cisco
The bridge to possible

FOSDEM

Drag, Drop, and Deploy
Low-Code AI Agents for Network Ops

Alfonso Sandoval Rosas
Developer Advocate

```
!
username Alfonso-(Poncho)-Sandoval
!
role developer title "Developer Avocado" 🥑
organization "Cisco Systems Portugal" PT
!
interface LinkedIn0/0
 ip address linkedin.com/in/asandovalros
 no shutdown
!
interface GitHub0/1
 ip address github.com/ponchotitlan
 no shutdown
!
end
!
```

Cisco Office in Tokyo, Japan JP

Agenda

AgenticOps in the World of Networking

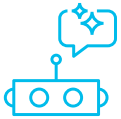
An AgenticOps Open Ecosystem, brick-by-brick

Demo 1: Agentic ChatOps for NetAuto

Demo 2: Agentic Reporting & Ticketing for NetAuto

Wrap-up

AgenticOps in the World of Networking



Speaking CLI

Modern LLMs already understand network CLI semantics for multiple vendors and platforms

Reasoning about intent

”Check BGP health” or “Investigate QOS compliance” implies reasoning that LLMs can do

Low-code tools available

Modern low-code tooling available for agentic workflows (“low-code” still implies SOME code …)

An AgenticOps Open Ecosystem, brick-by-brick

Ollama
(Local LLM runtime)

- Open-source runtime for running models locally
- Several models supported (Llama, Qwen, Mistral, etc)
- Enables self-hosted AI

n8n

n8n (Low-code orchestration)

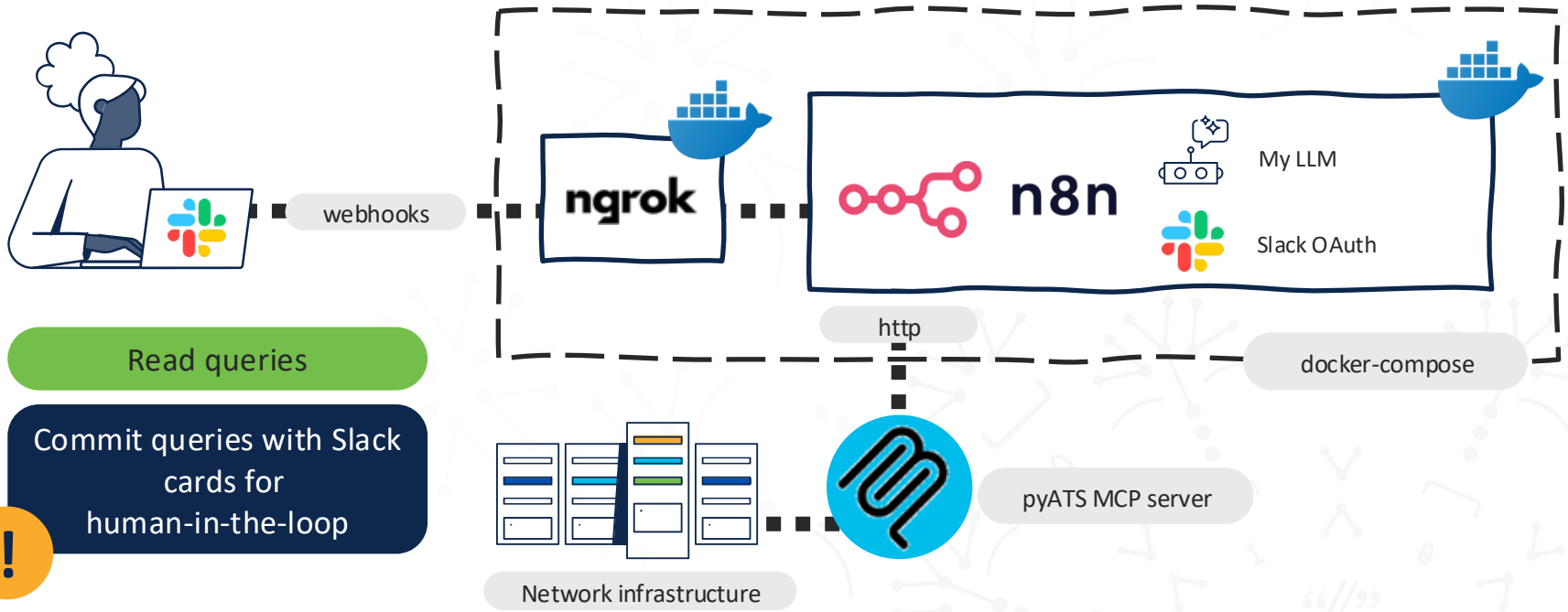
- Open-core workflow automation
- Enables auditable, guardrailed workflows
- Self-hostable and community-driven

\+ pyATS
print(network.profile)

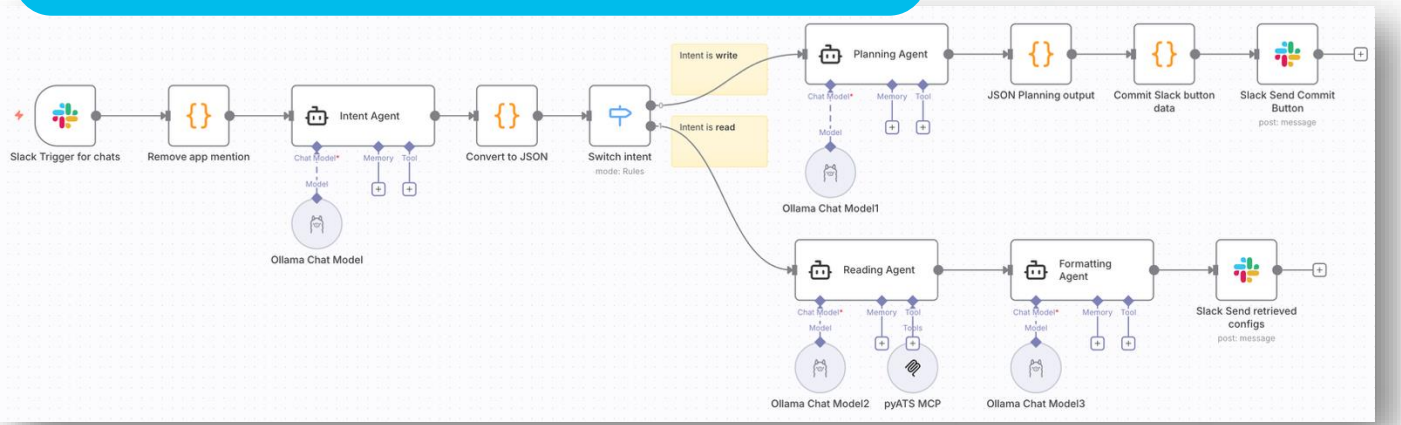
MCP server (based on pyATS framework)

- Based on pyATS, an Apache 2.0-licensed open-source framework maintained by Cisco.
- Enforces safe R/W ops on real infrastructure through several tools

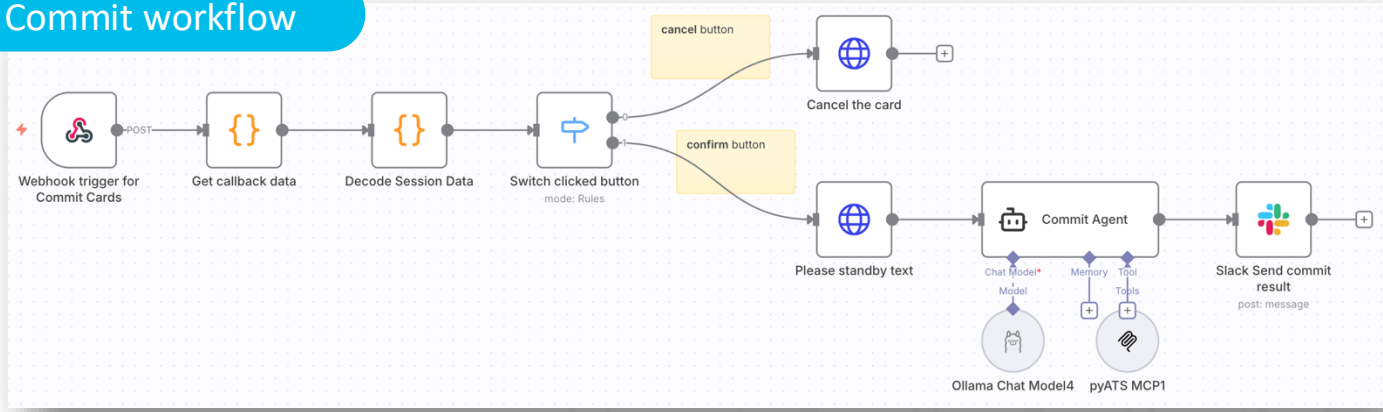
Demo 1: Agentic ChatOps for NetAuto



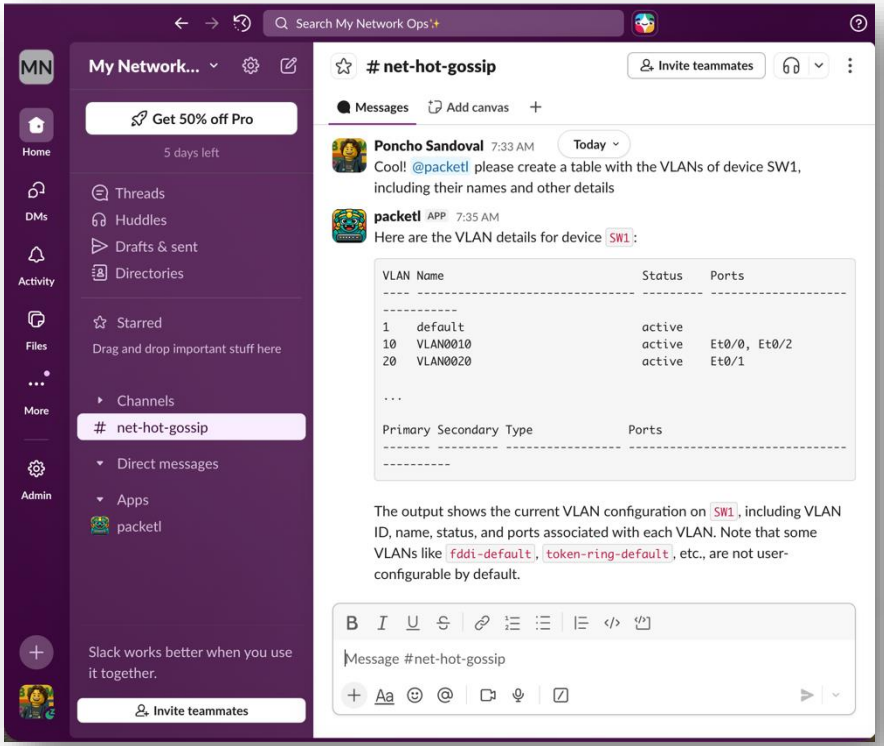
Reading + Commit intent (planning) workflow



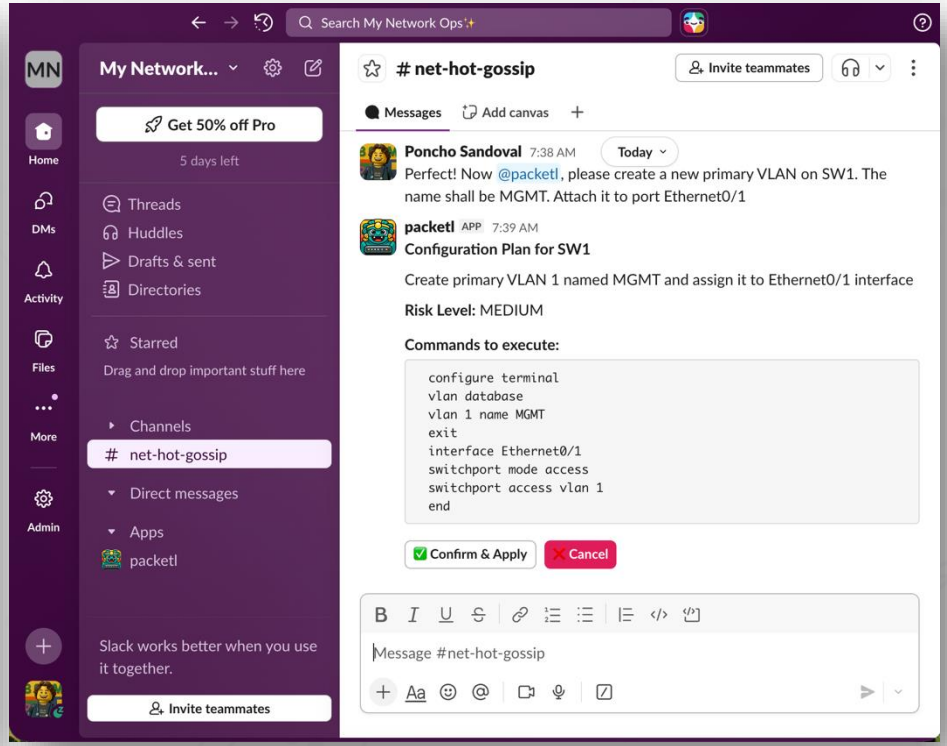
Commit workflow



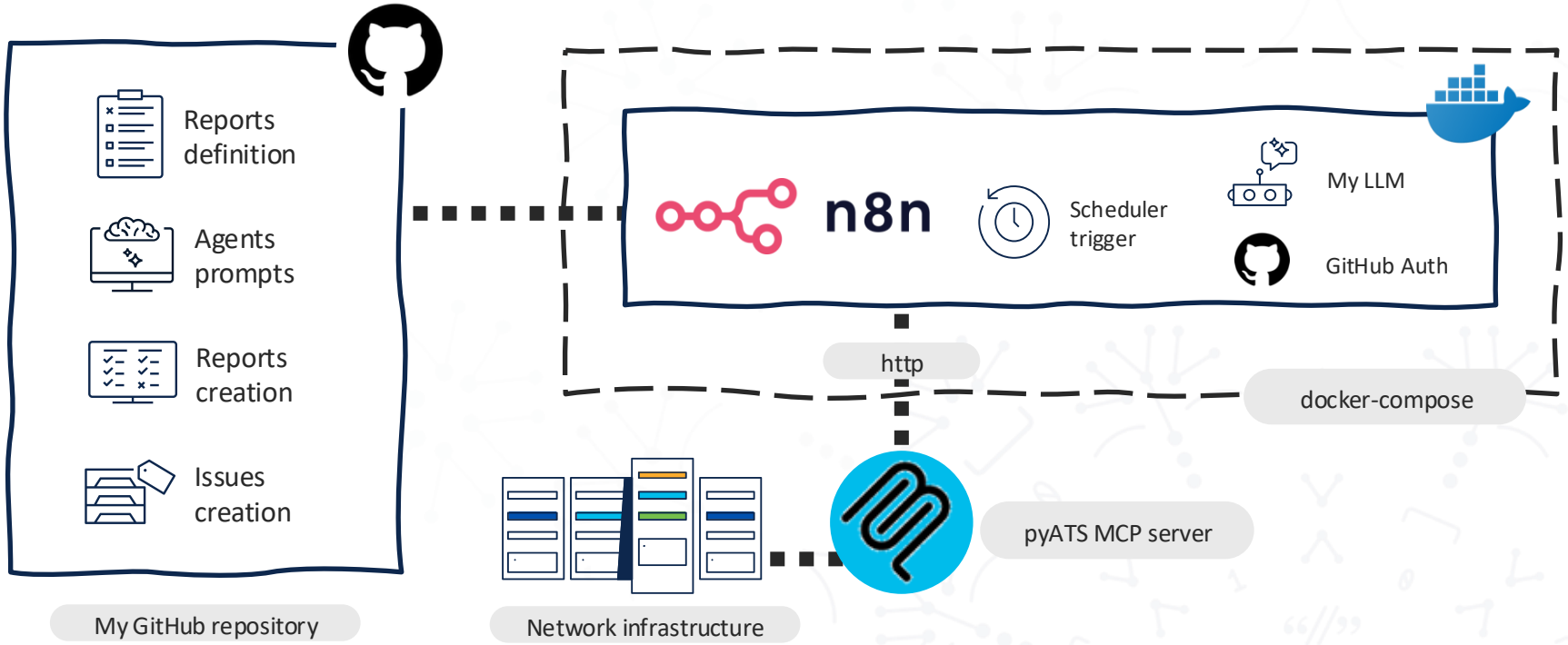
Reading interaction



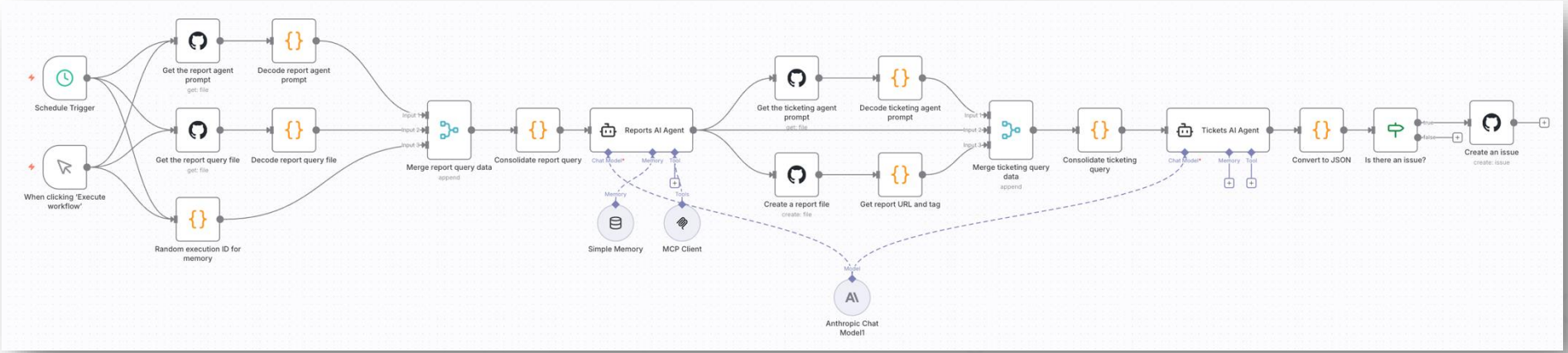
Commit interaction



Demo 2: Agentic Reporting & Ticketing for NetAuto



Reporting & ticketing workflow



pyATS-loves-agenticops / reports / files / interfaces_status_2026-01-13T18:19:22.447+00:00.md

ponchotitlan interfaces_status report gen

Preview | Code | Blame 95 lines (70 loc) · 4.28 KB

Report generation

Network Interface Status Summary Report

Executive Summary

Analysis of interface operational states across the network infrastructure reveals **14 operational interfaces** and **4 administratively down interfaces** across 4 devices. The network demonstrates healthy connectivity with active traffic on management interfaces and no packet drops or queue congestion detected.

Scope & Assumptions

- **Scope**: Complete interface status analysis for all devices (`R1` , `R2` , `SW1` , `SW2`)
- **Data Source**: Real-time interface status via `show ip interface brief` and `show interfaces summary`
- **Assessment Period**: Current operational state snapshot

Environment Overview

Infrastructure Components:

- **Routers**: 2 IOS-XE devices (`R1` , `R2`)
- **Switches**: 2 IOS-XE devices (`SW1` , `SW2`)
- **Total Interfaces**: 18 interfaces analyzed
- **Platform**: IOL (IOS on Linux) virtual environment

[interfaces_status report gen] [⚠️medium] Address interface redundancy and documentation gaps on Router R1 #17

Edit | New issue

Issue creation

Open

ponchotitlan opened last week — Owner

Context

Router R1 interface analysis reveals healthy operations with 3/4 interfaces functional and zero errors. However, several operational improvements are needed to enhance network reliability and maintainability.

Key Issues Identified

- **Single Point of Failure**: Ethernet0/3 remains unused, reducing redundancy options
- **Documentation Gap**: Missing interface descriptions on Ethernet0/0 and Ethernet0/1
- **Traffic Concentration**: All traffic flowing through only 3 active interfaces
- **Monitoring Gap**: Lack of standardized interface monitoring

Action Items

Immediate Actions

- [ ] Add descriptions to Ethernet0/0 and Ethernet0/1 for operational clarity
- [ ] Evaluate Ethernet0/3 - determine if it should be activated for redundancy or permanently removed

Operational Improvements

- [ ] Implement regular interface health checks focusing on error counters and utilization trends
- [ ] Establish consistent interface naming and description conventions

Assignees
No one - Assign yourself

Labels
No labels

Projects
No projects

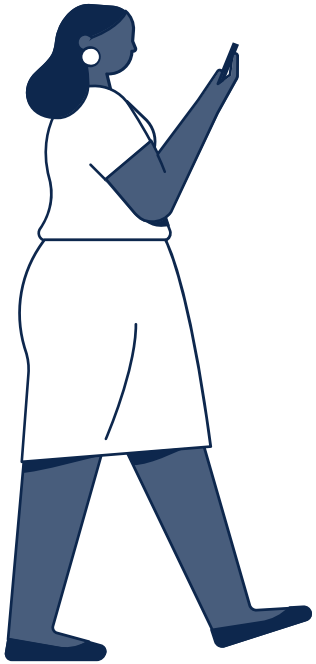
Milestone
No milestone

Relationships
None yet

Development
Code with agent mode

Create a branch for this issue or link a pull request.

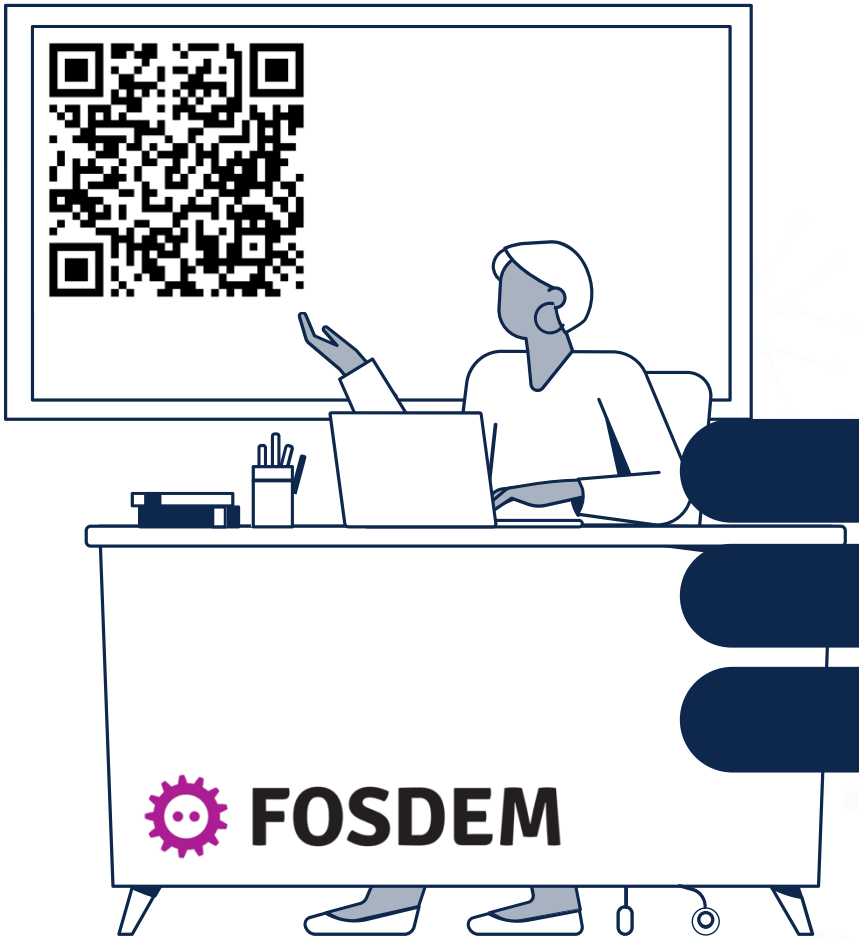
Notifications Customize
Unsubscribe
You're receiving notifications because you're subscribed to this thread.



Start small: build single-purpose agents for well-defined operational tasks

Treat LLM agents like junior network engineers: restrict what they can touch and how

Build agents on top of real network tools (CLI, APIs, pyATS) – Also, low-code is your ally!



About n8n
docs.n8n.io/

About pyATS
developer.cisco.com/docs/pyats/

Our demo repo: pyATS loves AgenticOps
cs.co/pyATS-loves-agenticops

The bridge to possible