



# Multi-Agent Systems

## A Software Development Revolution

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Concurrency

# Agenda

- Introduction
- What is an AI Agent
- Why Agents in Software Development
- How Agents Change Development
- Opportunities Unlocked
- Build an AI Agent (hands on)
- Considerations at Scale

# Nice to meet you! I'm Nick Miller



MIS



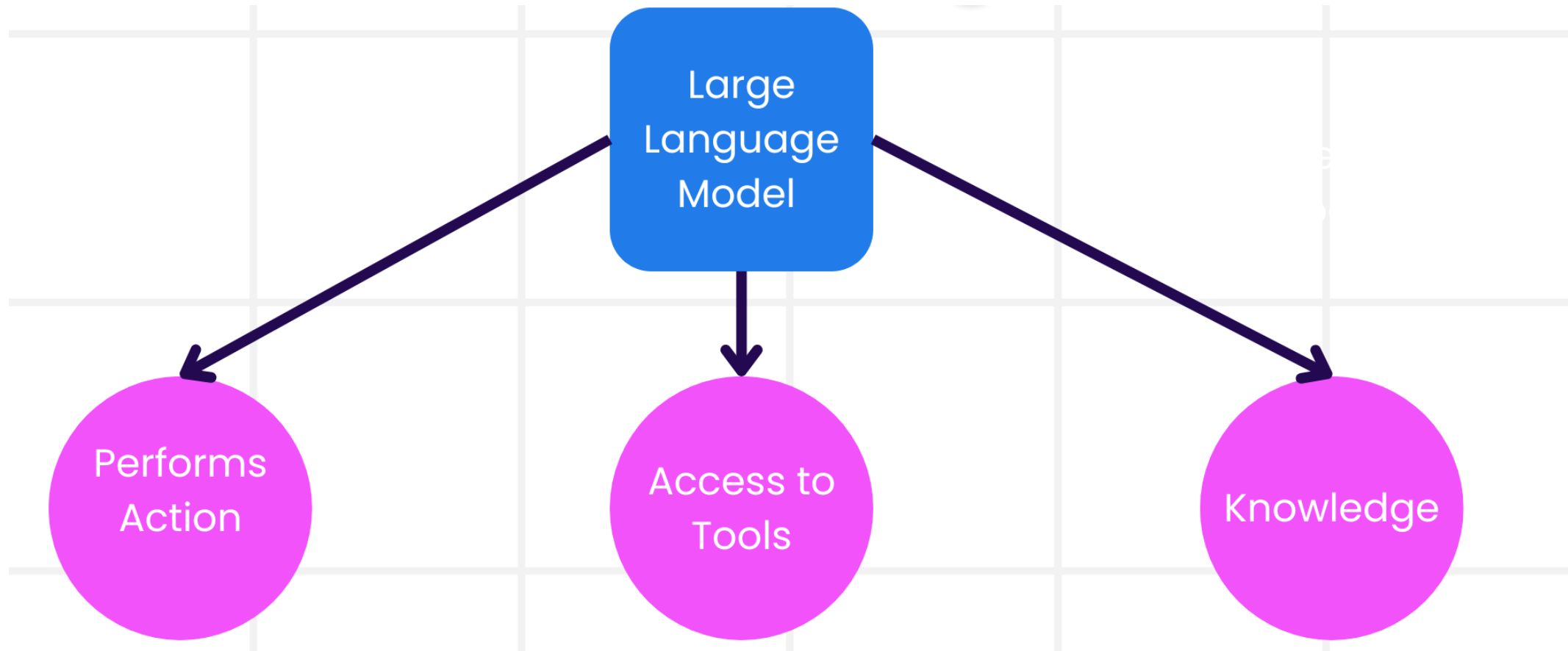
MBA



MS  
Statistics



# What is an AI Agent?



# When to use AI Agents?

**Open-  
Ended  
Problems**

The diagram consists of three rounded rectangular boxes arranged horizontally, connected by a thin grey line. The first box on the left is blue and contains the text 'Open-Ended Problems'. The middle box is pink and contains the text 'Multi-Step Processes'. The third box on the right is blue and contains the text 'Improvement Over Time'. Vertical grey lines extend from the top and bottom of each box, and a horizontal grey line runs through the center of all three boxes.

**Multi-Step  
Processes**

**Improvement  
Over Time**

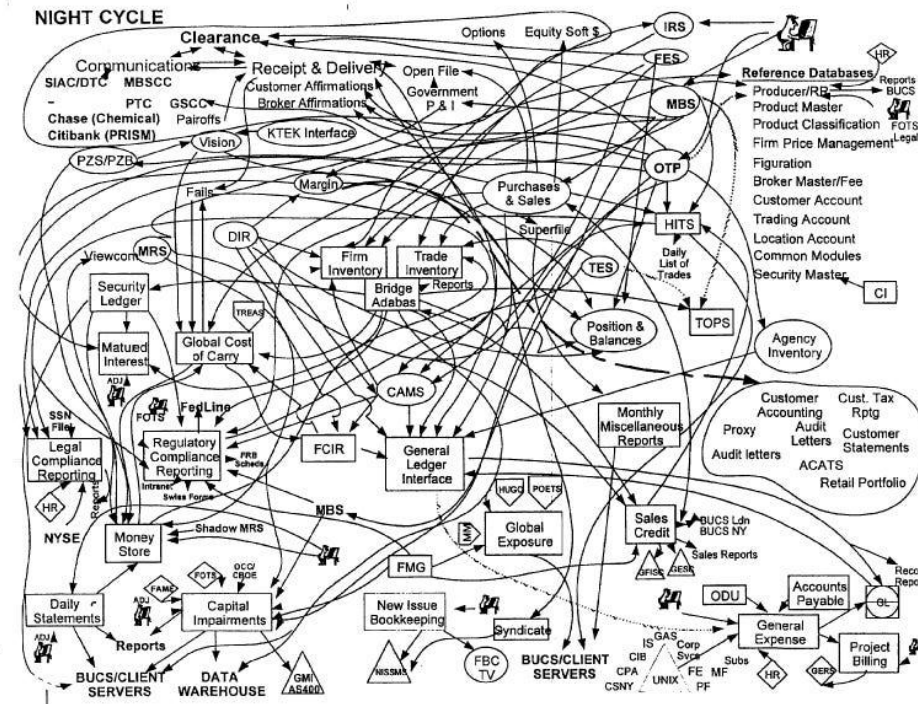
# Why Agents in Software Development

# From SaaS to AI-Centric Orchestration



“The era of SaaS as we know it is coming to an end.”  
Satya Nadella

# Process & Integration Complexity



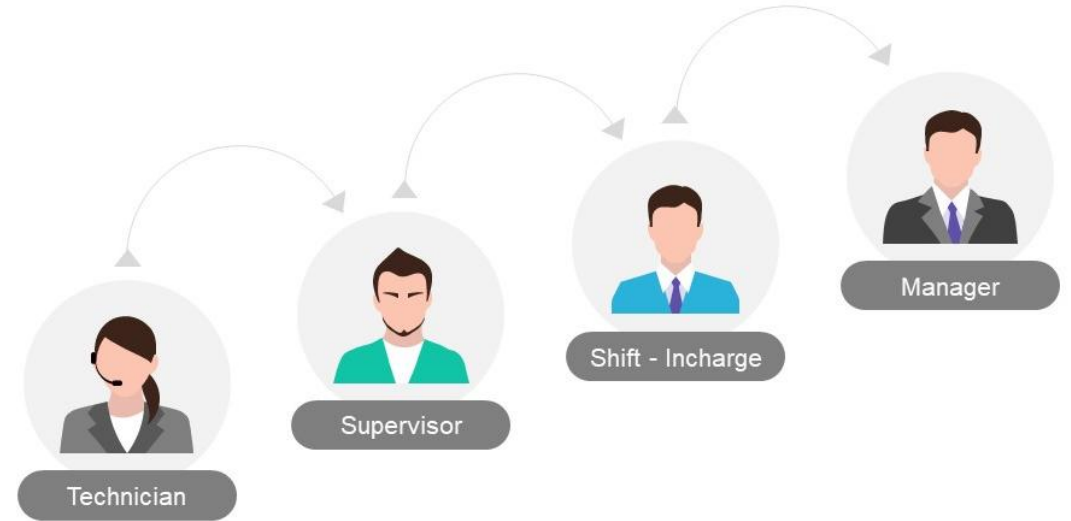


# A Real-World Example

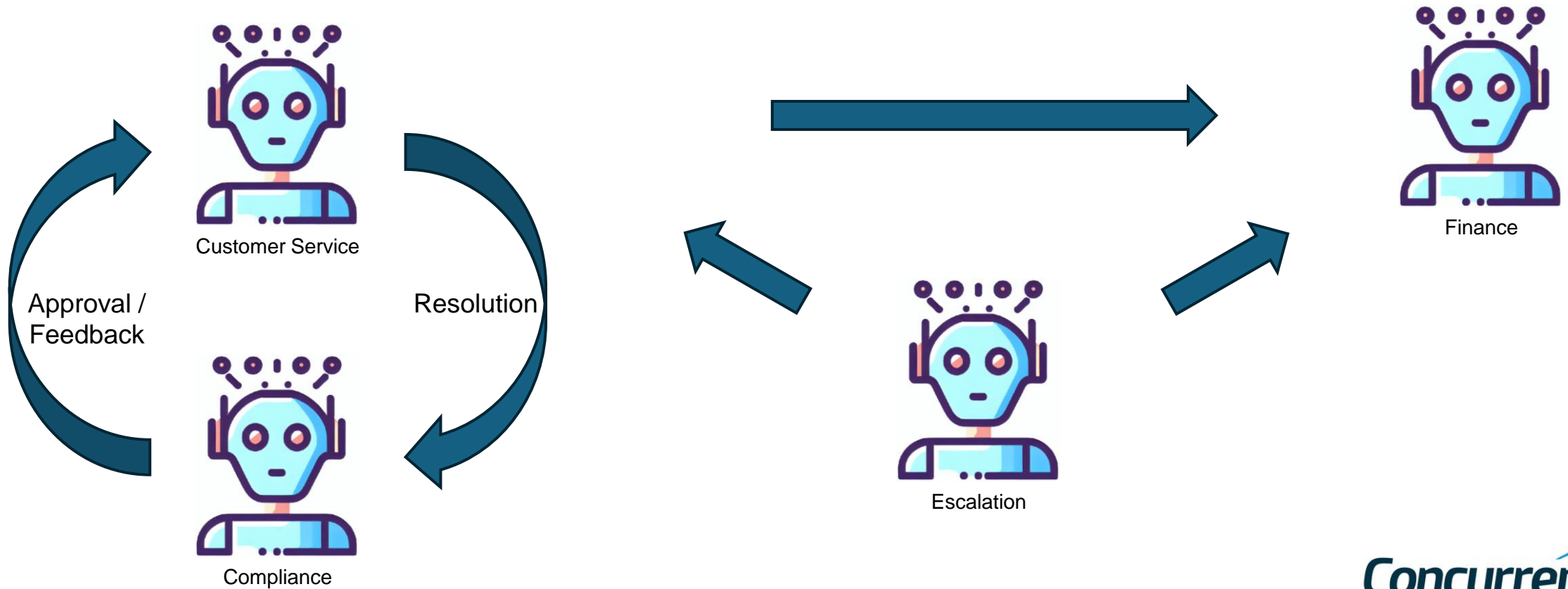
Customer Support and  
Ticket Resolution



# Traditional Solution



# Multi-Agent Solution



# How AI Agents Change Software Development



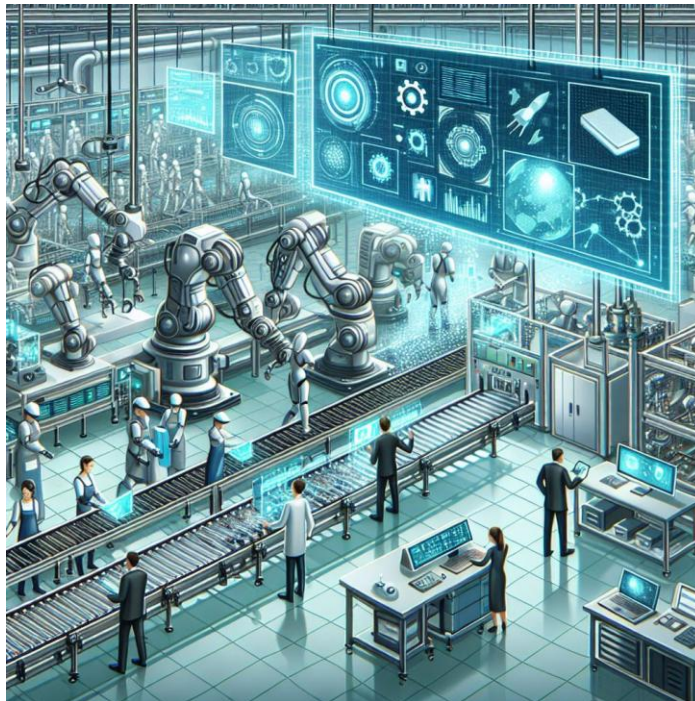
# From Siloed SaaS Logic to Unified AI Orchestration Layers

- i. SaaS tools as modular components called upon by AI agents
- ii. agents replacing workflow logic embedded within SaaS products

# Opportunities Unlocked

# AI as a Force-Multiplier for every domain

Dynamic problem solving, process optimization, and innovating new workflows



# The Competitive Advantage of AI Agents

Agility, Speed, and Efficiency



Hyper-customized experiences and products





# Build an Agent

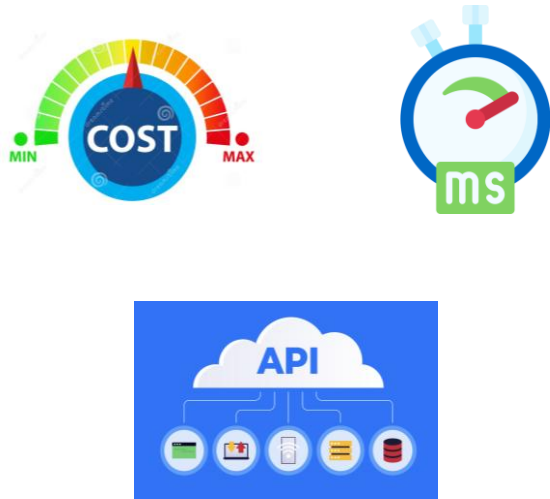
# Set up resources

1. Install VS Code
2. Install VS Code Extensions
  - Python
  - Git
3. Clone git repo (or download .zip file)
  - <https://github.com/concurrencyinc/multiagentsystems>
4. Create virtual environment :
  - `python -m venv .venv`
  - `.venv\Scripts\Activate`
  - `python -m pip install -r requirements.txt`

# Considerations at Scale

# Challenges in Scaling Multi-Agent Systems

## Performance Bottlenecks



## Ethical Concerns



## Agent Collaboration



# Design For Scalability



## Architecture

- Azure AI Agent Service
- Modular Design
- Visibility

## Responsible AI

- Transparency
- Reliability
- Accountability
- Fairness
- Performance

## Security Considerations

- Encryption, isolation, authentication, etc.
- Authentication for skills and data access

# Closing Thoughts

# When to use AI Agents?

**Open-  
Ended  
Problems**

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**Multi-Step  
Processes**

**Improvement  
Over Time**

# Next Steps

- **Copilot Studio, Agent or Multi-Agent Discovery Session** – Engage in a 30 min meeting with our Solutions Architect to explore how AI-driven agents can streamline workflows and enhance automation.
- **GitHub Copilot Metrics Discovery Session** – Spend 30 minutes with our presenter to explore key performance metrics to track AI-driven efficiencies, optimize workflows, and drive continuous development improvements.
- **Bring the Event to You!** – We will present any topic/topics from our event at your organization.

Milwaukee AI Momentum Summit





The logo for 'Concurrency' features the word in a white, italicized, sans-serif font. A blue and white swoosh graphic curves around the right side of the text.

# *Concurrency*

Thank you!