Solution overview

WithSecuretm Elements **Endpoint Detection and Response**

WithSecure™ Elements – Reduce cyber risk, complexity and inefficiency.

Contents

DISCLAIMER: This document gives a high-level overview of the key security components in the WithSecure™ Elements Endpoint Detection and Response solution. Details are omitted in order to prevent targeted attacks against our solutions.

WithSecure™ is constantly improving its services. WithSecure™ reserves the right to modify features or functionality of the Software in accordance to its product life cycle practices.

Last updated: May, 2021

1. Executive summary

Targeted cybersecurity attacks can be difficult to analyze and respond to, and become an extremely costly problem for companies even before they turn into actual data breaches. The attack remediation stage alone may take over two months and cost nearly two million dollars.[1] Fileless attacks are commonly not recognized by traditional antivirus protection, and targeted attacks often go unnoticed for months or even years.[2] With the WithSecure™ Elements Endpoint Detection and Response solution, you can gain contextual visibility into your security, automate threat identification, and stop attacks before data breaches involving sensitive, confidential or otherwise protected data exposed to an unauthorized party, like a cybercriminal, happen.

Flexibility to build resilient cyber security with WithSecure™ Elements

In today's agile business environment, the only constant is change. WithSecure™ Elements offers companies all-in-one security that adapts to changes in both the business and the threat landscape, growing along with the organization. It offers flexibility in licensing models and in its pick-and-choose security technologies. WithSecure™ Elements integrates a full range of cyber security components, including vulnerability management, patch management, endpoint protection, and detection and response, into a single lightweight software package that is managed in one unified, cloud-based management console. Using the same console companies can manage the security of their Microsoft 365 collaboration services. The solution is available as a fully managed subscription service through our certified partners or as a self-managed cloud solution. Customers can easily shift from self-managed to a fully managed service, so companies that struggle to find employees with cyber security skills can stay protected amid the ever-developing attack landscape.

WithSecure™ Elements consists of four solutions that are all managed with the same console, WithSecure™ Elements Security Center.

WithSecure™ Elements Endpoint Protection:

WithSecure's multiple AV-TEST Best Protection winner, cloud-native, AI-powered endpoint protection can be deployed instantly from your browser and manage the security of all your endpoints, keeping your organization fenced in from attacks. WithSecure™ Elements Endpoint Protection covers mobiles, desktops, laptops and servers.

WithSecure™ Elements Endpoint Detection and Response:

Gain full visibility to advanced threats with our endpoint detection and response. With our unique Broad Context Detection, you can minimize alert noise and zero in on incidents, and with automated response you can effectively stop breaches around the clock. WithSecure™ Elements. Endpoint Detection and Response covers desktops, laptops and servers.

WithSecure™ Elements Vulnerability Management:

Discover and manage critical vulnerabilities in your network and assets. By exposing, prioritizing and automatically patching vulnerabilities you can reduce your attack surface and minimize entry points for attackers.

WithSecure™ Elements Collaboration Protection:

Complement the native email security capabilities of Microsoft 365 by providing advanced security to prevent attacks via email and URL's. Cloud-to-cloud integration makes the solution easy to deploy and manage.

WithSecure™ Elements Endpoint Protection, Endpoint Detection and Response and Vulnerability Management are packed into a single automatically updated software packet, saving your time and money in software deployment and administration.

Benefits of the integrated solutions

The modular WithSecure™ Elements solution adapts to your company changing needs. Unified cyber security means easier licensing, fewer security management tasks and more productivity without sacrificing your company's cyber security posture. The cloud-based console – WithSecure™ Elements Security Center - provides centralized visibility, insights and management across all endpoints and cloud services. It is fully managed by one of our certified Managed Service Providers, or self-managed with on-demand support from WithSecure™ for tough cases. The Security Center provides a single view to the security status combining the Endpoint Protection, Endpoint Protection and Response, Vulnerability Management, and Microsoft 365 protection.

[1] Ponemon Institute's 2018 Cost of a Data Breach Report indicated the days to identify data breaches varied by industry sector from 150 to 287 days, and post data breach response activities alone spending alone $1.76 million over 69 days as mean time.
[2] Ponemon Institute's 2020 Cost of a Data Breach Report indicated that average time to identify and contain data breach is 280 daysv

All the endpoint solutions (Elements Endpoint Protection, Endpoint Detection and Response, and Vulnerability Management) are using a single software agent that is required to deploy only once. The add-on solutions can then later be activated without having to deploy additional solutions. WithSecure™ Elements Collaboration Protection is a cloud-based solution that does not require installations to company endpoints.

In addition to deployment and management benefits, the WithSecure™ Elements solutions are designed to work together maximizing the security benefits for the company. By combining security events and alerts the XDR capabilities WithSecure™ Elements can provide holistic security breaking down the silos of disconnected solutions.

WithSecure™ Elements

	Endpoint Protection Standard	Endpoint Protection Premium	Detection and Response	Vulnerability Management	Microsoft 365 Protection
Advanced anti-malware and patch management	✓	✓			
Anti-ransomware with dataguard and application control		✓			
Advanced threat protection			✓		
Vulnerability management and prioritization				✓	
Advanced email security for Microsoft 365					✓

Note: available features may vary by operating platform

Introducing WithSecure™ Elements Endpoint Detection and Response

WithSecure™ Elements Endpoint Detection and Response is a leading context-level endpoint detection and response (EDR) solution to help companies to gain immediate visibility into their IT environment and security status, protect the business and its sensitive data by detecting attacks quickly, and responding fast with expert guidance. With its deep bidirectional intelligence and high level of automation, WithSecure's solution protects against advanced threats even before breaches happen. It detects incidents with lightweight clients, which are installed on monitored hosts across the organization's network. The clients collect data on behavioral events such as file access, launched processes, network connections being created, or something being written into the registry or system logs. These events are then further analyzed by the solution. In addition to real-time detections, the solution also makes detections based on historical data. At the end of the day, utilizing cutting-edge technology is just one part of the equation, as technology is only as good as the people behind it. Our threat hunters and researchers are among the leading experts in the industry, and immensely dedicated to providing the very best on the cybersecurity market. At WithSecure™, we combine that technology and that unsurpassable human expertise to deliver a world-class endpoint detection and response solution.

The solution is uniquely backed by WithSecure™, which means that a detection can be elevated to WithSecure™ for further threat analysis by experienced cyber security experts.

The solution is also available as a partner managed EDR service that combines technology, threat intelligence, and partner services to provide an all-in-one breach detection and response service. The managed EDR services free up an organization's own resources from advanced threat monitoring and incident management to alert the organization only when real threats have been detected.

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Prevention makes the attackers' lives harder

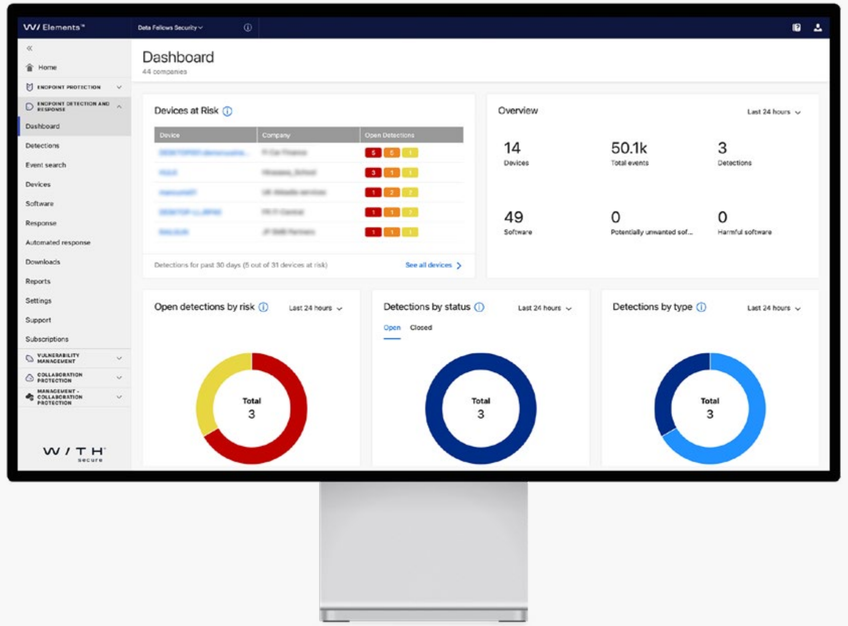
Advanced attackers may have the skills to get into your network no matter what, but there's no need to roll out the red carpet. By putting effort into pre-compromise prevention, you're making it a little harder for these attackers to breach your network. When they're forced to put in more effort, their cost structures increase, which helps work as a deterrent.

WithSecure™ Elements Endpoint Detection and Response as a post-compromise solution for detecting advanced attacks still requires a strong endpoint protection solution that blocks commodity threats, like ransomware.

2. Key benefits

With the WithSecure™ Elements Endpoint Detection and Response solution, you can be prepared to detect advanced threats and targeted attacks using fileless techniques before data breaches happen, and always be ready to quickly analyze and respond to them by utilizing WithSecure's cutting-edge technology.

Some of the key benefits the solution delivers for visibility, detection and response are listed below:



Gain immediate contextual visibility into your IT environment and security status

- Improve visibility into IT environment status and security with application and endpoint inventories
- Easily spot misuse from proper use by collecting and correlating behavioral events beyond malware
- Respond faster to the identified targeted attacks thanks to alerts with broad context and host criticality

Protect your business and its sensitive data by detecting breaches quickly

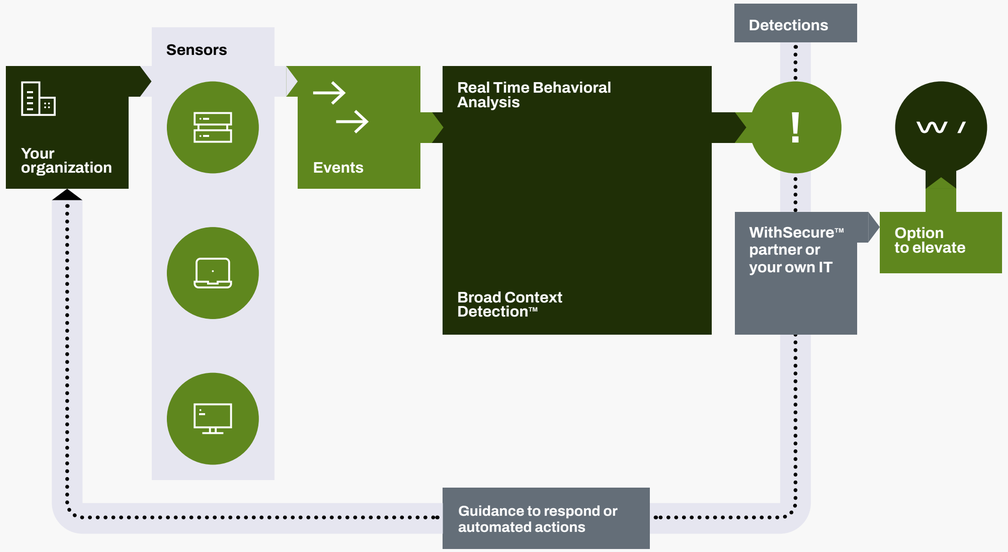
- Detect and stop targeted attacks quickly to prevent business interruptions and impact on company reputation
- Be prepared before breaches happen by setting up advanced threat detection & response capabilities within days
- Identify threats or signs of attack that were done in endpoint and are still active in memory when EDR functionality is activated
- Meet the regulatory requirements of PCI, HIPAA, and the European Union's GDPR which requires data breaches to be reported within 72 hours

Respond swiftly with automation and guidance when under attack, or use full incident data for your own SOC investigations

- Improve your team's focus with built-in automation and intelligence that support a swift response to the real advanced threats and targeted attacks
- Receive guidance on how to respond when you get alerts, with the option to automate response actions around the clock (automation features to be introduced as an update)
- Overcome skill or resource gaps in your teams by outsourcing advanced threat monitoring to an WithSecure™ certified managed service provider backed by WithSecure™ experts
- Alternatively for customers or partners with threat hunting capabilities WithSecure™ Elements for Endpoint Detection and Response can provide the full raw data on the incidents with additional Event Search for Threat Hunting service

3. Solution overview

The WithSecure™ Elements Endpoint Detection and Response solution consists of a combination of easily deployable clients on hosts, a cloud-based Elements Security Center, and optional certified partner managed services. The solution provides functionality for detecting advanced threats and targeted attacks, and Broad Context Detections to clarify the overall risk and response. The on-site part of the deployment includes endpoint monitoring and response client that is installed onto an organization's endpoints.



The figure describes on a high level how the WithSecure™ Elements Endpoint Detection and Response solution works:

1. **Lightweight clients** monitor different endpoint activities that are carried out by attackers, and stream behavioral events to our cloud in real-time.
2. **Real-time behavioral data analytics** flag and monitor both the processes and other behaviors that have triggered the events.
3. **Broad Context Detection™ mechanisms** further narrow down the data, placing related events in context with one another, quickly identifying real attacks and prioritizing them with respect to risk level, host criticality, and prevailing threat landscape.
4. **Following a confirmed detection, the solution guides** IT and security teams through the necessary steps to contain and remediate the threat.

3.1 Management portal: Elements Security Center

The Elements Endpoint Detection and Response solution makes it easy to deploy, manage, and monitor the advanced threats on your endpoints from a single, intuitive, web-based console. It gives you immediate contextual visibility into IT environment and security status across your network — regardless of whether employees are at the office or on the go.

The management portal was designed to simplify and accelerate security management in demanding and multi-site environments.

Below are some examples of how the solution considerably reduces the amount of time and resources needed for advanced threat monitoring and management:

- The solution is designed to work with any endpoint protection solution, and it functions with WithSecure™'s endpoint security solutions in a single-client and management infrastructure.
- When combined with WithSecure™ Elements Endpoint Detection and Response, both malware and advanced threats become visible and manageable.
- Detections are presented with actionable visualization to provide a broader context of targeted attacks on a timeline with all impacted hosts, relevant events and recommended actions.
- By consolidating the advanced threat management of endpoints and system tools into one endpoint security portal, the overall management is streamlined considerably, saving time.
- As this is a cloud-based service managed by WithSecure™, there is no server hardware or software to install or maintain – all you need is a browser and an internet connection.

The management portal supports the latest versions of the following browsers: Microsoft Internet Explorer, Microsoft Edge, Mozilla Firefox, Google Chrome and Safari.

The management portal is available (as of May 2021) to English, Finnish, French, German, Italian, Japanese, Polish, Portugese, Spanish (LatAm) and Swedish.

The Partner Managed version of the management portal includes specifically designed features to assist service providers, like end-customer reporting, a dashboard with a convenient overview of all the managed companies, and also access to each managed company's own dashboard.

3.2 Endpoint clients

Endpoint clients are lightweight, discreet monitoring tools designed for anomaly detection, including new and previously unidentified events or a sequence of events that most likely result from malicious activities, deployable on all relevant Windows and MacOS computers within the organization. The clients collect behavioral event data from endpoints, are designed to work with any endpoint protection solution, and function seamlessly with WithSecure's endpoint security solutions in a single-client and cloud-based management infrastructure.

The table describes supported operating systems and features on each operating system.

WithSecure™ Elements

	Windows workstations	Windows servers	Mac os	Linux
Operating systems	7 / 8 / 10	2019 / 2016 / 2012 /2011 / 2008 R2	10.12 or newer	
Single-client with WithSecure™	Yes	Yes	Yes	Yes
Behavioral events	Yes	Yes	Yes	Yes
Application visibility	Yes	Yes	No*	No*
Remote host isolation	Yes	Yes	Yes	Yes

*** Expected later: The feature is not yet available. ** Available with WithSecure™ Business Suite through manual actions.**

More information about system requirements and client deployment in the user guide at https://help.f-secure.com/product.html#business/edr/latest/en/deployment-latest-en

3.3 Application visibility

Gaining extensive visibility into your IT environment and cloud services will reduce exposure to advanced threats and data leakage. Our solution’s application visibility allows you to list all active applications running on endpoints across your organization’s network so you can easily identify unwanted, unknown and harmful applications.

With application visibility you can identify Potentially Unwanted Applications (PUA) and Unwanted Applications (UA). 'Potentially Unwanted Applications' have behaviors or traits that you may consider undesirable or unwanted. 'Unwanted Applications' have behaviors or traits with more severe impact on your device or data.

Applications identified as 'Potentially Unwanted' (PUA) can:

- Affect your privacy or productivity - for example, expose personal information or perform unauthorized actions
- Put undue stress on your device's resources - for example, use an excessive amount of storage ormemory
- Compromise the security of your device or the information stored on it - for example, expose you to unexpected content or applications

The impact of these behaviors and traits on your device or data can range from mild to severe. They are not, however, harmful enough to warrant classifying the application as malware.

Collecting event data to detect and contain threats

WithSecure™ Elements Endpoint Detection and Response collects data from a variety of endpoints to help detect and contain threats in your environment. This data is provided in three different ways:

1. **Broad Context DetectionTM.** This automa ed threat identifica tion method is designed to spot real threats from vast amount of behavioral event data collected from company endpoints. In addition, with the built-in WithSecure™ Elevate feature you can request professional guidance from our specialized cyber security experts in solving tough cases.
2. **Event Search**. With this built-in feature you can view, search, and explore the event data collected from your company endpoints that are related to any Broad Context Detections.
3. **Event Search for Threat Hunting**. This advanced feature is used to explore and interact with all the raw event data collected from the endpoints. Its sophisticated filtering capabilities lets your cyber security experts at SOC execute proactive threat hunting to detect and stop the most sophisticated hidden threats. Event Search for Threat Hunting is an optional component of WithSecure™ Elements Endpoint Detection and Response.

3.4 Behavioral Analysis

As a core functionality for identifying advanced threats among massive amounts of behavioral data events to spot suspicious events or a sequence of events that have not been seen before and most likely malicious.

WithSecure™ uses real-time behavioral, reputational, and big data analysis with machine learning to collect multiple suspicious events that can be tied together, for example based on activities. The behavioral analysis leverages artificial intelligence to detect malicious, hidden activity based on small individual events that are executed as part of the attacker's tactics, techniques and procedures. Behavioral analysis is used in automatic host profile identification that impacts risk scoring of detections in relation to the monitored company and host, and the overall IT environment.

The artificial intelligence includes machine learning capabilities to be applied to continuously improve detections and reduce false-positives. The behavioral analysis capability is a prime example where WithSecure™ combines data science and cyber security expertise – an approach WithSecure™ refers to as "Man and Machine".

3.5 Broad Context Detection™

WithSecure's proprietary Broad Context Detection™ methodologies are designed to narrow down the number of detections to a small number of meaningful incidents that may indicate that systems or data have been compromised.

Broad Context Detection™ flags indications of possible breaches by alerting admins of tactics, techniques and procedures (TTPs) used in targeted attacks. This can for example include the following possibly suspicious actions:

- Abnormal activity of standard programs
- Calls to running processes from non-standard executables
- Running of unexpected scripts
- Unexpected running of system tools from standard processes

Broad Context Detection™ shows only relevant detections and assigns them a criticality based on risk level, information about affected host criticalities, and the prevailing threat landscape. A single event might not be an indication of attack, yet if several detections happen in a short timeframe may result into higher severity alert and trigger a Broad Context Detection™ as a warning of a possible incident.

As a result of this approach, IT teams are provided with a relatively short list of confirmed detections, each flagged with distinct priority levels and recommended response actions.

So not only do teams know what to focus on first, but they also know how to respond and can do so quickly and decisively.

For further information about the Broad Context Detection™, please refer to our Detecting Advanced Attacks whitepaper.

3.6 Incident management

The solution has a built-in incident management feature to view and manage Broad Context Detections. New detections will trigger an email alert that contains direct access to the Management portal to view details and take actions.

The Broad Context Detections are listed on the easy-to-use dashboard that helps to prioritize the incidents based on their risk score, which is automatically calculated based on criticality and confidence levels. Non-critical Broad Context Detections with low risk scores are also listed, since slowly evolving attacks might eventually become more serious incidents with high risk scores.

Actions in incident management are to acknowledge Broad Context Detections, or mark them to be in progress, monitoring, closed as confirmed, closed as false positive, or closed as unconfirmed. Marking a Broad Context Detection™ false-positive will automatically close future detections matching that same detection type, process parameters as "Auto false positive".

3.7 Guidance to respond

Following a confirmed detection, the solution's built-in guidance helps to take the necessary steps to contain and remediate the threat. The containment and remediation steps include recommended response actions, like informing users and isolating hosts.

WithSecure™'s cyber security experts have used their own experience to analyze a range of common threats to train the solution. As result, the solution can provide easy to understand guidance to respond to a wide range of advanced threats, and related guidance how to respond. The guidance to respond makes it easier even for less skilled IT and security team members to take correct actions to contain and remediate the threat.

The following list contains some example activities which cause a detection.

The list is not only limited to known attacks since the detection data is continuously being analyzed and more types of attacks are continuously identified by Broad Context Detection™ methodologies and WithSecure's threat hunters.

- **Directed attack** targeting a host
- **Lateral movement** involving movement between hosts
- **Spoofing** information involved as part of an attack
- **Persistence** for example by using a process on the same host
- **Privilege escalation** for example by brute forcing administrator privileges
- **Credentials access** resulting into access and control over a targeted machine/network
- **Exfiltration** to aid adversary to exfiltrate information from the target machine/network
- **Abnormal process execution** for example with suspicious parameters
- **Abnormal file access** for example multiple document types, non-root accessing system files
- **Client tamper** attempts for example to change client's settings or disabling the client
- **Injection** attempts to another process for example kernel mode or other application
- **Command and control network connection** opened to a remote host
- **PowerShell script from attacker location** flagged as an unusual location to load a script
- **PowerShell modified a PowerShell script** typically part of achieving persistence
- **Abnormal DLL usage** with PowerShell used from a process that loaded the module
- **Remote connection and execution** potentially used for lateral movementw

3.8 Elevate to WithSecure™

WithSecure™ provides an optional threat analysis service in case a detection requires further threat analysis and guidance from WithSecure's cyber security experts. Elevate to WithSecure™ is a premium service that must be ordered in advance for a set of cases to be analyzed.

The Elevate to WithSecure™ requests through the solution will grant WithSecure's threat analysts' permission to access the entirety of metadata collected from the installed clients around a specific detection.

WithSecure's on-shift threat analysts will pick the request within 2-hour target SLA and start identifying the type of the potential incident by collecting additional evidence and providing further expert guidance through the solution to validate the threat, and optionally provide a threat investigation.

- Threat Validation provides additional information about a Broad Context Detection™ discovered during the last 7 days. This includes an expert-written summary and description of the detection, along with any other relevant data to help you determine whether it requires response actions.

- Threat Investigation provides a highly detailed investigation into a specific Broad Context Detection™, leveraging all recent and historical data. This option also includes actionable incident response guidance from our cyber security experts, along with a comprehensive report of the detected attack type.

The Elevate to WithSecure™ service focuses on analyzing technical evidence related to the potential incidents in question, such as methods and technologies, network routes, traffic origins, and timelines. However, the WithSecure™ team only provides guidance through the solution, and further professional services to support incident response must be agreed separately. If the customer suspects a crime, we recommend to contact the relevant authorities and provide the Threat Investigation report.

3.9 Automating actions

Automated response actions are available to reduce the impact of targeted cyber attacks by automatically containing them outside business hours whenever risk levels are high enough. The automation has been designed specifically for teams that are monitoring detections and available to respond to incidents only during business hours to make initial response action over the night or weekend.

4. Data security

4.1 Data protection and confidentiality

The collected behavioral event data from endpoints is stored within European Union (Ireland) for one year on a rolling basis during the customer engagement and is deleted within two months after termination of engagement.

The solution is not intended for monitoring non-security-related activities such as profiling employees' activities, interests, or interactions. The focus of data collection is not on individual employees, business documents or email contents. Please see the solution specific privacy policy for further detail.

As WithSecure™ is based in Finland, we abide by both Finland's and the European Union's strict privacy and security legislations. We are compatible with the European Union privacy framework, and understand the privacy needs of our customers. WithSecure™ operates under the Finnish implementation of the EU Data Protection directive and the WithSecure™ Elements Endpoint Detection and Response solution has been designed in accordance with the European Union's General Data Protection Regulation (GDPR). For further information about WithSecure's compliance with the GDPR, please see https://www.WithSecure.com/GDPR.

4.2 Data security measures

As a security company, we take the security of our data centers very seriously and use dozens of security measures to ensure it, such as:

- Security by design: Our systems are designed from the ground up to be secure. We embed privacy and security in the development of our technologies and systems from the early stages of conceptualization and design to implementation and operation.
- Rigorous access controls: Only a small vetted group of WithSecure™ employees have access to the customer data. Access rights and levels are based on their job function and role, using the concept of least privilege and matching that to the defined responsibilities.
- Strong operational security: Operational security is an everyday part of our work, including vulnerability management, malware prevention and robust incident management processes for security events that may affect the confidentiality, integrity, or availability of systems or data.

4.3 Data centers

Our Endpoint Detection and Response solution uses Amazon Web Services (AWS) data centers to ensure the highest possible availability and fault tolerance, in addition to better response times and the ability to scale as needed. AWS states that each of their data centers are in alignment with Tier 3+ guidelines. For further information about the AWS datacenters, please see https://aws.amazon.com/compliance/

The collected behavioral event data from endpoints is stored on AWS in Europe (Ireland). Data retention for one year is included within the Elements Endpoint Detection and Response subscription and there are no additional data storage fees based on the amount of data collected.

Who We Are

WithSecure™ is cyber security's reliable partner. IT service providers, MSSPs and businesses along with the largest financial institutions, manufacturers, and thousands of the world's most advanced communications and technology providers trust us for outcome-based cyber security that protects and enables their operations. Our AI-driven protection secures endpoints and cloud collaboration, and our intelligent detection & response is powered by experts who identify business risks by proactively hunting for threats and confronting live attacks. Our consultants partner with enterprises and tech challengers to build resilience through evidence-based security advice. With more than 30 years of experience in building technology that meets business objectives, we've built our portfolio to grow with our partners through flexible commercial models.

WithSecure™ is part of F-Secure Corporation, founded in 1988, and listed on the NASDAQ OMX Helsinki Ltd.

WITH secure