



# Contact Center: Agent Burnout Detection

AI Transparency Technical Note

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At Cisco, we appreciate that Artificial Intelligence (AI) can be leveraged to power an inclusive future for all. We also recognize that by applying this technology, we have a responsibility to mitigate potential harm. That is why Cisco adheres to our [Responsible AI Framework](#) (the “Framework”), which is based on six principles of Transparency, Fairness, Accountability, Privacy, Security and Reliability. Cisco translates these principles into product development requirements, which ultimately form part of the product development lifecycle alongside our Security by Design, Privacy by Design, and Human Rights by Design processes.

Accordingly, Webex by Cisco (Webex) features that leverage AI are built with transparency, fairness, accountability, privacy, security, and reliability at their core. Each feature powered by AI undergoes an AI Impact (AI) Assessment – a best-in-class review of how the technical underpinnings of the functionality measure against the Framework Principles.

Agent Burnout Detection was built with the Framework principles at the center of how Cisco delivers the AI-powered technology. This Technical Note describes more information about Agent Burnout Detection, and how Cisco responsibly leverages AI to deliver the functionality.

## Feature Overview

Agent Burnout Detection leverages real-time and historical data, including operational and performance analytics, to analyze stressors for contact center agents. The insights are exclusively used for implementing actions that can help agents in stress management to improve their overall performance and customer satisfaction. These corrective measures can be initiated before, during, and after an agent's interaction with a customer. These measures range from offering wellness breaks for stressed agents, to optimizing channel allocation, shift bidding, staffing, and routing strategies for improved outcomes for both customers and the business.

The insights are accessible through APIs, providing customers and authorized partners the flexibility to develop further supportive actions or integrations tailored to agent needs. Cisco is committed to guiding our partners and customers to harness these insights with the sole purpose of aiding agents and enhancing customer satisfaction.

Agent Burnout Detection is available for Webex Contact Center. These features are optional; customer administrators can disable or enable individual users to choose whether and to what extent they use the features.

## Model Overview

### Introduction

The Agent Burnout Detection model uses Cisco's native algorithm, which is based on agent behavior and performance metrics in the presence of contact center stressors to predict agent burnout levels. Every agent's response to stress is unique to them; therefore, the burnout detection is unique to every agent. The organization can utilize these predictions to take preemptive measures to lessen agent burnout and its effects on customer satisfaction, as well as help decrease agent turnover.

## Model Architecture

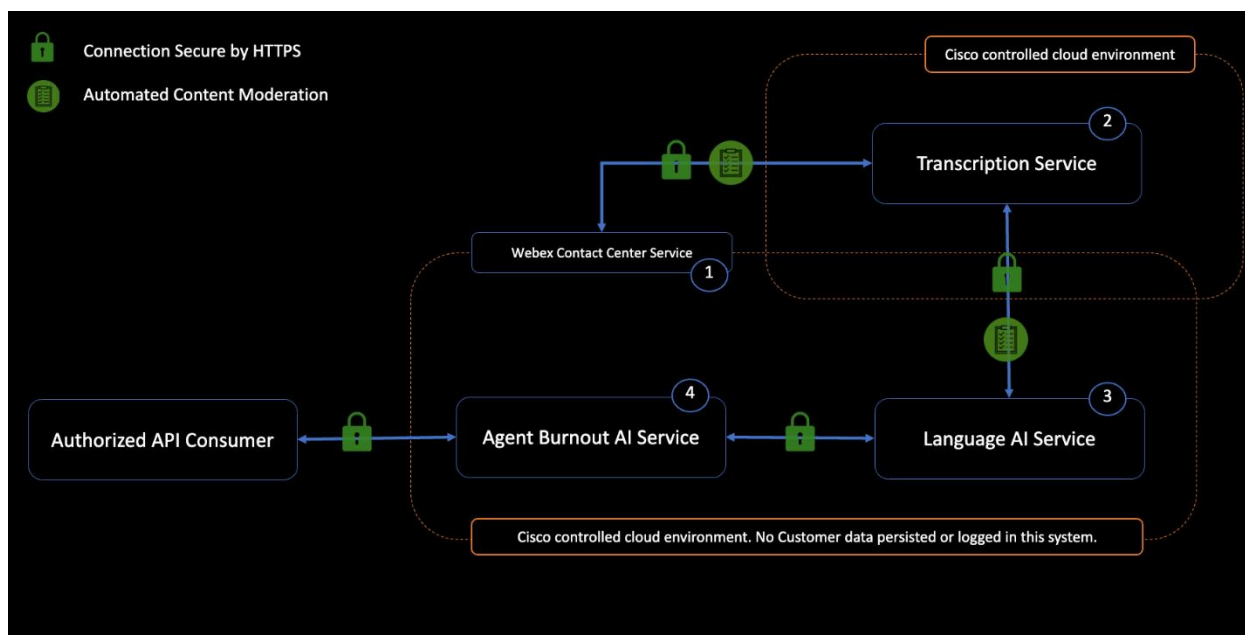


Figure 1 – Webex Contact Center Agent Burnout Detection

## Usage Guidelines

The outputs can be leveraged for many purposes, including but not limited to

1. Giving agents rest breaks so that they can recover from cumulative stress.
2. Routing high-value customer calls away from agents with high burnout levels to mitigate impact on customer satisfaction.
3. Adjusting agent workloads.
4. Adjusting agent schedules.

The Agent Burnout Detection feature should be handled with strict confidentiality and ethical consideration, ensuring that data is solely used to support agent wellbeing and improve customer satisfaction. The model's outputs should not be used for purposes of assessing agent's performance and having performance appraisal discussions, penalizing or compensating agents, or informing decisions on an agent's employment and right to work.

These are a sample of potential intended and unintended use cases and is by no means exhaustive. Prior to making any critical decisions, customers should take into consideration that these scores are generated by AI/ML technologies and thus represent an approximation of the actual customer satisfaction.

## Model Inputs and Outputs

Typical inputs to the agent burnout detection model include call and chat transcripts, call logs, call volumes handled, agent schedule data, and call type. The related output is burnout index, a numeric value on a scale of 0 to 1, where 0 represents no burnout and 1 represents high burnout levels, and recommended corrective measures.

## Data Sources for Training and Evaluation

The Agent Burnout Detection general model is trained and evaluated on synthesized call data and that is not derived from customer data. Customer content is utilized exclusively for the purpose of customizing the Agent Burnout Detection model to detect stress levels for agents in the customer's organization. Customer content is not used for the development or improvement of Cisco's general Agent Burnout Detection model, nor is it used in the creation or refinement of models for other customers.

## Model Evaluation and Performance

Cisco frequently assesses the model to maintain and improve both performance and accuracy of generated output. The model uses a rolling 90 days of data once every 30 days for learning. This is done programmatically and has no human involvement.

## Safety and Ethical Considerations

Cisco assessed the Agent Burnout Detection feature and its use of AI against the Framework principles through an AI Impact Assessment. Through that process, Cisco analyzed the use of the Agent Burnout Detection model against safety and ethical considerations, including whether and to what extent the model mitigates bias, integrates fairness, and whether and to what extent it may compromise human rights. The underlying model was trained on diverse, balanced datasets that are representative of the relevant user base, and subsequent feature development. Webex allows customers to control enablement of the feature.

Please contact Cisco if you have concerns or feedback about your experience with the Agent Burnout Detection feature.

## Fairness

Every individual's response to stressors is unique; therefore, Cisco intentionally trains the model at the agent level to account for the agent's individual experience, response to contact center stressors, and its impact on their behavior.

## Privacy and Security

Cisco addresses processing of and security around personal data, including retention periods for that data, in its Privacy Data Sheets, found on the [Cisco Trust Portal](#).

## Updates and Maintenance

Cisco is not aware of any known biases associated with the Agent Burnout Detection model or feature. Cisco routinely monitors and rebalances the training dataset that powers the Agent Burnout Detection model to address user-identified unique behaviors after those issues are surfaced. The improvements made are well documented and based on those identified cases, including objective and subjective scores that measure the accuracy and performance of the model.

Ongoing Webex updates and product release documents include product updates and any improvements in user experience. Webex may also use customer email notifications and Webex Help Center documentation to inform customers of product changes, as well as communicate product updates in blogs and videos.

## License

The Agent Burnout Detection model is proprietary and not publicly available. Cisco uses it to deliver this feature only in the context of Webex applications or with Webex SDKs.

## References

[RAI Principles](#)

[RAI Framework](#)

[Cisco Trust Portal](#)