FUTURE TECH

# AI Agent Assistants for Live Production

# IBC Accelerator Programme 2025

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# AI Agent Assistants for Live Production

#Accelerators2025
#IBCAccelerators2025

Champions:

Participants:

# SPEAKER SLIDE FROM IBC HERE

# AI Agent Assistants for Live Production

# A framework for true AI integration

Intelligent Assistance

Intelligent Orchestration

Intelligent Integration

Introducing task-based, natural language interfaces, with reasoning, across your full suite of production data and production tools

# What's going on?



## Established live production workflows are being disrupted:

- Broadcasters need to service ever more **publish points** with **more live content**
- Commercial pressures are driving a focus on costs
- While software-defined production promises a new level of flexibility and integration

And now… **The Age of AI Agents is here.**

*The* opportunity for our industry to unlock the power of A.I. at the core of live production.

# Age of the Agentic Era?

#IBCAccelerators2025

- AI can now use our tools, not just our data
- Control rooms are the frontier - but this is just the start of a much wider disruption

**This might just be the first glimpse of a fundamental shift in how we interact with technology, how we connect it together, how we build it… and who does all of that**

Intelligent Agents and Conversational Interfaces: The Next Big Thing?

Home / Innovation / Artificial Intelligence

AI agents will match 'good mid-level' engineers this year, says Mark Zuckerberg

Artificial Intelligence Agents: The Future of Smart Assistance

Move Over Apps, AI Agents Are Here

TECH / GOOGLE

Google's AI enters its 'agentic era'

AI Agent: The the primary way we interact with computers in the future

Google's new Gemini will power AI agents

Gemini 2.0 is built for AI's "new agentic era," Google chief executive Sundar Pichai

# UI & Integration



The overarching theme of the evolution of live production workflows is…

**Empowering skilled operators to do more, through richer control**

The two keys to unlocking this have always been…

**Deeper device integration**
**&**
**Smarter, flexible, user interfaces**

# Something got us thinking …



**2023:** How can we **better connect** the production stack… **from GPI to API**

**2024:** How can we **better control** production tools… **AI as UI**

**2025:** How can everything **control & connect** to everything… **from API** to **AI**

# 2023: from GPI to API

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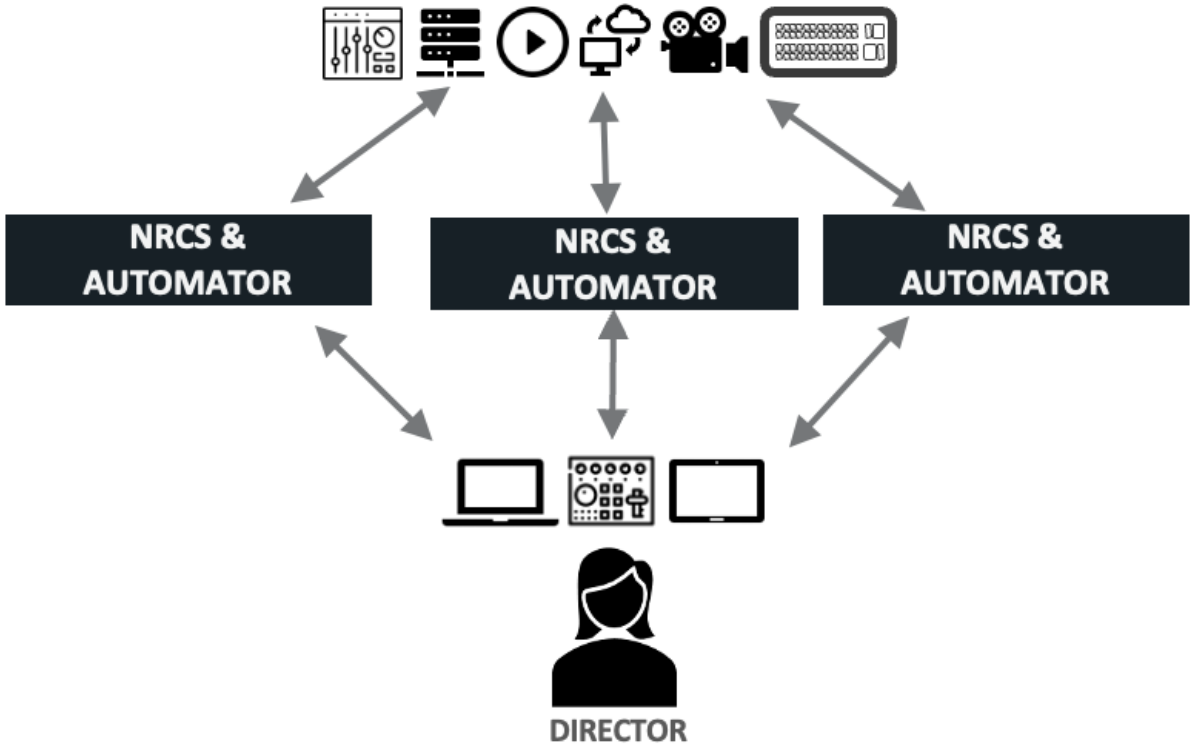
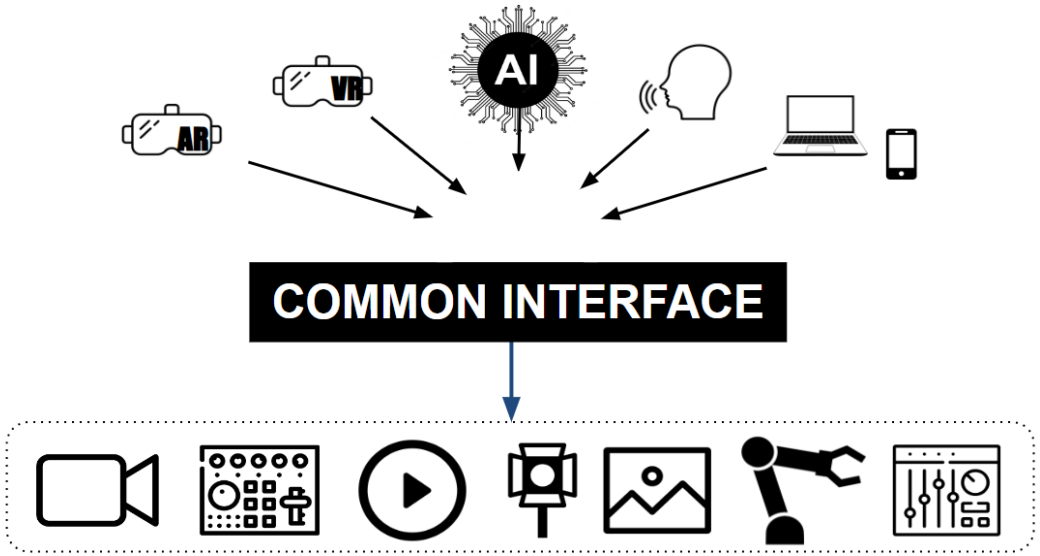
‘Gallery Agnostic Live Media Production’ Accelerator - Solving the ‘disparate workflows’ problem

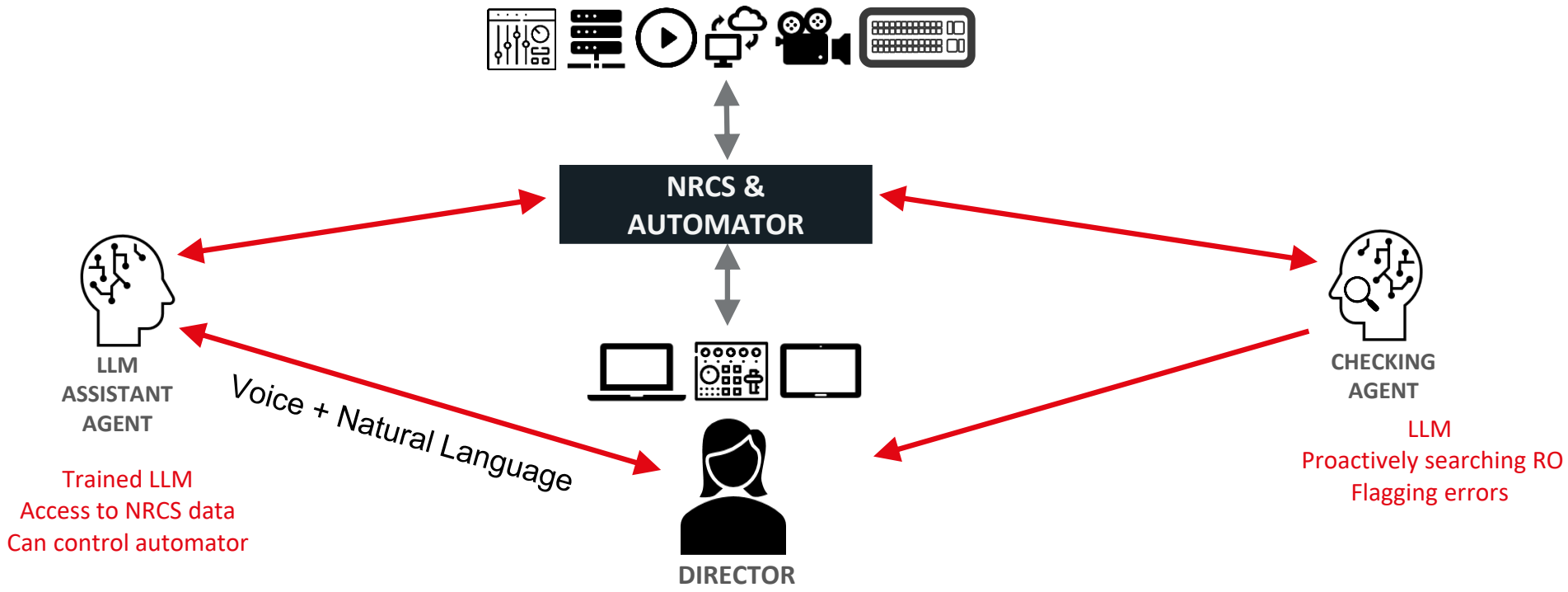


# 2024: AI as UI



‘Evolution of the Control Room Accelerator’ - Solving the ‘heads-down’ problem



# 2024: AI as UI

TODAYS STUDIO
BOOKINGS for C4
10:55 - Noon
Bulletin TX
CLOCK
DEMO MODE

# 2025 Challenge: put AI to work!



An orchestrated ‘crew’ of AI Agents supporting operators.
Trained LLMs with efficient access to production data and control systems.

Reducing technical complexity, hunting for potential problems and helping to build better content:

**LIVE ASSISTANT AGENTS**

**CHECKING AGENTS**

**CONTENT AGENTS**

**… And an open technical framework to integrate them with each other, with our existing tech stacks *and* emerging production systems.**

# 2025: A dream team

#IBCAccelerators2025

Champions:

BBC

ITN

4

Participants:

Google Cloud

CUEZ

SHURE

Moments Lab

Amira Labs

CUEPILOT

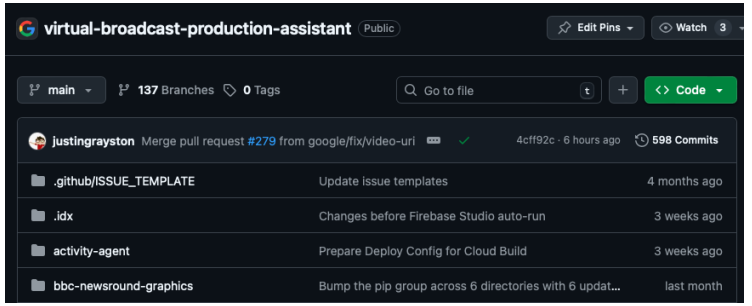
HighFieldAi
Live Production Intelligence

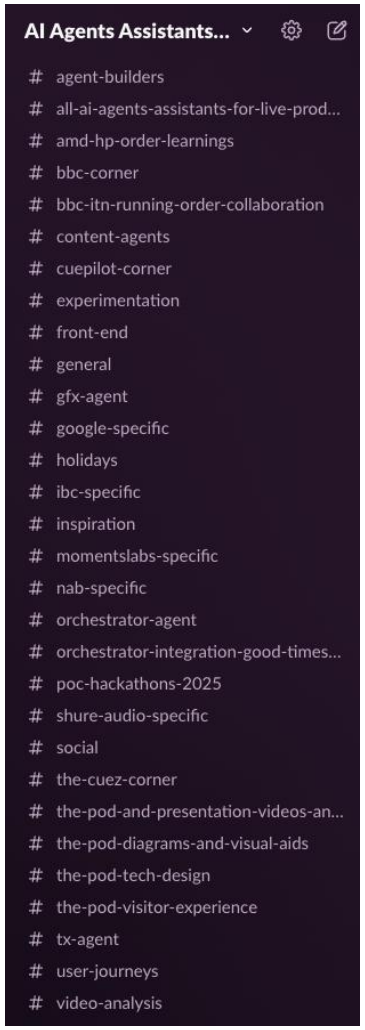
.monks

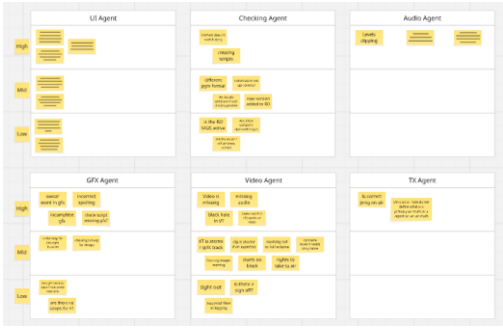
EVS

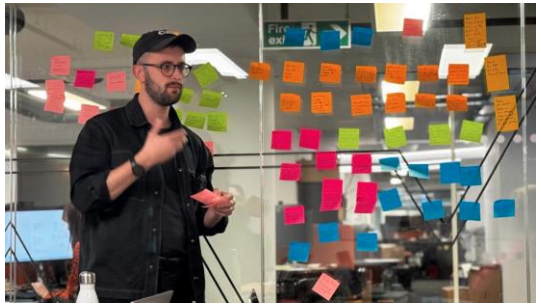
# International Collaboration

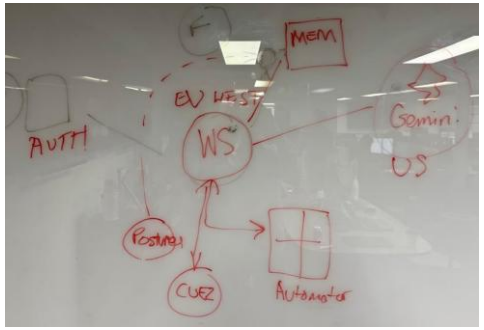
5 in-person hacks at ITN, Google, BBC + Github, Slack, Miro, MSTeams

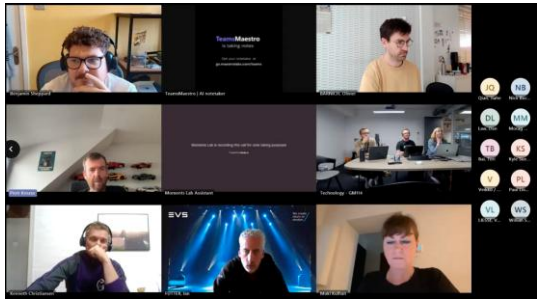


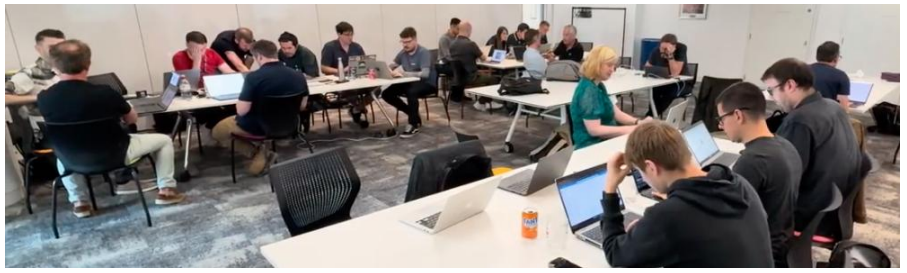



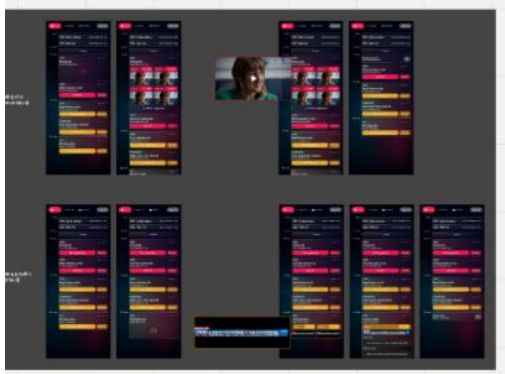








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# AI Agents 101

# What is an Agent?

**Agent = Software with initiative**

- Not just an LLM wrapper
- Agents take *tasks*, not just prompts
- They offload reasoning, decision-making and memory
- Built to observe, act, and interact with systems
- Can collaborate with other agents

# What is an “Agentic System”?

**Agentic System = A collaborative team of agents**

- A team of agents, each with a clear task
- They coordinate using A2A (Agent-to-Agent) protocol
- Each agent describes what it can do using natural language “cards”
- The system acts as a collaborative mesh - not a monolith

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# This is the moment!

# This is the moment!



End of 2024: **MCP released**

Feb 2025: Accelerator Kickstart Day

March 2025 1st call and 1st session at ITN

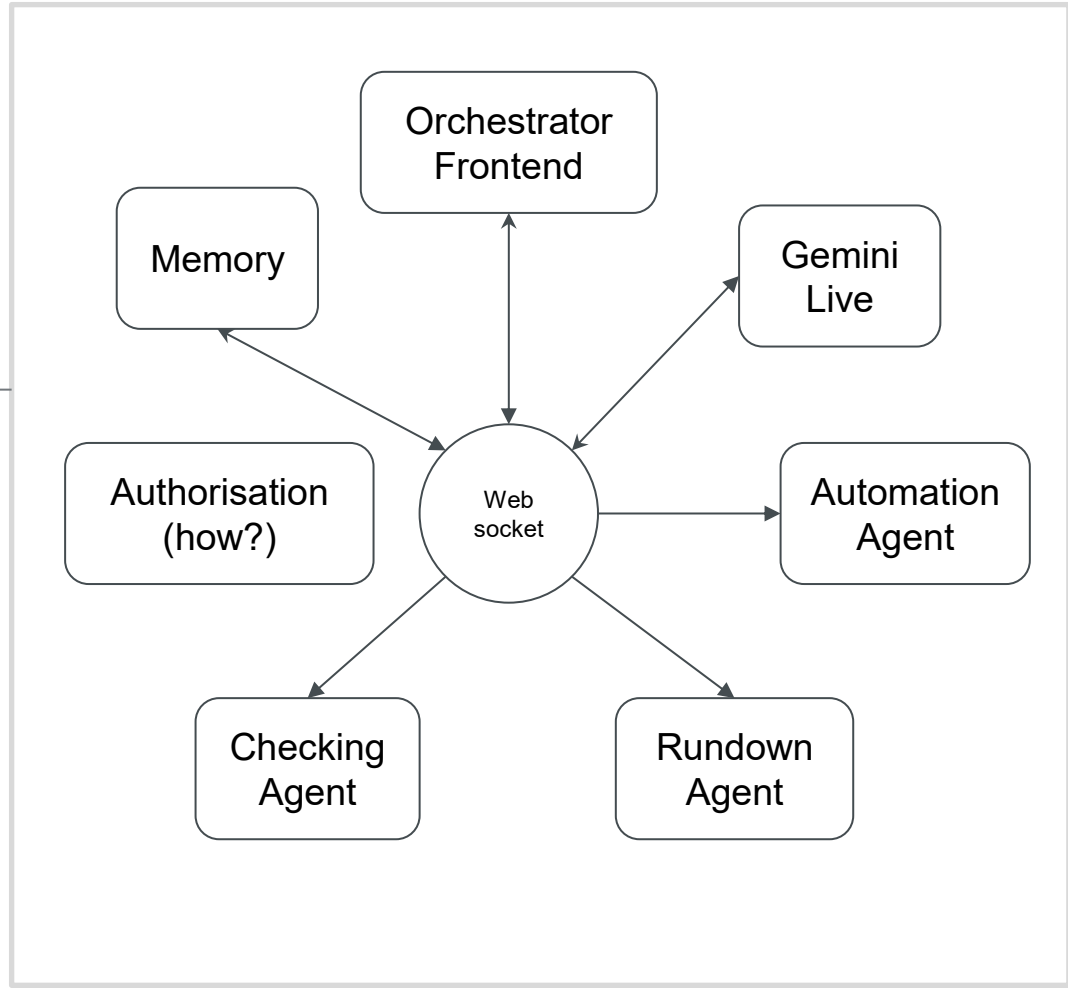
April 2025: **Google announces A2A & ADK**

May 2025: **1st** hackathon

June 2025: **2nd** hackathon

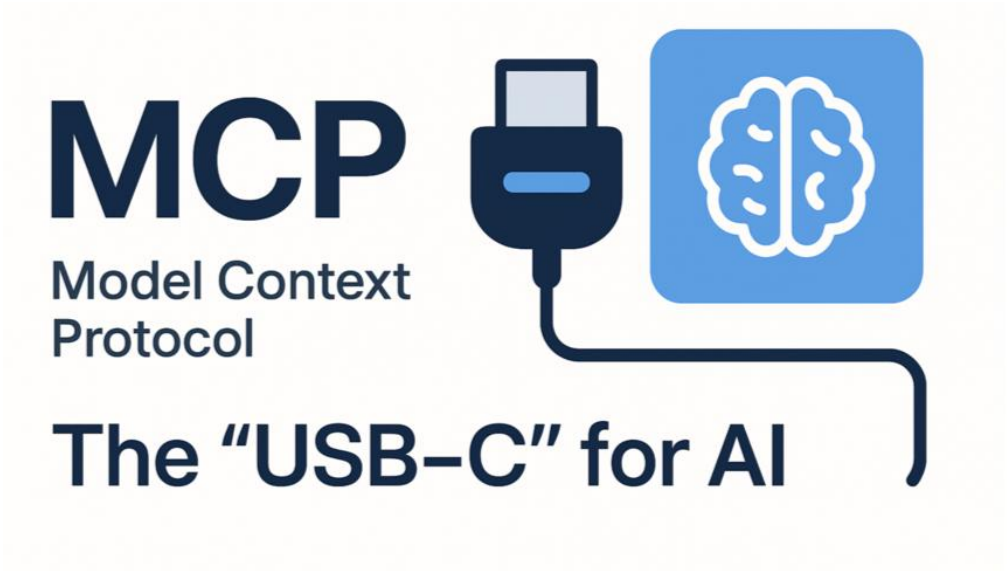
August 2025: **3rd & 4th** hackathon

September 2025: **It works**



# New tech dropped: MCP






Nov 2024:

## **M**odel **C**ontext **P**rotocol

- Addresses the critical challenge of AI systems being isolated from live data
- Accelerating AI deployment by standardizing connections
- The "USB-C Port for AI": MCP provides a universal interface, eliminating the need for custom integrations for every tool and data source.
- Plays on the strength of Natural Language

# New tech dropped: ADK



April 2025:

## Google ADK

- development kit
- helps you build AI Agents
- designed with multi-agent setups in mind

# New tech dropped: A2A

April 2025:

## A2A

- Agent 2 Agent protocol
- open standard
- standardises Agent interaction

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# Meet the Agents

# Meet the Agents

- **Google:** orchestrator agent
- **Cuez:** rundown & automator agents
- **ITN:** checking agent
- **BBC:** graphics agent, automation agent, activity agent
- **Moments Lab:** content discovery agent
- **NBC Universal:** graphics agent
- **HighfieldAI**: graphics agent
- **Monks**: TX agent
- **Shure**: audio agent
- **EVS**: video enhancer agent
- **Amira Labs**: front end

Google Cloud

BBC

ITN

CUEZ

SHURE

Amira Labs

Moments Lab

EVS

HighFieldAi

Live Production Intelligence

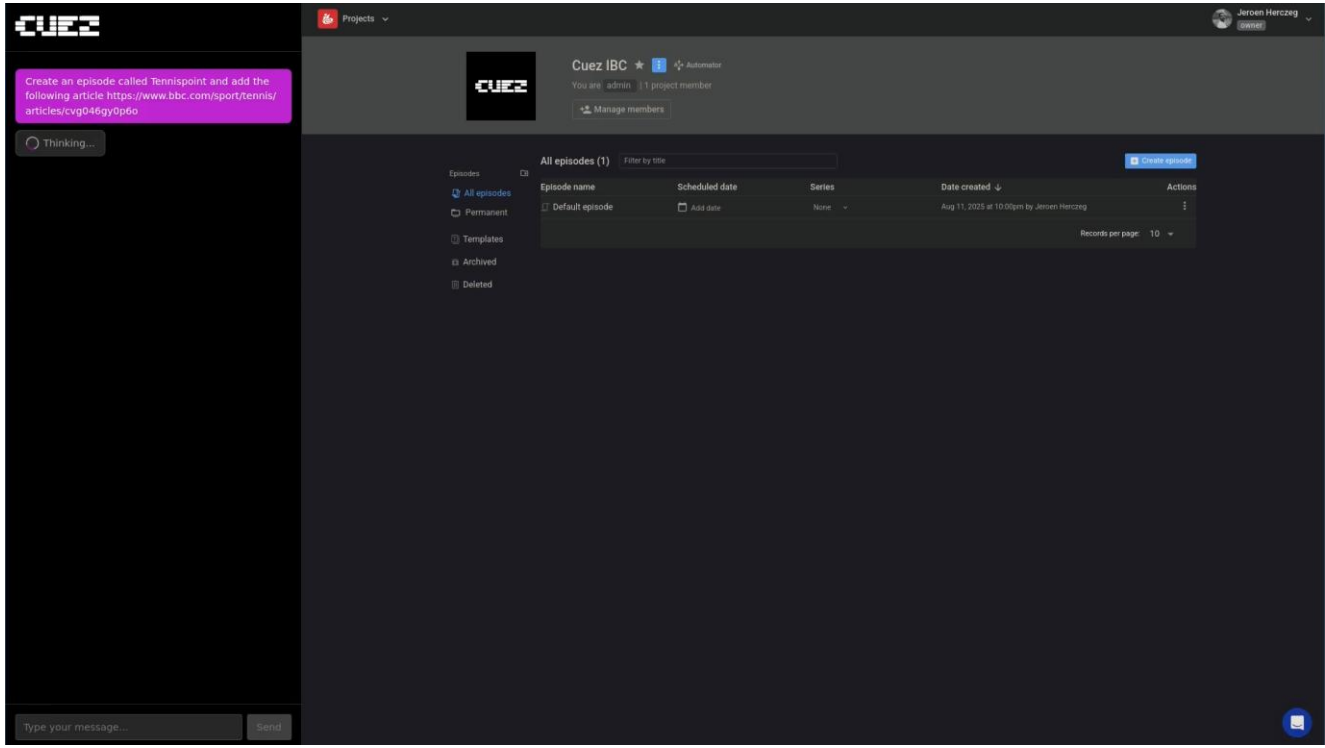
NBC UNIVERSAL

.monks

# Rundown Agent

*Talk to the rundown*

- Exposes Rundown functionality to any AI tool
- Allows AI tools of any kind to really talk to Cuez Rundown
- Use normal spoken commands to question it. Via tools like Gemini, or any other AI tool
- Allow other AI tools & agents to change it, update content, add content, float items, …




**“Are there any missing clips in the rundown?”**

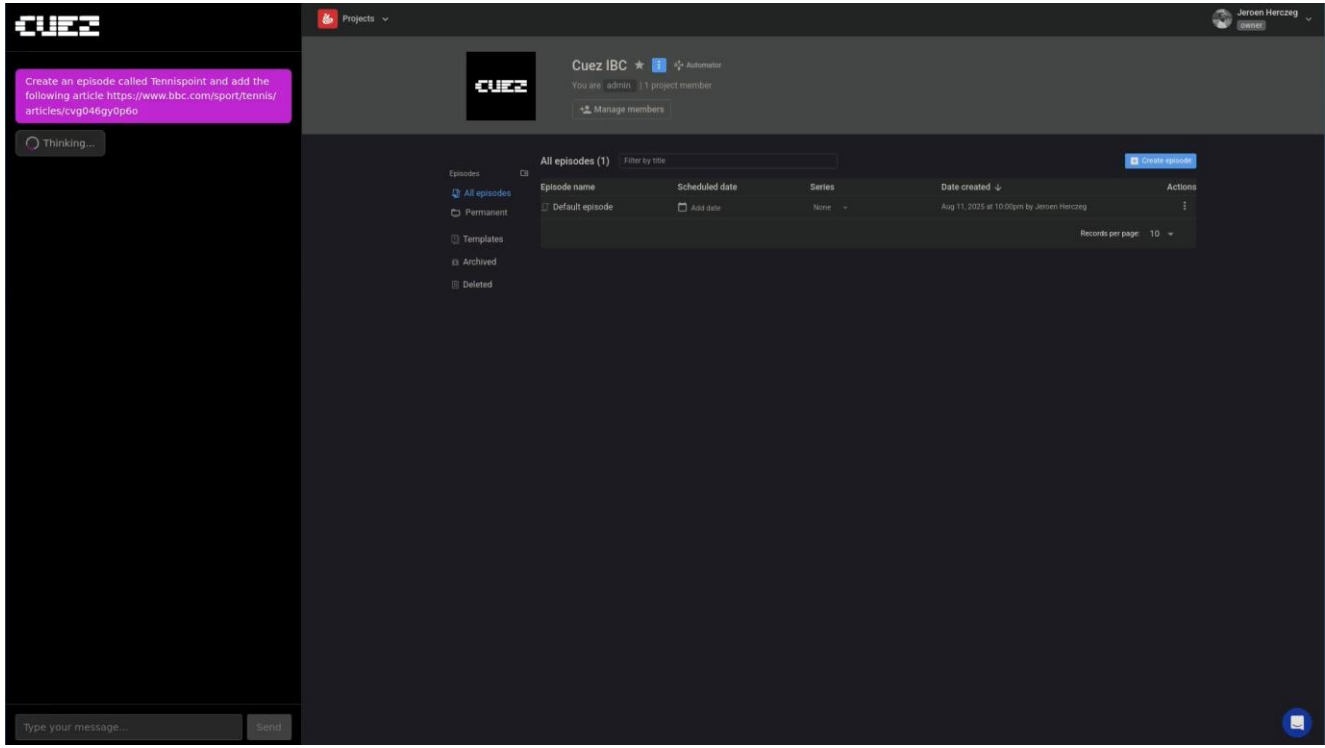
**“Create a rundown based on the content from this webpage”**

**“Is the info factual?”**

# Automator Agent

*Talk to gallery devices*

- Automator is the tool that talks and commands devices like vision mixers, GFX tools and playout devices
- Automator Agent exposes those functionalities to AI tools, and allows them to use them
- via Automator Agent, you can have AI help you monitor and control your gallery




**“Jump to the first item”**

**“Is there an item about measles in the rundown? Cue it”**

**“Jump to the Ukraine Story & trigger Lower Third”**

# A Different Automation Agent

*Integrates with Sofie Open-source TV Automation*

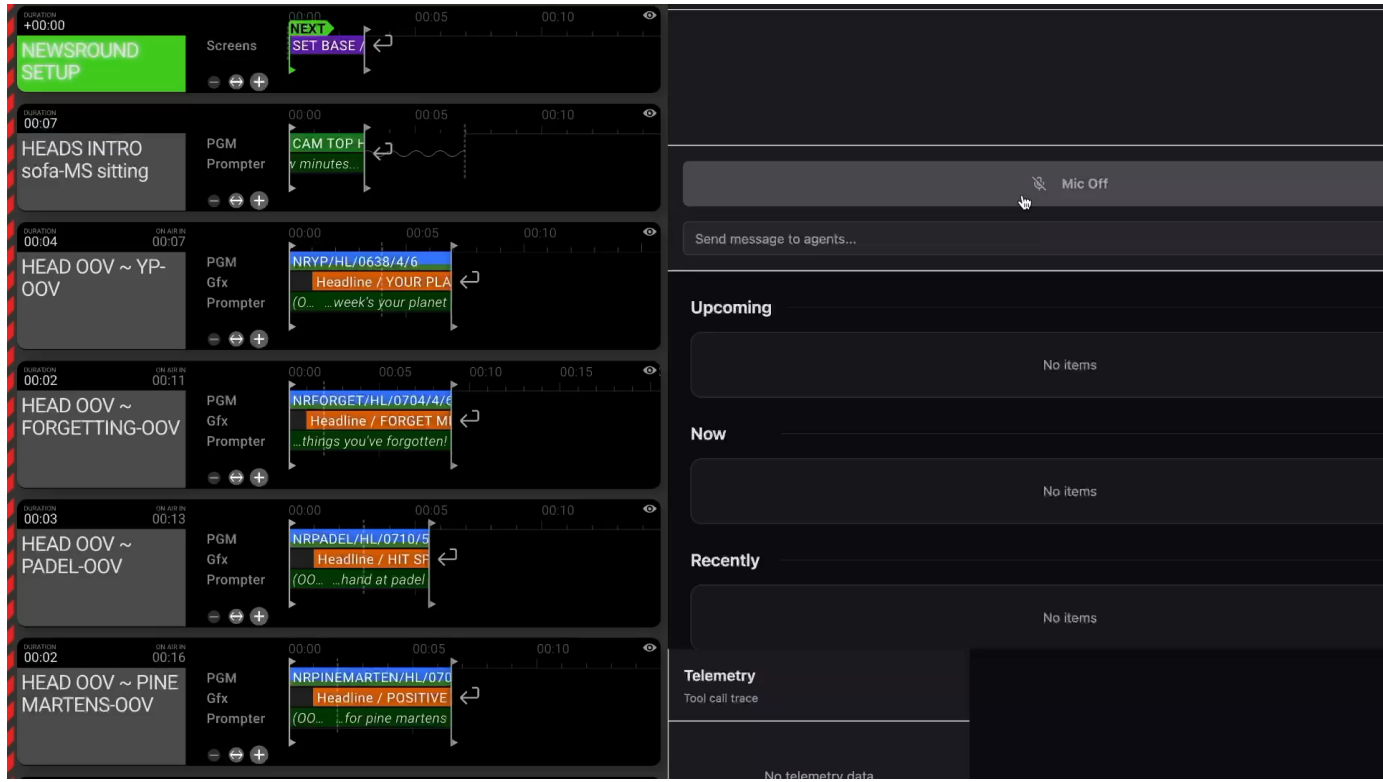
Using voice and natural language:

- Controls the live broadcast
- Navigates the Runorder
- Queries the Runorder

**“Take 3… Cut to 3…Go to Camera 3”**

**"Run VT…Take the clip…
Roll the clip of the Prime Minister”**

**"What camera is item 4 on?”**



# Music TV Automation Agent

*Integrates with CuePilot Music TV Automation*

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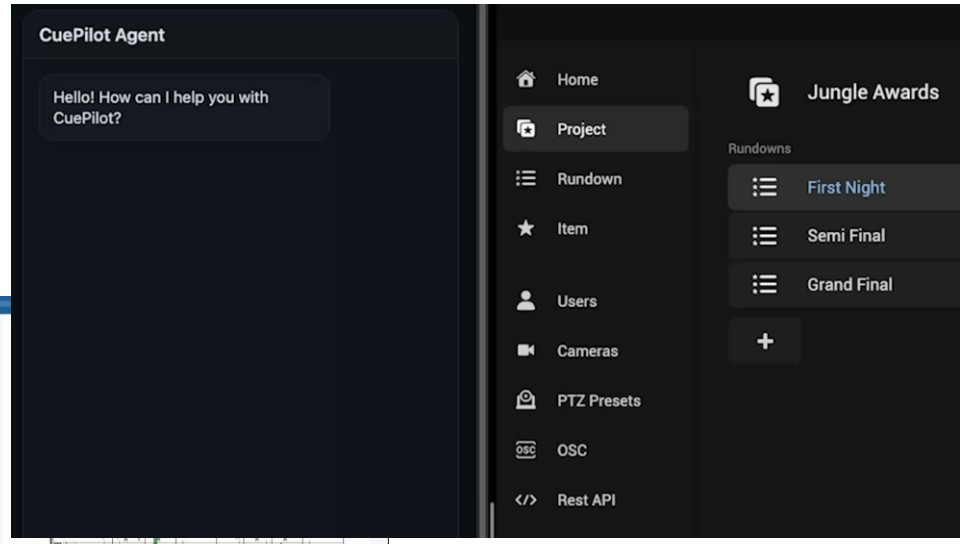
Using Voice and Natural Language:

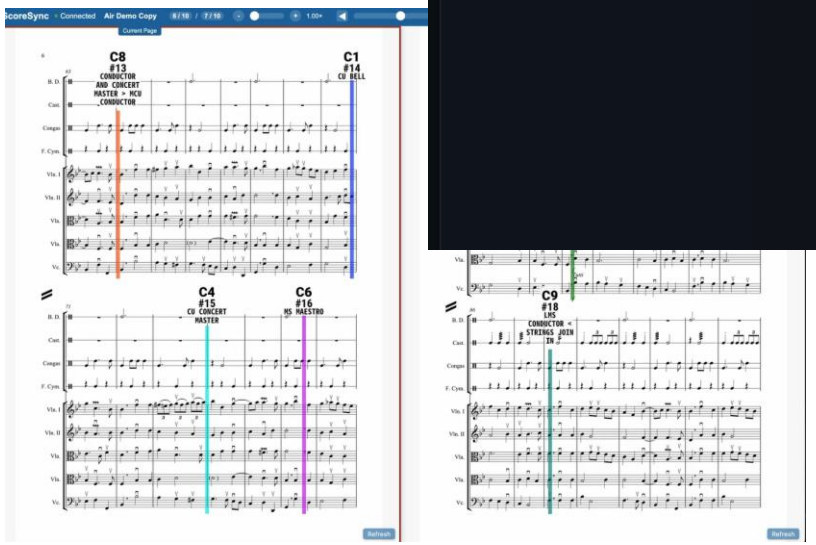
- Navigates timelines in sync with music
- Change shots live, even mid-performance
- Query shot lists

**"Take-next shot (or skip)"**

**"How many shots are left on Camera 3?"**

**"Which camera can get the flute?"**



CUEPILOT

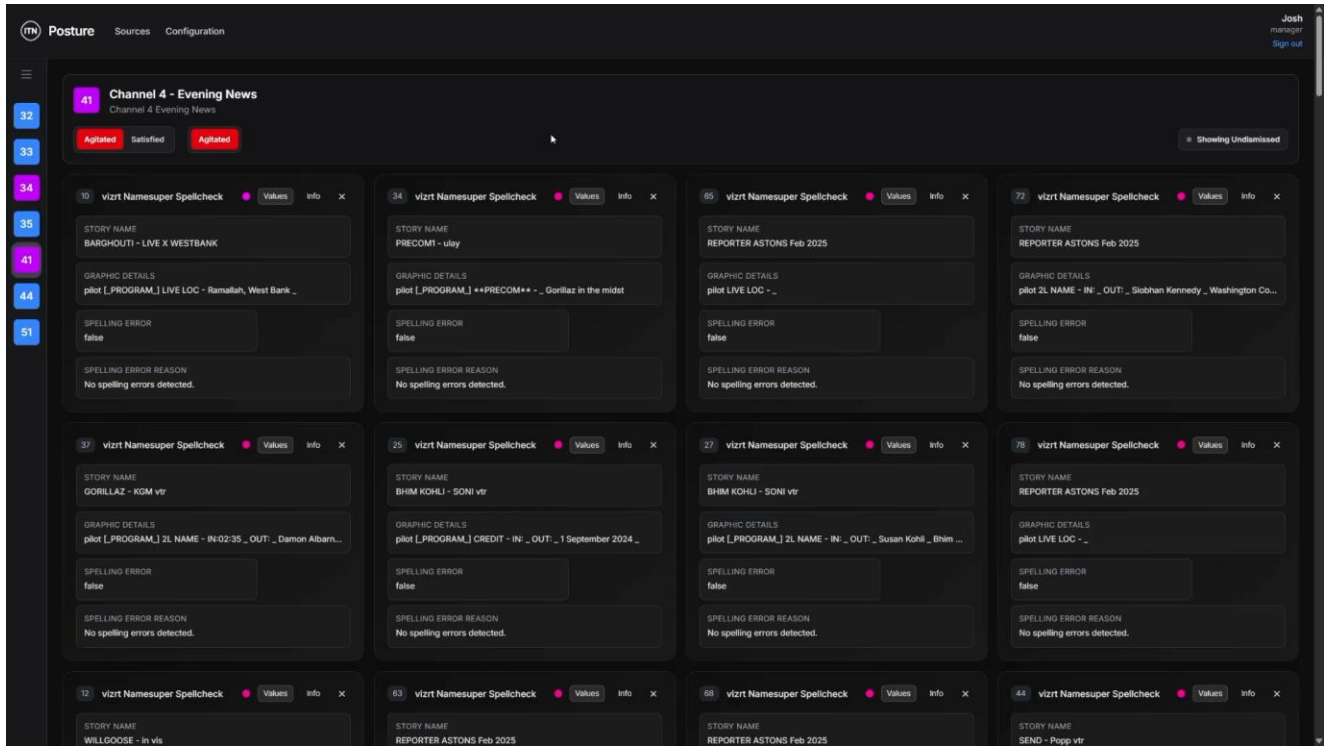
# Checking Agent

*Connecting runorder content to LLM-based checking: from spelling to compliance*

- Can cross-reference rundown content against editorial and compliance rules
- Identifies spelling, factual, and brand style errors.
- Surfaces compliance issues before content goes to air.
- Integrates with other agents (e.g. Graphics, Rundown) to make fixes automatically.

**“Check all lower-third graphics in the rundown for spelling mistakes.”**

**“Does this package comply with our election guidelines?”**



# TX Agent

*Watch, listen and understand your stream*

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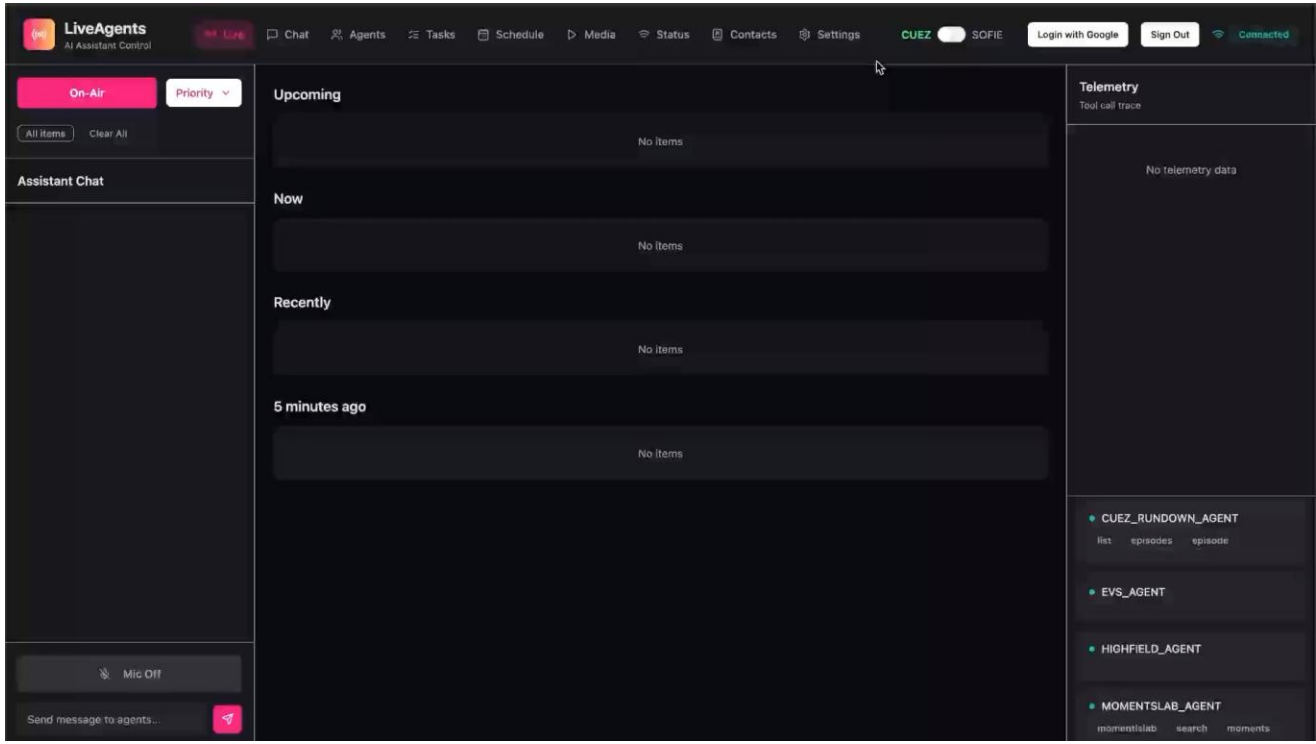
- Watches and listens to a stream
- Understands what happened
- User can interrogate it about what happened during the stream

**“What was the first news of the day?”**

**“What were they saying about the wildfires?”**




.monks

# Audio Agent

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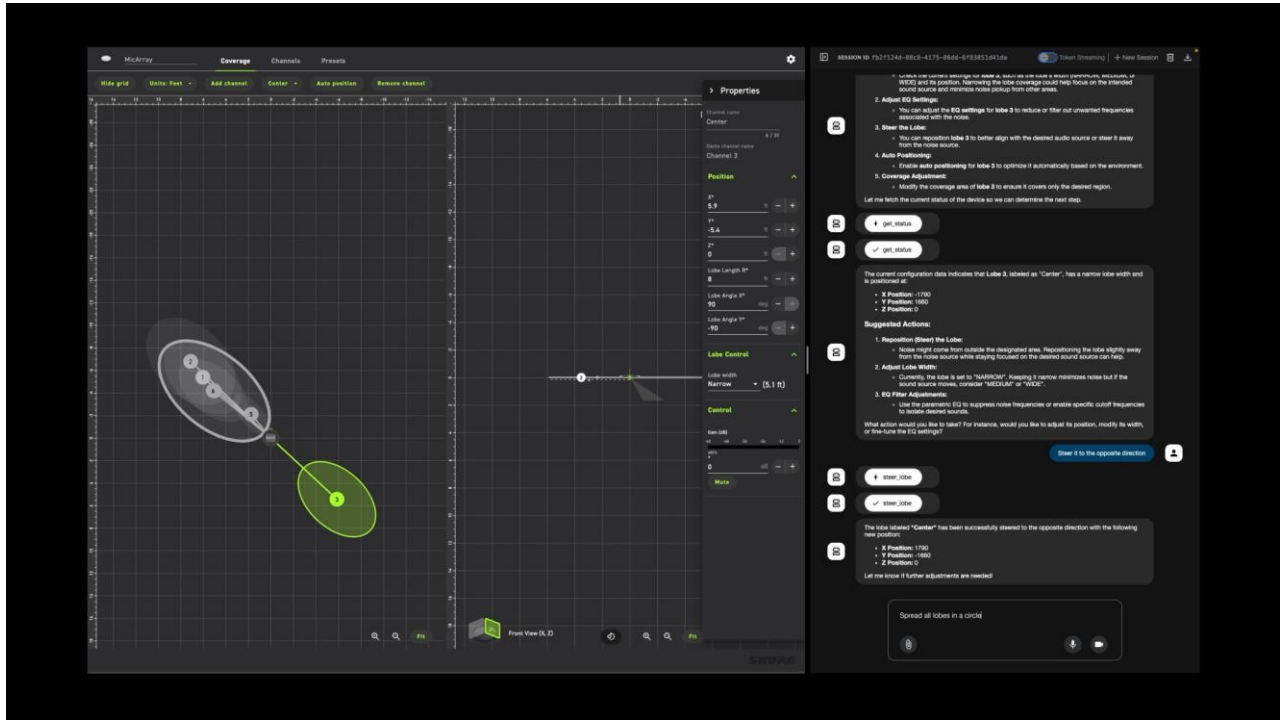
*Brings sophisticated hardware interaction and control into the multi-agent system*

Through voice, natural language and orchestrated control:

- Abstracts away the complexity of audio systems
- Executes complex audio engineering tasks Adjust microphone patterns
- Adjust microphone beam placement
- Apply EQ, DSP, and noise reduction




**"point a beam at the hackathon"**

**"choose the best preset for a sporting event"**

**"design an EQ profile based on channel names"**

**"can you remove noise from the hackathon?"**

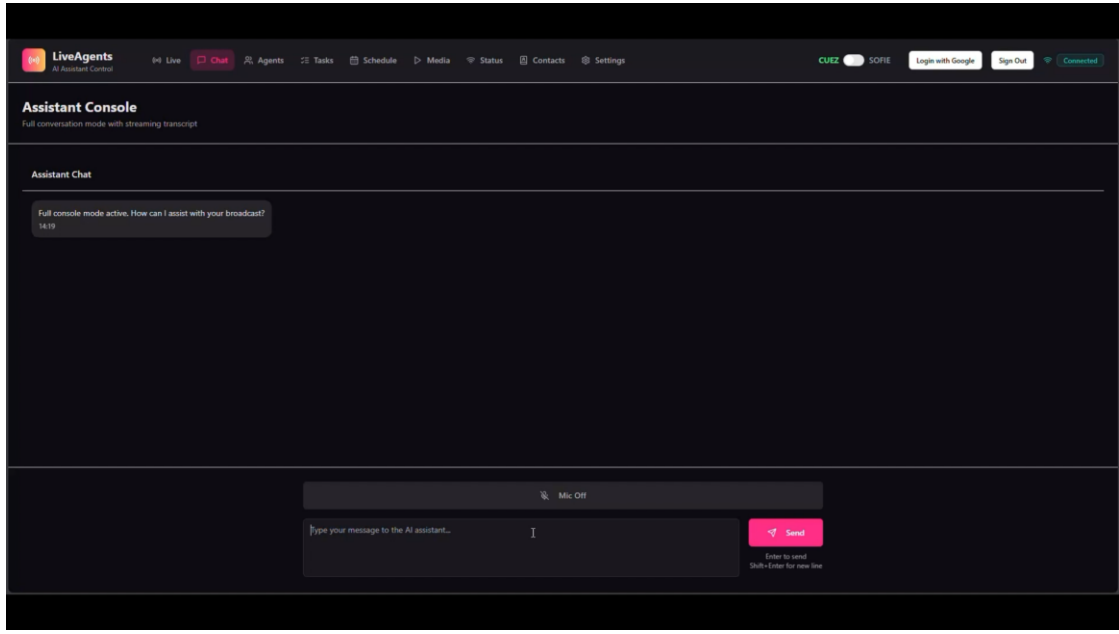
SHURE

# Video Enhancer Agent

*AI-Powered Video Enhancer with Special Effects*

#IBCAccelerators2025

- **Reframing:** Intelligently reframes video to new aspect ratios
- **Blurring:** Blurs video subject(s) based on a descriptive prompt
- **Slow-motion:** Creates smooth slow-motion from standard frame-rate video.
- **Cinematic:** Applies depth-aware background blur.
- **Deblurring:** Reduces motion blur.




**“Reframe video to 9:16, focusing on woman in blue dress”**

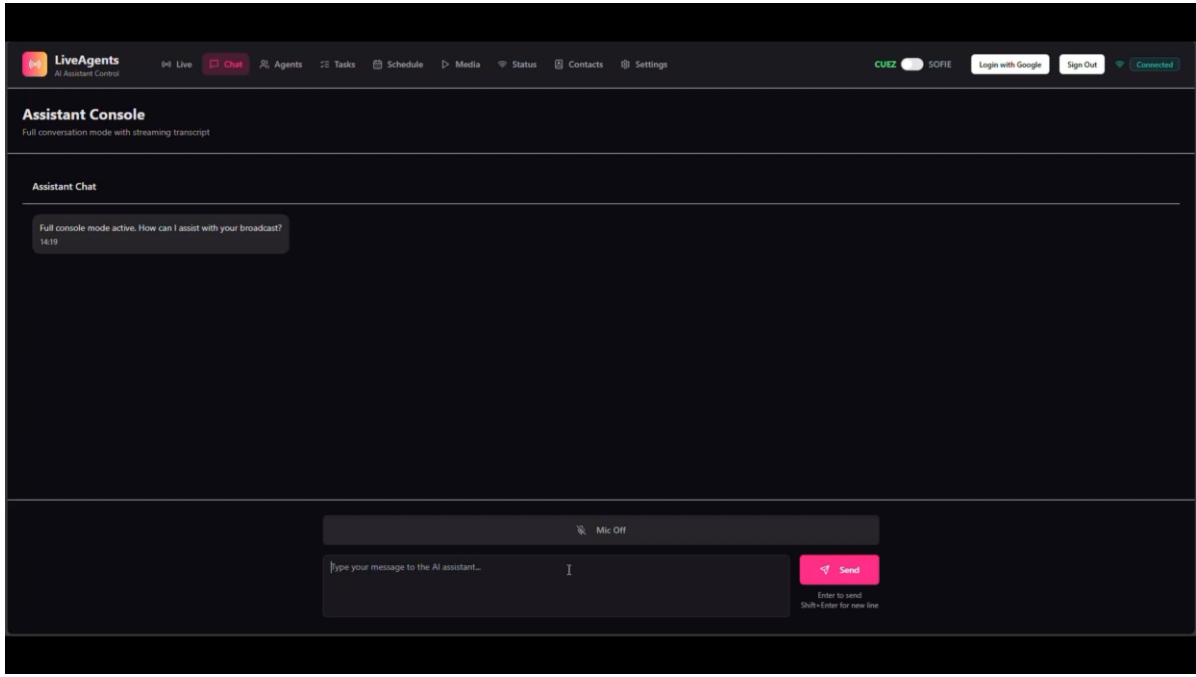
**“Blur faces in video”**

**“Apply cinematic effect to video”**

# Content Discovery Agent

*Interact with your content library*

- Allows a user to be connected to their content library and find specific moments across vast amounts of video
- Interact with the library using natural language without needing to know MAM specific keywords and syntax
- Applies advanced semantic search and reasoning to find the moments most relevant to the user's prompt.
- Can apply knowledge from external sources to assist as a research assistant and archive expert




**"Find shots of protestors with signs"**

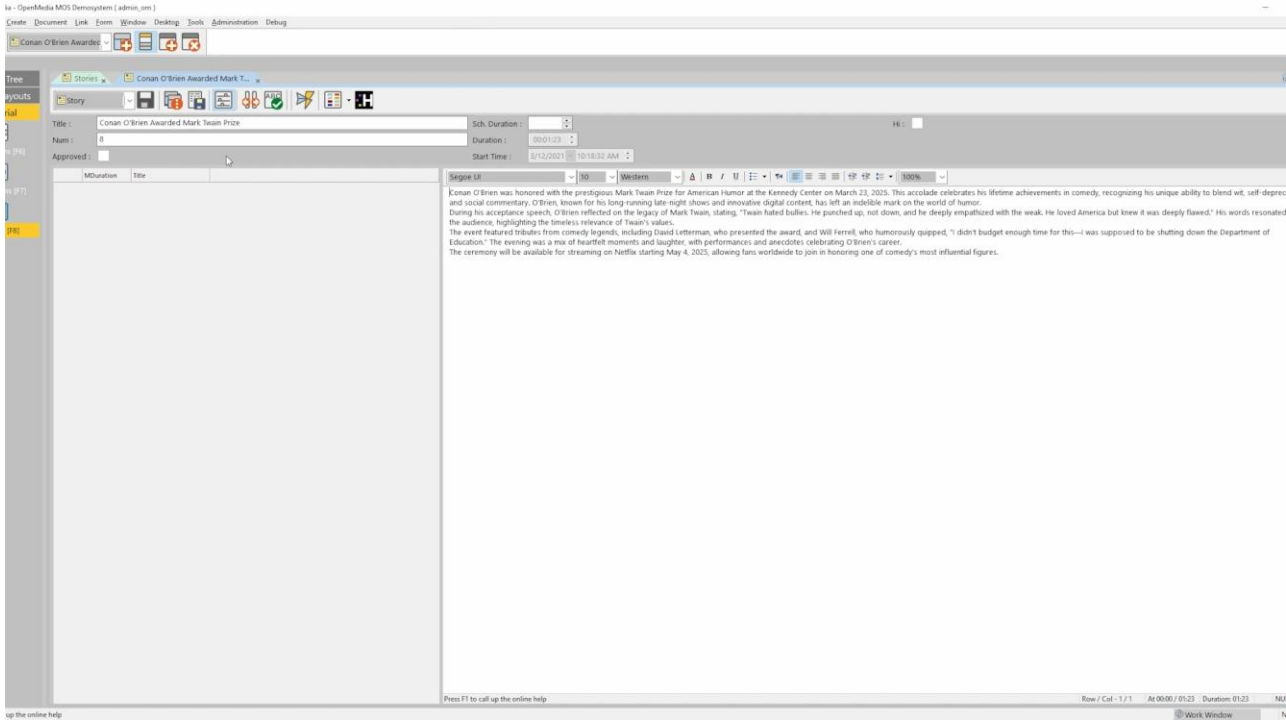
**"Find moments of Princess Diana walking down the aisle at her wedding"**

Moments Lab

# Graphics Agent 1

*Automated live graphics creation*

- Understands the narrative, tone, and key themes from the rundown
- Retrieves relevant graphic templates like L3s and full screen ones
- Searches for relevant content in those templates
- Crops and adjust graphics and text content to personalize everything to the templates



**”Generate lower thirds from the facts in this script”**

**“Create a template graphic with a still for this story”**

HighFieldAi
Media Production Intelligence

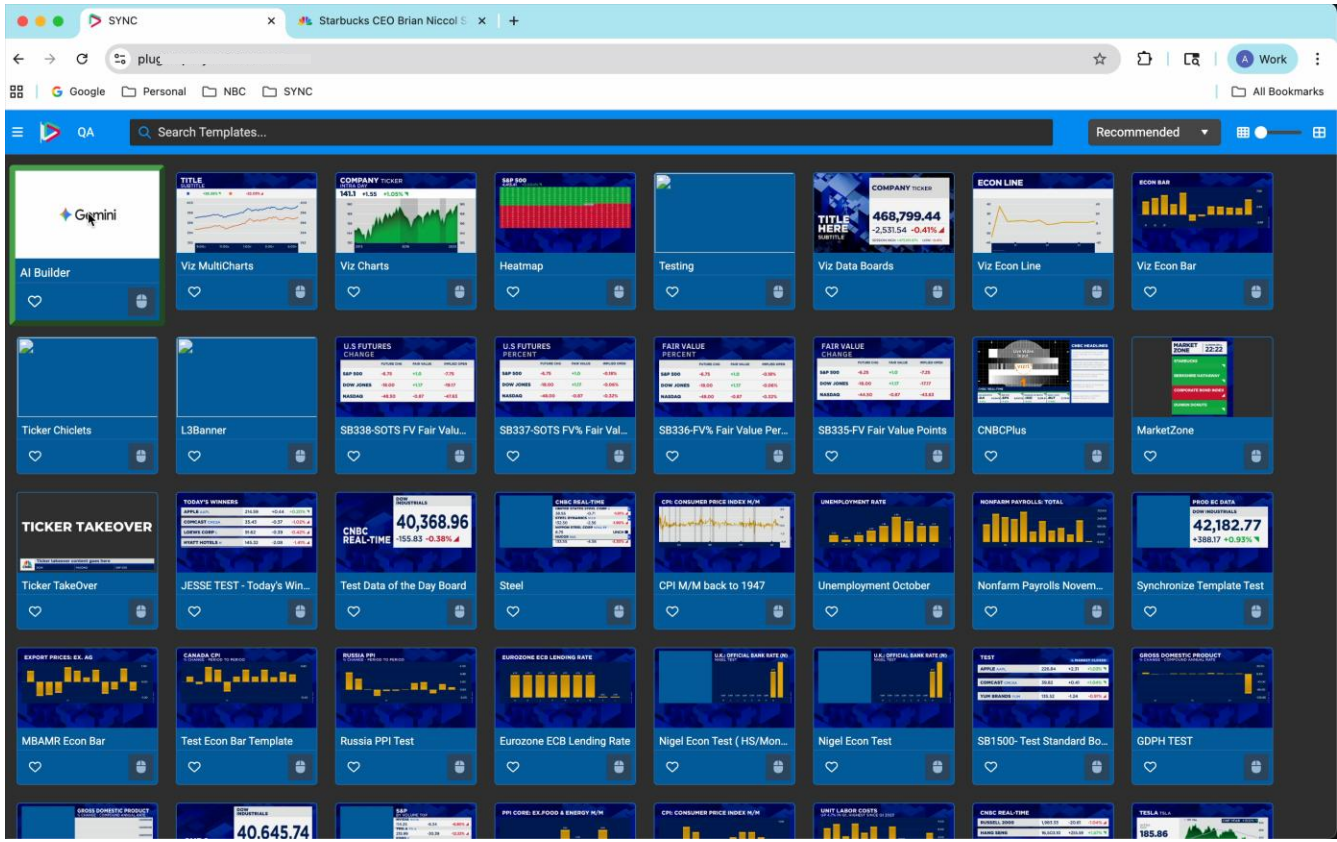
# Graphics Agent 2

*Adding intelligent AI-powered automation to data graphics creation and playout*

- Automatically generates and manages programme graphics based on programme content.
- Creates graphics that match the programme's branding and style.
- Pulls relevant data for real-time graphics creation.
- Options for Election Output

**"Suggest graphics to illustrate this script"**

**" I want to focus on the tariffs story with a particular angle on big tech companies"**

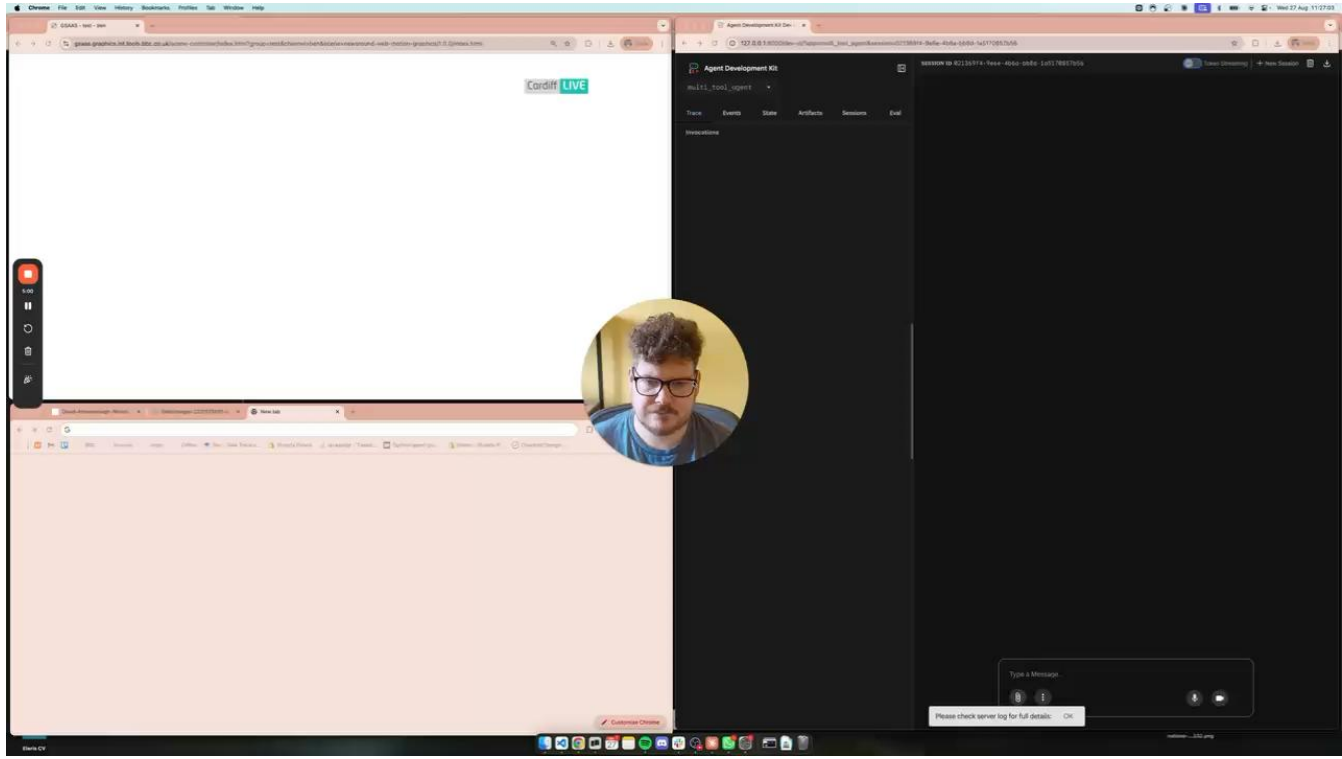



NBC UNIVERSAL

# Graphics Agent 3

*GSaaS (BBC in-house GFX) Agent*

- Uses natural language commands to create and control on-screen graphics
- Can create graphics from example grabs
- Can identify a person's name and role/title and update graphics accordingly.




**"Name whoever this is…"**

**"Add their job?"**

**"In BBC Sport branding…"**

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And introducing…

# The Orchestrator

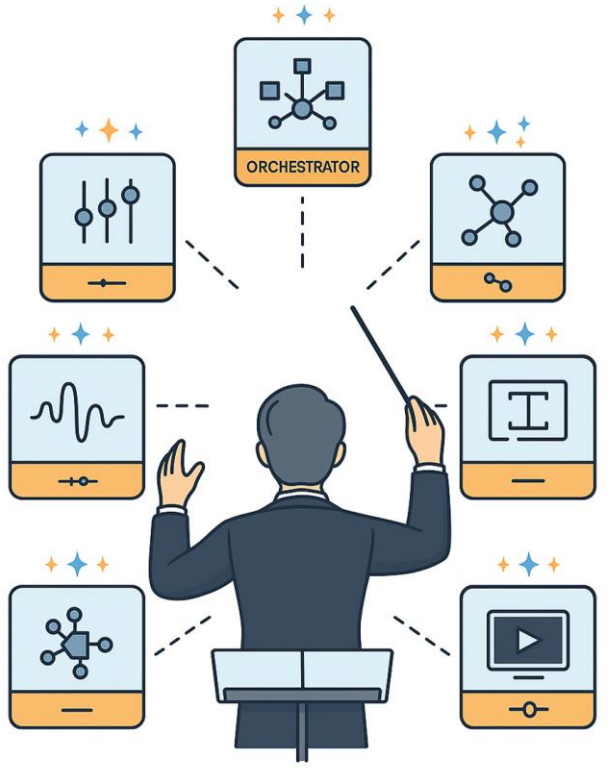
## Agent of agents

# Orchestrator Agent

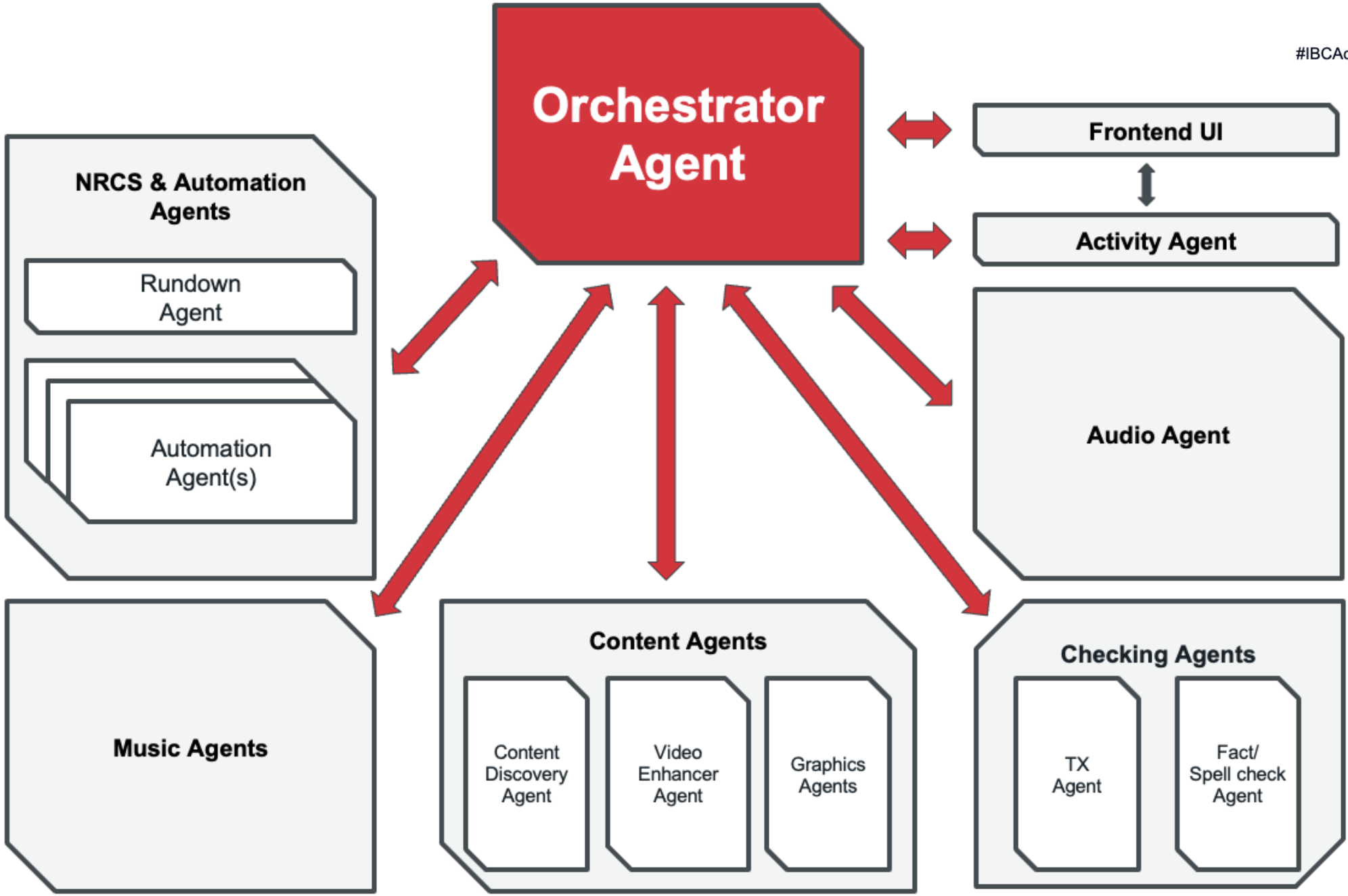


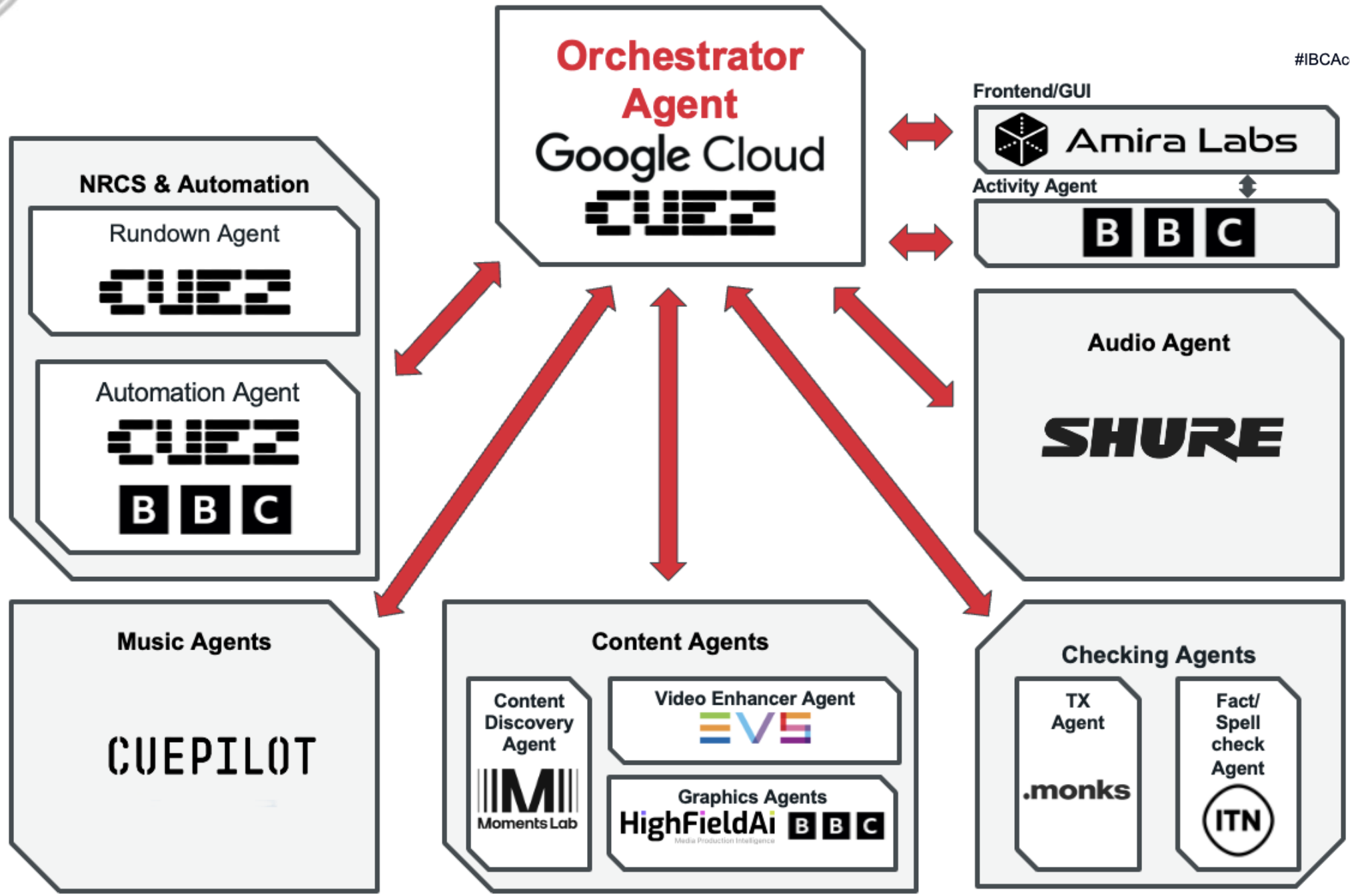
*The conductor of the agent mesh*

- Interfaces with the human operator via natural language
- Delegates structured tasks to other agents
- Manages concurrent, multi-threaded tasks
- Tracks state, plans ahead, and reroutes around failure
- Collects feedback and acts on it:
  - returns outcomes to the user
  - cascades updates to other agents




Google Cloud


Orchestrator Agent
Frontend UI
Activity Agent
NRCS & Automation Agents
Rundown Agent
Automation Agent(s)
Audio Agent
Music Agents
Content Agents
Content Discovery Agent
Video Enhancer Agent
Graphics Agents
Checking Agents
TX Agent
Fact/ Spell check Agent


Orchestrator Agent
Google Cloud
CUE2
Frontend/GUI
Amira Labs
Activity Agent
BBC
NRCS & Automation
Rundown Agent
CUE2
Automation Agent
CUE2
BBC
Audio Agent
SHURE
Music Agents
CUEPILOT
Content Agents
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Graphics Agents
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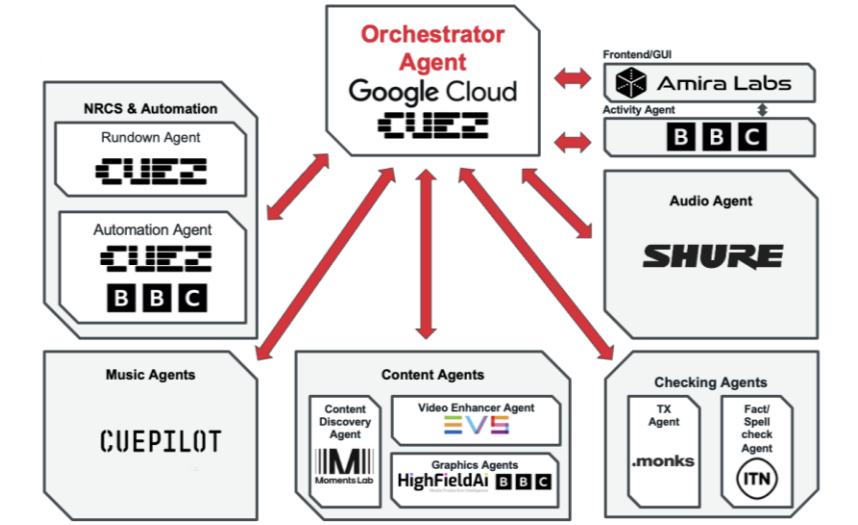
Media Production Intelligence
BBC
Checking Agents
TX Agent
.monks
Fact/ Spell check Agent
ITN

Compliance manual

Cloud management

MCR




Router control

Finance system

Support tickets

Audience data

Rostering system

FUTURE TECH

# UI and UX

# Front-end + Activity Agent

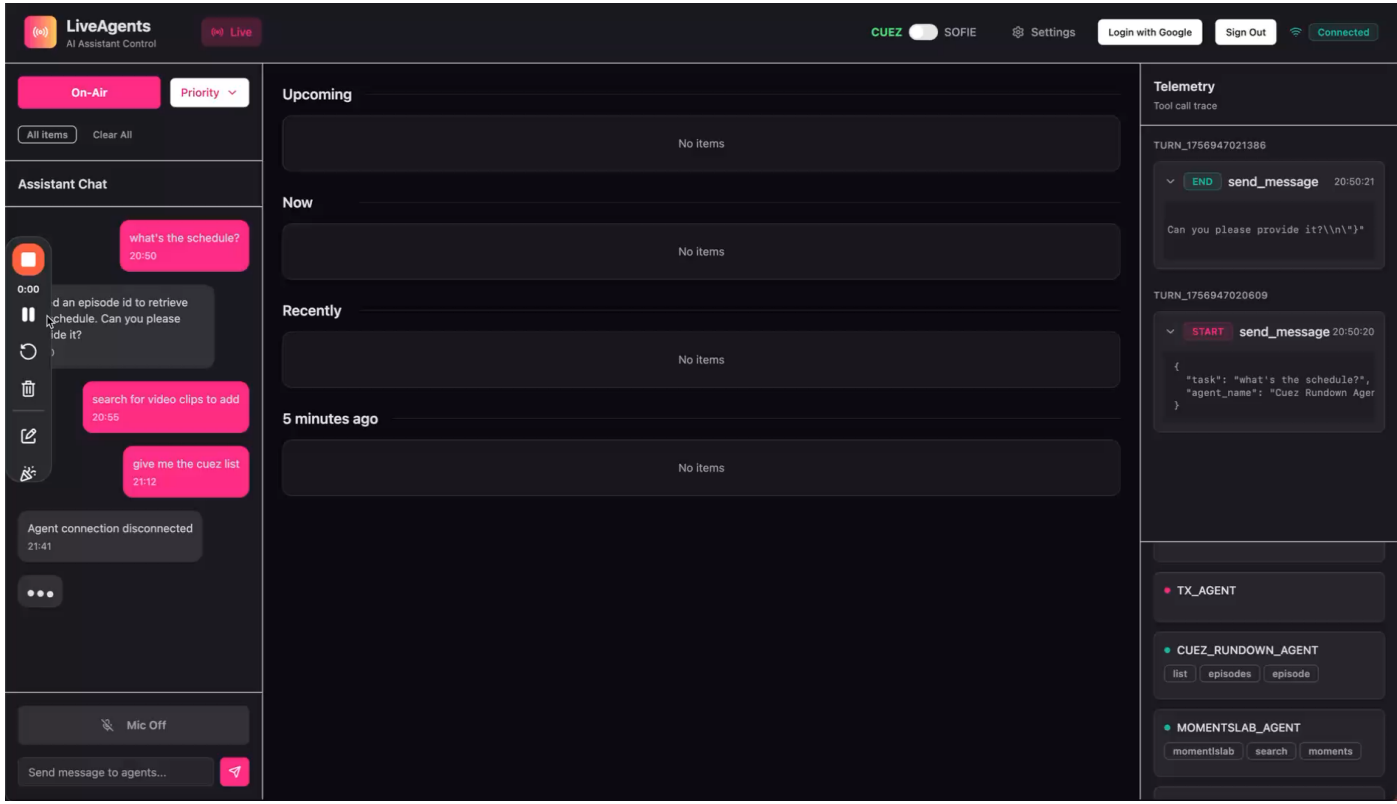
#IBCAccelerators2025

Amira Labs

- Front-End
- How do we expose the data to users
- ‘Social media feed’
- Multimodal (voice, clicks text)

BBC

- Too much data?
- How do we prioritise?
- Gets activity from the orchestrator
- Traiges bases on contextual, immediate understanding of the RO and of TV priorities.




Amira Labs BBC

FUTURE TECH

# Showtime!

# First multi-agent workflow

AI co-ordinating and completing a complex task across multiple systems

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Runorder Agent

Checking Agent

Orchestrator Agent

Frontend UI

Activity Agent

**CHECK** ALL OF THE LOWER THIRD GRAPHICS BLOCKS IN THE RUNORDER FOR SPELLING MISTAKES **AND FIX THEM**

# Multi-vendor media workflow

With zero integration - just intelligent, natural language, agent-to-agent tasks

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**FIND A CLIP** FROM THE ARCHIVE FOR ITEM 3, **MAKE IT 9x16** AND **PUBLISH IT** TO THE RUNORDER

ORCHESTRATOR

RUNORDER AGENT

CONTENT DISCOVERY AGENT

VIDEO ENHANCEMENT AGENT

FUTURE TECH

# Learnings

# Key Tech Learnings

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**Hold-ups:**

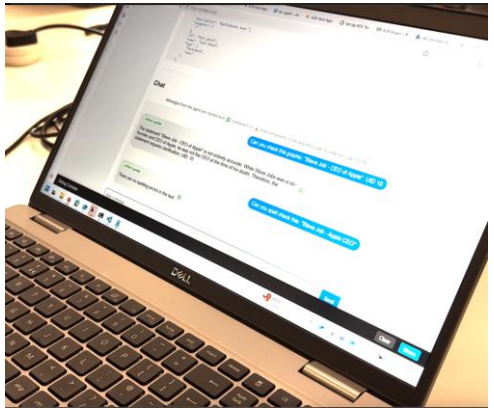
- Not yet mature technology. Bleeding edge - so limited support & resources…but it will be mature & faster than we think
- Working with the draft A2A specification meant it underwent changes during development
- Latency remains an issue
- This is **not** product-building, this is learning how tools talk to each other
- Security & authentication: not on point, what can be intercepted?

**Suprises:**

- With minimal instructions, the agents started working together. It **actually** worked.
- … not forgetting that this was built across three hackathons in a part-time matter.

**GPU:**

- Agent teams used  HP AMP Threadripper units to power development and reported:
  - 3xGPUs supercharged their dev
  - ‘incredibly’ **low power consumption** - key for multi-agent systems and running models locally
  - superfast performance was suitable for live TV spaces
  - **Recyclable** Materials + **carbon offset** - benefits when building towards a product



# Opportunities unlocked



## UI → AI

- Intelligent UI can scale operator capability across tools
- Agents add smart assistance, not just automation
- Huge accessibility gains: natural language and multimodal control
- Users empowered to more easily configure their own UI and toolset

## GPI → API → AI

- From device triggers to APIs to agent-agent interaction : unlock true interoperability
- Task based, natural language orchestration, not defined workflows
- Each new agent doesn’t just add its own function - it multiplies the workflows possible.
- The system’s capability scales exponentially as the agentic network grows

# Did we meet our goal?



**What we set out to do:**

Collaboration between Broadcasters + Vendors to push the boundaries of agentic technology

**The result:**

The agents we created collaborating with each other

# Open Call

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- Come to talk to us at pod 14.A21c
- Watch our Accelerator film
- Watch our Agent films

# Thank you!