primary key,
  client_name text not null,
  raw_intake_data jsonb,
  ai_draft_markdown text,
  status text default 'draft_ready' check (status in
    ('draft_ready', 'sent', 'accepted', 'rejected')),
  quoted_price numeric,
  created_at timestamptz default now()
);

-- Trigger to notify team on new draft
create trigger notify_new_proposal
  after insert on client_proposals
  for each row execute function send_to_n8n();
```

💡 **Prompting Tip: Enforce JSON Schemas**

When prompting LLMs for business documents, use OpenAI's `response_format` or *Structured Outputs* to force the model to return a valid JSON object matching your proposal sections (e.g. `{"executive_summary": "...", "deliverables": [], "timeline": "..."}`). This prevents formatting hallucinations and makes database storage perfectly predictable.

Human-in-the-Loop QA Queue

Governing AI agents by pausing workflows until a human clicks 'Approve'.

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Safety First

Autonomous AI should never email clients directly or post content without oversight. A secure Agency OS uses a **Wait Node** (or webhook-based pause) to implement a Human-in-the-Loop (HITL) gateway.

The UUID Approval System

When n8n generates a draft (e.g., a monthly SEO report or social media post), it sends a notification via Resend or Slack. This alert contains the draft text and two unique, single-use webhook links: one for **Approve** and one for **Reject**.

Clicking the link instantly resumes the automation, allowing seamless mobile approvals without logging into complex dashboards.

n8n Execution: Wait for Webhook

```
// Generate unique approval tokens in a Code Node
const crypto = require('crypto');
const approveToken = crypto.randomUUID();
const rejectToken = crypto.randomUUID();

// Construct action links for the email/Slack alert
const baseUrl = 'https://n8n.your-agency.com/webhook/qa';
const approveLink = `${baseUrl}?
action=approve&token=${approveToken}`;
const rejectLink = `${baseUrl}?
action=reject&token=${rejectToken}`;

return {
  approve_url: approveLink,
  reject_url: rejectLink,
  tokens: { approveToken, rejectToken }
};
// Next node in n8n: Send Slack Message with buttons
// Followed by a 'Wait for Webhook' Node mapped to the
tokens
```

Deep-Dive Client Research

Using search APIs to automatically compile industry briefs during onboarding.

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The Context Gap

When a new client signs up, the team usually spends hours Googling the client's industry, competitors, and recent news to prepare for the kickoff call.

Automated Context Gathering

You can embed an AI Research Agent directly into your onboarding flow. By passing the client's domain to **Tavily's Search API**, you can extract a deep, context-rich dossier summarizing their market position, top competitors, and recent public announcements.

This dossier is saved in Supabase as a `client_brief` and attached to the kickoff Slack thread, giving your team instant expertise without lifting a finger.

API Flow: Tavily Research Call

```
// Using n8n HTTP Request Node to query Tavily
{
  "method": "POST",
  "url": "https://api.tavily.com/search",
  "headers": {
    "Content-Type": "application/json",
    "Authorization": "Bearer tvly-your-api-key"
  },
  "body": {
    "query": "Analyze {{ $json.company_domain }}. What are
the core products, main competitors, and recent news?",
    "search_depth": "advanced",
    "include_answer": true,
    "max_results": 5
  }
}
// The 'answer' string is then routed to Supabase
```

The AI Cost Ledger

Tracking every token and API call to prevent runaway agency operational costs.

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Invisible API Spend

When automated workflows run hundreds of times a day—parsing documents, drafting emails, and summarizing transcripts—API costs can compound invisibly until the monthly invoice arrives.

The Centralized Ledger

Every time an LLM or premium API node fires in n8n, it must pass its token usage to a centralized `api_cost_ledger` table in Supabase. This creates a real-time dashboard of your agency's exact automation spend.

You can then trigger emergency webhooks to pause systems if daily costs exceed a safe limit.

Supabase SQL: Cost Ledger

```
create table api_cost_ledger (
  id uuid default gen_random_uuid() primary key,
  client_id uuid references clients(id), -- Billable to
client?
  workflow_name text not null,
  model_used text not null,
  prompt_tokens int default 0,
  completion_tokens int default 0,
  estimated_cost_usd numeric(10,6) not null,
  created_at timestamptz default now()
);

-- Daily spend safety check function
create or replace function check_daily_spend()
returns trigger as $$
begin
  if (
    select sum(estimated_cost_usd)
    from api_cost_ledger
    where created_at > now() - interval '1 day'
  ) > 20.00 then
    -- Trigger Slack Alert Webhook via HTTP POST
  end if;
  return NEW;
end;
$$ language plpgsql;
```

Implementation Roadmap

A structured 90-day checklist to assemble, secure, and scale your agency operating core.

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- [ ] **Audit and Map Touchpoints:** Inventory every entry channel (forms, email domains, Stripe webhooks).
- [ ] **Deploy Central Database:** Spin up Supabase and define relationship tables (Clients, Tasks, Ledgers).
- [ ] **Configure Security (RLS):** Write security policies blocking cross-client access to logs.
- [ ] **Install Automation Node:** Deploy n8n and set up secure webhook listeners.
- [ ] **Enable DB-to-Logic Push:** Turn on pg_net triggers to push task states to n8n instantly.
- [ ] **Deploy SLA Warning Alerts:** Write warning rules routing time updates to Slack/SMS channels.
- [ ] **Automate Payment Intake:** Bind Stripe checkout success events to DB client creation.
- [ ] **Deploy Client Portals:** Build thin Astro/HTML portals pulling client tasks from Supabase via API.
- [ ] **Run Staging Test:** Simulate high-load tasks and verify warning alerts trigger at 75%.

Hosting and Security Details

You can deploy this entire stack securely for under **$10/month**. Spin up a free-tier Supabase instance (includes full PostgreSQL, RLS, backup storage, and API capabilities) and host a self-hosted n8n engine on Railway or Elestio starting at $5/month. This guarantees that your proprietary client records and integration logs remain private, secure, and fully owned by your business.