

GUIDE

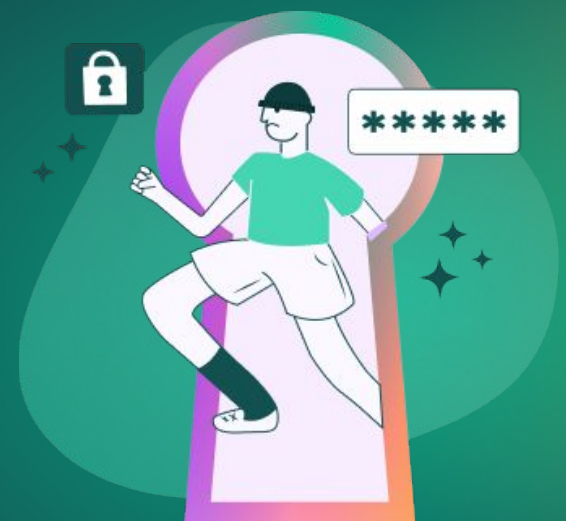
# Privacy and Security

Everything you need to know about Fullstory privacy and security

Fullstory's behavioral data platform empowers businesses to continuously improve digital experiences across sites and apps – without sacrificing end-user privacy.

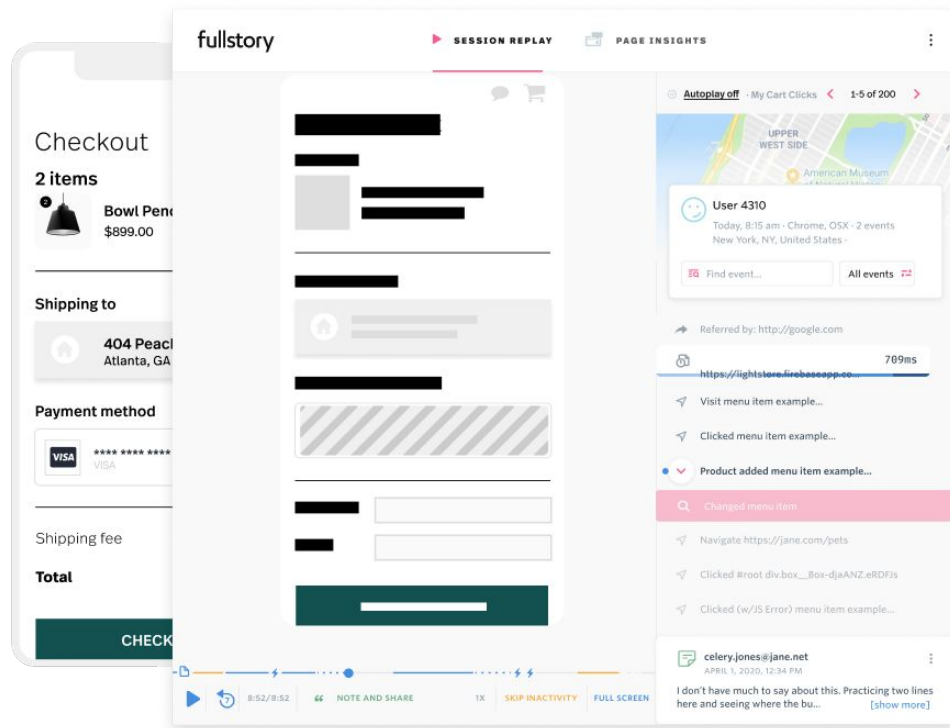
At the core of the platform is a powerful analytics engine that connects user interactions to the metrics that matter most to businesses. Fullstory proactively surfaces top opportunities to optimize the digital experience, enabling teams to understand issues, prioritize fixes, remediate bugs, and measure the impact of those changes.

Our industry-leading approach to data collection, Private by Default, masks all text on the end-users' device such that it never reaches Fullstory's servers. This unique masking technology delivers the insights you need to improve digital experiences while reducing the risk of exposing sensitive data or triggering compliance violations.



## PRIVACY: HOW FULLSTORY COLLECTS DATA

### Private by Default: An industry-leading approach


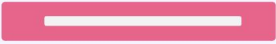



Private by Default is Fullstory's novel approach to data collection. This functionality is core to Fullstory's product and minimizes the risk of unintentionally recording sensitive data. When enabled, all text elements are masked at the source—no matter where they appear on the page; the information never leaves your customer's browser or device to reach Fullstory's servers.

This privacy-first approach is made possible by proprietary masking technology that essentially transforms (non-allowlisted) elements of your website into a wireframe during session replay. These wireframes allow you to see valuable user interactions, which means even if you don't allowlist a single element, you are still able to gain deep insights into the user experience.

With other analytics solutions, failing to properly scope your recording rules may result in the collection of sensitive data. Private by Default means you can use Fullstory straight out of the box with minimal risk of collecting unwanted end-user data.

Many solutions will mask some elements or fields by default, but then require you to select the remaining elements that may contain sensitive data. This not only makes implementation more difficult and risky, but it slows your teams down, requiring them to make sure all necessary elements are masked with every new page update or deploy. With Private by Default, you can safely wait until after the deploy to update privacy settings in Fullstory. This means that your whole product team can ship fast and fearlessly without needing to stop and confirm that all excluded elements are perfectly configured. [Learn more about Private by Default here →](#)

	Excluded	Mask (Default State)	Unmasked
	Exclude element from being captured on client side	Mask element content on client side	Unmask element content on client side
<b>Element Inner Content</b>	No inner contents captured	Structured inner contents captured (size/length, location, color)	Captured
<b>HTML Attributes</b> (Attributes not listed are considered safe and are captured)	Removed Entirely -alt -checked -data -placeholder -src -srcset -href Title value	Removed Entirely -checked -data  Replaced with Placeholder -alt -placeholder -title -value	No Attributes Removed
<b>Interactions</b>	NOT Captured	Captured	Captured
Appearance in playback			

## Recording rules: Collecting what you need, not what you don't

With Fullstory, you control your organization's most important security consideration: the choice of what data to collect in the first place. Private by Default masks all text at the source. However, there may be elements that you want to unmask or exclude depending on their contents and/or the consent of your users.

Fullstory offers two different approaches to managing your element recording rules. The first is to implement the appropriate CSS classes into your element libraries, an approach we refer to as "code-first."

The second method for managing element recording rules is through the Fullstory Element Recording Rules UI located in Settings > Privacy. Being able to control your recording rules directly in the app allows you to respond quickly to necessary

changes without waiting for engineering bandwidth—an option not offered in all digital experience solutions.

Exclusion is the strictest form of data collection. Fullstory automatically excludes sensitive fields such as password or credit card information. Because excluded element rules override masking rules, you can set your own additional custom exclusions to ensure certain data is completely blocked—not only from playback, but from event streams, search, and segmentation too. Excluded elements do not collect any details about the element, meaning no inference can be made about the user or the element.

[Learn more about excluding elements in Fullstory](#)

With masked elements, no text leaves the end-user's device, but certain structural information is collected, including interaction data and the size, location, and color of the element. This means that element can be represented as a wireframe in session replay and made available for analysis via the selector. This is the default state for all text elements using Private by Default, giving you just the information you need to understand a user's experience, without collecting sensitive data. With unmasked elements, you'll be able to see your site or app just as the user did. This is a great setting for all safe elements and ensures your teams have complete context when approaching an experience issue. There are simple approaches to unmasking large portions of a website with just a few CSS selectors.

## Form Privacy

Input fields are the most common place for personal information to appear on a website. Form Privacy helps proactively protect end users' privacy by preventing Fullstory from logging potentially sensitive user data entered into form elements on your site. Form Privacy enables a set of recording rules that mask or exclude form elements. You can control the granularity of data captured in forms, including the ability to unmask specific elements that don't pose a privacy risk by creating exceptions to the default rules. This approach allows all other form elements to remain private by default—including any form elements added in the future. [Learn more about Form Privacy →](#)

## Preview Mode

Fullstory includes Preview Mode, a functionality that allows you to stage changes to your recording rules locally on just your own sessions. Verify changes before they are pushed to production without having to set up multiple environments. [Learn more about Preview Mode →](#)

## Consent-based recording

Fullstory's FS.consent API gives you the ability to selectively exclude, mask, or unmask parts of your site or app based on explicit user consent, usually connected with your cookie or GDPR banner. This allows you to adhere to your customers' privacy requests and stay compliant with data privacy legislation. [Learn more about enabling FS.consent →](#)

## Fullstory and the GDPR and CCPA

Your users' data rights are protected by legislation such as the GDPR in Europe and the CCPA in California. Fullstory unequivocally stands behind those rights and offers a suite of consent management tools so that you can ensure compliance and control and delete your users' data on demand. Learn more about [GDPR](#) and the [CCPA](#).

## Fullstory's legal documents

[Privacy Policy →](#)

[Acceptable Use Policy →](#)

[Terms and Conditions →](#)

[Data Processing Agreement →](#)

## SECURITY: HOW FULLSTORY SECURES ITS DATA, APPLICATION, AND PHYSICAL SPACES

### Attestations & Certifications

Fullstory exceeds rigorous international and enterprise standards for security in terms of confidentiality, integrity, and availability. Many SaaS vendors rely on the certifications of their cloud providers, which says nothing of their internal security standards and practices. Fullstory holds a SOC 2 Type II attestation, is ISO 27001, 27701, 27017, 27018, and 42001 certified, and stores data securely with Google Cloud Platform. Fullstory also adheres to the principles of and is certified under the EU-U.S. and Swiss U.S. Privacy Shield Framework.



### Fullstory application security

Fullstory provides users and administrators with the ability to control how their data is collected and accessed. The privacy controls described above — the ability to exclude, mask, and unmask elements—are a key part of secure analytics.

Fullstory also prioritizes security as a core component of the analytics platform. Fullstory's application security program is built to ensure that all customer-facing application surface areas—including our web app, APIs, and integrations—are robustly hardened against security vulnerabilities.

### Consent-based recording

All Fullstory hosts receive weekly authenticated vulnerability scans to identify any host- or network-based vulnerabilities. All Fullstory web endpoints also receive weekly automated security scans, which include TLS configuration scans.

The Fullstory web application has a built-in rate limiter to protect sensitive endpoints such as those used for authentication or to send emails. All application requests are logged and made searchable to operations staff.

Client code utilizes multiple techniques to ensure using the Fullstory application is safe and that requests are authentic, including:

- Iframe sandboxing
- XSS and CSRF protection
- Signed and encrypted user auth cookies
- Remote invalidation of extant sessions upon password change/user deactivation

## **Processing Fullstory customer payments**

Accessing any Fullstory REST API endpoint requires an access key that can be regenerated on demand by customers.

[Learn about the API access key →](#)

Integrations with other applications are all opt-in and authenticate via OAuth or other applicable mechanisms required by the third party application. Integrations can be disabled at any time.

## **Processing Fullstory customer payments**

At Fullstory, we use Stripe — a trusted Level 1 PCI Service Provider — for payment processing. We utilize the direct Stripe JavaScript integration, so credit card information is sent directly to Stripe from the browser and never touches any Fullstory servers.

[Learn more about Stripe's security practices →](#)

## **Processing Fullstory customer payments**

Fullstory can integrate with your company's single sign-on (SSO) solution so that team members can log in to Fullstory using their SSO credentials. This eliminates the need for your users to have separate Fullstory credentials, ensures only the right users have access to your data, and enables you to apply the same authentication policies to Fullstory as you do with your other enterprise apps.

Session inactivity timeouts are configurable to ensure that no forgotten sessions are lingering open on employee devices. Fullstory also has the capability to do email-based account verification when a user accesses Fullstory from a new device.

Security doesn't come at the cost of usability; Fullstory offers Just-in-Time(JIT) provisioning so eligible new users can be automatically provisioned when they first log in from your enterprise SAML SSO sign-in page.

[Learn more about Fullstory's single sign-on options →](#)



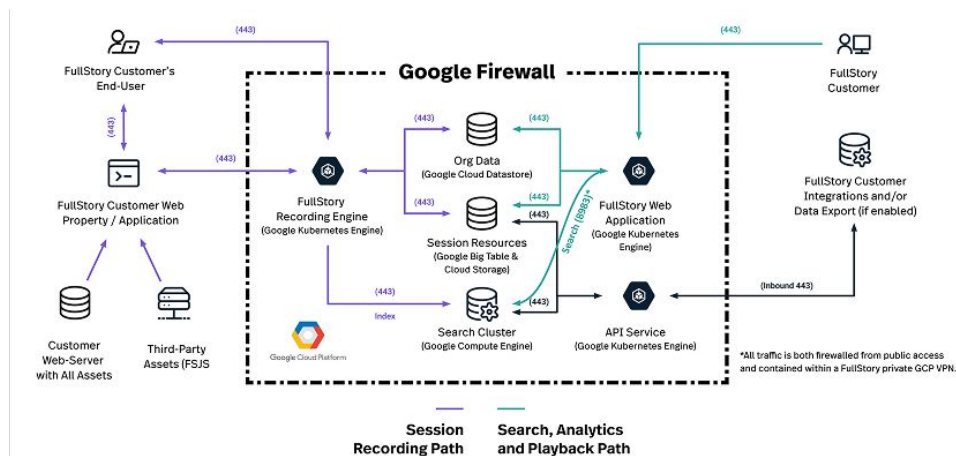
# Fullstory system security

## Architectural security

When it comes to Fullstory's architectural security, we consider four gateways of data access:

- Customer access to the Fullstory application
- Customer's end-user data recording
- Customer's web application resource (image, CSS) recording
- Customer's integration and programmatic API access

The following diagram illustrates how each of these interactions interfaces with the Fullstory engine:



## Servers

As seen in the diagram, almost all of Fullstory's infrastructure is implemented via microservices that run inside Google Kubernetes Engine (GKE). On a weekly basis, Fullstory rebuilds a new base image from the latest version of Debian, which is used as the base image for all containers.

Each microservice may be deployed independently by the owning team in accordance with our software development lifecycle (See "Software Development and Monitoring"). Most services are updated several times per week; typically no running container is ever more than a week old.

There are safeguards in place to ensure that running software is always recent. In the event any service has gone 28 days without deploying (and thus refreshing its base image to the latest version), the owning team will receive alerts that their containers have become stale. Additionally, Nessus scans identify any vulnerabilities that need to be remediated immediately and send alerts accordingly.

A small number of services require a persistent data store and run on virtual machines in Google Compute Engine (GCE). These VMs run continuously but have patches (and reboots) applied at least weekly via an Ansible job. Additional hosted services we utilize, such as Google Cloud Storage, are comprehensively hardened Google infrastructure-as-a-service (IaaS) platforms.

## **Transport layer security**

Fullstory's policy is all TLS endpoints accessed exclusively by Fullstory employees support TLS 1.2+ and only TLS ciphers in Google's "RESTRICTED" profile. Endpoints accessed by Fullstory customers support TLS 1.2+ and only TLS ciphers in Google's "MODERN" profile.

[Learn more about Google's SSL policies →](#)

## **Data storage**

All persistent data is encrypted at rest using AES-128 or comparable standards. This is managed by Google Cloud, whose security practice implementation has successfully earned ISO 27001, SSAE-16, SOC 1, SOC 2, and SOC 3 certifications.

## **Data retention and disposal**

Fullstory retains data, stored encrypted, for the duration contracted with each customer. As data expires, it is deleted from Fullstory systems. In the case of a customer request to delete particular data (in response to a data subject access request under GDPR, or other reasons), data can be selectively expunged with a fine-grained approach that leaves the rest of recorded data intact. In some cases, a broader swath may be recommended for deletion, in order to protect end-user privacy and customer compliance.

[Learn more about session deletion →](#)

## **Service levels, backups, and recovery**

Fullstory infrastructure utilizes multiple, layered techniques for increasingly reliable uptime, including autoscaling, load balancing, task queues, and rolling deployments. Customer account, organization, and configuration data is backed up on a daily basis. Automated verification of restoring state from backup is also performed on a daily basis.

Due to the very large amount of recorded customer data that Fullstory stores, we do not currently make isolated point-in-time backups. However, we do use highly redundant data stores and rapid recovery infrastructure, making unintentional loss of received data due to hardware failures very unlikely.

## Software development and monitoring

Fullstory stores source code and configuration files in private GitHub repositories. Secrets such as plaintext keys are not stored in the repository. Fullstory's security and development teams conduct code reviews and execute static code analysis tools on every code commit. Reviewers check for compliance with Fullstory's conventions and style, potential bugs, potential performance issues, and that the commit is bound to only its intended purpose.

Security reviews are conducted on every code commit to security-sensitive modules. Such modules include those that pertain directly to authentication, authorization, access control, auditing, and encryption.

All major components of incorporated open source software libraries and tools are reviewed for robustness, stability, performance, security, and maintainability. The security and development teams establish and adhere to a formal software release process.

## Code reviews and production sign-off

All changes to Fullstory source code destined for production systems are subject to pre-commit code review by a qualified engineering peer that includes security, performance, and potential-for-abuse analysis.

Prior to updating production services, all contributors to the updated software version are required to approve their changes are working as intended on staging servers. This is enforced by systems that require the approval of a second engineer who has reviewed the intended deployment.

## Fullstory operational security

### Employee equipment

Employee computers have strong passwords, encrypted disks, firewalls, and, where applicable, inbound and outbound network traffic monitoring and alerting. No Windows computers or servers are used other than in isolated testing environments, and by our Finance team.

### Employee access

Fullstory follows the principle of least privilege when it comes to writing software, diagnosing and resolving problems, and supporting customers. Employees are only granted enough access to meet the task at hand, and no more.

We use Google account infrastructure to verify employee account identity and require physical security keys and/or two-factor authentication for all internal applications without exception. Administrative permissions are enforced where applicable and all administrative access is logged and auditable from both traditional web server logs and via Fullstory itself. For third-party SaaS providers, we use Okta as an identity provider whenever possible to provide a single point of access control across all the apps that employees access as part of their job.

### HR Practices

**Background checks:** Background checks are conducted on all employees prior to their start date. The consequences of problematic background check results may range from a limitation of security privileges to revocation of employment offers.

Our background checks cover:

- County Criminal Search (Last 7 Years)
- National Criminal Search
- Sex Offender Search
- SSN Trace
- Global Watchlist Search

Offer letters indicate they are contingent on a successful background check.

International hires use a local service that provides the local equivalent to checks run in the US.

If the check does not clear, we examine the flags as a team and make a determination on how to move forward. If the flag was something that impacts the person's ability to do their job or shows an ethical or security risk, we rescind the offer.

## Security training

The security team maintains a company-wide, computer-based security awareness program delivered to all Fullstory employees at least annually. The program covers security awareness, policies, processes, and training to ensure employees are sufficiently informed to meet their obligations. Additionally, a mandatory quarterly training is delivered to all employees to reinforce security awareness training and cover additional pertinent topics.

Engineering employees receive an additional mandatory quarterly training which focuses specifically on software security topics. This training is offset to ensure security is continuously reinforced.

The security team produces and makes available computer-based training on various security topics. Those most responsible for maintaining security at Fullstory—including the security team as well as key engineering/operations staff—undergo more technical continuing education.

## Separation

In the case of employee termination or resignation, the security team coordinates with human resources to implement a standardized separation process that ensures the outgoing employee's accounts, credentials, and access are all reliably disabled.



## Fullstory physical security

### Office security

Access to Fullstory offices is mediated by an electronic control system that provides for identity-aware entrance, programmable control over access time of day, and audits of use. All doors remain locked at all times under normal business conditions, with the exception of the front door, when a guard is present during normal business hours: Monday to Friday, 8am to 6pm ET.

The security team may provide approval to unlock doors for short periods of time in order to accommodate extenuating physical access needs. Internet-based security cameras record time-stamped video of ingress/egress; this video is stored off-site.

### Data center security

Fullstory production data is processed and stored within world-renowned Google Cloud Platform data centers.

[Read more about GCP's robust infrastructure and physical security measures →](#)

### IT security

**Office network:** Fullstory employee access to information assets is considered to be 100% remote. There is no Fullstory-owned data center or Fullstory network. Fullstory's corporate offices provide a workspace for employees as well as an internet connection. Internet access is provided to devices via wired ethernet and WPA2 wifi.

Networking switches and routers are placed in a locked networking closet, accessible to only the security team. Fullstory executives and the security team may grant individuals access to the networking closet on a case-by-case and as-needed basis. Additionally, a network firewall blocks all WAN-sourced traffic. WAN-accessible network services are not hosted within the office environment.

**Access management:** Fullstory adheres to the principle of least privilege, and every action attempted by a user account is subject to access control checks.

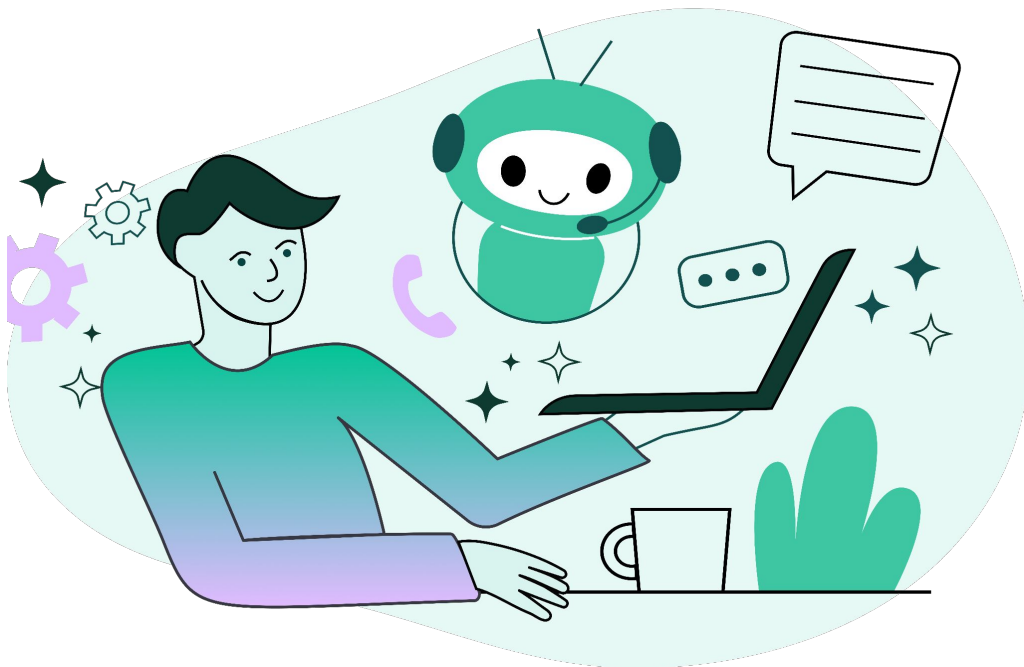
**Role-based access control:** Fullstory employs a role-based access control (RBAC) model utilizing Google-supplied facilities such as organizational units, user accounts, user groups, and sharing controls.

**Web browsers and extensions:** Fullstory may require use of a specified web browser(s) for normal business use and for access to corporate data such as email. For certain specified roles—such as software development and web design—specific job activities may necessitate the use of a variety of browsers, and these roles may do so as needed for those activities.

Any browser that is allowed to access corporate data such as email is subject to a allow-list-based restriction on which browser extensions can be installed.

**Administrative access:** Access to administrative operations is strictly limited to security team members and further restricted still as a function of tenure and the principle of least privilege.

**Regular review:** Access control policies are reviewed quarterly with the goal of reducing or refining access whenever possible. Changes in job function by personnel trigger an access review as well.



## Disaster and incident management

### Incident detection and response

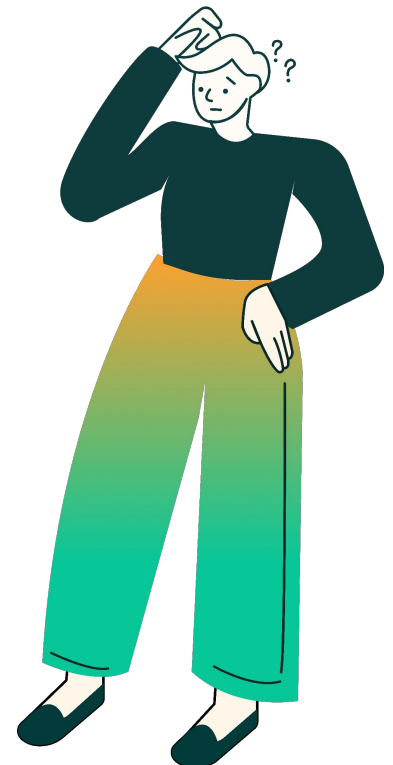
Fullstory has a Responsible Vulnerability Disclosure program. We also run an annual penetration test provided by a CREST certified third party provider.

### Business continuity & disaster recovery

Fullstory services hosted in Google Cloud Platform (GCP) are configured to withstand long-term outages to a GCP Availability Zone. Controls such as automated replication or automated data recovery processes may be used to achieve this desired level of availability.

There are no critical servers on our office network. In the event that our office suddenly becomes inaccessible, employees will find alternate, remote work places, potentially coordinating to physically co-work in order to optimize productivity.

If any disaster occurs, whether a fire, weather related, political or pandemic, causing Fullstory's physical offices to be affected, local authorities would be contacted for assistance to ensure the safety and security of our employees.





## Security benefits of using Fullstory

In addition to improving your digital experience, Fullstory can add substantial security enhancements for your own security practices.

### **Monitor and audit suspicious activity**

Customers share that Fullstory adds an additional and novel type of application security. With a complete record of user interactions and a reproduction of those actions in the form of session replay, businesses from all sectors have found Fullstory to be very valuable when it comes to legal and security audits and reviews.

With Fullstory, you can validate claims, identify bad actors, and protect your business in new ways. Fullstory allows you to explore, search and view any suspicious sessions in near real time. Viewing sessions is a much faster and informative way of assessing a situation than scouring through vast system logs.

Because Fullstory is one of the only providers that collects every interaction users have with your site or app—without needing specific event instrumentation—you can be sure you have a thorough record of every interaction to support your security practices.

### **Reduce staff administrative permissions**

Supporting your own customers may require the sharing of privileged administrative passwords—particularly for SaaS providers. These passwords are often circulated widely throughout an organization to aid in troubleshooting user issues via privileged data access or impersonating users within your own application. This practice increases the risk of accidental data corruption, theft, and privacy intrusions as support employees log in and poke through user accounts.

Fullstory provides a one-way window into your users' sessions. Session replay is historical (and of course read-only), meaning that information can be ascertained without interacting with your live applications. Buttons cannot be pushed. Settings cannot be changed. Files cannot be exported.

Thus, Fullstory provides a means to better support your users while also safely reducing the number of individuals with administrative privileges in your organization.

## AI Security at Fullstory

As you can tell Fullstory takes security and privacy seriously! We build it into everything we do, including our new AI features as part of [StoryAI](#). You can trust that the AI features we offer are as secure as all of our products.

### Security Certifications

Along with all our other certifications and assessments, Fullstory is the FIRST in our industry to achieve the coveted ISO 42001 AI ISO certification.

### Key Principles

- **Security First:** Security is foundational to Fullstory: We employ a multi-layered approach with robust controls.
- **Data Protection:** We prioritize the protection of customer data throughout the AI lifecycle.
- **Transparency:** We are committed to transparency about how our AI features use data.
- **Customer Control:** We provide customers with controls over their data and the use of AI features
- **Responsible AI:** We are dedicated to the responsible development and deployment of AI.

### About our AI

Fullstory performs regular monitoring and evaluation of our AI features to uphold security, privacy, legal, and ethical standards and performance benchmarks. Each AI feature undergoes peer review and validation using representative use cases during the testing and development phase to build trust and deliver reliable output. Our design processes provide appropriate opportunities for feedback and we encourage our customers to provide feedback to help us continuously improve.

Your data will always remain *your data*. Data is not used by any sub-processors to train their generative AI models. We use Google Gemini to power our AI features. Fullstory customers have the option to opt out of StoryAI features either through a Global opt-out or a per feature opt-out. Giving customers the flexibility to choose which features they want to enable.

If you have additional questions about AI privacy and security, email us at [privacy@fullstory.com](mailto:privacy@fullstory.com).

## CONCLUSION

# Everyone deserves a more perfect digital experience.

But digital experience improvements should never come at the expense of user privacy.

Fullstory is committed to our customers' customers and their data security. And we are committed to pushing the rest of the market forward with ongoing research and development of leading privacy settings and security protocols.

Your Behavioral Data Analytics platform should help you build more perfect experiences quickly and confidently in ways that are effortless and safe. Our goal is to provide insights that help you delight your customers while being a trusted partner that keeps your data secure.

If you'd like to learn more about how Fullstory can help your business,

 **reach out to your account representative or request a demo.** 

## About Fullstory

Fullstory is on a mission to help technology leaders make better, more informed decisions by injecting behavioral data into their analytics stack. The company's patented technology unlocks the power of quality behavioral data at scale by transforming every digital visit into actionable data and insights. With Fullstory, enterprises can get closer to their customers' true sentiment and intentions to predict what they want, create personalized experiences, and drive conversion, loyalty, and revenue. For more information, visit [www.fullstory.com](https://www.fullstory.com).

