

# MQ Meets Agentic AI: Intelligent Workflows on z/OS

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# Agenda

- The AI landscape in 2026
- The MQ Agent: first-class AI powered diagnostics for IBM MQ
- Using MCP to locally develop and administer MQ applications
- Futures: MQ's role in Mission-Critical Agentic AI systems

**AI in 2026:**  
hype, or real business impact?

# The AI landscape in 2026

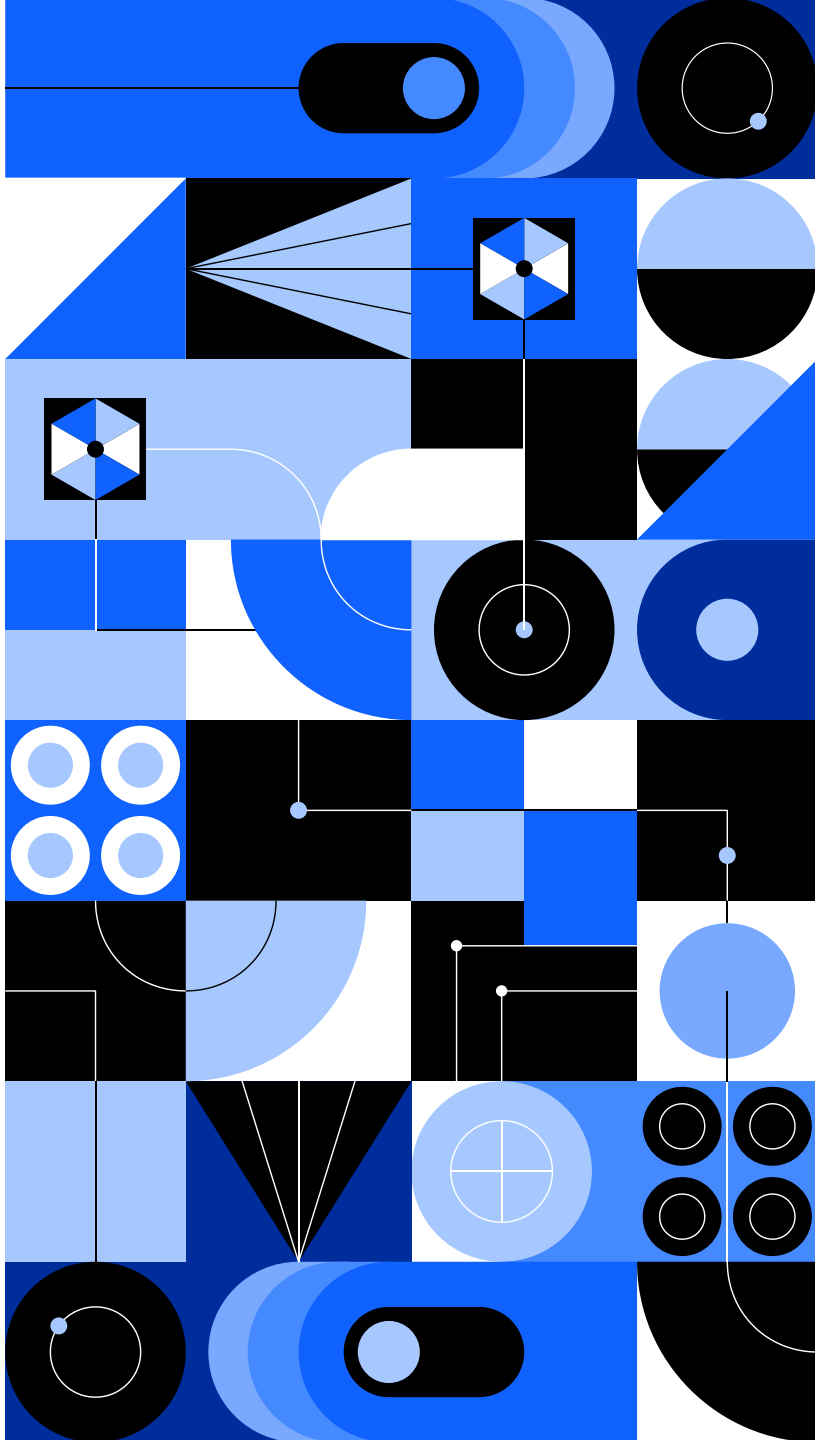
## A shift from **chat** to **action**

- AI technology is shifting from Q&A oriented chatbots
- Agentic AI starts converting plans into real actions
- Enterprises are moving pilots into production
- Governance, data readiness, and skills are the bottlenecks

## What this might mean for **IBM MQ**

- This shift fits into MQ's DNA
- Reliable, auditable, asynchronous tool invocation for agents
- MQ is positioned to provide enterprise-grade messaging for AI agents driving business-critical workflows

# Generative -> Agentic AI



Full-scale  
autonomy is **not**  
the goal

AI agents are  
among the fastest  
growing innovations  
in tech

According to **Gartner's AI Hype  
Cycle (2025)**

Agentic AI should  
enhance, not  
replace, human  
talent

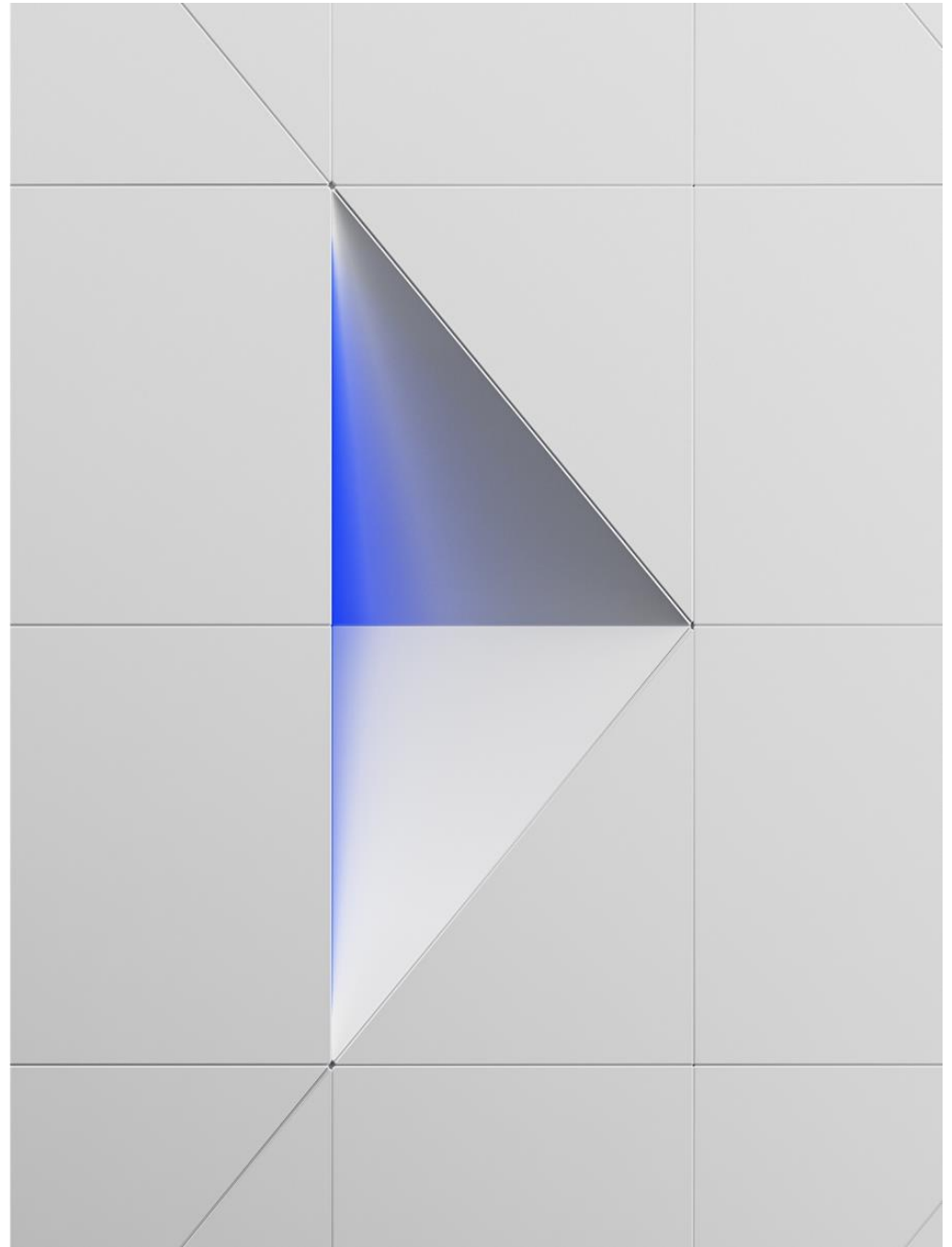
Agentic AI systems should pursue  
goals, plan multi-step tasks, and call  
tools and APIs under human  
oversight

Guardrails are  
lagging

Despite enterprise agent use  
surging, only ~20% have mature  
governance

(Deloitte, 2026)

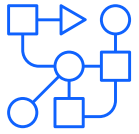
# IBM Z is evolving for AI



IBM Z

z16 laid the groundwork for AI.

z17 is AI ready at the core.



450 billion  
inference  
operations per day



Spyre Accelerator  
card for  
unstructured data  
processing



Support for third-  
party AI agents



Seamless  
integration with  
hybrid cloud and  
Watsonx.ai

# What this means for IBM MQ

01

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## The MQ Agent

A fully supported, intelligent, conversational interface for MQ administration and troubleshooting

02

## MCP

Expose your MQ estate to your chosen AI-enhanced development and administration tooling

03

## Futures

IBM MQ is positioned to be a concrete choice for enterprise agents to communicate

# The MQ AI Agents: Diagnostic agents for IBM MQ

\*IBM MQ AI Agents are offered as a component of IBM MQ Advanced and are generally available on 24th March 2026.

An age-old question:

## Why are my messages not flowing?



### Time

- Speed of response is critical
- Delays can frustrate end users
- Real-world and business impacts may follow

Ticket-driven analysis can take hours or days to identify the root cause



### Skills

- Application developers and SREs often do not have the deep expertise to debug production MQ environments
- Time is wasted handing responsibility between individuals and teams to advance the analysis

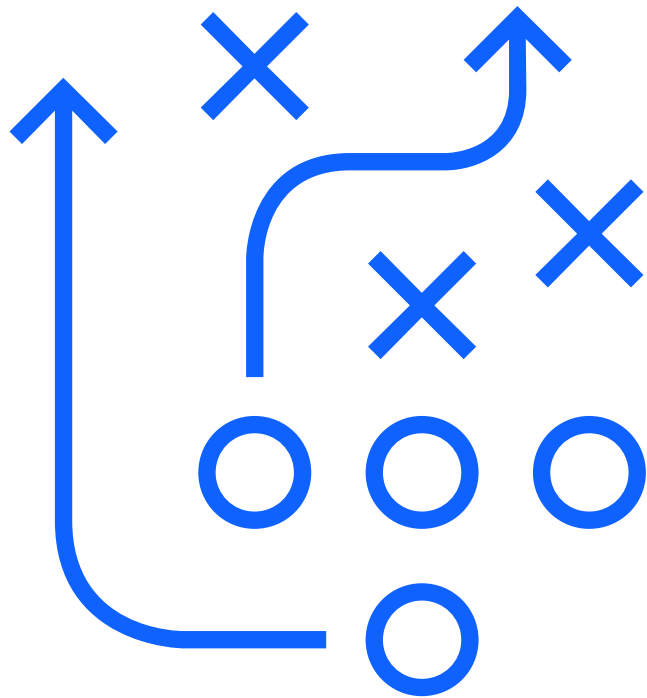


### The MQ Agent

- Guides the diagnosis process
- Provides root-cause analysis in seconds or minutes
- No need for deep MQ knowledge
- Potentially significant time savings in time to resolution, reducing impact of outages

# IBM MQ AI Agents

At launch, the MQ AI Agents focus on the operational challenge of understanding why messages are not flowing.



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## Ask

Natural-language questions about MQ concepts

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## Identify

Issues such as message build-up, channel failures, and application queue health

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## Understand

The causes of dead-lettered messages and routing failures

# Built on Agentic AI

## How does it run?

- The IBM MQ AI Agents leverage agentic systems that support autonomous reasoning, self-directed problem solving and contextual analysis.
- Deployed into OpenShift and can connect to queue managers anywhere over your network.
- The agents currently use watsonx.ai on IBM Cloud as the inferencing runtime.

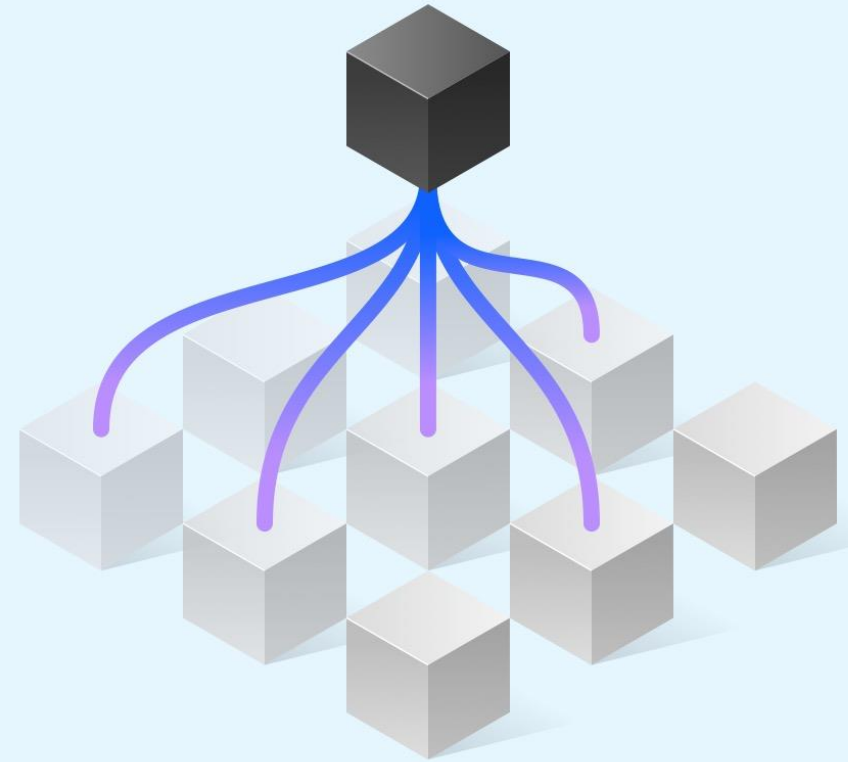
## Where does it run?

The IBM MQ AI Agents work across all IBM MQ deployments, including:

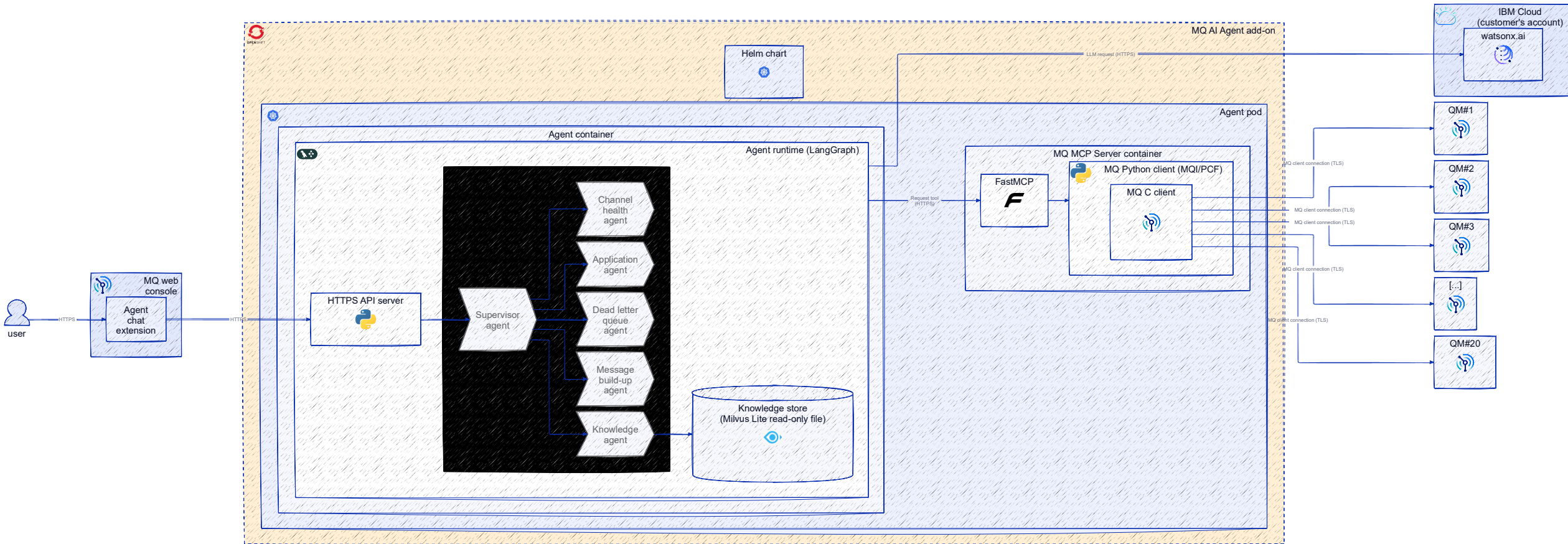
- IBM MQ
- IBM MQ Advanced
- IBM MQ Appliance
- IBM MQ on z/OS
- IBM MQ SaaS
- On-premises and cloud environments

There is no limit to the number of agent instances that can be deployed.

Each instance can administer up to 20 queue managers.

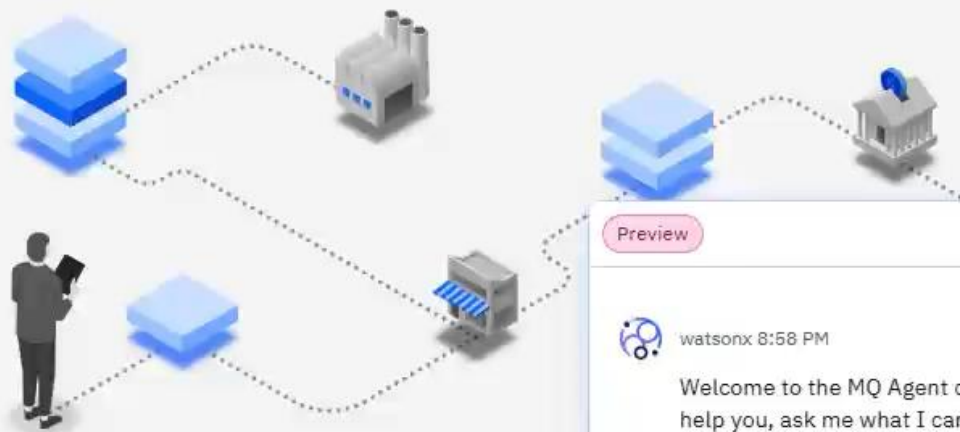


# Technology Stack



# Demo 1

# Let's get you going!



**Manage**

**Your queue managers (0)**

Running	0
Disconnected	0

**Application quick start**

Setup MQ to interact with your application in just a few simple steps.

**Download connection file**

Generate a connection file for applications to use

Preview AI

watsonx 8:58 PM  
Welcome to the MQ Agent chat. I'm here to help you, ask me what I can do.

watsonx 8:58 PM  
The IBM MQ Agent chat assistant uses generative AI. Output may not be accurate, and IBM has no responsibility for any such Output. IBM warranties and support do not apply to such Output; it is used at Licensee's risk.

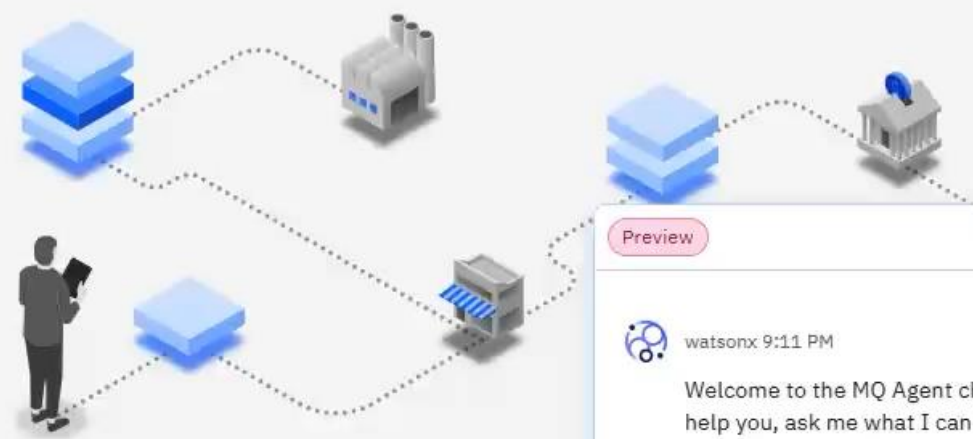
You 8:58 PM  
tell me what you can do


Type something...

# Demo 2





# Let's get you going!




 Manage

**Your queue managers (0)**

 Running	0
 Disconnected	0


 Application quick start

Setup MQ to interact with your application in just a few simple steps.


 Download connection file

Generate a connection file for applications to use

Preview AI ↻ —

 watsonx 9:11 PM

Welcome to the MQ Agent chat. I'm here to help you, ask me what I can do.

 watsonx 9:11 PM

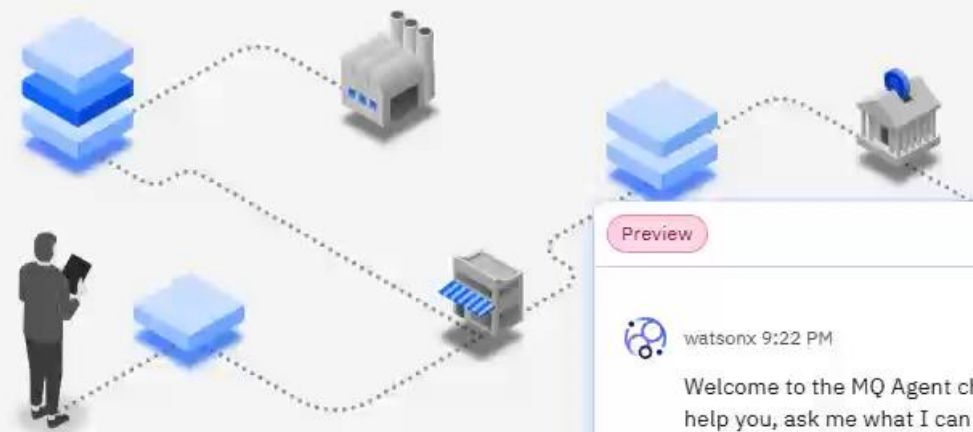
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Type something... ➤

# Demo 3






# Let's get you going!




 **Manage**

**Your queue managers (0)**

 Running	0
 Disconnected	0


 **Application quick start**

Setup MQ to interact with your application in just a few simple steps.


 **Download connection file**

Generate a connection file for applications to use

AI ↻ —

 watsonx 9:22 PM

Welcome to the MQ Agent chat. I'm here to help you, ask me what I can do.

 watsonx 9:22 PM

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You 9:22 PM

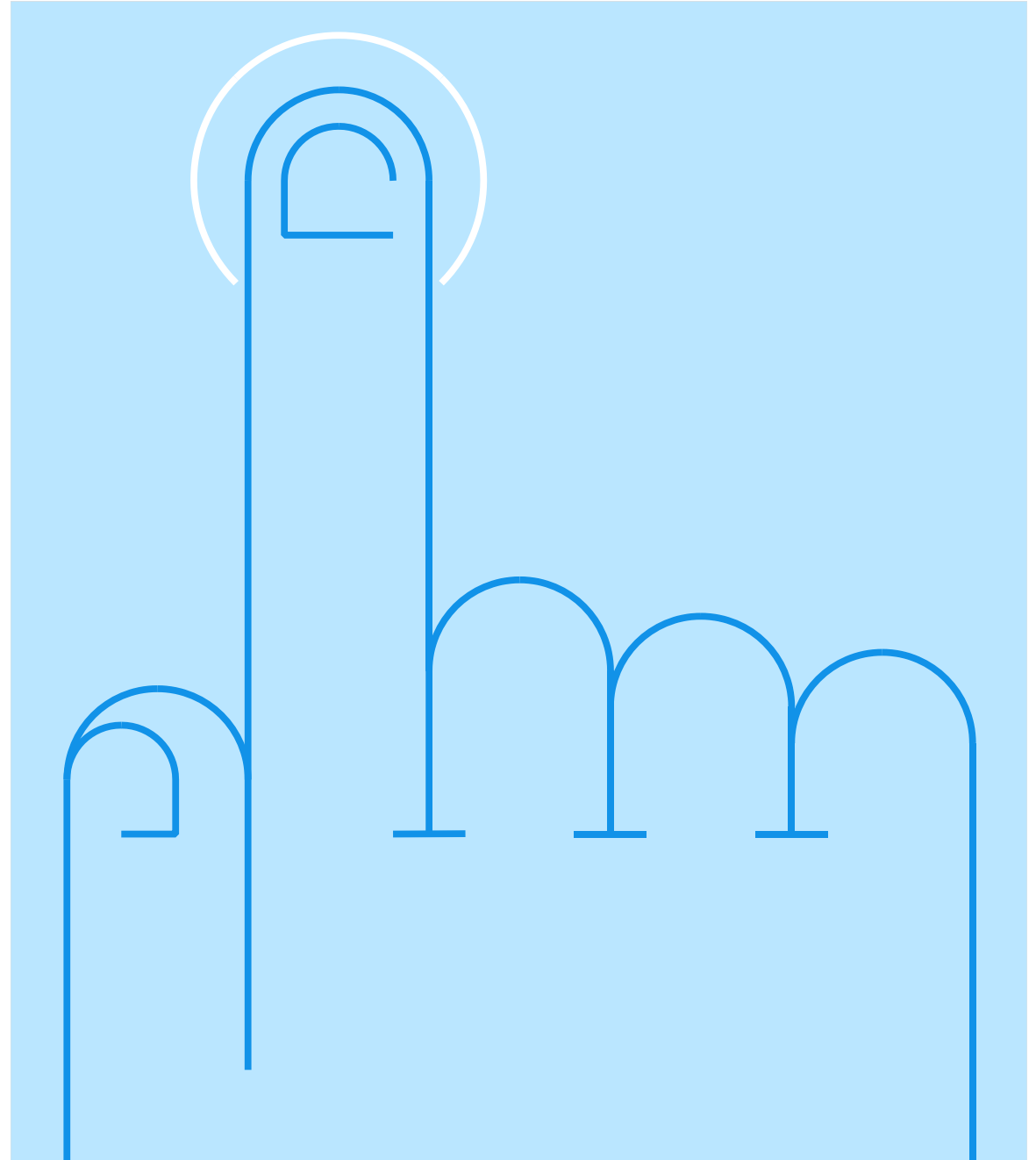
is there a DLQ problem on QM2?

...

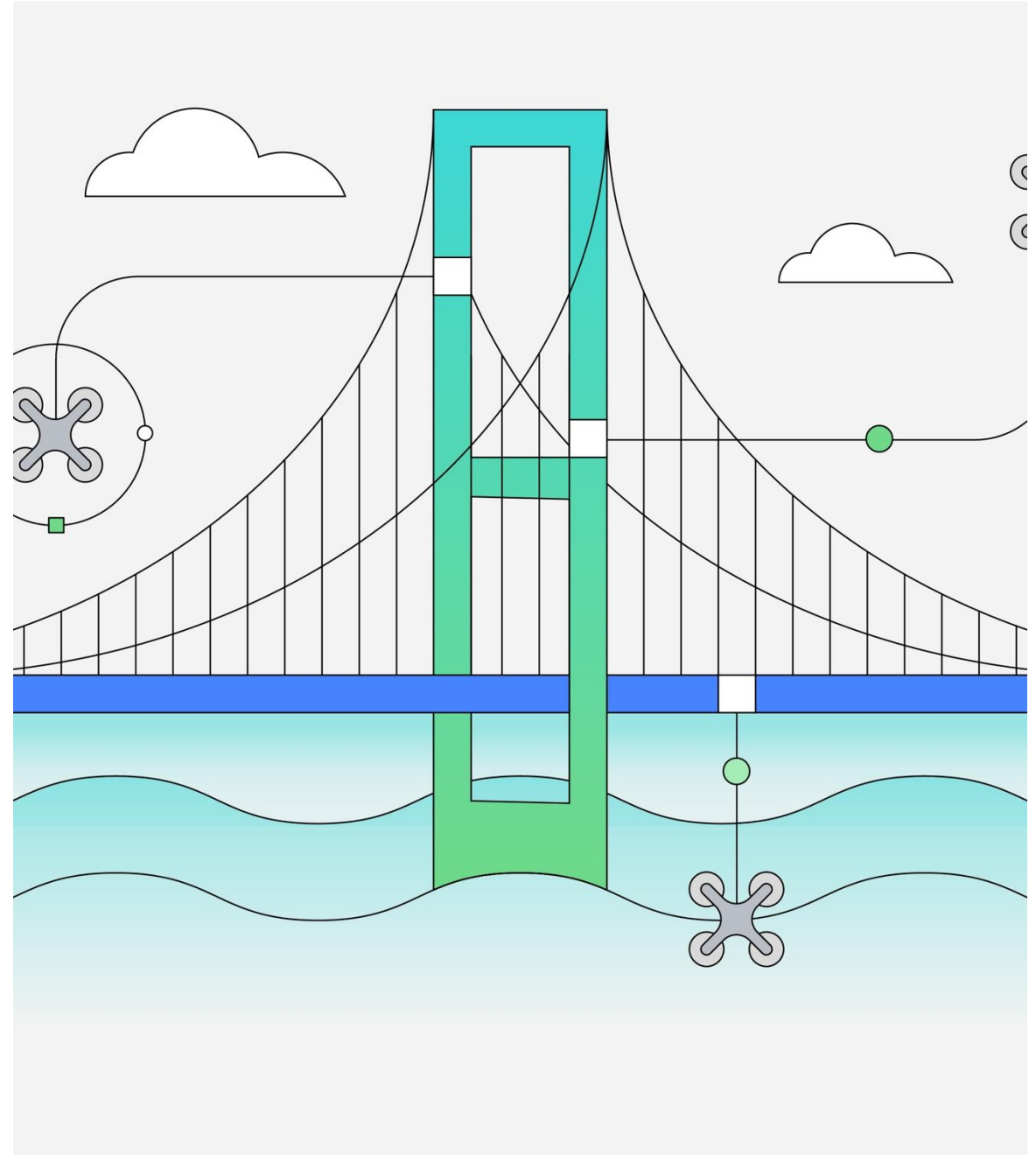
Type something... ▶

# Future of the MQ AI Agents

# Using MCP Servers with IBM MQ



# MQ as the transport layer for Agentic AI



Is MQ a good fit?

### **Limitations of Traditional Protocols**

Traditional protocols like JSON-RPC over HTTP lack retries, persistence, and durability needed for complex agent systems.

### **Enterprise-Grade Reliability Features**

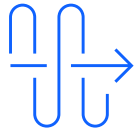
IBM MQ provides retries, persistence, guaranteed delivery, and flow-controlled asynchronous messaging to ensure reliability.

### **Support for Distributed Multi-Agent Systems**

IBM MQ's decoupled architecture enables asynchronous communication across distributed agents enhancing scalability and resilience.

### **Application in Agentic AI Systems**

IBM MQ supports LLM-driven agentic applications by maintaining coordination, handling workloads, and evolving state.



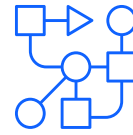
Reliability and Durability



Security and Monitoring



Integration and  
Deployment



Enhances Existing  
Protocols

Proof of concept!

[MCP Sample Demo:](#)

<https://github.com/ibm-messaging/mq-mcp-server>

[MQ as transport for agentic AI demo:](#)

<https://github.com/ibm-messaging/mq-agentic-ai>

