

FTWS Network Architecture

Distributed AI Infrastructure â€” March 17, 2026

Hub: Mac Studio (M4 Max, 36GB) â€” Central command, runs MQTT, Central Memory, MCP Server, and hosts the Exo master node.

Hardware Fleet

MACHINE	CHIP	RAM	ROLE	NETWORK	STATUS
Mac Studio	M4 Max	36GB	Hub / Exo Master	100.103.147.110	â€¦ Online
Bolt (MacBook Pro)	M5	16GB	Exo Worker	100.103.140.211	â€¦ Online
Alice's Mini	M4	16GB	Marketing Agent	Offline	â€¦ Offline
Forge	M2	8GB	Queue / Tunnel	192.168.68.58	â€¦ Unreachable
Bobby's Mini	M4	16GB	Soul'd Out Foods Ops	100.103.156.10	â€¦ Online

Core Services (Mac Studio)

SERVICE	PORT	FUNCTION	ACCESS
MQTT	1883	Agent communication bus	All fleet machines
Central Memory	3335	SQLite knowledge/conversation store	All fleet machines
MCP Server	3400	Tool server (PDF, image, web search)	All agents
Exo Cluster	52415	Distributed LLM inference	Mac Studio + Bolt
OpenClaw Gateway	18789	Agent orchestration	Local

Network Topology

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100.103.x.x SUBNET (Tailscale)
Thunderbolt
MAC STUDIO
M4 Max 36GB RDMA Enabled M5 16GB
[MQTT:1883] Exo Worker
[Memory:3335] EXO CLUSTER
[MCP:3400] 52GB RAM
[Exo:52415] Qwen3-30B
[Gateway:18789] Ethernet via Switch
FORGE BOBBY'S MINI
M2 8GB M4 16GB
[Queue:3334] OpenClaw Gateway
[Tunnel] Bobby Agent
âš i, Unreachable âœ… Online
ALICE'S MINI
M4 16GB
OFFLINE Was hosting MQTT/Memory, migrated to Mac Studio

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Agent Fleet

AGENT	HOST	ROLE	MODEL
Axon	Mac Studio	Fleet Commander / Infrastructure	GLM-5 (Z.AI) â†' local fallback
Alice	Alice's Mini	Marketing / Content	Gemini API
Bobby	Bobby's Mini	Soul'd Out Foods Ops	GLM-5 via queue
Charlie	Forge	Customer Comms	Lightweight script
Delta	Forge	Coordination	Lightweight script

Communication Paths

Agent ↔ Agent (via MQTT)

Topic: `ftws/agents/{agent}/inbox`

Auth: Username/password per agent (axon, alice, bobby)

All agents publish to each other's inboxes. Messages are JSON with `from`, `thread_id`, `subject`, `body`.

Agent ↔ Memory (via HTTP)

Conversations: `POST http://mac-studio:3335/conversations`

Knowledge: `GET/PUT http://mac-studio:3335/knowledge/{key}`

Auth: Bearer token `ftws-memory-2026`

Agent ↔ Tools (via MCP)

Base URL: `http://mac-studio:3400`

Tools: `pdf_generate`, `image_generate`, `web_search`, `send_email`, `mqtt_send`

Model Strategy

TIER	MODEL	USE CASE	COST
Primary	GLM-5 (Z.AI Max)	Coding, complex reasoning	\$1/M input, 1600 prompts/5hr
Local	Qwen3-30B (Exo)	Quick tasks, high volume	\$0
Fallback	Claude Opus	When others fail	\$15/M input

SSH Access (from Mac Studio)

ALIAS	HOST	USER
<code>bolt</code>	Bolts-MacBook-Pro.local	bolt
<code>forge</code>	Forges-Mac-mini.local	forge

bobby	Stems-Mac-mini.local	stem
bobby-tb	169.254.69.77 (Thunderbolt)	stem

Known Issues

- **Alice's Mini offline** â€” Was hosting MQTT/Central Memory, services migrated to Mac Studio
- **Forge unreachable** â€” Network/firewall issue, TB connection unstable
- **Exo not auto-starting** â€” Background processes killed by sandbox; needs manual start or LaunchAgent

Resilience Features

- **Bridge v3** â€” Local inbox persistence, auto-replay on crash
- **MQTT LWT** â€” Agents publish online/offline status
- **LaunchDaemons** â€” Auto-start on boot (headless machines)
- **3-tier LLM** â€” Local â†’ Gemini â†’ OpenClaw fallback