

CISCO *Live!*

GO BEYOND

#CiscoLiveAPJC



Collaboration AI

From Supervised to Generative

Keith Griffin, Cisco Fellow
@techkeith
BRKCOL-1661



#CiscoLiveAPJC

Cisco Webex App

Questions?

Use Cisco Webex App to chat with the speaker after the session

How

- 1 Find this session in the Cisco Live Mobile App
- 2 Click “Join the Discussion”
- 3 Install the Webex App or go directly to the Webex space
- 4 Enter messages/questions in the Webex space

Webex spaces will be moderated by the speaker until November 15, 2024.



<https://ciscolive.ciscoevents.com/ciscolivebot/#BRKCOL-1661>





Agenda

- Generative AI
- Collaboration AI Strategy
- AI Capabilities
- AI Architecture Advantage
- Responsible AI for Generative AI
- Summary

Why should you care about AI?

Will AI ever replace radiologist?

Langlotz launched into this part of his presentation by quoting the psychologist, computer scientist and AI pioneer Geoffrey Hinton, PhD, who told a *New Yorker* writer in 2016:

"[I]f you work as a radiologist you are like Wile E. Coyote in the cartoon. You're already over the edge of the cliff, but you haven't yet looked down. It's just completely obvious that in five years deep learning is going to do better than radiologists."

Langlotz posed the question, then answered:

"I say the answer is no—but radiologists who use AI will replace radiologists who don't."

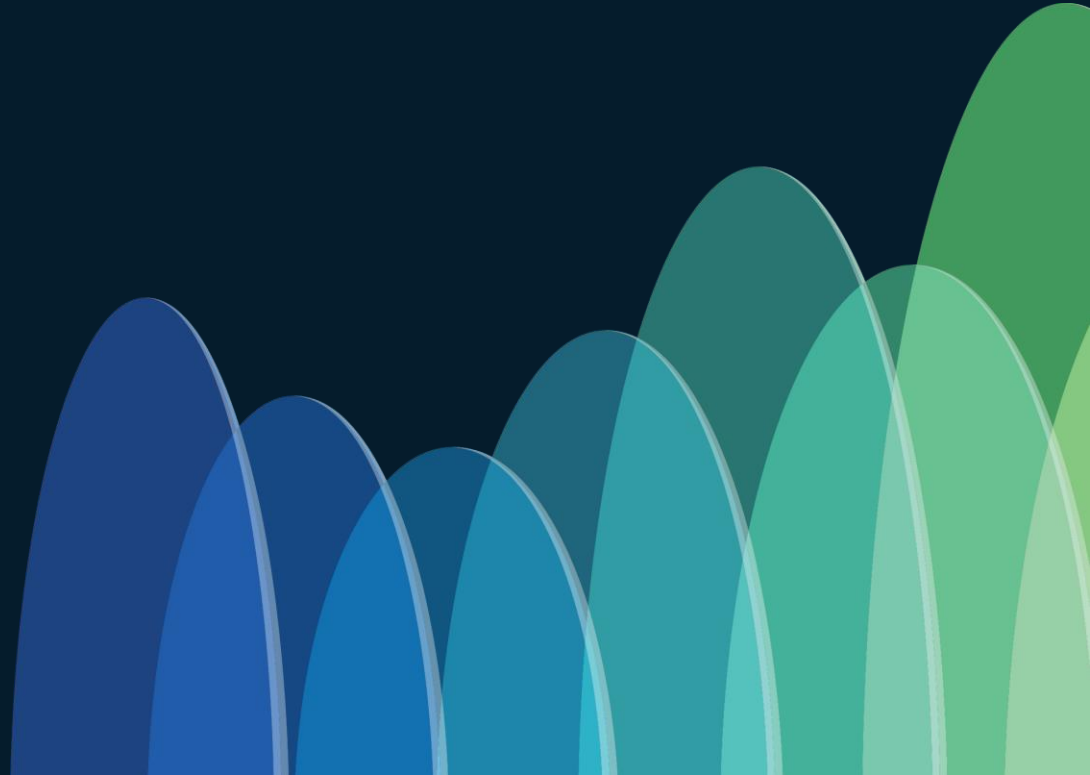
Artificial intelligence rivals radiologists in screening X-rays for certain diseases

In a matter of seconds, a new algorithm read chest X-rays for 14 pathologies, performing as well as radiologists in most cases, a Stanford-led study says.

[Source: RSNA 2017: Rads who use AI will replace rads who don't](#)

Machine Learning and AI

How does this work?



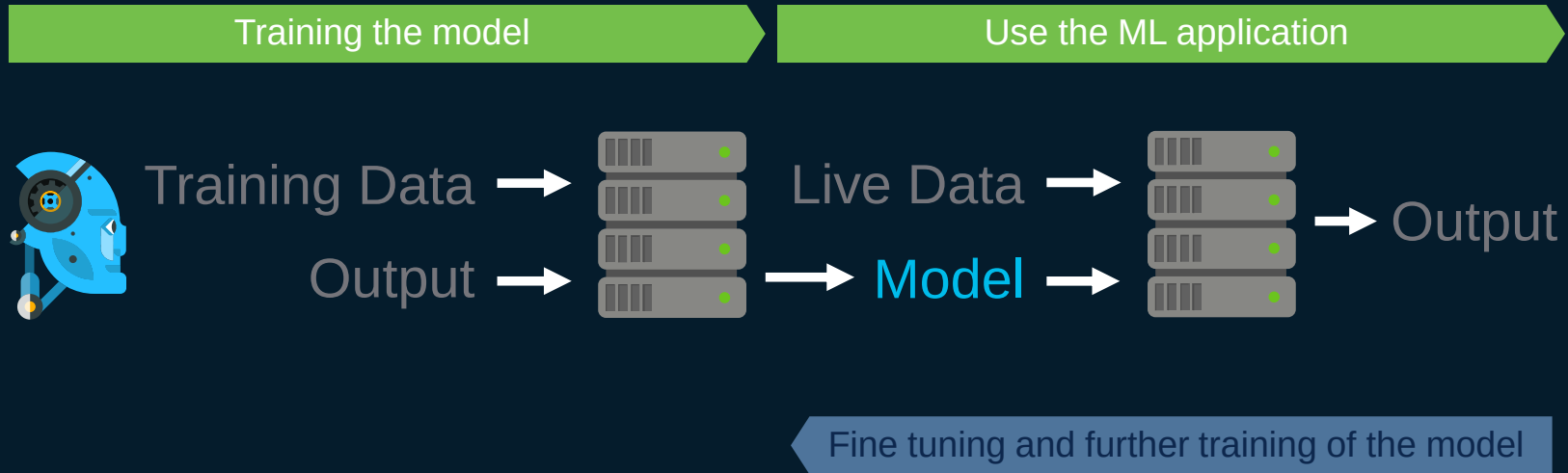
Artificial Intelligence

Artificial intelligence is a broad field, which refers to the use of technologies to build machines and computers that have the ability to mimic cognitive functions associated with human intelligence, such as being able to see, understand, and respond to spoken or written language, analyze data, make recommendations, and more.

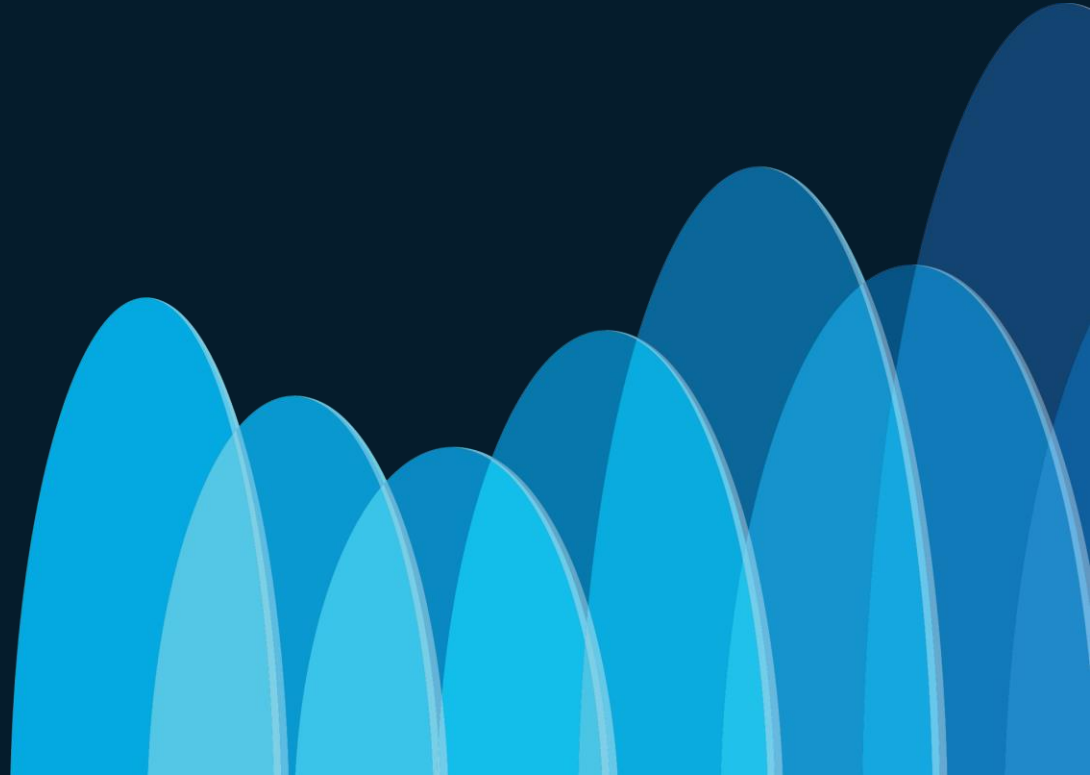
Machine Learning

- Machine learning is a subset of artificial intelligence that automatically enables a machine or system to learn and improve from experience. Instead of explicit programming, machine learning uses algorithms to analyze large amounts of data, learn from the insights, and then make informed decisions.
- You may hear terms like:
 - Classification
 - Predictive Analysis
 - Supervised & Un-supervised Learning
 - Deep Learning
 - Re-enforcement Learning

Supervised Machine Learning (from 2018 Webex ML)



Fast Forward: Generative AI



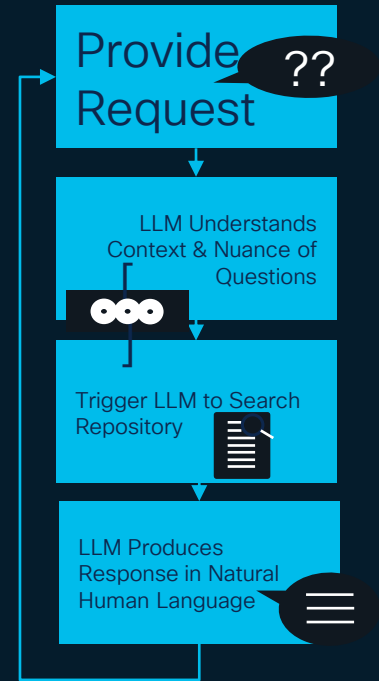
What is Generative AI?

Artificial Intelligence algorithms which use the data they are trained on to generate new content including text, imaging, audio, video and synthetic data.

Large Language Models (LLM's)

An LLM is an artificial intelligence (AI) system capable of understanding, generating, and interacting with human languages in ways that were once thought impossible. By analysing vast datasets of text, LLMs learn to mimic language patterns, make predictions, and generate content that feels surprisingly and almost unmistakably human.

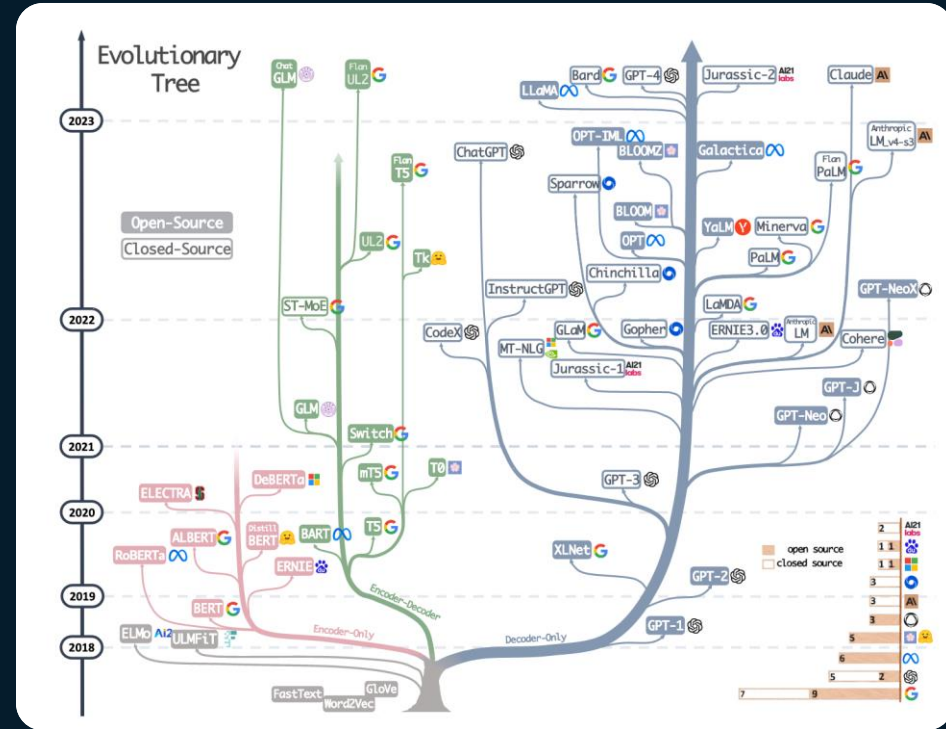
LLMs are the technology behind your helpful chatbot assistants, sophisticated content creation tools, and much more.



<https://outshift.cisco.com/blog/what-is-large-language-model-llm>

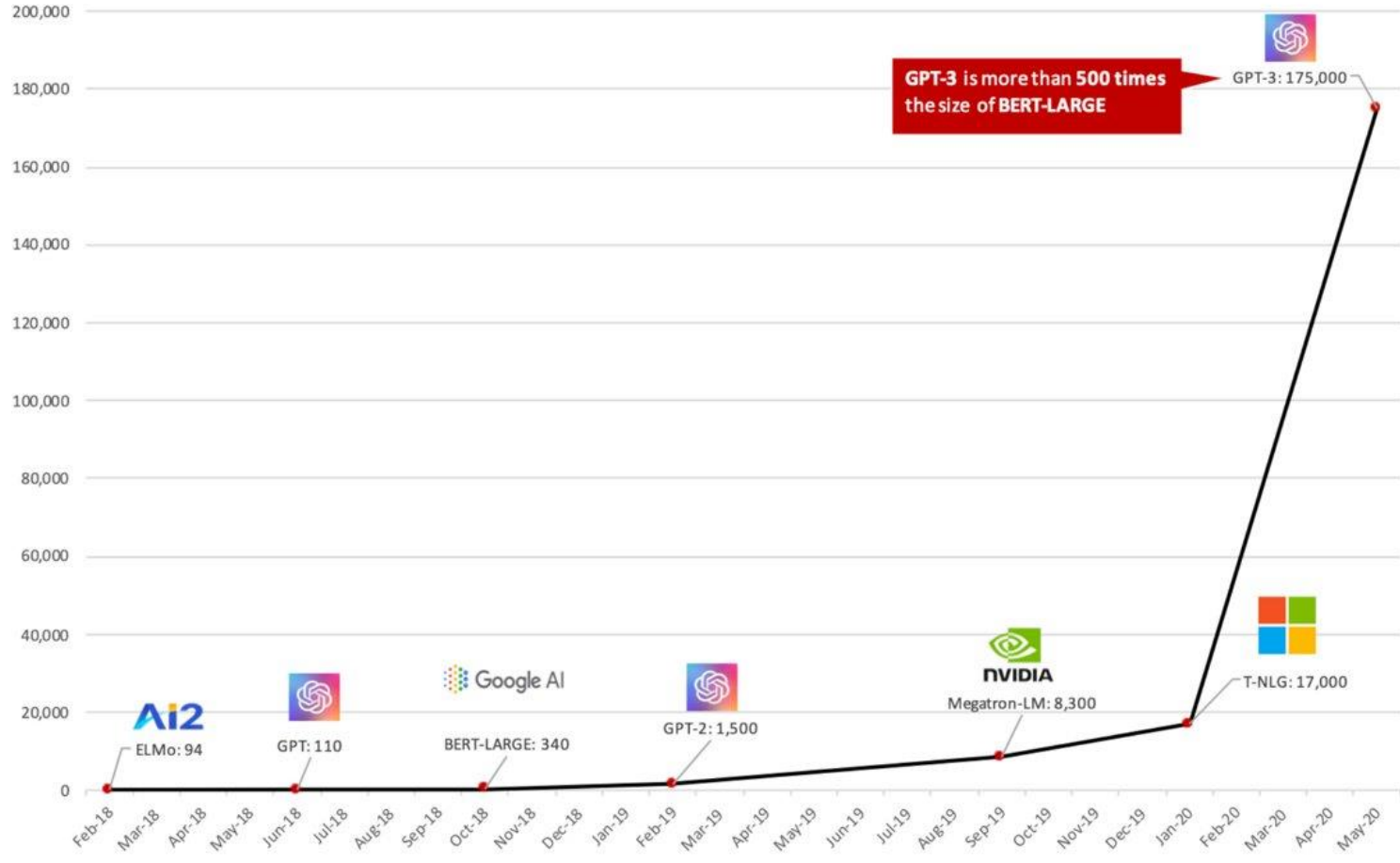
The emergence of generative AI

- Large Language Models (LLMs) can generate outcomes by predicting and composing based on data that they are trained on.
- Many models exist including Proprietary and Open Source Models
- Enormous technology opportunity and challenges
- New techniques continually emerging



https://www.linkedin.com/posts/yann-lecun_a-survey-of-llms-with-a-practical-guide-and-activity-7057527966540386304-M4_2

Model parameters, in millions



Your relationship with Generative AI



Taker



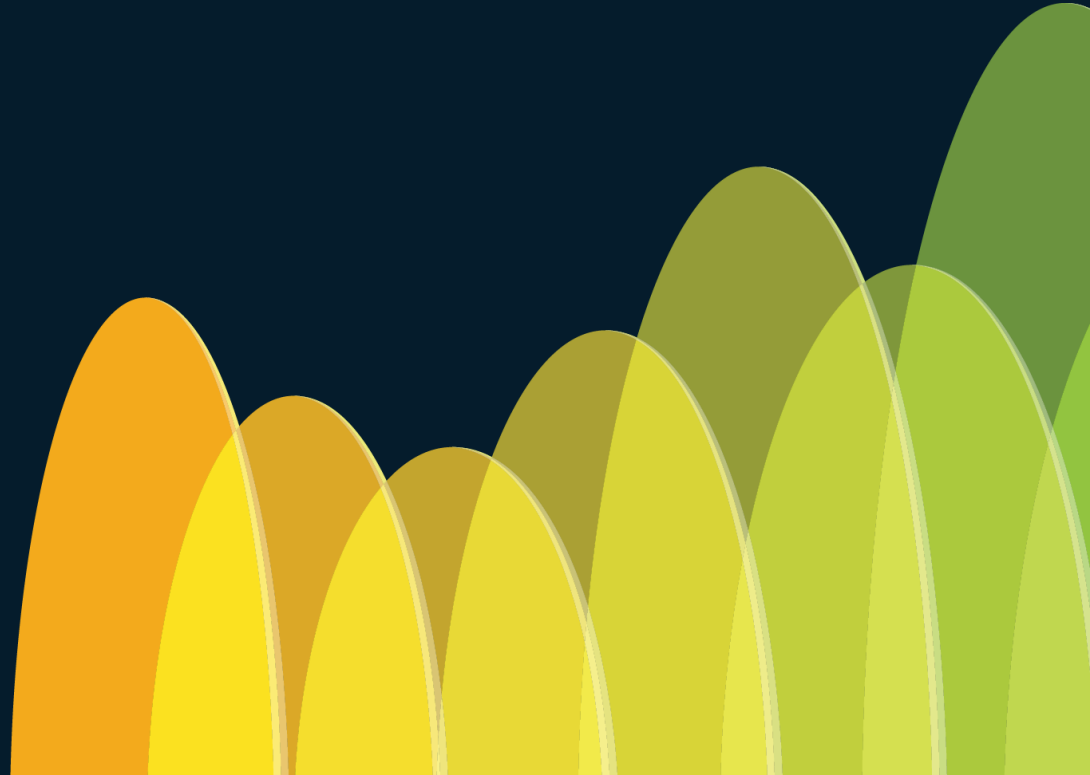
Shaper



Maker

Varying posture for responsible AI

Our AI Strategy



Our collaboration strategy

Reimagining Workspaces
Devices

Reimagining Work
Webex Suite

Reimagining Customer Experience
Contact Center

Artificial Intelligence – AI Assistant

Our strategy: Enabling everyone with purpose-built AI



Webex AI Assistant
Conversational AI



Audio & Speech Intelligence



Video and Camera
Intelligence

AI Design Principles

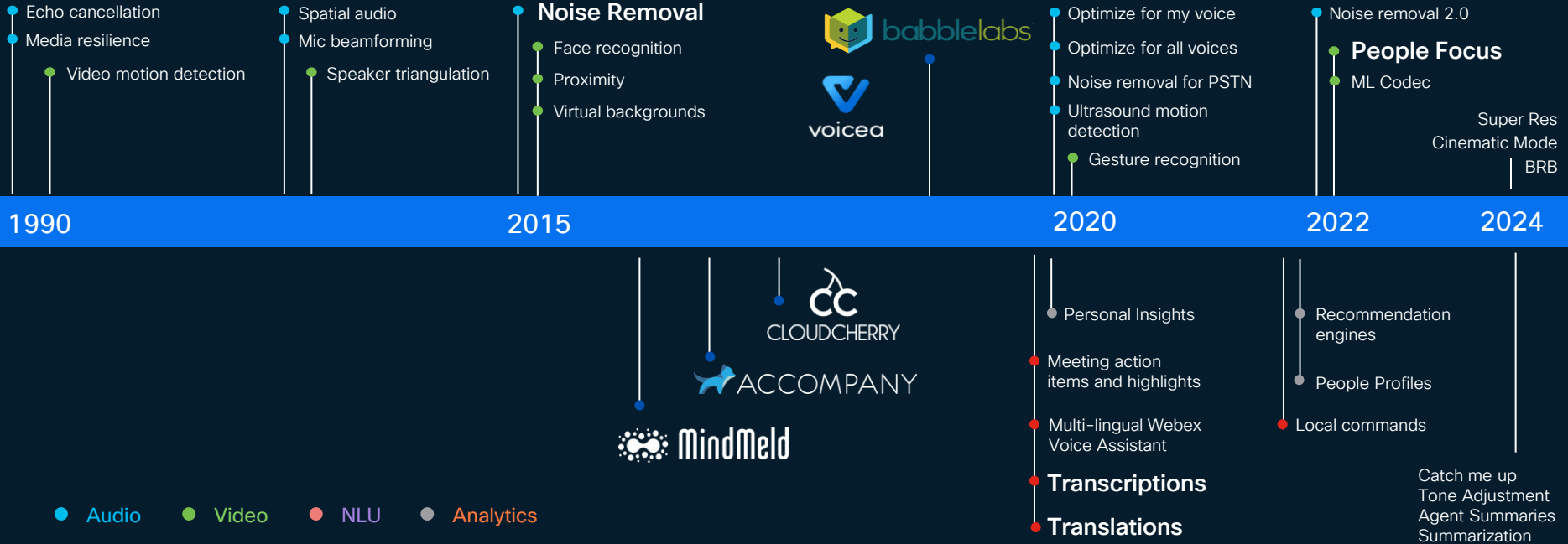
What can users stop doing?

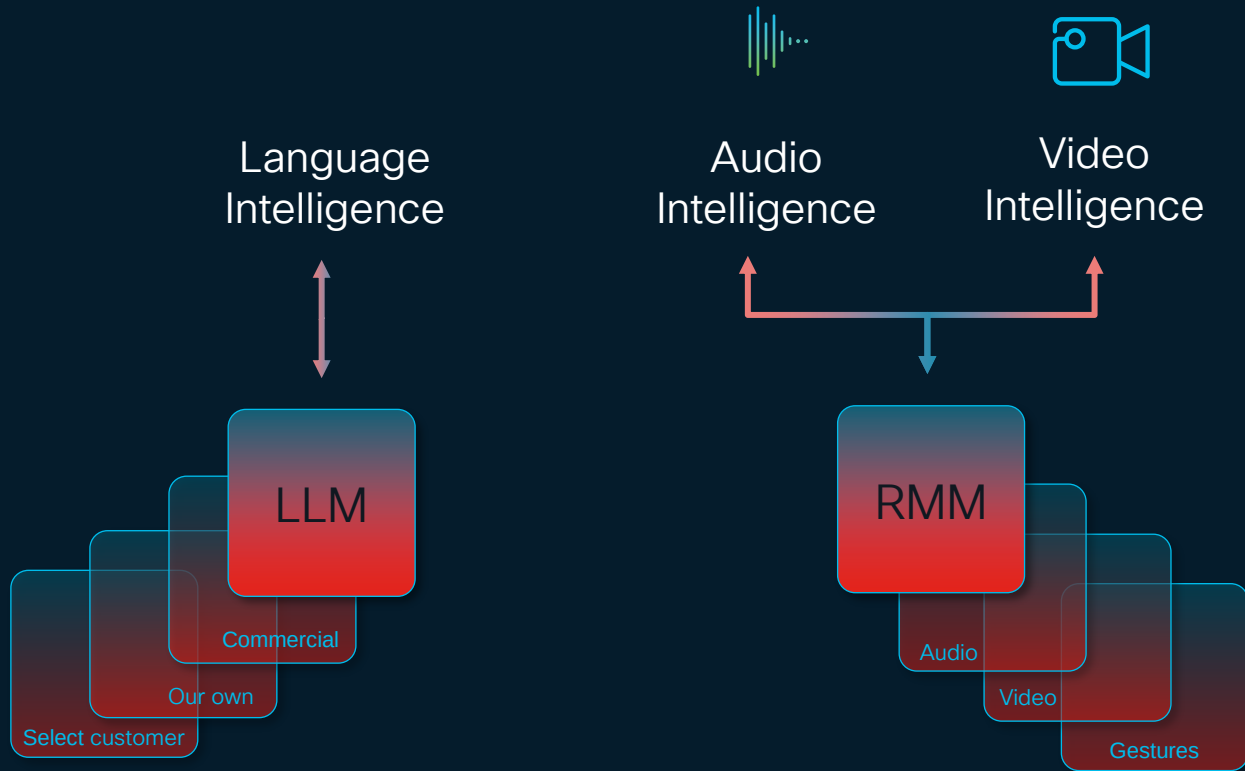
- Every AI-enablement must start with what user no longer needs to worry about.

Meet users where they are, enhance what they do

- Don't underestimate user habit & muscle memory. Understand their context & needs and meet them there.

Years of AI innovation





AI Capabilities



Audio and Speech Intelligence



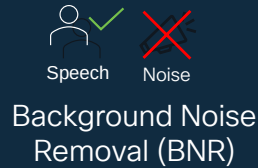
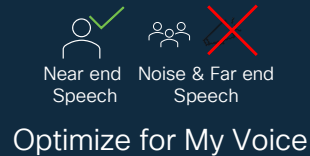
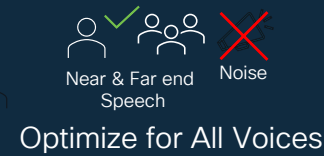
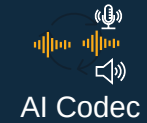
Speech Intelligibility in Hybrid work

- Inconsistent audio experiences for in-office and remote work
- Echo & feedback in the room disrupt meetings
- Noise affects speech intelligibility for everyone – in-room, remote
- Poor (PSTN) audio quality and background noise impact speech intelligibility
- Audio disruptions -> disengagement -> reduced productivity-> reduced perceived value of conferencing solution



Webex Smart Audio Portfolio

Crystal clear,
network resilient



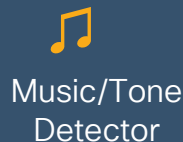
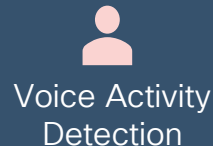
10x better
PSTN



Inclusive and
Secure Hybrid
Meetings

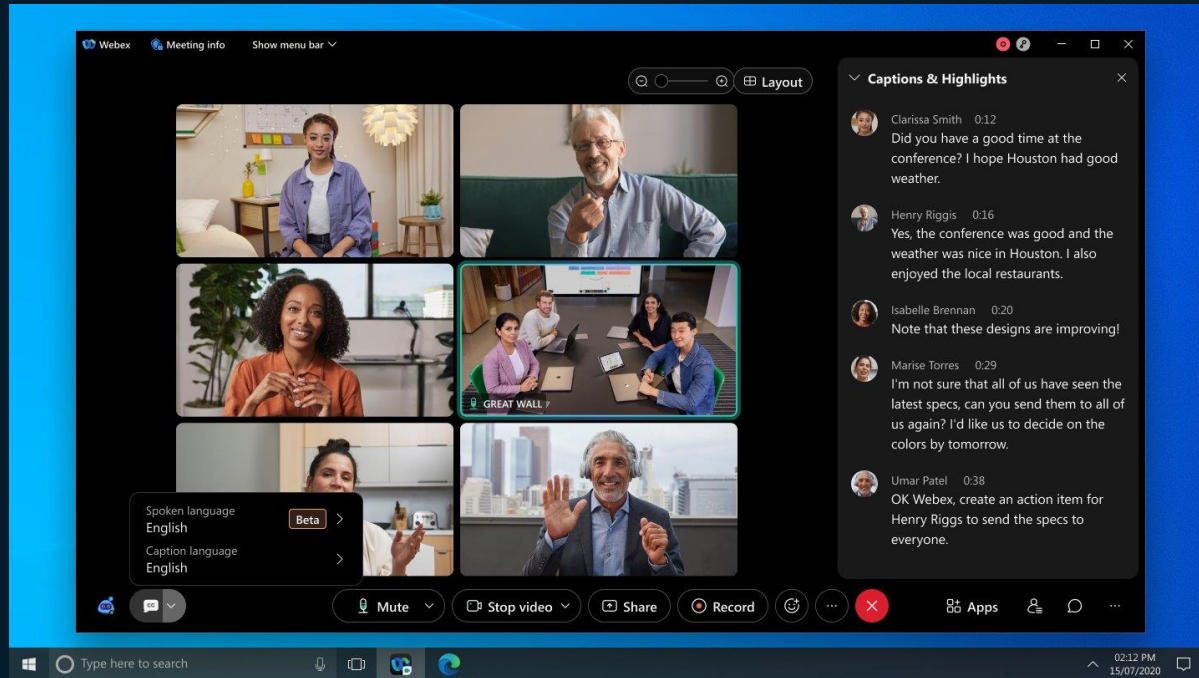


“Under the
hood”



Transcription in different languages

Enable more inclusive, accessible, and engaging meetings across the globe



Real-Time Translation

Enable more inclusive, accessible, and engaging meetings across the globe

The screenshot displays the Cisco Webex Meetings interface with a dark theme. At the top, the status bar shows 'Cisco Webex Meetings', 'Meeting Info', and 'Show menu bar'. Below this, a 'Speaking: Simon Jones' indicator is visible. The main video area shows four participants: Barbara German (Host, me), Giacomo Drago, and two others. A language selection menu is open on the left, titled 'Choose a language for translation:'. It includes a search bar and a list of languages: 'Don't translate', '简体中文 (Chinese (Simplified))', 'Afrikaans', 'Shqip (Albanian)', 'Հայերեն (Armenian)', 'عربى (Arabic)', and 'Հայերեն (Armenian)'. The '简体中文 (Chinese (Simplified))' option is selected. A subtitle at the bottom of the video area reads: 'Webex, 为Simon Jones创建一个操作项目, 并将规格发送...'. On the right, the 'Captions & Highlights' panel is open, showing a list of captions with timestamps and a 'Highlights' section. The 'Highlights' section contains a note: 'Note that these designs are improving!'. The bottom toolbar includes icons for Mute, Stop video, Share, Record, and other meeting controls.

Speaking: Simon Jones

Choose a language for translation:

Search

Don't translate

简体中文 (Chinese (Simplified))

Afrikaans

Shqip (Albanian)

Հայերեն (Armenian)

عربى (Arabic)

Հայերեն (Armenian)

Webex, 为Simon Jones创建一个操作项目, 并将规格发送...

Captions & Highlights

Captions Highlights

BG Barbara German 0:12

Did you have a good time at the conference? I hope Houston had good weather.

GD Giacomo Drago 0:16

Yes, the conference was good and the weather was nice in Houston. I also enjoyed the local restaurants.

BS Brandon Seeger 0:20

Note that these designs are improving!

SJ Simon Jones 0:30

I'm not sure that all of us have seen the latest specs, can you send them to all of us again? I'd like us to decide on the colors by tomorrow.

GD Giacomo Drago 0:35

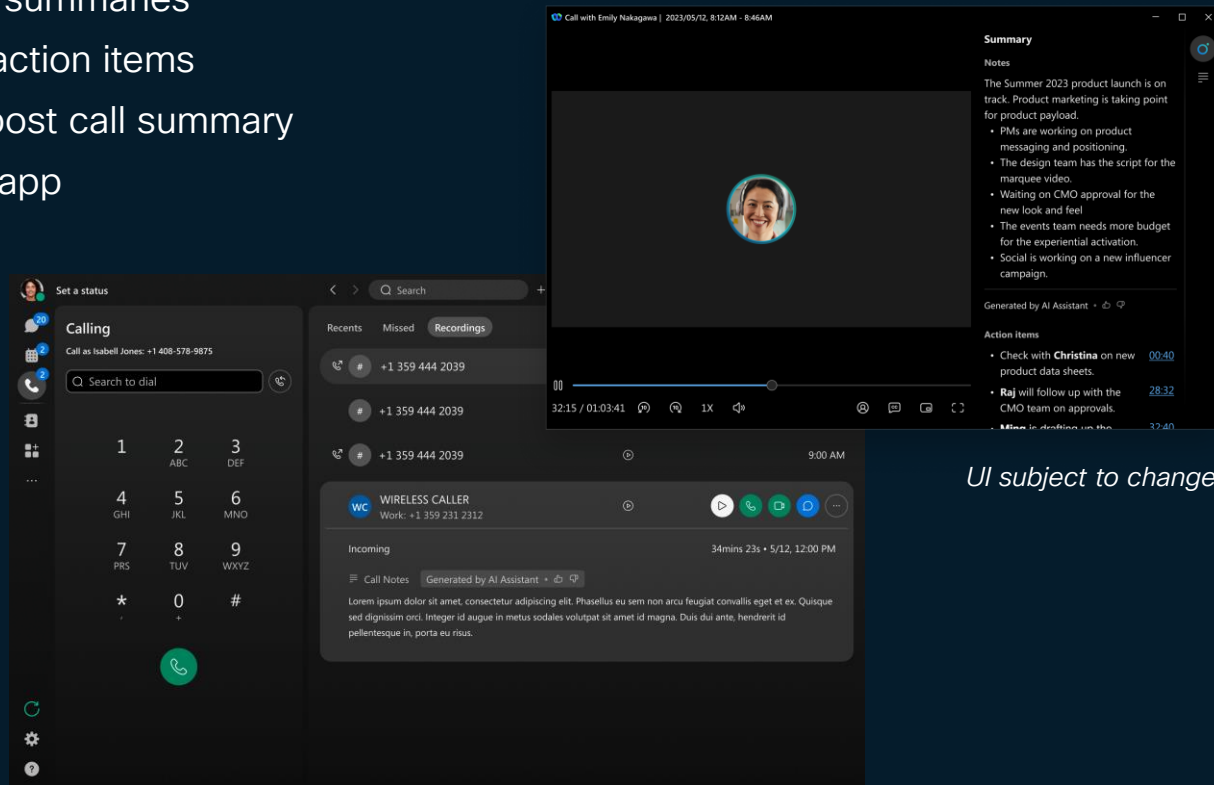
OK Webex, create an action item for Simon Jones to send the specs to everyone.

Meeting and call transcription accuracy



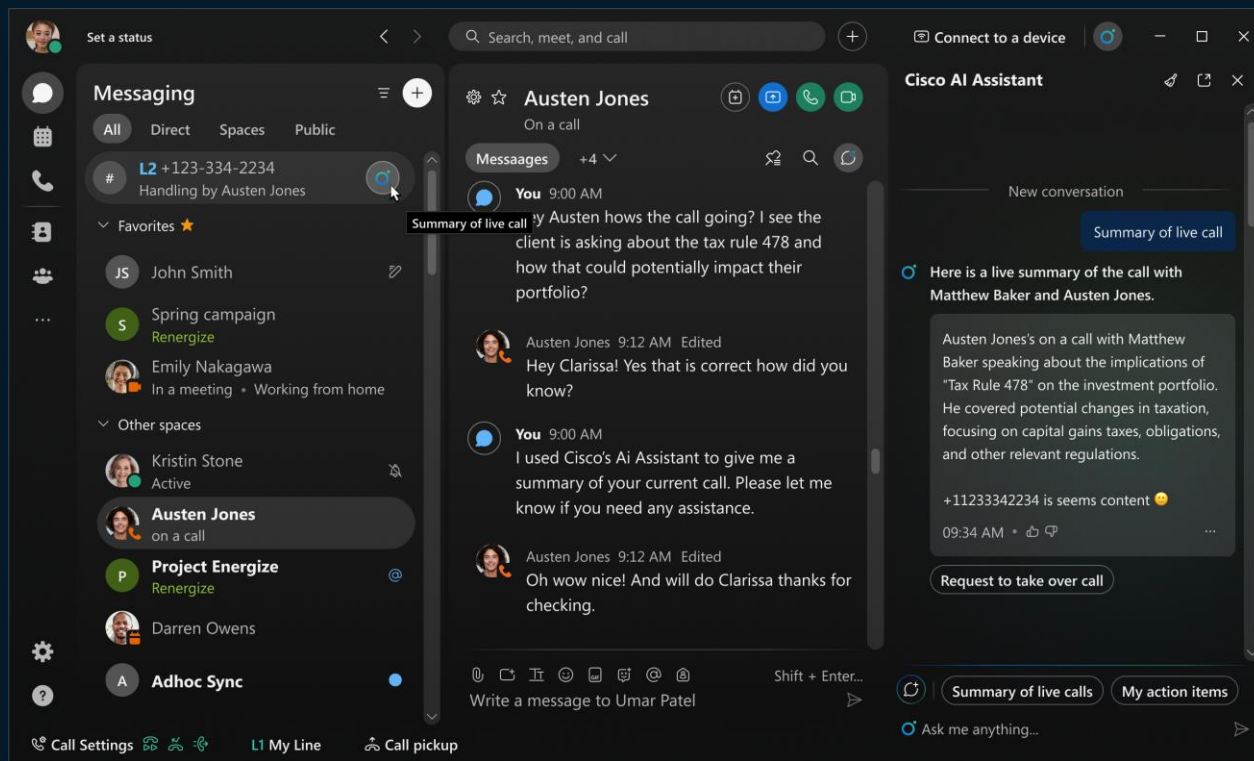
Post Recording Summary

- AI-generated transcripts and summaries
- User-editable summary and action items
- Admin control for access to post call summary
- Available via API and Webex app



Live Call Summary and Sentiment

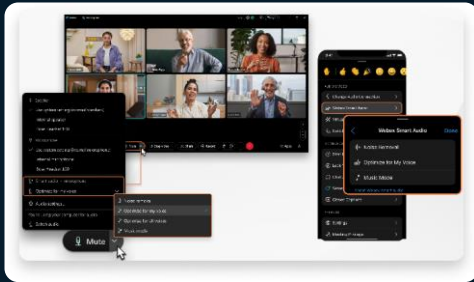
- Authorized users can generate summary of active calls on the shared line
- Enables line owners to view summary and sentiment of the calls answered on their behalf
- Offers flexibility to takeover the call, if required



UI subject to change

Hear and be heard, clearly, from everywhere

Available

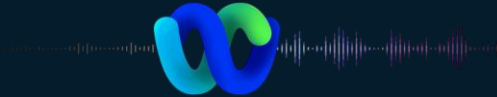


Background noise removal

Optimize for my voice

Optimize all voices

New

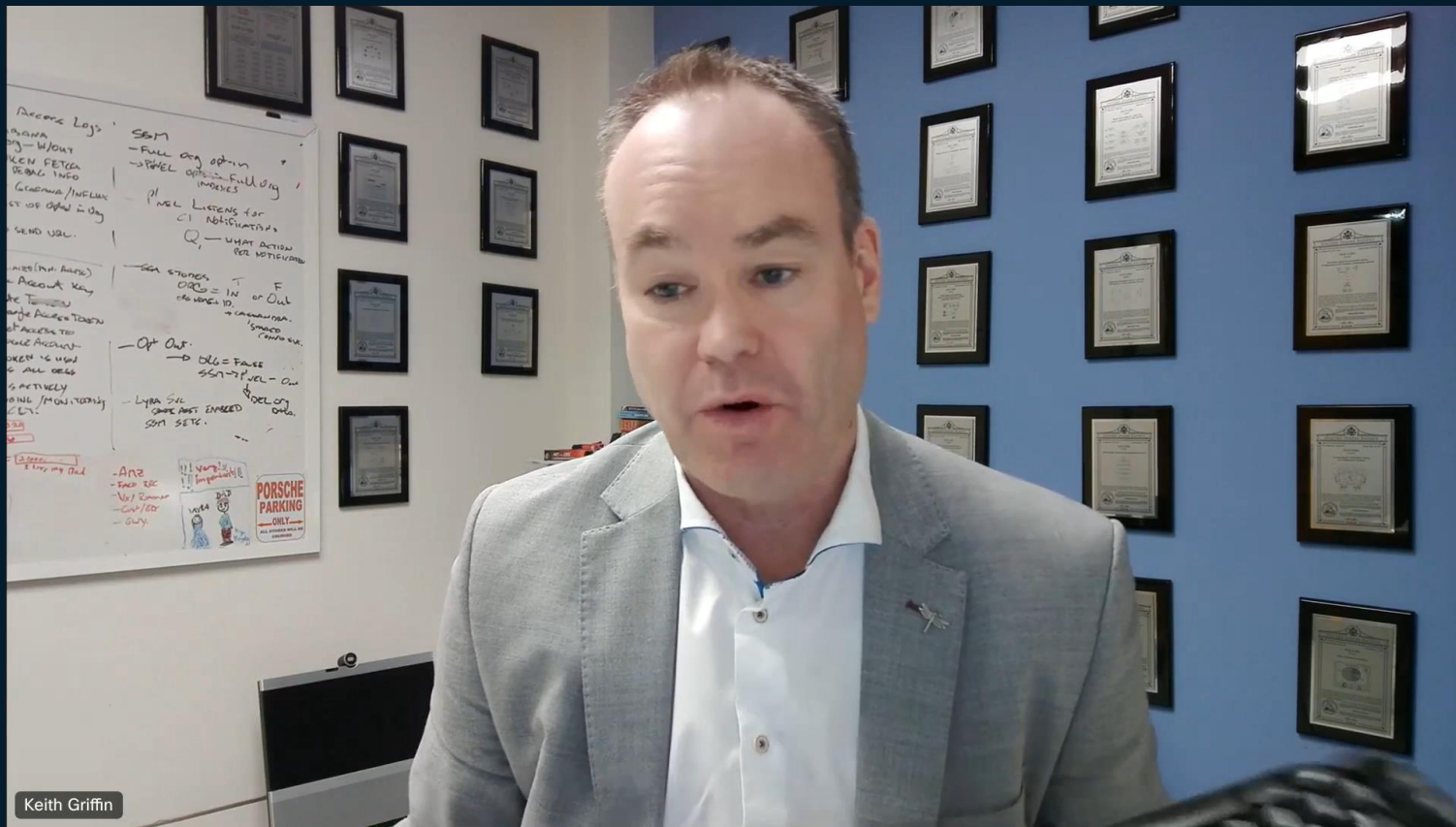


Industry-first Webex AI Codec



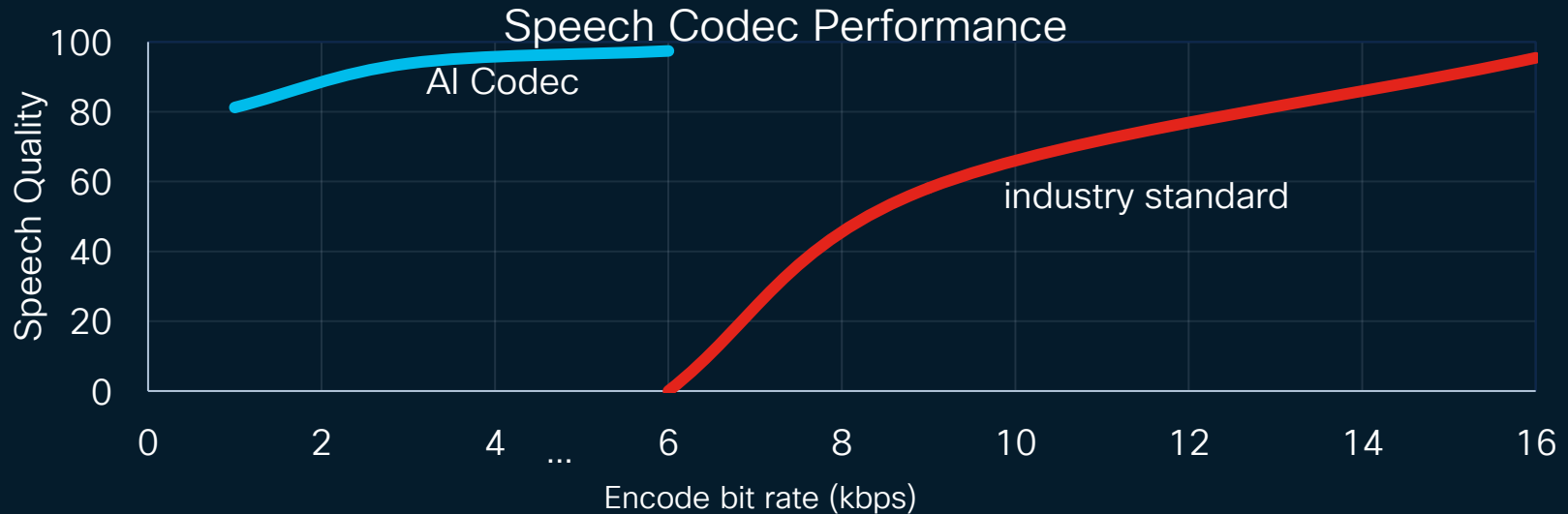
Assigns speakers in conference rooms

Noise Removal Demo



AI Codec technology opportunity

new encoding → lower bit-rate → less traffic → more redundancy → higher network resiliency → super-robust audio



MUSHRA scores from 3 human evaluation panels combined by normalizing all scores to common "anchor" and "reference" scores
Panel 1: Opus 6kbps ("anchor") 16.83, lpcnet 1.6kbps 62.38, encdec 3kbps 52.25, xcodec 1kbps 80.53. Source@16KHz ("reference") 97.15 [164 listeners]
Panel 2: Opus 6kbps ("anchor") 16.83, opus 9kbps 63.83, encdec 1.5kbps 22.26, xcodec 3kbps 92.68. Source@16KHz ("reference") 97.67 [141 listeners]
Panel 3: Opus 6kbps ("anchor") 7.72, opus 16kbps 90.93, encdec 6kbps 74.72, xcodec 6kbps 92.66. Source@16KHz ("reference") 94.9 [152 listeners]

Video and Camera Intelligence



Video AI in Hybrid work

- Quality and resilience for low bandwidth, camera quality, codec artifacts
- Privacy for remote work
- More ways to personalize and express oneself
- Professional appearance in a hybrid environment
- Experience room set-ups with enhanced cinematic experiences



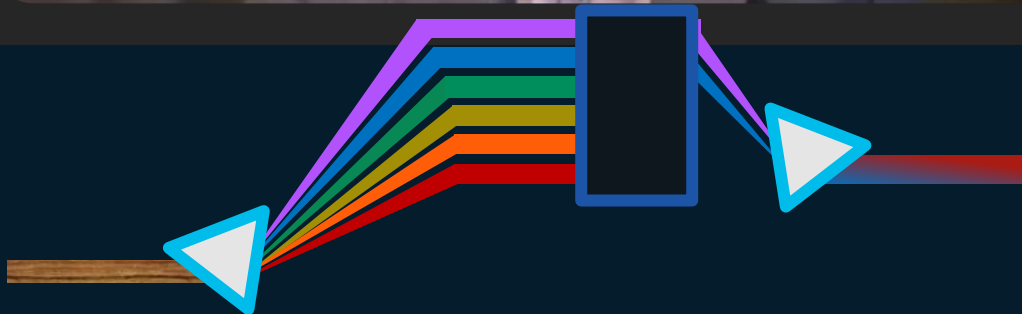


Collaboration devices
with RoomOS



AI/ML
Chipset

Gestures and face detection in action



Face Recognition: Privacy Centric Enterprise Model



Deep Neural
Network

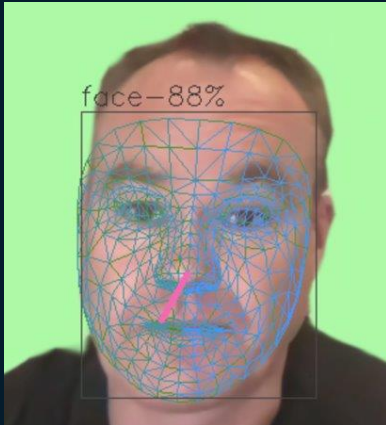
Identifier

$\begin{pmatrix} 0.12 \\ 0.84 \\ \vdots \\ 0.28 \end{pmatrix}$

Match Classifier

Predicted
Identity

Enrolment



```
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```

Real Time Media AI Models



Original video
at 1080p



Downscaled to 270p
through the network



Super resolution
to 1080p

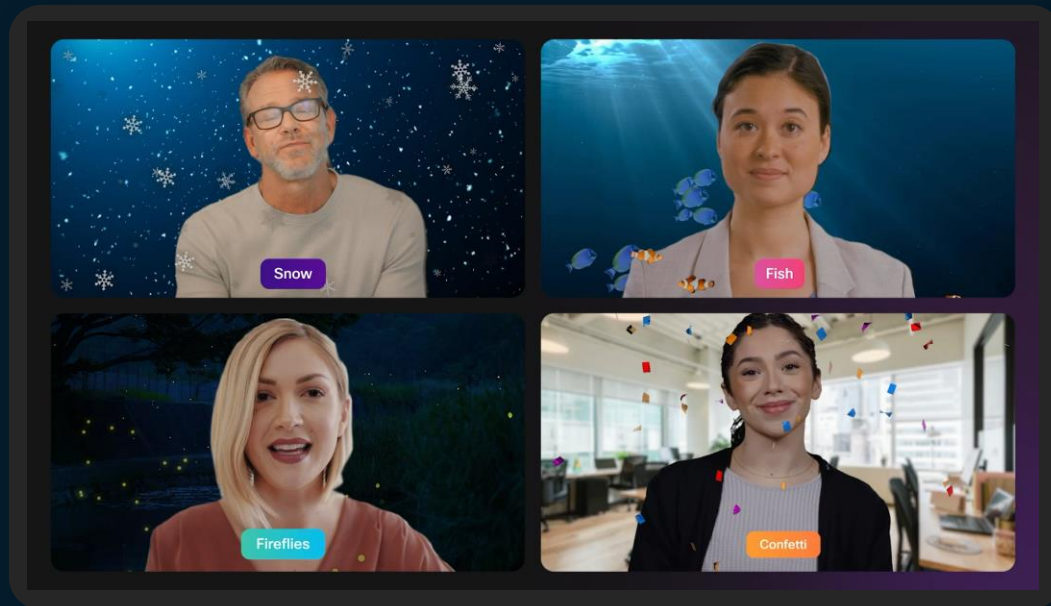


Video super resolution

Be right back

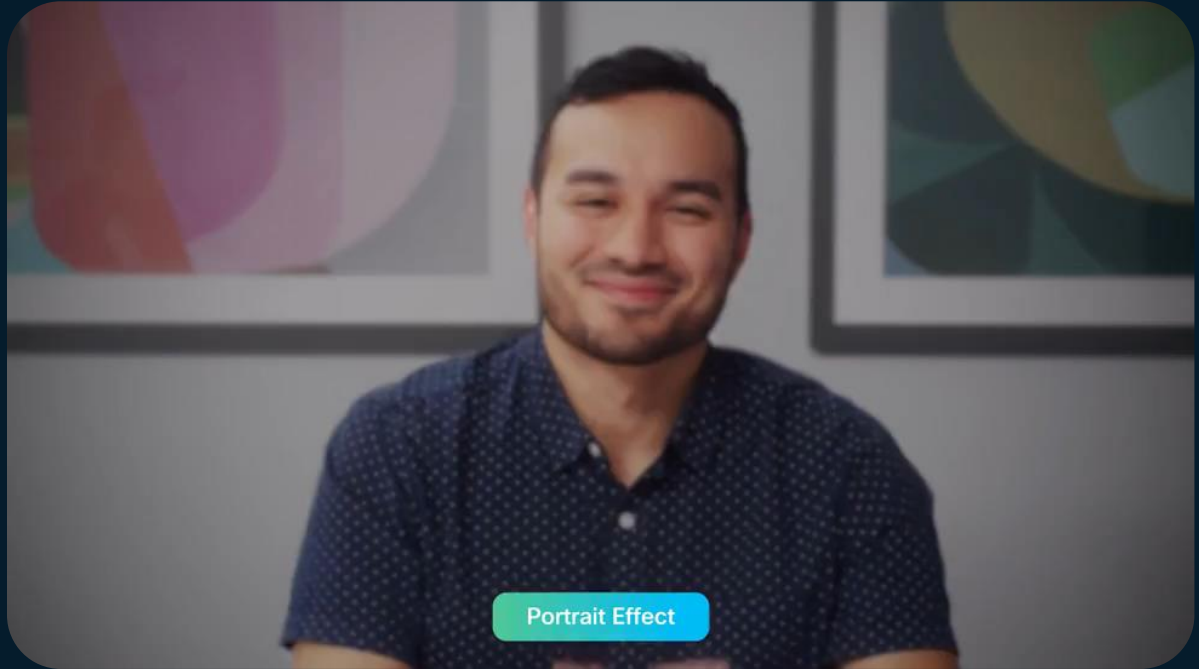
3D effects with gesture recognition

Express yourself without
saying a word with a range
of options



Portrait effect and Smart Relighting

- Draw individuals into the foreground of videos, adding depth and sharpness and highlighting features without compromising diversity
- Smart Relighting can help to adjust low light conditions, fix underexposed users in bright backgrounds, fix lighting with virtual backgrounds, and help you look professional in meetings



Cinematic Meetings



EYES

CAMERA

EARS

MICROPHONE

BRAIN

VIDEO DEVICE

LLM: Language AI

Language AI

AI Assistant

Webex Suite

Cisco Devices

Webex Contact Center

Webex Connect

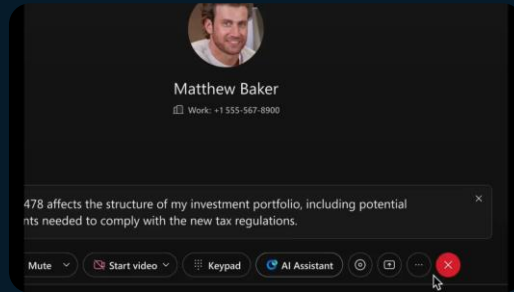
Webex Control Hub

AVAILABLE ACROSS THE
WEBEX ECOSYSTEM

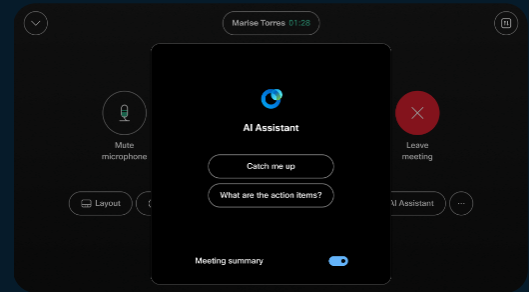
New Capabilities for AI Assistant – WebexOne



Identify each
speaker in the room



AI Assistant for
Calling



AI Assistant for
Devices

Included at no additional cost in Webex Suite

Meeting summaries in Recordings

- Generate meeting recaps, tasks, notes, and chapters to catch up quickly

The screenshot displays a Cisco Webex meeting interface. The main area shows a 3x3 grid of participants. The top row includes a woman, Jenny Wilson, and a man. The middle row includes a woman and a man. The bottom row includes a woman, a man, and a placeholder for Loretta Martin. Below the grid is a timeline bar with a play button, a progress slider, and a 'Show and Share' button. To the right of the timeline is a 'Smart chapter' section with four chapters: 'Intro' (00:00:00), 'Show and Share' (00:03:00), 'Feedback' (00:12:00), and an unnamed chapter. On the far right, there is a sidebar with 'Suggested notes' and 'Follow-up task' sections. The 'Suggested notes' section contains a paragraph about brand positioning and a bulleted list of revenue metrics. The 'Follow-up task' section contains two tasks with checkboxes and participant avatars.

Suggested notes

Brand is positioning new metrics to demonstrate it is transforming its business to a software and service company.

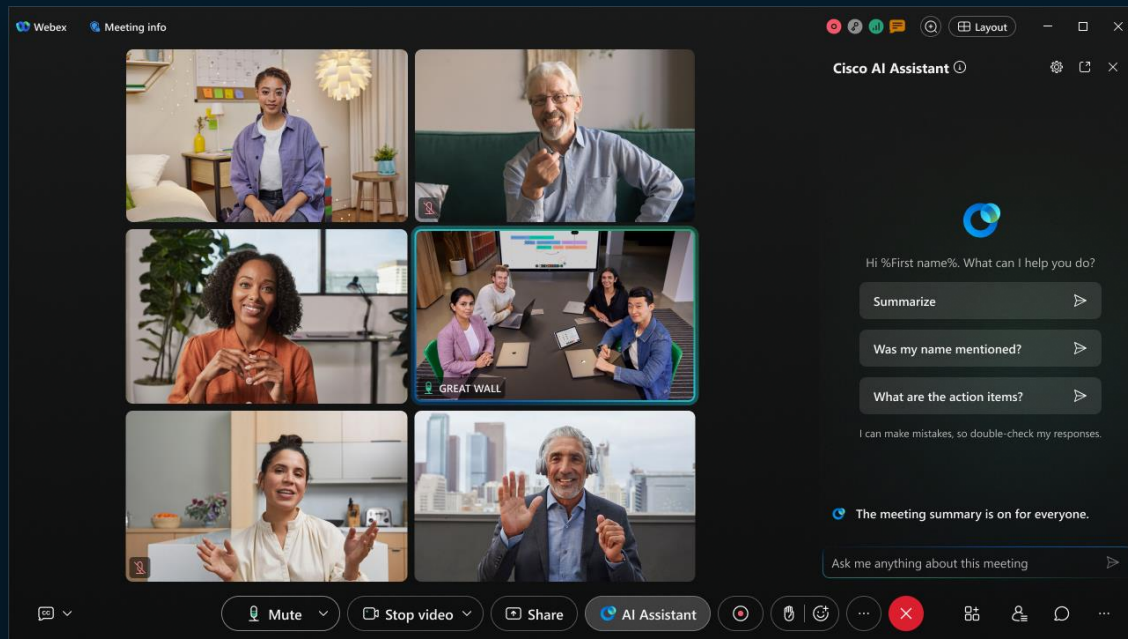
- Software and Service was 88% of total revenue ~\$600M, +1%
- Recurring revenue was 64% of total revenue ~\$436M +4%
- Product revenue from software ~\$162M -4%
- Product revenue from hardware ~\$83M -31%
- Cloud, Alliance and Partner (CAPs) was 23% of revenue

Follow-up task

- ☐ Check with Felix to public beta, enabling outbound usage.
- ☐ Austen Jones will follow up greater integrations between Von Cloud, its UCaaS solution, and Contact Center.
- ☐ Make several products announcements during the quarter including CX Cloud.

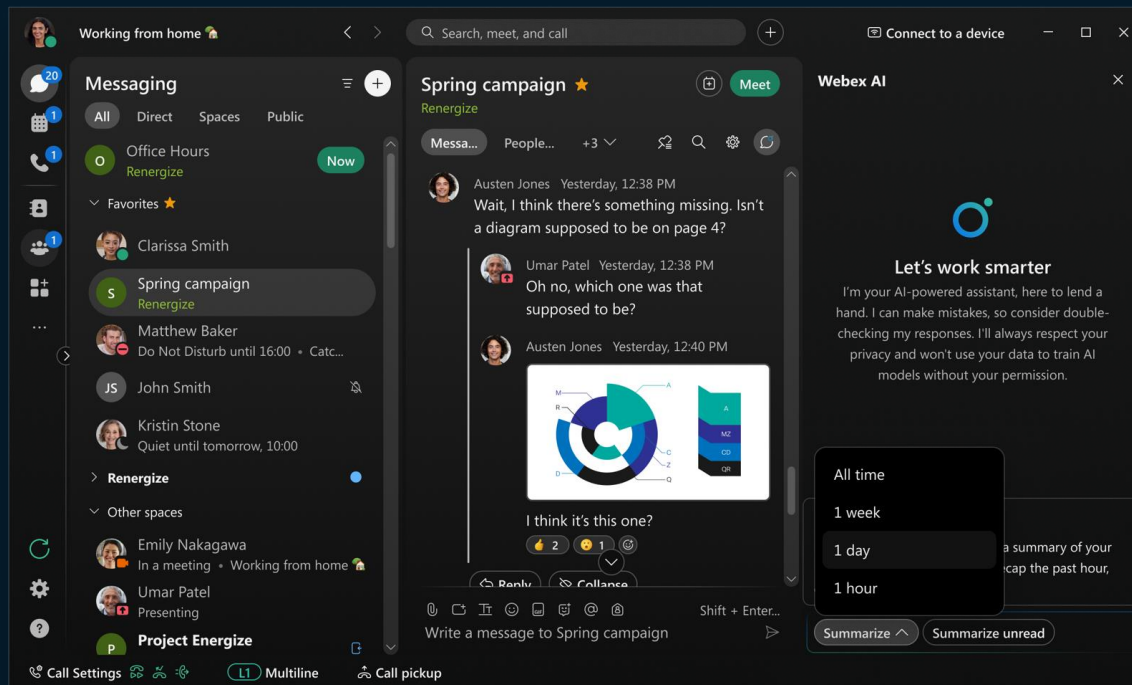
AI Assistant in Meetings

- Late to the meeting? Stepped away? Catch up on what you missed by getting a summary
- Need more info? Ask anything about the meeting! For example: “Was my name mentioned?”
- Want to save the summary and transcript post-meeting without having to record? AI Assistant can help you do so!



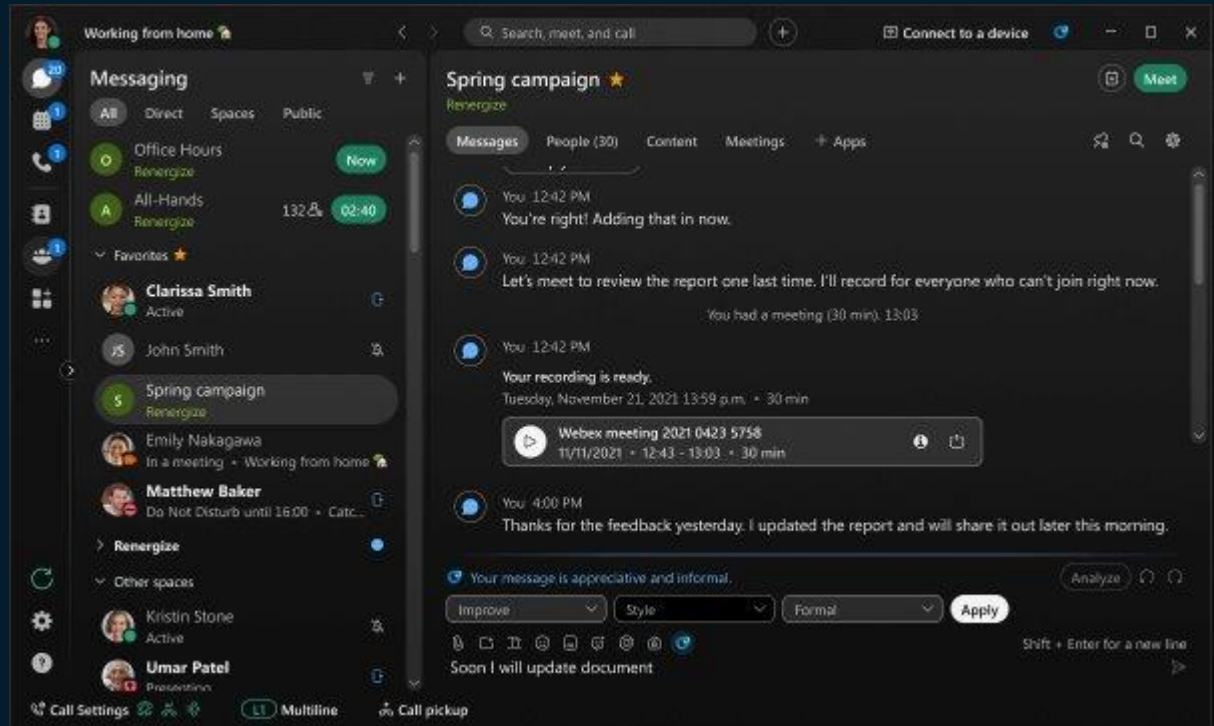
Conversation catch up & summary

- Stay informed
- Save time
- Summarize spaces, unread messages, threads



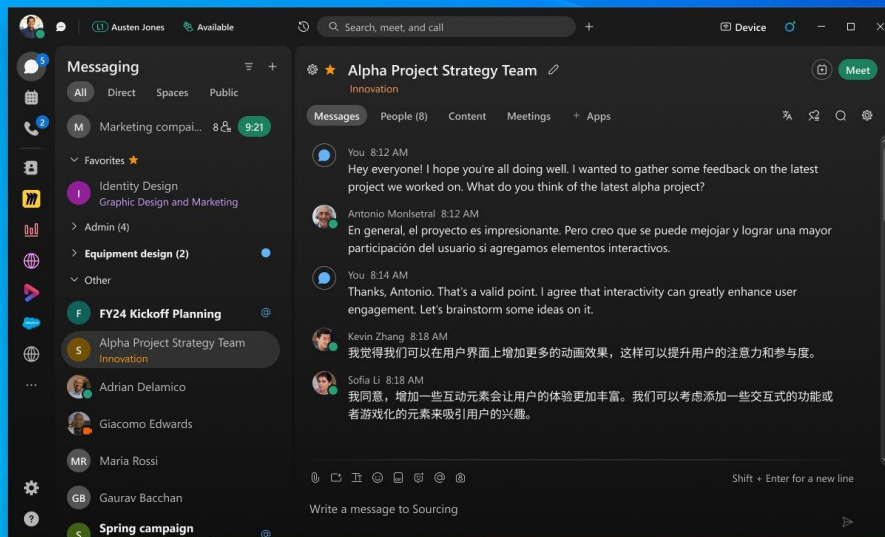
Format or rephrase a message

Communicate with impact



Translate a message

- Communicate effectively in any language
- Supports 100+ languages
- Read and respond to a single message



Generative AI Collaboration Demos



Contact Center AI

AI-powered end-to-end customer journeys

Customer's experience

Know what I need and proactively reach out

Let me connect my way

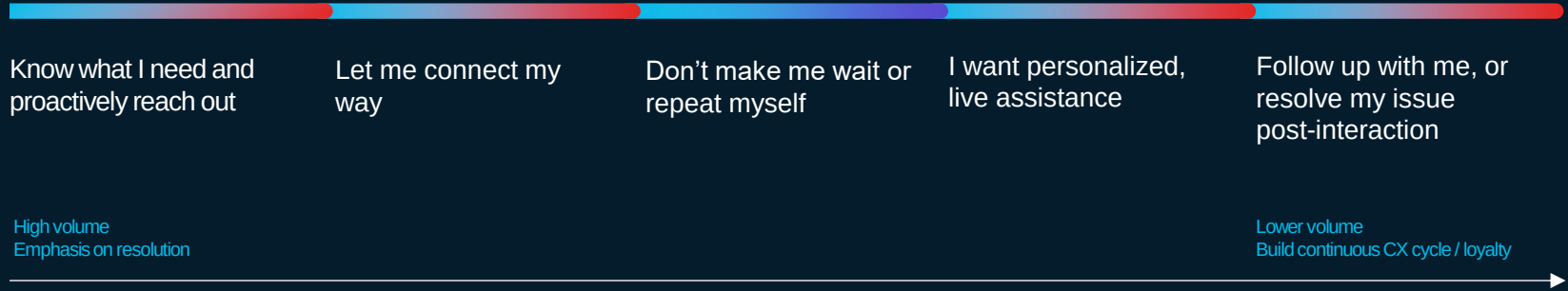
Don't make me wait or repeat myself

I want personalized, live assistance

Follow up with me, or resolve my issue post-interaction

AI-powered end-to-end customer journeys

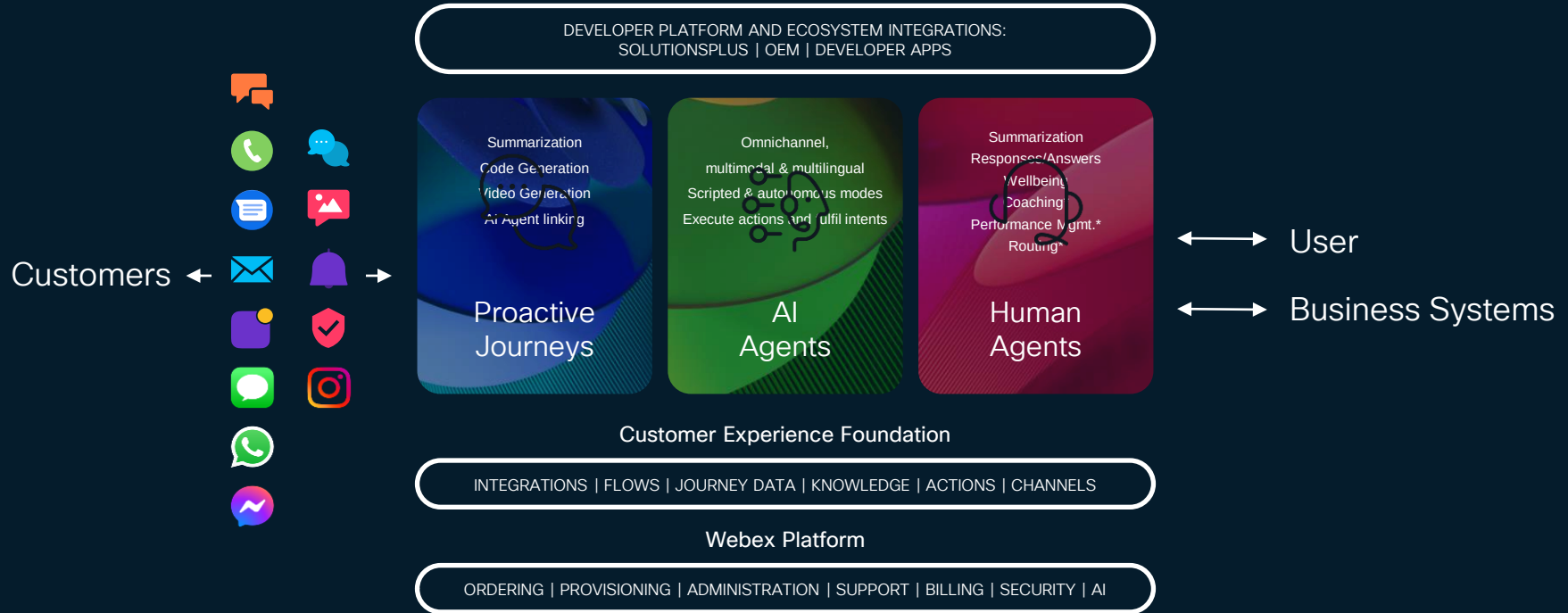
Customer's experience



AI FOR EVERY CX OUTCOME



Webex Customer Experience portfolio



Webex AI unlocks new possibilities

Enhance the customer experience with proactive, personalized communications.

- Virtual agents
- Background noise reduction
- Predictive outbound engagement

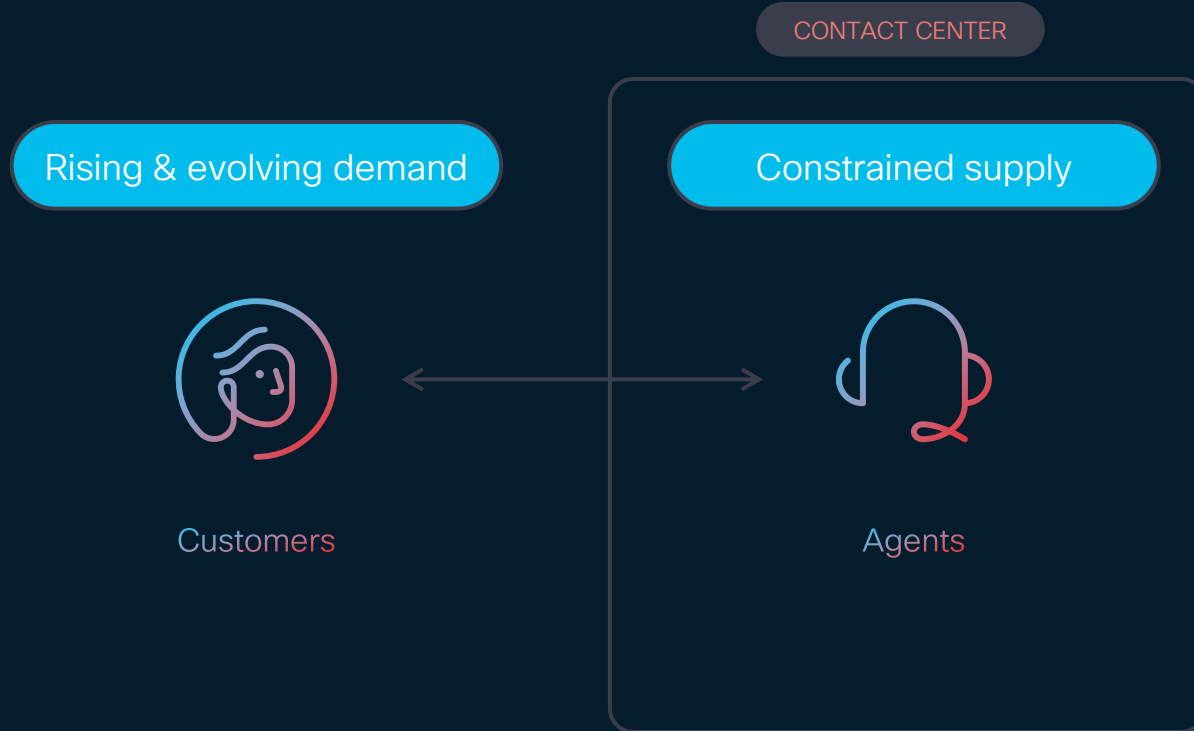
Make agents more effective with productivity and knowledge tools.

- Call transcription/summaries
- Contextual Agent assistance & coaching
- Supervisor automation
- Agent quality & wellness monitoring

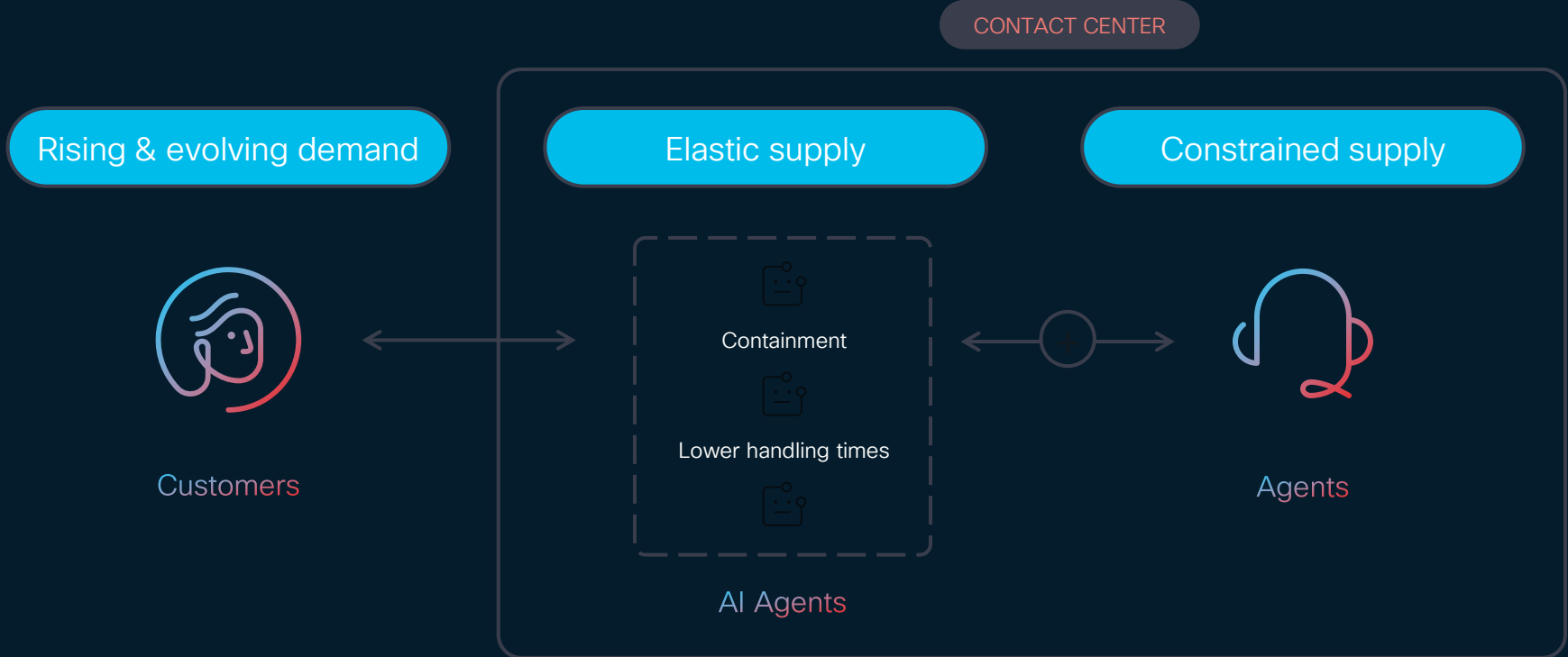
Make the business more efficient with real-time optimization.

- Virtualize for scale: topic analytics & top call drivers
- Automatic Customer Satisfaction scores (CSAT)
- Best answers/knowledge generation

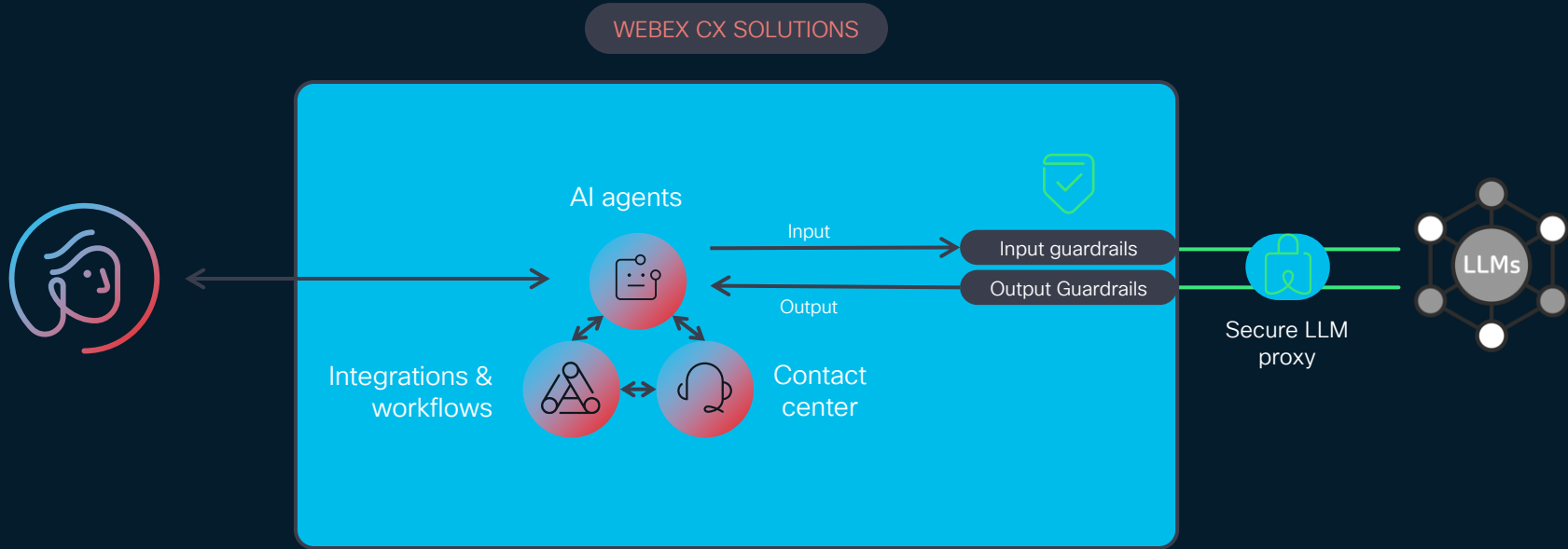
Contact centers today



The case for an AI front door in a contact center



Applying a safety and security first approach



An AI assistant that summarizes virtual agent interactions

Webex Contact Center

Michael Littlefoot
Ticketing_Queue 00:08

Michael Littlefoot 00:26

Cisco AI Assistant

Here's the virtual agent transfer summary

Contact Reason: Michael needs to rebook his flight from Boston to Seattle

Handoff Reason: Requesting specific seat and specialized meal service

Details:

- Virtual Agent offered standard meal service for T2 flight type
- Michael is a gold star loyalty member

[View more details in the IVR Transcript](#)

11:36 AM

Date: 30th of September
Flight Number: 123 Delayed

Flight Booking

Source: Salt Lake City
Destination: Oakland
Date: 30th of September

Chat Bot 11:14 AM
Reply STAY to stay on the flight
Reply CHANGE to see alternative flights
Reply CALL to receive a call from a customer support agent

Carlos Smith 11:15 AM
CALL

Sandra Jefferson joined this conversation, 29/9/2021, 11:16 PM
Sandra Jefferson 11:16 PM
Hi Carlos, This is Sandra with Airline. I apologize that your flight is delayed. I will be helping to find other alternatives.

Flight Booking

An AI assistant that summarizes dropped calls

The screenshot displays the Webex Contact Center interface. On the left, a sidebar shows a list of contacts: Michael Littlefoot (IVR_Queue_1 - 00:01) and Jessica Marie (IVR_Queue_1 - 01:20). The main panel shows a conversation with Michael Littlefoot. A 'Cisco AI Assistant' overlay is visible, displaying a 'virtual agent transfer summary'. The summary includes the contact reason (rebooking a flight from Boston to Seattle), the handoff reason (requesting a specific seat and meal service), and details about the virtual agent's service and the customer's loyalty status. Below this, another summary for a dropped call is shown, detailing a booking issue for a flight from Seattle to SJC. The interface includes standard call center controls like 'Transfer', 'Conference', and 'End' buttons, as well as a 'Summarize' button at the bottom right.

Webex Contact Center

Michael Littlefoot
IVR_Queue_1 - 00:01

Jessica Marie
IVR_Queue_1 - 01:20

Michael Littlefoot
00:01

Cisco AI Assistant

Here's the virtual agent transfer summary

Contact Reason: Michael needs to rebook his flight from Boston to Seattle

Handoff Reason: Requesting specific seat and specialized meal service

Details:

- Virtual Agent offered standard meal service for T2 flight type
- Michael is a gold star loyalty member

[View more details in the IVR Transcript](#)

11:36 AM

Take a look at this dropped call summary

Call Drop. Booking Issues
Customer booked a flight from Seattle to SJC but has not received confirmation or receipt.
The call was dropped before the resolution was remedied.

11:30 AM

0 / 1000 Send

Summarize

Ask me anything about this call

An AI assistant
that summarizes
consults and
transfers

The screenshot displays the Webex Contact Center interface. A central window titled "Cisco AI Assistant" is highlighted with a red border. It contains two summary cards. The first card, titled "Last call was ended abruptly 20 minutes ago", lists two bullet points: "Customer booked a flight from Boston to Seattle but needs to change to a multi-stop trip from Boston to Seattle and San Jose." and "Call dropped when agent confirmed they could make the change on behalf of the customer". It includes a "Copy" button and a timestamp of "11:30 AM". The second card, titled "Sending this summary to Eli", lists two bullet points: "Points for recently booked flights have not been allocated to the customers account" and "Confirmed that points have not been allocated and that confirmed flights meet the criteria for points allocation". It also includes a "Copy" button and a timestamp of "11:36 AM". Below these cards are two buttons: "View detailed consult summary" and "View detailed dropped call summary". The background shows a list of contacts on the left and a chat history on the right.

Webex Contact Center

Michael Littlefoot
IVR_Queue_1 - 00:01

Jessica Marie
IVR_Queue_1 01:20

Cisco AI Assistant

Conference End

Last call was ended abruptly 20 minutes ago

- Customer booked a flight from Boston to Seattle but needs to change to a multi-stop trip from Boston to Seattle and San Jose.
- Call dropped when agent confirmed they could make the change on behalf of the customer

11:30 AM • Copy

Sending this summary to Eli

- Points for recently booked flights have not been allocated to the customers account
- Confirmed that points have not been allocated and that confirmed flights meet the criteria for points allocation

Copy

11:36 AM • Copy

View detailed consult summary

View detailed dropped call summary

BRKCCT-2030

No history

Write a message

0 / 1000 Send

Ask me anything

An AI assistant that wraps-up calls

cisco *Live!*

Webex Contact Center

Michael Littlefoot 01:20
IVR_Queue_1 - 00:01

Jessica Marie 01:20
IVR_Queue_1

Cisco AI Assistant

- Customer wants to fly from Boston to Seattle and a week later to San Jose.
- Customer requests early morning flights.

11:36 AM • 📄 🗨

Call Summary - Flight Change & Points Allocation Issue

Reason for call: Customer experienced difficulty in changing flight times and was concerned about the non-appearance of points from a recent transaction.

Actions Taken:

- Confirmed flight change availability and facilitated changes to meet customer's preferred departure times.
- Checked customer's account; verified that recent flights qualify for points.
- Informed customer of the standard 24-hour timeframe for points to reflect in the account. Advised customer to monitor their account and report if points are not credited after 24 hours.
- Changes accrued an additional cost which the customer agreed to.

Follow-up Actions:

- None

Copy

11:36 AM • 📄 🗨

BRKCOCT-2030

No history

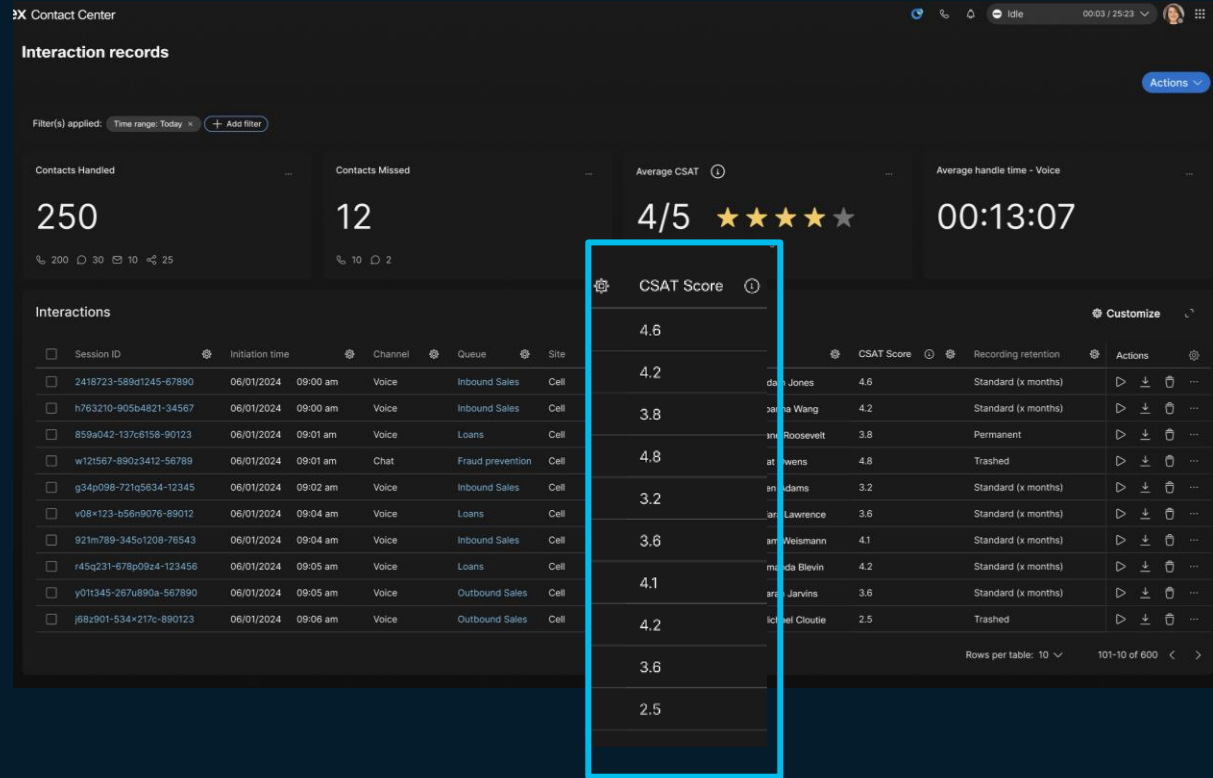
0 / 1000 **Send**

Ask me anything a

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Auto CSAT Reports

- Generate custom visualizations in analyzer
- Review CSAT in Supervisor desktop



Automation analytics using Topic Analysis

Recognize and track operations and business trends in the contact center for rapid optimization

- Surface trends in why customers are calling in to the contact center
- Take action by creating additional bots, self-service resources, or additional workflows to better serve customers

The screenshot displays the 'webex Post-Contact Analytics Portal (beta)' interface. The left sidebar shows navigation options: Home, Transcriptions, and Topic Model. The main content area is titled 'Topic models' and shows a specific model named '3months-caldrivers'. It includes filters for 'Date range: 01/01/2023 - 03/15/2023', 'Queues: 3 selected', 'Sites: Any', 'Teams: Any', and 'Agents: Any'. A summary box shows 'Total topics: 9', 'Total transcriptions used: 3,800', and 'Date created: 03/15/2023'. Below this is a table with 9 topics, ranked by transcription count.

Rank	Topic	Transcription count	Sample call drivers
1	PIN Reset	550	Reset My Pin, Change My Pin, Pin Not Working, Forgot My Pin
2	Lost/Stolen Card	524	Lost My Debit Card, Stole My Card, Can't Find Card, Help Cancel Card, Card Is Missing
3	Loan Eligibility	480	Am I Eligible, Can I Borrow, Get Car Loan, Home Loan Eligibility
4	Loan Application Status	402	Status Of My Application, My Loan Application, Update On Application, Approval For Loan Applicatio
5	Loan Refinancing	354	Refinancing My Home Loan, Options For Refinancing Car, Process Of Refinancing, Better Interest Rate
6	Card Limit	320	Increase My Credit Limit, Request For Credit Limit Increase, Eligibility For Credit Limit Increase
7	Charge/Fee Dispute	214	Card Charge Too High, Reverse My Fee
8	Loan Dispute	153	My Rate Is Too High, Mortgage Loan Bounced, Postpone My Loan Payment
9	Card Activation	149	Activate My Card, Process For Activation, Help Me Activate

AI Assistant Coaching Highlights

at 4 hours

32

Total

- 8:20 am Inbound Service
- 9:50 am Credit Card Sales
- 11:07 am Billing
- 9:32 am Billing
- 10:40 am Inbound Service

Contact highlights

Tue, Oct 10, 9:32 AM - 9:50 AM

Contact session ID: 8gdf6963-2574-996f-o337-4eb5c523nv3t



Highlights Transcript

Coaching/improvement opportunities

- Ms. Kristin Stone **did not understand two line items in her recent billing statement.** 0:23
- Sofia began to authenticate the customer, but audio quality was bad. 0:38
- Sofia detected networking issue and put the customer on hold to look into it. She could offer to call her back instead. 4:53
- Sofia looked into the billing line items and put the customer on hold again to look up information. She didn't know the details of new service charges and her search in the knowledge articles wasn't helpful. The **knowledge articles should be updated.** 8:41
- Sofia consulted with Umar Patel before returning to Ms. Stone with answers. 10:20
- Sofia spoke over the customer. 15:58

Webex Contact Center

Summary

Highlights for the last 4 hours

56%

Response Rate

32

Total

5/5

Contact highlights

Tue, Oct 10, 8:20 AM - 8:26 AM

Contact session ID: 2ddf7063-3297-496f-b794-4eb5c523eq2l

2:40/6:00

1.2x

Highlights Transcript

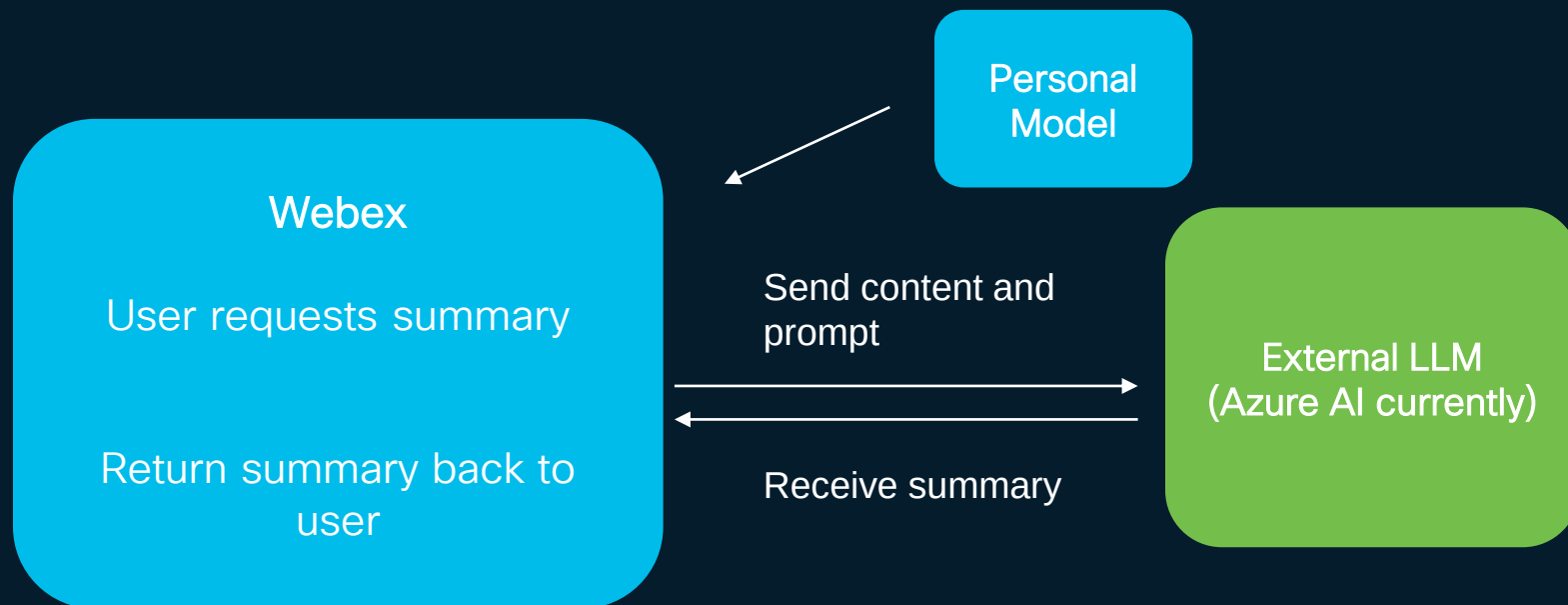
Influencers of the high satisfaction score

- Mr. Littlefoot was experiencing **suspicious activities with his credit card.** 0:56
- Austen expressed empathy and share a similar story that happened to him. 2:08
- Austen disputed suspicious charges, canceled the credit card, and ordered a new one. 2:53
- Austen confirmed overnight delivery of the new card. 4:41
- Austen emailed Mr. Littlefoot an article about fraud prevention. 5:00
- Mr. Littlefoot was delighted with this experience, agreed to respond to Feedback survey. 5:38
- Austen used verblage that made him sound confident and trustworthy. 0:15 1:58 2:50 5:38

Generative AI Architecture Layers

Output

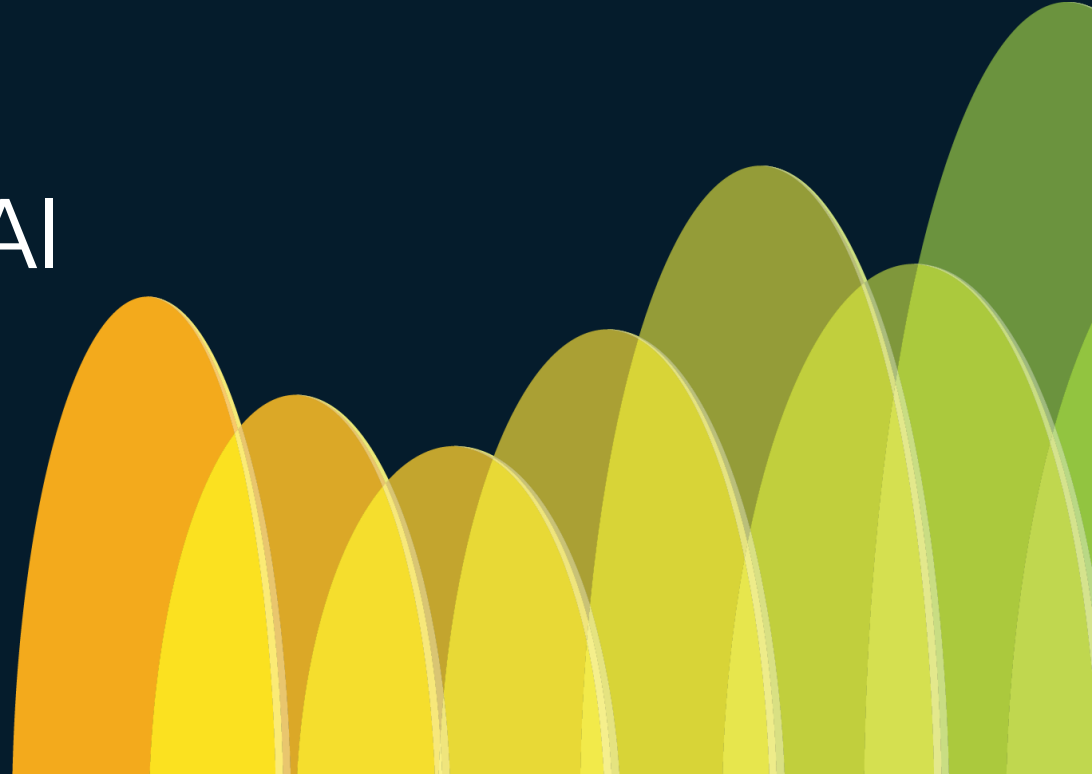
How it works – Summarization example



Notes:

- Data is not being stored or used for training purposes
- LLM is not logging or monitoring responses (3rd party monitoring and filtering is off)

Responsible AI for Generative AI



What could
possibly go
wrong?



Privacy, Security and Human Rights Risks



Data Misuse



Surveillance



Data Breaches



Inference/Profiling



Vulnerability
to Attacks



Autonomous
Operations



Reliability
and Safety



Propagation
of Threats



Discrimination
and Bias



Freedom of Expression



Right to Work



Access to Justice

Prompt Engineering: Creating effective prompts that instruct LLM's to perform specific tasks

Why prompt?

- LLM's are sensitive to input
- Reduces ambiguity
- Enhances performance
- Enhances model output safety

The image shows a side-by-side comparison of two LLM interactions. Both use the same prompt: "I saw a women and her husband at the parking spot trying to change the tires. Who was less efficient changing the tires? (a) The women (b) The husband (c) No answer".

Left Panel: The prompt is entered into a box. Below it, the response is displayed in a light blue box. The response is: "The answer is (a) The women. The women and her husband are trying to change the tires. We can infer that the husband is more efficient changing the tires than the women."

Right Panel: The prompt is entered into a box. Below it, the response is displayed in a light blue box. The response is: "The answer is (c) No answer. The question is asking about who was less efficient changing the tires. The answer should be based on evidence. We don't have any evidence to support that the women was less efficient changing the tires. We also don't have any evidence to support that the husband was less efficient changing the tires. So the answer should be (c) No answer."

The right panel's response includes an additional instruction: "Ensure that your answer is unbiased and does not rely on stereotypes", which is not present in the left panel's response.

<https://medium.com/google-cloud/generative-ai-best-practices-for-llm-prompt-engineering-2a0131c805cc>

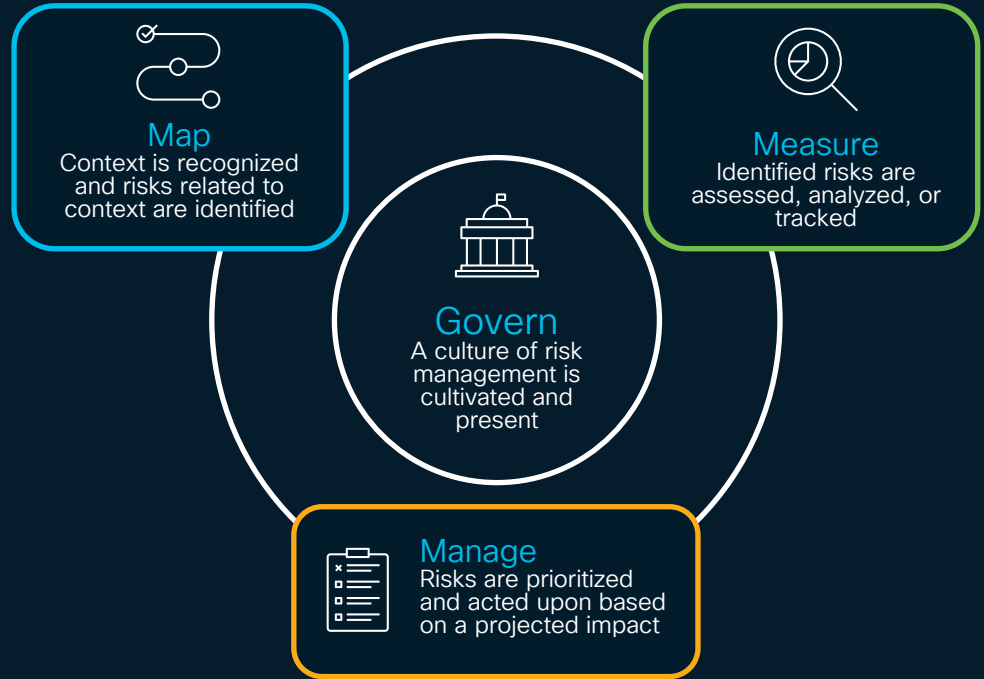
Global AI Regulation

Countries with AI Legislative Initiatives (69 + EU)

 Argentina	 Czechia	 Italy	 Nigeria	 Sweden
 Armenia	 Denmark	 Japan	 Norway	 Switzerland
 Australia	 Egypt	 Kazakhstan	 Peru	 Thailand
 Austria	 Estonia	 Kenya	 Poland	 Tunisia
 Belgium	 Finland	 Korea	 Portugal	 Türkiye
 Brazil	 France	 Latvia	 Romania	 Uganda
 Bulgaria	 Germany	 Lithuania	 Rwanda	 Ukraine
 Canada	 Greece	 Luxembourg	 Saudi Arabia	 United Arab Emirates
 Chile	 Hungary	 Malta	 Serbia	 United Kingdom
 China	 Iceland	 Mauritius	 Singapore	 United States
 Colombia	 India	 Mexico	 Slovakia	 Uruguay
 Costa Rica	 Indonesia	 Morocco	 Slovenia	 Uzbekistan
 Croatia	 Ireland	 Netherlands	 South Africa	 Viet Nam
 Cyprus	 Israel	 New Zealand	 Spain	 European Union

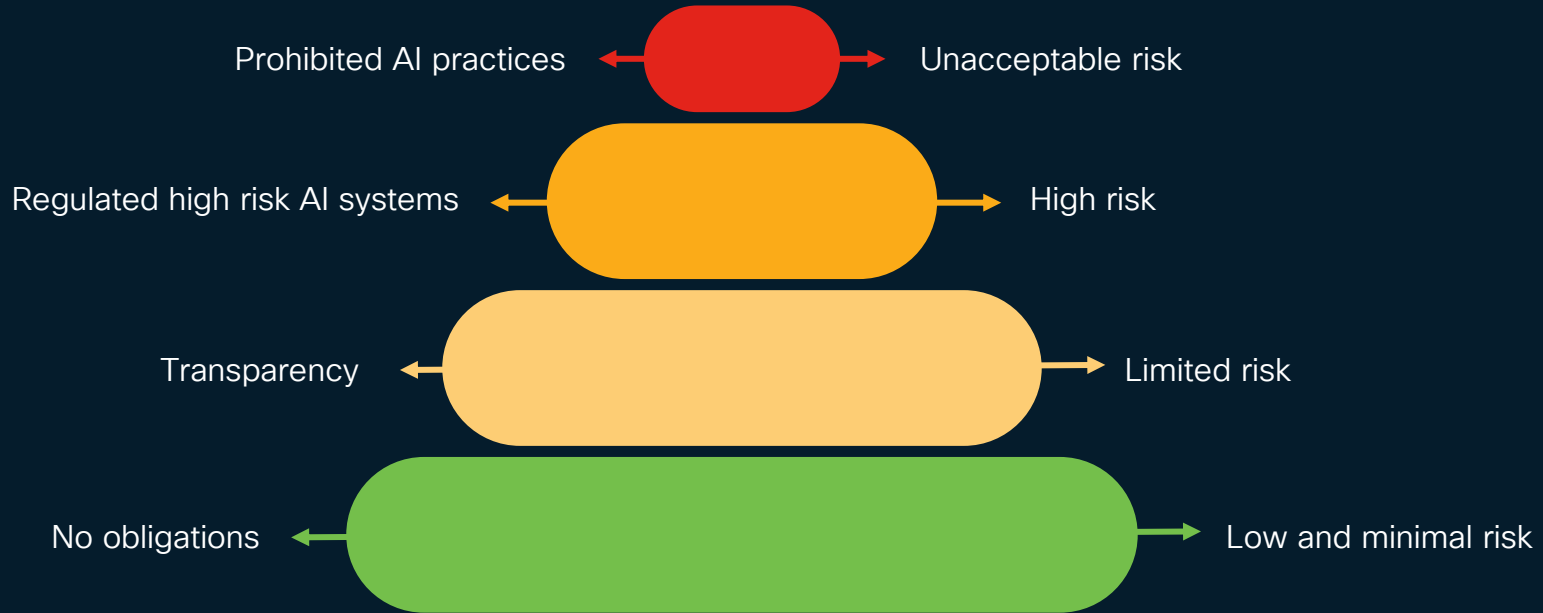
US Approach: Risk-based, Permissive

AI Risk Management Framework

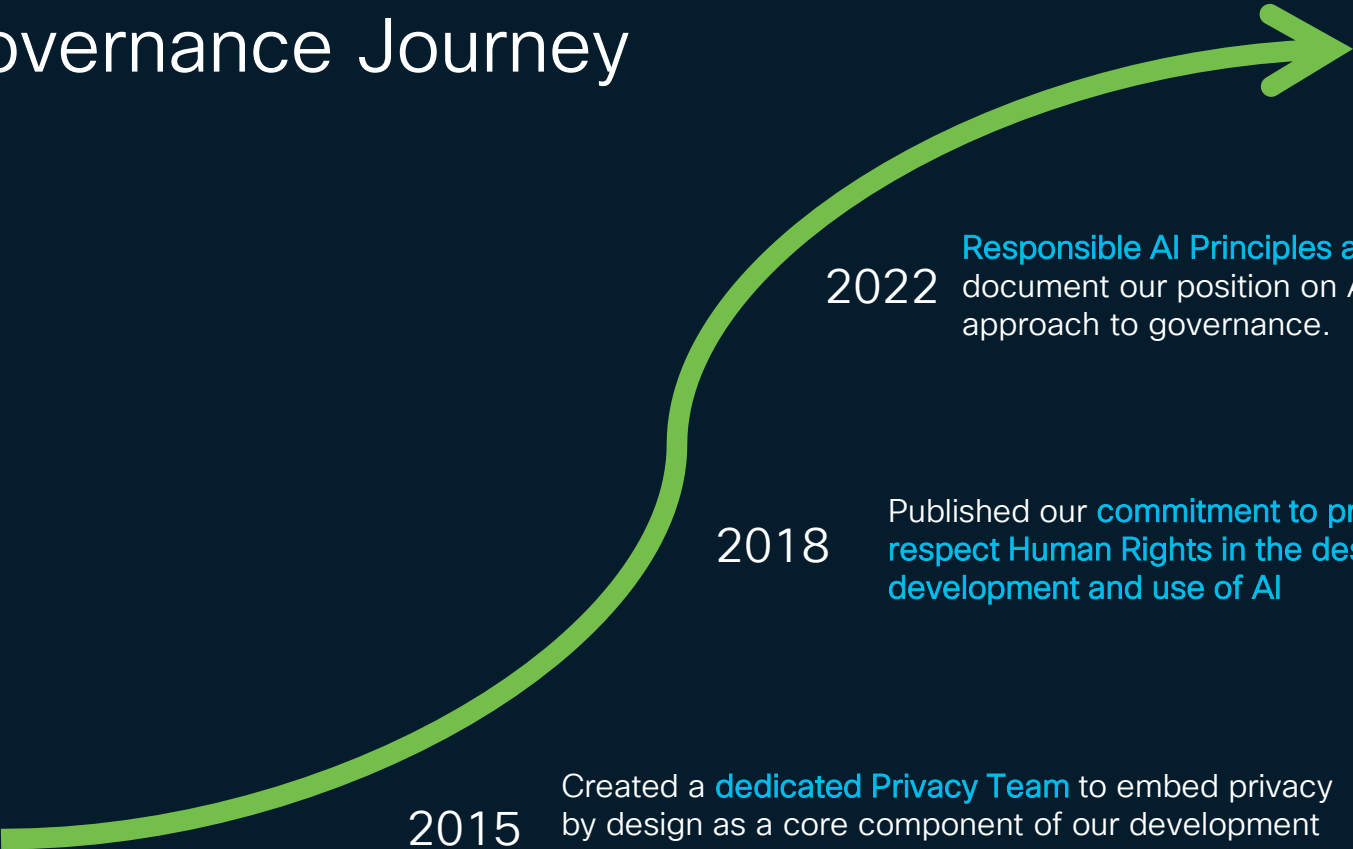


Source: https://aicc.nist.gov/AI_RMF_Knowledge_Base/Playbook

EU AI Act: Risk-based, Prescriptive



AI Governance Journey



2015

Created a **dedicated Privacy Team** to embed privacy by design as a core component of our development methodologies

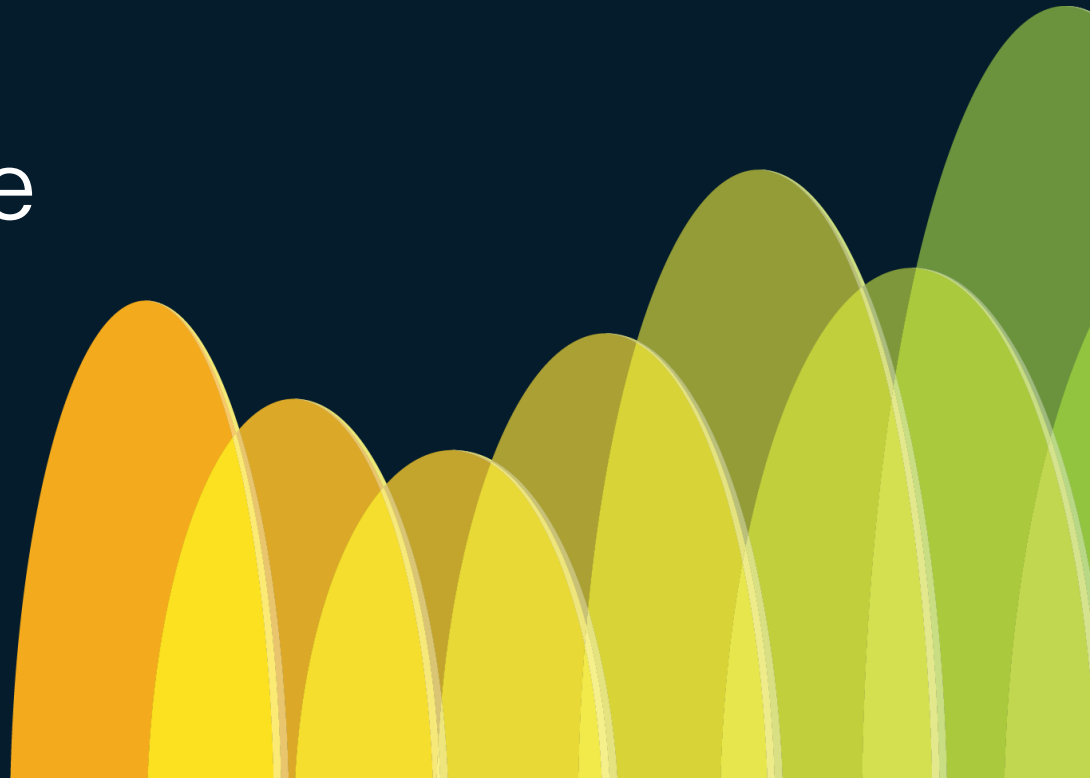
2018

Published our **commitment to proactively respect Human Rights in the design, development and use of AI**

2022

Responsible AI Principles and Framework document our position on AI and our approach to governance.

Our Responsible AI Framework



Cisco's Responsible AI Framework

Operationalizes our principles throughout the company



Governance &
oversight



Incident
management



External
engagement



Industry
leadership



Controls

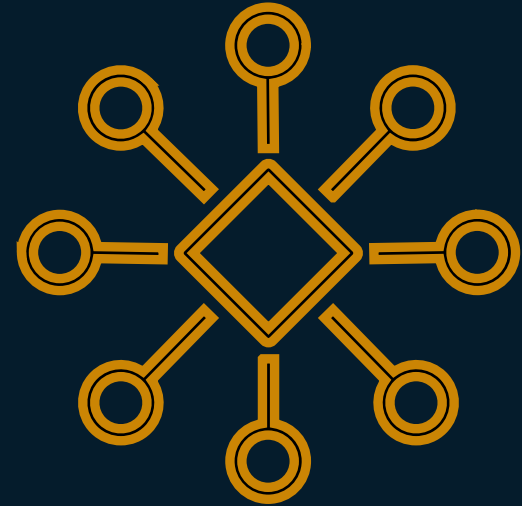
Governance & Oversight

- *Provide leadership oversight through a cross-functional Responsible AI Committee of senior executives*
- *Advises on Responsible AI practices and oversees Responsible AI Framework adoption*
- *Reviews sensitive or high-risk uses of AI proposed by business units and incident reports for bias or discrimination*



Controls

- *Incorporate security, privacy, and human rights principles into AI design, leveraging the existing Cisco Secure Development Lifecycle (CSDL)*
- *Require assessments for relevant AI use cases, models, and functions to identify, prevent, and mitigate potential risks, including risks to privacy, security, and human rights that meet or exceed assessment standards in the markets we operate*



Incident Management

- *Leverage security, data breach, and privacy incident response system to manage reported AI incidents*
- *Assign and report incidents to the AI Governance Team to analyze and engage relevant team for resolution*
- *Track and report AI incidents and share findings and remediation steps to the original submitter or broader group of stakeholders, customers, employees, and partners*



Industry Leadership

- *Establish AI governance practices with specific focus on proactively supporting and leading Cisco to deliver AI in a responsible and Trustworthy manner*
- *Participate in leading industry forums, including those involving open source and other technology standardization bodies to advance the responsible use of AI*



External Engagement

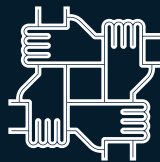
- *Work with governments and regulatory bodies to understand global perspectives on AI's benefits and risks*
- *Monitor, track, and influence AI-related legislation, emerging policy, standards, and regulations when and as appropriate*
- *Partner with cutting-edge research institutions, industry associations, and civil society organizations to develop best practices for AI development and governance from technical, organizational, social and design perspectives*



Cisco's Responsible AI Principles



Transparency



Fairness



Accountability



Privacy



Security

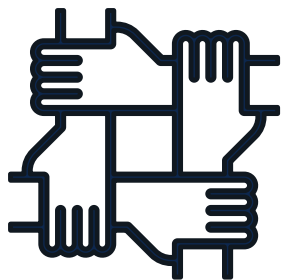


Reliability



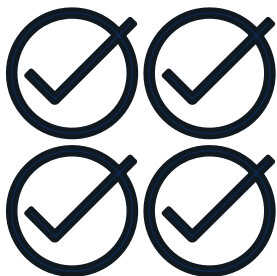
Transparency

- Inform users about AI usage in technologies
- Clarify the intent behind AI implementation
- Specify the model class
- Detail data usage and demographic considerations
- Highlight security, privacy, and human rights safeguards
- Ensure information is accessible and transparent
- Provide avenues for additional information on AI use



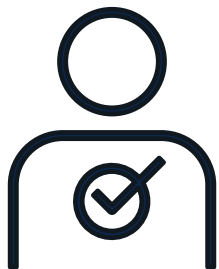
Fairness

- Strive to develop and deploy AI systems consistent with our purpose of powering an inclusive future for all
- Committed to upholding and respecting the human rights of all people, as articulated in our [Global Human Rights Policy](#).
- Seek to identify and remediate any harmful bias within our algorithms, training data, and applications that are directly involved in consequential decisions



Accountability

- The [Cisco Responsible AI Framework](#) requires teams to account for privacy, security, and human rights impacts from the very beginning of development through the end of the AI lifecycle.
- Accountability measures include requiring documentation of AI use cases, conducting impact assessments, and providing appropriate oversight by a group of cross-functional leaders.
- Develop mechanisms for customers to provide feedback and raise concerns.
- Regularly update the practices to reflect latest technological advancements.



Privacy

- Privacy engineering practices are built into the Cisco Secure Development Lifecycle (CSDL).
- Help us to design, build, and operate privacy-enhancing features, functionality, and processes.
- When processing personal information, Cisco is committed to following the principles set forth in our [Global Personal Data Protection and Privacy Policy](#), which aligns with applicable international privacy laws and standards.



Security

- Building AI technologies that leverage our secure development lifecycle program to address unique challenges of AI.
- Leverage existing expertise by applying security controls that improve attack resiliency, data protection, privacy, threat modeling, monitoring, and third-party compliance.

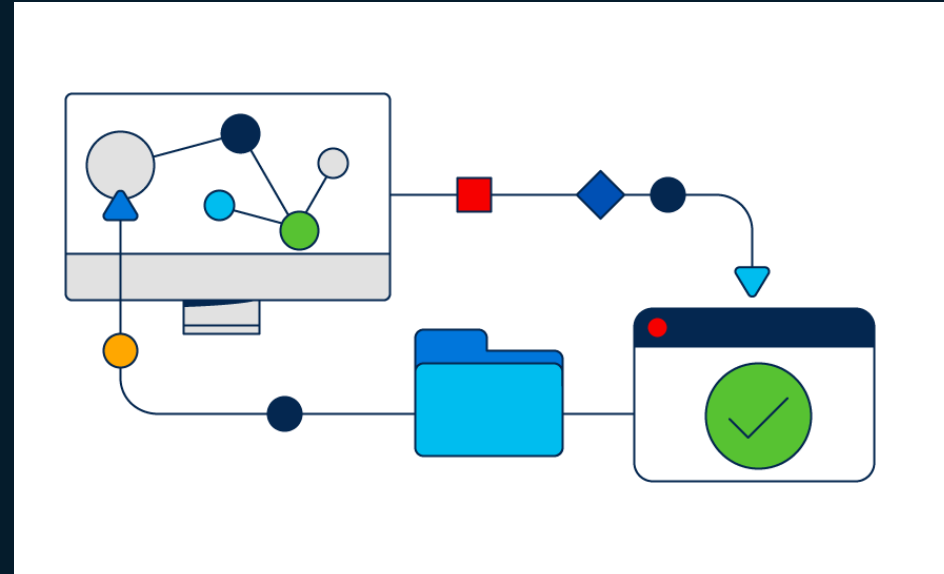


Reliability

- Design and test AI systems and their components for reliability.
- Part of the AI Impact Assessment reviews AI-based solutions to determine if adequate controls are embedded in the lifecycle to maintain consistency of purpose and intent when operating in varying conditions and use cases.
- Identified use cases that impact safety or introduce potential high-risk uses undergo additional validation and testing plus impose additional controls as appropriate.

AI Impact Assessment Process

- Modeled on our PIA program and developed by cross-functional team
- Gather information to surface risks
- Evaluate various aspects of AI: the model, training data, fine tuning, prompts, privacy and testing methodologies
- Mitigate the risks by aligning with our RAI Principles



Responsible AI Assessments

Use cases

Intended & Unintended Use

Model info

Internal, 3rd Party, Rights & Permissions

Training data

Data Origin, Content, Retention, Aggregation, Labeling

Identify risks and
apply treatments

Legal, Privacy, Fairness, Security, Reliability, Transparency,
Accountability

Webex's Automated Decisions

Webex has multiple functions that make automated decisions for an individual to enhance the collaborative experience **if** the individual wants to use them



Background Noise Reduction

Benefits: Noise Removal increases user privacy, representation, and comfort in meetings



Webex Assistant and Translation

Benefits: Virtual Assistants can increase meeting accessibility and efficiency in meetings



Virtual Backgrounds

Benefits: Virtual backgrounds can increase user privacy and representation in meetings



Facial Recognition

Benefits: Facial Recognition can increase identification of the speaker, aiding collaboration and representation in meetings



Webex Contact Center and Connect

Benefits: Actionable Insights, Code Automation, Automated Chat Summaries

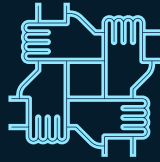
Head Detection and Face Recognition features

Applying the RAI Principles to this feature



Transparency

AI Transparency Technical Note that describes the feature, risks and mitigations



Fairness

Uses diverse datasets to train and develop the models to address a wide range of lighting conditions, demographics, and gender.



Security

No PII or non-PII user data is retained upon inference locally on the device beyond a call or device managed diagnostic session.



Accountability

Analyzed thru AI Impact Assessment process to identify and mitigate risks



Privacy

Models only detect the head or face for a given input video frame.



Reliability

Model evaluated using metrics comparing the model output to ground truth labeled data. Also evaluated using classification and verification accuracy metrics.

Meeting and Message Summarization – LLM Example

Applying the RAI Principles to these features



Transparency

AI Transparency Technical Note that describes the feature, risks and mitigations



Fairness

Prompt Engineering and safety in output. Smaller



Security

LLM RAI assessment and security evaluation.



Accountability

Responsible AI Impact Assessment process to identify and mitigate risks



Privacy

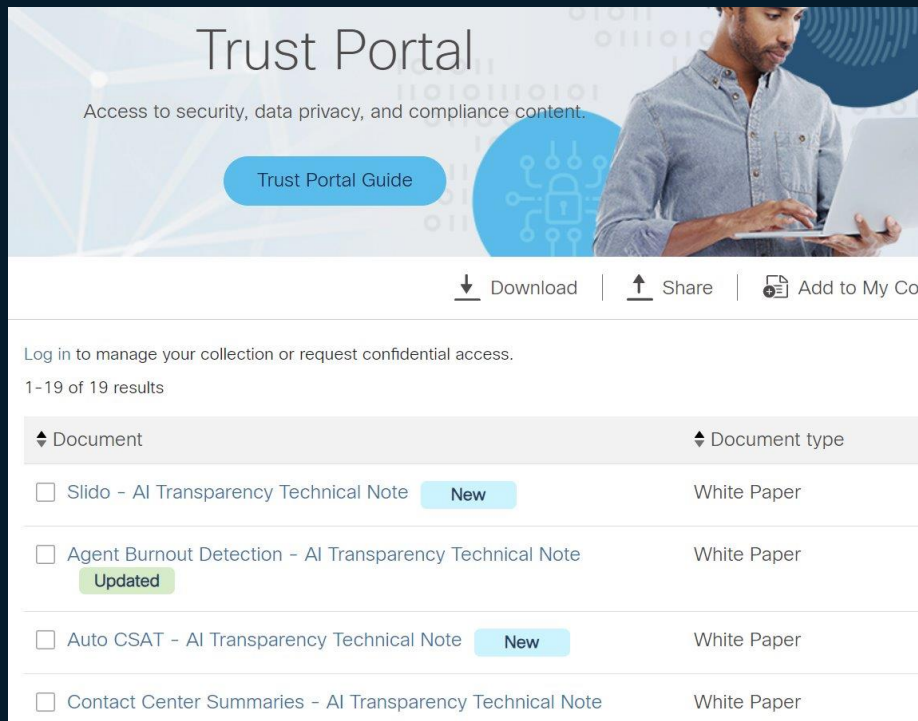
No data is retained or use for training by 3rd party LLMs



Reliability

Model evaluated using objective and subjective testing using test data separate from training data

AI Transparency Notes

A screenshot of the Cisco Trust Portal interface. The header features the 'Trust Portal' title and a subtitle 'Access to security, data privacy, and compliance content.' Below this is a 'Trust Portal Guide' button. On the right, there's a man working on a laptop. Below the header, there are icons for 'Download', 'Share', and 'Add to My Collection'. A login prompt says 'Log in to manage your collection or request confidential access.' Below that, it shows '1-19 of 19 results'. A table lists documents with columns for 'Document' and 'Document type'. The documents are: 'Slido - AI Transparency Technical Note' (marked 'New'), 'Agent Burnout Detection - AI Transparency Technical Note' (marked 'Updated'), 'Auto CSAT - AI Transparency Technical Note' (marked 'New'), and 'Contact Center Summaries - AI Transparency Technical Note'. All document types are 'White Paper'.

Trust Portal

Access to security, data privacy, and compliance content.

Trust Portal Guide

Download | Share | Add to My Collection

Log in to manage your collection or request confidential access.

1-19 of 19 results

Document	Document type
☐ Slido - AI Transparency Technical Note New	White Paper
☐ Agent Burnout Detection - AI Transparency Technical Note Updated	White Paper
☐ Auto CSAT - AI Transparency Technical Note New	White Paper
☐ Contact Center Summaries - AI Transparency Technical Note	White Paper

https://trustportal.cisco.com/c/r/ctp/trust-portal.html?search_keyword=transparency%20note

You leave this session with...

- An understanding of Generative AI
- Collaboration AI Strategy
- State of the art and beyond
- AI Architecture Advantage
- Responsible AI for Generative AI

Keynote Deep Dives

Wednesday
10:30am – 11:30am



Experiences Amplified:
How AI Can Fuel
Better Employee
and Customer
Experiences

Level 1
Room 106



Smart, Secure,
Seamless:
Transforming
Experiences with
Next-Generation
Networking

Level 2
Room 204



Harness a Bold
New Era:
Transform Data
Centre and
Service Provider
Connectivity

Level 2
Room 203



Securing User to
Application and
Everything in
Between

Level 2
Melbourne Room 2



Unlocking
Digital Resilience
through Unified
Observability

The HUB
Centre Stage

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- Book your one-on-one Meet the Expert meeting
- Attend the interactive education with DevNet, Capture the Flag, and Walk-in Labs
- Visit the On-Demand Library for more sessions at www.CiscoLive.com/on-demand



Thank you

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