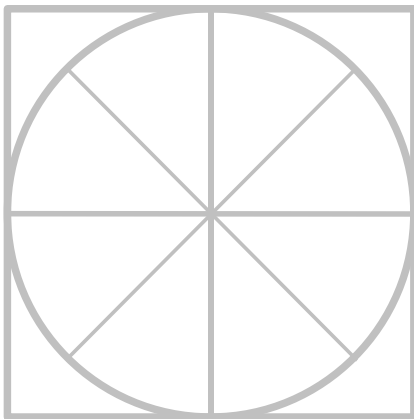




THE RADICATI GROUP, INC.

Secure Email - Market Quadrant 2025 *



*An Analysis of the Market for
Secure Email Solutions,
Revealing Top Players, Trail Blazers,
Specialists and Mature Players.*

March 2025

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RADICATI MARKET QUADRANTS EXPLAINED

Radicati Market Quadrants are designed to illustrate how individual vendors fit within specific technology markets at any given point in time. All Radicati Market Quadrants are composed of four sections, as shown in the example quadrant (Figure 1).

1. **Top Players** – These are the current market leaders with products that offer, both breadth and depth of functionality, as well as possess a solid vision for the future. Top Players shape the market with their technology and strategic vision. Vendors don't become Top Players overnight. Most of the companies in this quadrant were first Specialists or Trail Blazers (some were both). As companies reach this stage, they must fight complacency and continue to innovate.
2. **Trail Blazers** – These vendors offer advanced, best of breed technology, in some areas of their solutions, but don't necessarily have all the features and functionality that would position them as Top Players. Trail Blazers, however, have the potential for “disrupting” the market with new technology or new delivery models. In time, these vendors are most likely to grow into Top Players.
3. **Specialists** – This group is made up of two types of companies:
 - a. Emerging players that are new to the industry and still have to develop some aspects of their solutions. These companies are still developing their strategy and technology.
 - b. Established vendors that offer very good solutions for their customer base and have a loyal customer base that is totally satisfied with the functionality they are deploying.
4. **Mature Players** – These vendors are large, established vendors that may offer strong features and functionality, but have slowed down innovation and are no longer considered “movers and shakers” in this market as they once were.
 - a. In some cases, this is by design. If a vendor has made a strategic decision to move in a new direction, they may choose to slow development on existing products.
 - b. In other cases, a vendor may simply have become complacent and be outdeveloped by hungrier, more innovative Trail Blazers or Top Players.

- c. Companies in this stage will either find new life, reviving their R&D efforts and move back into the Top Players segment, or else they slowly fade away as legacy technology.

Figure 1, below, shows a sample Radicati Market Quadrant. As a vendor continues to develop its product solutions adding features and functionality, it will move vertically along the “y” functionality axis.

The horizontal “x” strategic vision axis reflects a vendor’s understanding of the market and their strategic direction plans. It is common for vendors to move in the quadrant, as their products evolve and market needs change.

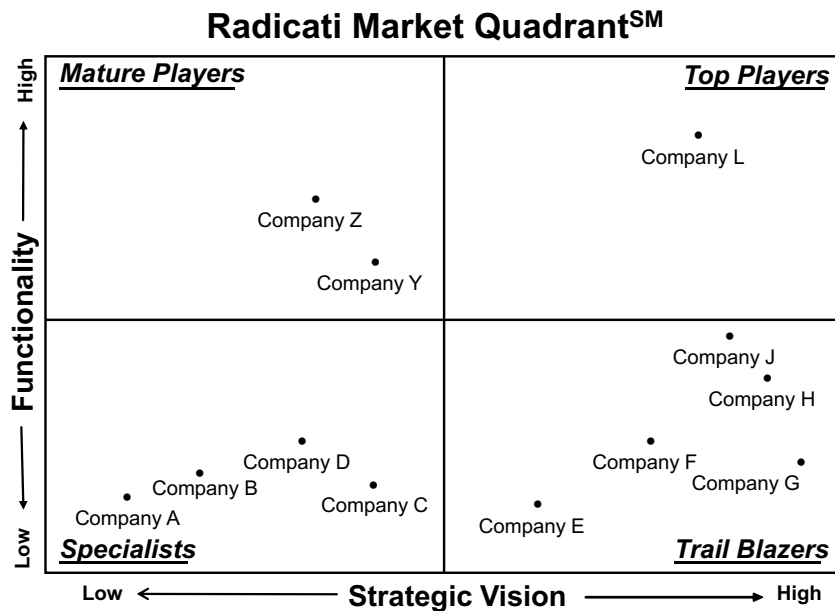


Figure 1: Sample Radicati Market Quadrant

INCLUSION CRITERIA

We include vendors based on the number of customer inquiries we receive throughout the year. We normally try to cap the number of vendors we include to about 10-12 vendors. Sometimes, however, in highly crowded markets we need to include a larger number of vendors.

MARKET SEGMENTATION – SECURE EMAIL

This edition of Radicati Market QuadrantsSM covers the “**Secure Email**” segment of the Security Market, which is defined as follows:

- **Secure Email** – any software, appliance, or cloud-based service deployed at the mail server, SMTP gateway, or through API integration to filter out spam, viruses, detect and protect from phishing/spear-phishing attacks, and protect messaging traffic from all malware. Some of the leading players in this market are *Barracuda Networks, Broadcom, Cisco, Fortra, Hornetsecurity, Microsoft, Mimecast, Proofpoint, Retarus, Sophos, Trend Micro* and *Trustwave*.
- Some vendors of Secure Email solutions offer products for corporate customers, as well as service providers. This report, however, looks only at solutions aimed at corporate customers, ranging from SMBs to very large organizations.
- The Secure Email market continues to see strong growth as email is still a leading vector for malware attack and penetration. Organizations of all sizes are investing in solutions to help protect against all forms of email-borne threats, particularly phishing and spear-phishing attacks. User awareness training in dealing with spear-phishing and email borne threats is also an important aspect of email security.
- Vendors of Secure Email solutions are increasingly integrating Data Loss Prevention (DLP), email encryption, Endpoint Detection and Response (EDR) or Extended Detection and Response (XDR), Advanced Threat Prevention (ATP), Phishing Awareness Training solutions, and more into their offerings.
- Organizations of all sizes continue to invest in highly sophisticated email security solutions, as email remains a key vector for malicious attacks and compromise. The worldwide revenue for Secure Email solutions is expected to grow from over \$7.4 billion in 2025, to nearly \$15.3 billion by 2029.

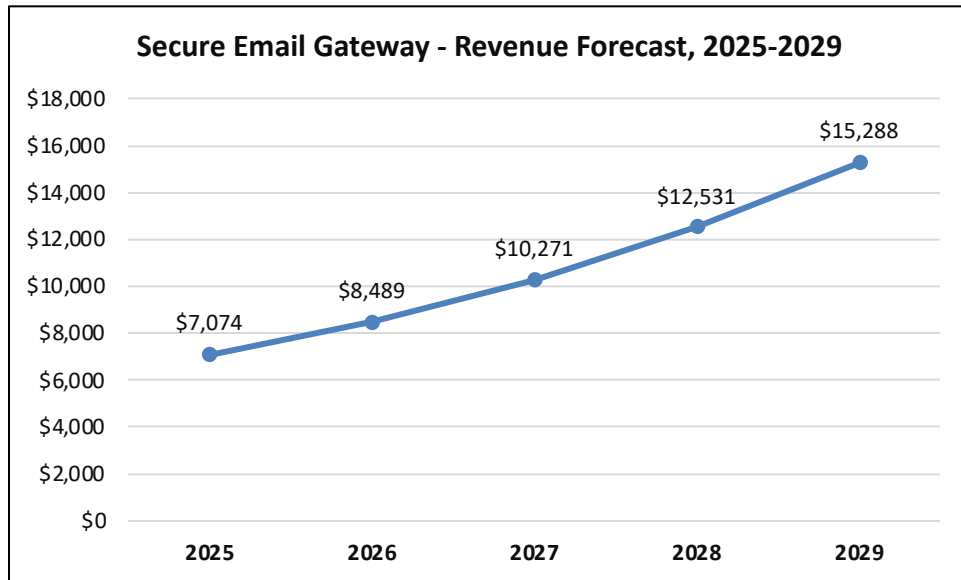


Figure 2: Secure Email Revenue Forecast, 2025 – 2029

EVALUATION CRITERIA

Vendors are positioned in the quadrant according to two criteria: *Functionality* and *Strategic Vision*.

Functionality is assessed based on the breadth and depth of features of each vendor's solution. All features and functionality do not necessarily have to be the vendor's own original technology, but they should be integrated and available for deployment when the solution is purchased.

Strategic Vision refers to the vendor's strategic direction, which comprises: a thorough understanding of customer needs, ability to deliver through attractive pricing and channel models, solid customer support, and strong on-going innovation.

Vendors in the *Secure Email* space are evaluated according to the following key features and capabilities:

- ***Deployment Options*** – availability of the solution in different form factors, such as on-premises, appliance and/or virtual appliance, cloud-based services, or hybrid.
- ***Email platforms supported*** – is the solution platform agnostic and works with any email platform (i.e., Microsoft 365, Google Workspace, and others) or is it mainly focused on Microsoft 365.
- ***Spam and Malware detection*** – is usually based on signature files, reputation filtering (proactive blocking of malware based on its behavior, and a subsequent assigned reputation score), and proprietary heuristics. The typical set up usually includes multiple filters, one or more best-of-breed signature-based engines as well as the vendor's own proprietary technology. Malware engines are typically updated multiple times a day. Malware can include spyware, viruses, worms, rootkits, and much more. Key to malware detection is the ability to identify and protect against malicious email attachments as well as malicious URLs contained in email messages. Spam detection needs to be able to deal with graymail (i.e. emails that users may have signed up for at one time but no longer want), as well as correctly identify spam without generating a high rate of false positives. Support for industry standards, such as DMARC, SPF, DKIM, which help identify spoofed emails is key.

- ***URL control*** – detection and remediation of compromised URLs, in emails and attachments.
- ***DMARC, SPF, DKIM support*** – support for leading domain anti-spoofing standards: Domain-based Authentication, Reporting and Conformance (DMARC), Sender Policy Framework (SPF), and DomainKeys Identified Mail (DKIM).
- ***Email application controls*** – templates and customizable policies to block/allow and/or allow specific email traffic.
- ***Reporting*** – real-time interactive reports on user activity as well as long term reports, archiving logs, etc.
- ***Directory integration*** – integration with Active Directory, and/or LDAP allows to set, manage and enforce policies across all users.
- ***Data Loss Prevention (DLP)*** – allows organizations to define policies to prevent loss of sensitive electronic information. There is a broad range of DLP capabilities that vendors offer in their Email Gateway solutions, such as simple keyword-based filtering or full Content-Aware DLP. The inclusion of any DLP technology, is often still a premium feature.
- ***Mobile device protection*** – support for all email activity from mobile devices, such as iOS and Android. The protection of mobile devices needs to be addressed in full, preferably with no visible end user latency.
- ***Encryption*** – integrated email encryption or available add-on. The inclusion of encryption technology is often a premium feature.
- ***Directory Harvest Attack (DHA) detection*** – detection of attacks designed to “harvest” legitimate email addresses within a particular domain by sending out a massive amount of emails to randomized addresses. Email addresses harvested in these attacks are used later for spam advertisements and fraud attacks.
- ***Detection of Denial of Service (DoS) attacks*** – detection of attacks intended to take down an organization’s email system by sending a large number of emails to an address or domain, in the hopes that the email system is overwhelmed and shuts down, disallowing users under that domain to send or receive emails.

- ***ATP and/or Enterprise-wide attack correlation*** – ability to feed attack/malware detection information to broader enterprise-wide security services (e.g. ATP, web gateways, endpoints, and more).
- ***Office365 API integration*** – the ability of the solution to integrate with Microsoft Office365 APIs.
- ***Business Entity Compromise (BEC)*** – the ability of a solution to detect BEC, as well as block BEC attempts before they occur and provide remediation capabilities. BEC is a form of cybercrime which uses email fraud to target one or more employees in an organization with spoofed emails that represent a trusted employee, customer, or entity and which request the victim to release payments, credentials, customer information or privileged information. It often relies on social engineering to cause the victim to transfer money or information to the fraudster.
- ***Account Takeover*** – is a form of BEC, where an account is appropriated for fraudulent reasons and starts generating fraudulent emails or is used for impersonation. The ability of the solution to detect and block account takeover attempts, as well as remediate the attack by removing all malicious emails sent by any compromised accounts.
- ***Phishing Awareness Training*** – does the vendor also provide phishing awareness training? Is it offered inline? Is it the vendor’s own offering or is it available through partner(s)? Is it priced extra?
- ***Archiving and/or Email Continuity Services*** – does the vendor also provide email archiving and/or Email Continuity services? Is it the vendor’s own offering or is it available through partners?
- ***Administration*** – availability of a single pane of glass management across all users and resources. In hybrid (i.e. mixed on-premises and cloud deployments) it is particularly important that a single administrative interface be available across both types of deployments.

In addition, for all vendors we consider the following aspects:

- *Pricing* – what is the pricing model for their solution, is it easy to understand and allows customers to budget properly for the solution, as well as is it in line with the level of functionality being offered, and does it represent a “good value”.
- *Customer Support* – is customer support adequate and in line with customer needs and response requirements.
- *Professional Services* – does the vendor provide the right level of professional services for planning, design and deployment, either through their own internal teams, or through partners.

***Note:** On occasion, we may place a vendor in the Top Player or Trail Blazer category even if they are missing one or more features listed above, if we feel that some other aspect(s) of their solution is particularly unique and innovative.*

MARKET QUADRANT – SECURE EMAIL

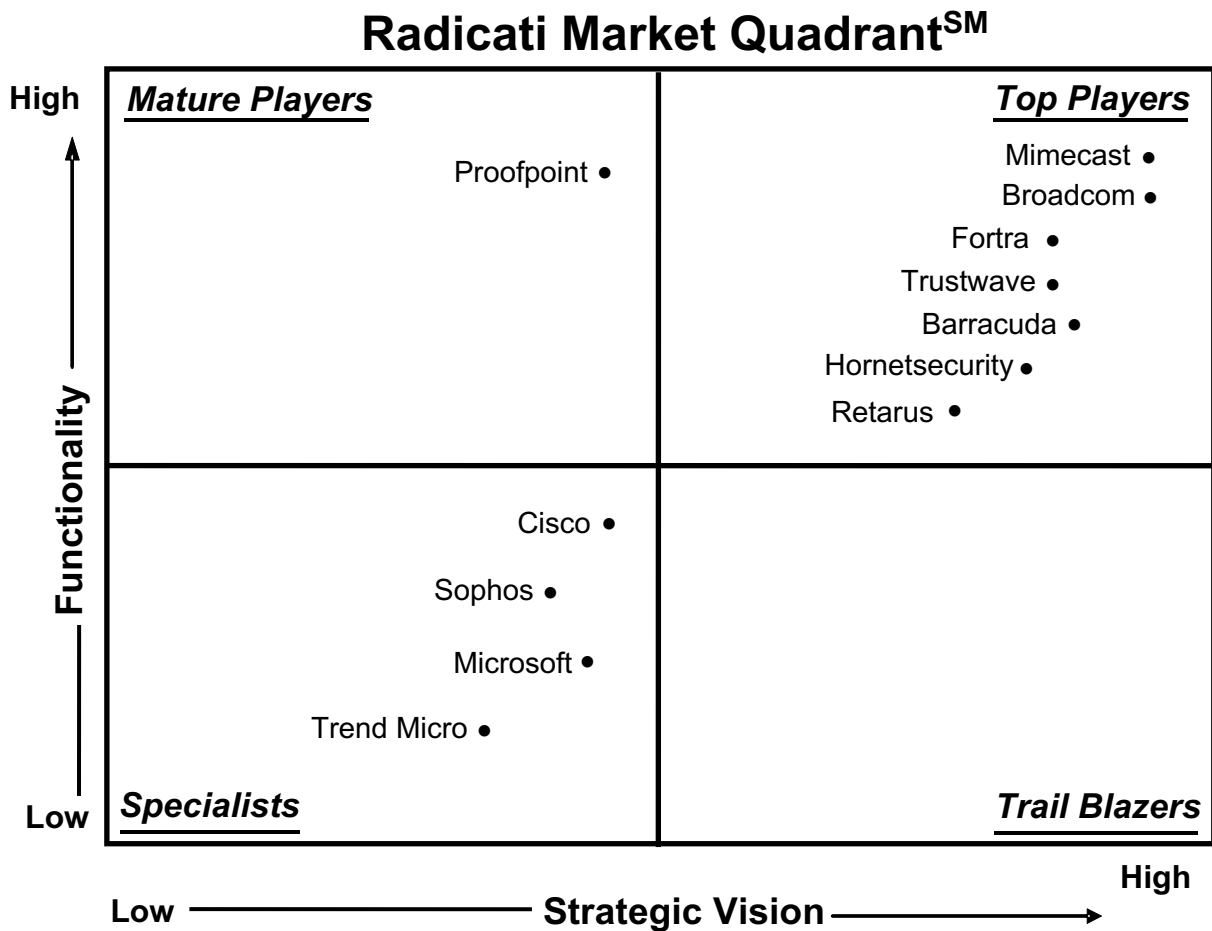


Figure 3: Secure Email Market Quadrant, 2025*

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KEY MARKET QUADRANT HIGHLIGHTS

- The **Top Players** in the market are *Mimecast, Broadcom, Fortra, Trustwave, Barracuda Networks, Hornetsecurity* and *Retarus*.
- The **Specialists** quadrant includes *Cisco, Sophos, Microsoft* and *Trend Micro*.
- The **Mature Players** quadrant includes *Proofpoint*.

SECURE EMAIL - VENDOR ANALYSIS

TOP PLAYERS

MIMECAST

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Founded in 2003, Mimecast is a provider of cloud-based business security and risk management solutions, including email, messaging and collaboration security, archiving, data loss prevention (DLP), insider risk management, and security and awareness training. Mimecast is headquartered in London, UK, with North American headquarters in Lexington, MA and offices globally. Mimecast is a privately held company.

SOLUTION

Mimecast provides a cloud-based security and risk management platform designed to protect email, collaboration tools, and human behavior from cyber threats. The platform integrates multiple layers of detection, automation, and security intelligence to address risks such as phishing, business email compromise (BEC), malware, data loss, and insider threats.

Mimecast provides two deployment options for its email security solutions:

- **Email Security Cloud Gateway** – A secure email gateway (SEG) that inspects inbound, outbound, and internal emails, offering policy-based filtering, compliance enforcement, and advanced threat detection for organizations managing complex mail routing or hybrid environments.
- **Email Security Cloud Integrated** – An API-based solution designed for Microsoft 365 environments, delivering the same security capabilities without requiring an MX record change and enabling seamless integration with Microsoft’s native controls.

Both solutions apply the same advanced security features to detect and mitigate phishing, business email compromise (BEC), malware, and other email-based threats. The solutions provide:

- *Multi-layered threat protection* – using signature-based scanning, sandboxing, behavioral analysis, and AI-driven heuristics.
- *URL rewriting and brand spoofing detection* – to prevent engagement with phishing sites.
- *Attachment scanning and safe file conversion* – to detect and neutralize malware.
- *Dynamic security banners and policy-driven automation* – to help employees make informed security decisions.

Mimecast security capabilities also extend beyond email to address human risk management (HRM) through behavioral analytics, training, and adaptive security policies. Key features include:

- *Risk-based user scoring* – Identifies employees at higher risk of phishing and insider threats.
- *Automated account takeover (ATO) detection* – Uses anomaly detection to identify compromised credentials and enforce remediation actions.
- *Security awareness training* – Personalized phishing simulations and intervention-based training based on real-world attack data.

Mimecast provides integration with security information and event management (SIEM), security orchestration, automation, and response (SOAR), and endpoint detection and response

(EDR/XDR) platforms. These integrations allow organizations to correlate threats across different security layers, automate incident response, and enforce policies based on real-time risk signals.

Mimecast also includes email continuity services to that ensure business operations remain uninterrupted during email service outages or ransomware incidents. Compliance-driven email archiving offers tamper-proof storage, indexed search, and e-discovery capabilities for regulatory and legal requirements.

STRENGTHS

- Mimecast offers both a traditional secure email gateway (SEG) solution and a gateway-less API solution to meet diverse customer needs.
- Mimecast delivers multi-layered email security, leveraging AI-powered impersonation detection, static and dynamic malware analysis, URL protection, and QR-based phishing defenses.
- Mimecast's AI-driven threat detection and automated remediation automatically detects and removes malicious emails, resets compromised credentials and enforces identity and access management (IAM) based conditional access, reducing the time to respond to email-based attacks.
- Mimecast's open API architecture integrates with SIEM, SOAR, IAM, and endpoint security solutions (e.g., Microsoft Defender, CrowdStrike, Splunk).
- Mimecast provides always-on email availability, which helps support failover during outages, compliance-driven archiving, and rapid recovery from ransomware attacks.
- Mimecast solutions are attractively priced and offer flexible purchasing models, which make it an attractive solution for customers of all sizes.

WEAKNESSES

- Mimecast does not offer on-premises email security solutions, which may not suit organizations seeking hybrid or fully on-premises deployments.

- While Mimecast integrates with CrowdStrike, Microsoft Defender, and Trellix, it does not provide its own endpoint protection suite, unlike other competitors in this market.
- While Mimecast now offers automated detection and remediation, this feature remains newer compared to other vendors in this space with more mature solutions.
- Mimecast offers phishing awareness training, however this is available at an additional cost.

BROADCOM

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Palo Alto, California, 94304

www.broadcom.com

Symantec (a division of Broadcom Software) offers a wide range of security solutions (network, endpoint, information, and identity) for the enterprise market. Symantec operates one of the largest civilian cyber intelligence networks, allowing it to see and protect against the most advanced threats. Symantec is an operating division of Broadcom, a publicly traded company.

SOLUTIONS

Symantec offers two cloud-based email security solutions, a messaging gateway solution and some feature add-ons as follows:

Symantec Email Security.cloud – a multi-tenant, cloud-based email security service built to protect any combination of email deployments, including Microsoft Office 365, Google Workplace, hosted mailboxes and on-premises email systems, such as Microsoft Exchange. Symantec Email Security.cloud blocks targeted attacks, spear phishing, ransomware, viruses and malware, business email compromise (BEC) attacks, email fraud, spam, and bulk mail with anti-malware and anti-spam services. This protection includes technologies, such as advanced heuristics, deep evaluation of links before email delivery, advanced phishing variant detection, and impersonation controls. It controls sensitive data and helps meet compliance and privacy requirements with built-in data loss prevention (DLP) and policy-based encryption policies. In addition, integration with the Symantec DLP solution enables comprehensive DLP controls for protection of data across multiple channels.

Email Threat Detection, Response and Isolation (ETDRI) – is an enhanced email security service that extends Email Security.cloud’s ability to detect targeted attacks, provide visibility into the attack landscape and accelerate remediation. It also includes remote browser isolation capabilities to provide further protection against malicious weblinks and phishing attacks. It uses cloud-based sandboxing and payload detonation to identify and stop complex threats, including attacks that are virtual machine-aware. Deep evaluation of suspicious links at the time of click helps block advanced phishing attacks that weaponize a link after an email is delivered. ETDRI also provides detailed data on targeted attacks that attempt to enter an organization via email, as determined by Symantec research analysts. In addition, Targeted Attack Analytics provides information on email campaigns, helping organizations build protection around high-risk users. Analytics data can easily be exported to third-party Security Incident and Event Management (SIEM) solutions, Symantec Endpoint Detection and Response, Symantec Integrated Cyber Defense Exchange, Symantec Information Centric Analytics, and other security tools. ETDRI includes auto-remediation capabilities to claw back emails from Microsoft 365 inboxes that are detected as malicious post-delivery. Symantec also offers Phishing Readiness services as part of ETDRI, which allows customers to identify risky users and improve end user awareness through simulated phishing attacks. The license includes Symantec Email Threat Isolation, an integrated cloud-based service that stops advanced email attacks by insulating users from spear phishing, credential theft, and ransomware attacks.

Symantec Policy Based Encryption - Advanced – is an add-on that helps automatically safeguard the security and privacy of sensitive data sent through email allowing organizations to deliver encrypted messages based on Symantec Data Protection policies using any of the available delivery methods; TLS, S/MIME, PGP, PDF (full message), PDF (attachments only), ZIP (attachments only), Office Native Encryption and the Secure Web Portal. The service enforces flexible rules in accordance with policies set in Email Security.cloud Data Protection. This hosted encryption solution allows organizations to protect sensitive information while removing the task of managing digital certificates and encryption keys.

Symantec Messaging Gateway – an on-premises appliance (available as a physical or virtual or cloud deployable appliance image) which secures email with real-time antivirus and anti-malware protection, targeted attack protection, advanced content filtering, Symantec Data Loss Prevention integration, and optional email encryption. Symantec also provides a license bundle that includes both Symantec Message Gateway and Email Security.cloud. Symantec Messaging Gateway integrates with Symantec Content Analysis, an advanced content filtering and malware analysis platform, to provide advanced threat protection.

All Symantec email security solutions are backed by the *Symantec Global Intelligence Network*, its global threat intelligence network, that takes data inputs from all Symantec's security products to provide protection intelligence across the portfolio (e.g. using file behavior on the endpoint to determine that files being sent by email are malicious).

STRENGTHS

- Symantec email security solutions are available as on-premises as well as cloud-based solutions. Licensing options allow customers to combine these capabilities to also deploy hybrid scenarios. The solution includes support for air gapped (sensitive) networks by allowing offline signature and software updates.
- Symantec offers integrated threat isolation for corporate email, which helps prevent advanced email attacks such as spear phishing, credential phishing and ransomware. The threat isolation feature can also isolate suspicious attachments.
- Symantec accelerates response to targeted, advanced email attacks with deep visibility as well as powerful remediation capabilities. In addition, integration with SIEM/SOAR solutions and other security tools enables security analysts to easily correlate threats across multiple security products.
- In addition to data protection policies, Symantec can surface additional email characteristics via their new Policy Framework which allows organizations to create comprehensive policies including URLs, URL categories, URL risk levels and domain age attributes with the ability to take action and reduce risk.
- Symantec Email Security solutions are integrated with other Symantec security solutions to better unify cloud and on-premises security.
- Symantec email security solutions enable customers to prevent data leakage and ensure compliance through granular DLP and encryption controls. This includes integration with Symantec's stand-alone DLP solution.

WEAKNESSES

- Symantec has been working to harmonize its portfolio of email security solutions across Email Security.cloud and Messaging Gateway through licensing bundles. Customers choosing a hybrid deployment, however, can expect differences in administration procedures across the different solutions.
- Email Security.cloud and Messaging Gateway do not offer archiving or email continuity capabilities but can integrate with third-party solutions that deliver that functionality.
- While Symantec offers blacklisting of Indicators of Compromise (IOC), and Auto Remediation to delete an email from the users' inbox which is later found to be malicious, it still needs to incorporate the ability to search and automatically remediate IOC's. The vendor has this on its roadmap.

FORTRA EMAIL SECURITY

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Fortra is a cybersecurity software company which offers solutions for detecting, inspecting, and securing critical data over email, web, and the cloud. Fortra (formerly HelpSystems) made a series of acquisition of email security products including Clearswift, Agari and PhishLabs. Fortra is owned by private equity firms TA Associates, Charlesbank, HGGC and Harvest Partners.

SOLUTIONS

Fortra's offers two email threat protection solutions: Cloud Email Protection (CEP) and Secure Email Gateway (formerly Clearswift Secure Email Gateway).

- **Cloud Email Protection (CEP)** – is a cloud native API based solution that can detect and remediate advanced email threats including BEC, spear phishing and targeted social engineering attacks that can bypass traditional secure email gateways. It combines advanced data science, global threat intelligence, threat operations and automated remediation in single

cloud native platform. CEP leverages AI to detect unknown threats. It employs a combination of machine learning, large language models, and neural networks to look for anomalies and assign trust scores. CEP comprises a human element, the Email Threats Operation team which proactively searches for new threat patterns by using advanced data mining and pivoting techniques. CEP can also provide an automated remediation engine called Continuous Detection and Response that can purge malicious emails from multiple inboxes and stop threats across the entire environment.

- **Secure Email Gateway** – is a traditional email security gateway solution which performs both email hygiene and advanced data loss prevention (DLP) and can be deployed as either hardware, software, hosted, or as a managed service. It protects against new and existing malware using a combination of antivirus engines from Sophos or Avira, as well as a hosted Sandbox from Sophos. All engines provide real-time cloud lookups which allow detection of the latest malware, leveraging both heuristic and behavioral-based scanning. This is augmented by Clearswift’s active code detection mechanisms that identify, and optionally remove, active code in multiple formats, including HTML, Office, PDF, and OpenOffice, allowing a safe document to be rapidly delivered to the recipient.

Anti-spam detection is provided by a layered solution utilizing IP reputation, grey-listing, anti-spoofing, RBL, SPF, DKIM, DMARC, sender validation and spam signatures, and offers 99%+ spam detection using two scanning engines. Clearswift offers message sanitization where URLs are checked against multiple real-time phishing and malicious URL feeds. It also applies heuristics to detect phishing exploits. URLs can be rewritten to redirect to browser isolation solutions to provide additional “time-of-click” protection.

The Gateway scans messages of any language in either direction based upon a granular policy. There is a policy engine that performs message and attachment decomposition and rebuilding. Format decomposition is provided without the use of third-party technologies and allows the Clearswift solution to modify the data in real time to ensure policy compliance. This functionality is known as Adaptive Redaction and covers three areas: data redaction, document sanitization, and structural sanitization.

All policies can be applied on both inbound and outbound mail, which is key in adhering with compliance initiatives such as the EU’s GDPR. Tight integration with Active Directory or LDAP services enables reduced operational costs.

The Gateway also supports multiple encryption types. Along with TLS as standard, customers can license the message encryption features of S/MIME, PGP, and Password formats, or they can license the Portal-based approach which can be used in both push and pull modes. Portal options are available for both cloud-based and on-premises solutions. An optional digital rights management (DRM) solution is also available.

The Gateway can be peered with other email gateways to form a “cluster” for scalability and availability purposes, and with Microsoft Exchange or Microsoft 365, to provide additional internal email inspection and DLP functionality, or with web gateways to provide a consistent policy across multiple communication platforms.

STRENGTHS

- Fortra Email Security brings together an impressive set of solutions including Cloud Email Protection, Secure Email Gateway, DMARC Protection, and Security Awareness Training.
- Fortra’s cybersecurity portfolio allows customers to also obtain a comprehensive array of offensive and defensive solutions from the same provider. Integration of these products into a centralized console is underway.
- Fortra's CEP uses a combination of data science, threat intelligence and threat operations for complete detection of advanced threats.
- Fortra’s Secure Email Gateway forms the basis of a channel DLP solution when coupled with its Secure Web Gateway, customers looking for an Endpoint or Network-based DLP solution can add Fortra’s Enterprise Data Loss Prevention solution.
- Fortra offers Adaptive Redaction features in all its gateway products. This includes image redaction and anti-steganography features. Comprehensive Adaptive Redaction is a differentiator which is generally not available in competing products.

WEAKNESSES

- Reporting could be improved, through more granularity and greater customization. The vendor has this on their roadmap through the development of a new product portal.

- Fortra's Secure Email Gateway would also benefit from improved SOAR capabilities as more customers are interested in automating policy definition and updating threat resources using their own feeds.
- While Fortra offers security awareness training this is available at an additional cost.
- While Fortra offers strong email security solutions, the company could still improve its visibility in the email security market. The vendor is working to address this.

TRUSTWAVE

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Trustwave Inc. is a cybersecurity security provider of managed detection and response (MDR), managed security services (MSS), database security, and email security. Trustwave's SpiderLabs team offers deep security expertise to protect against evolving cyber threats.

SOLUTIONS

Trustwave **MailMarshal** delivers a range of email security and management features, based around email security protection and a flexible policy engine. MailMarshal threat protection is backed by the dedicated SpiderLabs team focused on email security research. The solution can be deployed on-premises, in the cloud, or as a hybrid cloud solution. The MailMarshal Cloud platform is located globally to meet the needs of customers in their geographic locations.

Trustwave MailMarshal addresses email and cyber security threats through a single platform that offers advanced protection leveraging proprietary threat intelligence and research, policy configuration and in-depth data security and compliance management. The latest version includes an improved Management Console with enhanced email inspection and reporting.

Trustwave **MailMarshal On Premises**, is an SMTP gateway solution that can be deployed with any internal or cloud-based company email system and provides an organization with a layered security solution to manage email content, fight advanced threats such as phishing, ransomware,

and business email compromise (BEC), eliminate spam, and transparently enforce email acceptable use policy and any other regulatory compliance requirements. The solution also offers a flexible policy engine which can be used as an operations tool with diverse use cases. The platform is accessible through an administrative interface, which provides auditing capabilities to manage configuration change processes and provide complete auditability.

MailMarshal Cloud is the SaaS based solution, which is deployed by redirecting SMTP traffic and filtering email at the Internet level before it reaches the network, delivering always-on, inbound and outbound email protection. Administrators can log into the Trustwave MailMarshal console and manage all users and account settings from a single, secure platform. The MailMarshal Cloud platform supports automated onboarding processes which facilitate adoption by customers.

Customers can combine the on-premises and cloud solution into hybrid scenarios. Trustwave MailMarshal also provides a **Service Provider Edition** to meet the needs of organizations with multitenant requirements, designed to be hosted in the data centers of Service or Solution Providers.

Trustwave MailMarshal also offers **MailMarshal Integrated Cloud**, which scans all inbound, outbound and internal emails for attacks using inline and API integration with an organization's cloud email provider, without the need to change the Mail Exchange (MX) record. The solution provides a comprehensive and centralized approach to safeguarding all communications across an organization.

Trustwave also offers several solutions that are available as bundled offerings, or optional add-ons to MailMarshal's core offering, as follows:

- **Email Archiving** – is available to any MailMarshal customer. It is a cloud-based archiving module that offers variable retention policies, full eDiscovery console, continuity capability, and easy to use options for customers wanting to import existing archive data into the service, as well as options to export data out of the service.
- **Advanced Email Encryption** – services allow customers of MailMarshal, both the on premise and SaaS versions, to send sensitive emails or confidential documents to recipients securely, without requiring the recipient to download or install any additional software. MailMarshal can be used to intelligently scan email for confidential information, based on

customer-defined policies, as well as encrypt sensitive messages.

- **Malware Analysis Sandbox** – proactively prevents advanced malware and provides a safe environment in which to execute and observe malicious code or to encourage threats into exposing themselves. It helps reduce the amount of time between infection and remediation, mitigates the risk of breaches, and detects zero day or unknown attacks.
- **Advanced Threat Protection** – uses multiple validation methods, including real-time behavioral analysis and content inspection as well as information from several industry standard sources, to identify and block sites that serve suspicious or malicious code. Since validation is performed in real time by a cloud service when a link is clicked, it is highly effective in catching and neutralizing new exploits for all users on any device from any location. It is a standard module in MailMarshal Cloud.
- **Image Analyzer** – is a specialized image scanning and classification solution designed to automatically scan and sort images entering the organization via email into either an “offensive or pornographic” category or a “normal and acceptable” category. This feature can help protect employees, customers, and suppliers from exposure to inappropriate or illegal content, can help reduce legal liability, and provides a better understanding of how the email system is conforming with acceptable use policies. Trustwave has 23 image categories that detect these types of threats.
- **Supported Antivirus Software** – Trustwave MailMarshal supports several third-party antivirus scanners to scan for virus or malware laden email, these include solutions from Sophos, McAfee, and Bitdefender. Trustwave MailMarshal also fully supports a Yara-based malware engine that offers additional capabilities to detect malicious attachments. Sophos is included in all MailMarshal On Premises and Cloud bundles.
- **MailMarshal Internal SMTP Toolkit (MIST)** – is a Microsoft Windows-based SMTP Toolkit that can handle complex SMTP routing and internal operational business needs via a scalable software solution. It addresses the needs of businesses that may have moved to the cloud but still need to maintain systems that transmit email for operational purposes, or need to exchange emails directly with third party providers that integrate with business applications.

STRENGTHS

- Trustwave MailMarshal relies on AI and ML to detect threats and is powered by a combination of real-time and near real-time threat intelligence derived from its SpiderLabs Email Security Research and Malware Analysis Team.
- Trustwave MailMarshal provides support for Azure Information Protection and Rights Management Services (RMS) this enables clients to enforce outbound email policy on Azure RMS encrypted email for Microsoft 365. MailMarshal also provides the ability to decrypt email and enforce all RMS outbound policy controls before re-encrypting the email and sending it.
- Trustwave MailMarshal has a dedicated Phishing and BEC engine that helps identify low volume, highly targeted spear-phishing attacks. The engines are regularly updated with intelligence from Trustwave's dedicated SpiderLabs team, and Trustwave's threat intelligence Fusion platform.
- Trustwave's MailMarshal platform, including BEC, malware and phishing protection, integrate with its Managed Threat Detection and Response Fusion platform.
- Trustwave offers a business workflow tool, which is an email management toolbox with advanced routing, autoresponders, header rewriting and external commands that help customers integrate their business processes to improve business workflow.
- Trustwave MailMarshal offers easy, automated onboarding and is attractively priced for organizations and service providers of all sizes.

WEAKNESSES

- Trustwave offers traditional security training education but does not currently offer inline automated phishing awareness training and simulation.
- While Trustwave offers BEC capabilities, it does not provide account takeover detection features.
- Trustwave lacks market visibility. The vendor is working to address this.

BARRACUDA NETWORKS

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Barracuda Networks, founded in 2003, provides security, archiving and storage solutions. Barracuda Networks is a privately held company, owned by investment firm Kohlberg Kravis Roberts & Co (KKR).

SOLUTIONS

Barracuda Email Protection solutions are available through flexible deployment options which include cloud-hosted, hardware appliances, virtual appliances, and public cloud instances (e.g. AWS, Azure, vCloud Air). Barracuda offers these solutions through three SaaS plans *Advanced*, *Premium*, and *Premium Plus*. Barracuda also offers email security SaaS plans for MSPs.

- **Barracuda Email Protection Advanced** – protects users from email threats with fully integrated cloud email security, combined with artificial intelligence, post-delivery response and DMRAC reporting. Capabilities include:
 - *Spam and Malware Protection* – identifies and blocks spam, viruses, and malware delivered via email messages.
 - *Attachment Protection* – combines behavioral, heuristic, and sandboxing technologies to protect against zero-hour and targeted attacks. A sandbox environment is used to detonate and observe the behavior of suspicious attachments.
 - *Link Protection* – automatically rewrites URLs so that Barracuda can sandbox the request at click time to block malicious links.
 - *Email Continuity* – in the event of a mail server or service outage or loss of connectivity, an emergency mailbox lets users continue to send and receive emails.
 - *Phishing and Impersonation Protection* – Barracuda leverages an AI engine, enhanced by Natural Language Processing, to detect phishing, impersonation, and BEC attacks based on content, context, sentiment, and tone. The classifiers utilize content analysis, pattern

recognition, anomaly detection, statistical models and social graphs to scrutinize emails for malicious intent. Attacks leveraging QR codes to phish users are also supported.

- *Account Takeover Protection* – stops phishing attacks used to harvest credentials for account takeover. AI detects anomalous email behavior, can alert IT, and find and remove all fraudulent emails sent from compromised accounts. This capability monitors inbound and outbound emails, along with inbox rules and sign in activity (along with impossible travel detection).
- *Post-delivery Incident Response* – helps quickly identify and remediate post-delivery threats by automating investigative workflows and enabling direct removal of malicious emails. Automated workflows can also be set up to build custom playbooks to completely automate the incident response process.
- *Email Encryption* – secures email by encrypting it during transport to the Barracuda Message Center, encrypting it at rest for storage in the cloud, and providing secure retrieval by recipients through HTTPS web access.
- *Data Loss Prevention* – supports the creation and enforcement of content policies to prevent sensitive data, from being sent by email. Policies can automatically encrypt, quarantine, or block certain outbound emails based on their content, sender, or recipient.
- *Domain Fraud Protection* – prevent email domain fraud with DMARC reporting and analysis. Barracuda provides granular visibility and analysis of DMARC reports to help minimize false positives, protect legitimate email, and prevent spoofing.
- **Barracuda Email Protection Premium** – includes all features in Advanced, data protection and advanced DLP for stored data files. Capabilities include:
 - *Cloud-to-Cloud Backup* – data protection and cloud backup for Microsoft 365 data, including Exchange Online mailboxes, SharePoint Online, OneDrive for Business, and Teams.
 - *Data Inspector* – automatically scans OneDrive for Business and SharePoint data for sensitive information and malicious files containing malware.

- **Barracuda Email Protection Premium Plus** – includes all features in Premium, plus additional tools for organizations with additional compliance requirements, including user training and email archiving. Capabilities include:
 - *Attack Simulation* – simulated phishing attacks are constantly updated to reflect the most recent and most common threats.
 - *Security Awareness Training* – offers advanced, automated education technology that includes simulation-based training, continuous testing, reporting for administrators, and active incident-response awareness.
 - *Cloud Archiving* – a cloud-based, indexed archive that supports granular retention policies, extensive search, role-based auditing/permissions, legal hold, and export.

STRENGTHS

- Barracuda solutions are easy to install, manage and monitor through centralized management with or without a separate management server, or through Barracuda’s Cloud Control administrative interface.
- Barracuda offers customers flexible deployment options. Their email security can be deployed inline with or without change of MX-records, or layered onto existing gateway through API-based deployment.
- Barracuda leverages AI and Machine Learning algorithms in their protection to detect and block spear phishing, business email compromise, account takeover, and other targeted attacks. Barracuda solutions provide attack detection, as well as automated incident response to quickly remediate email attacks that may have gotten through.
- Barracuda supports automated incident response through its Incident Response tool, which gives IT control on responding to unique use cases and eliminates manual and repetitive tasks.
- Barracuda Real-Time Protection offers strong protection to stop rapidly propagating threats, and correlates threat intelligence across email and web gateways.

- Barracuda Security Awareness Training offers helps embed training in everyday user activities, and integrates natively with Incident Response to make just-in-time training possible for VIPs and very-targeted employees.

WEAKNESSES

- Barracuda offers native DLP capabilities with its email security solutions, however these do not currently integrate with any third party tools. Customers with advanced compliance needs should check carefully whether the features offered fit their data loss protection requirements.
- While Barracuda offers attack simulation, security awareness training and cloud archiving these require the higher cost premium plus plan.
- While Barracuda provides detailed logs and reports, some users have noted that reporting could be more intuitive and customizable.

HORNETSECURITY

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Hornetsecurity is a global security, backup, GRC (Governance, risk and compliance) and awareness training provider for Microsoft 365, securing companies and organizations of all sizes worldwide. Hornetsecurity is headquartered in Hanover, Germany. The company is privately held.

SOLUTIONS

Hornetsecurity offers cloud-based security solutions aimed at addressing all areas of email security, including spam, phishing and malware protection, legally compliant archiving, encryption, data lost prevention, and DMARC setup and monitoring as well as defense against CEO fraud and ransomware. Hornetsecurity's advanced threat detection capabilities include

time-of-click URL scanning, sandboxing, QR code scanning and BEC protection, ensuring comprehensive protection against evolving email threats. Hornetsecurity also offers backup, replication, and recovery solutions, with a particular focus on Microsoft 365. Hornetsecurity provides customers with automated, needs-based awareness training, based on a patented spear phishing engine; allows administrators to more easily manage Microsoft 365 permissions, enforce compliance policies, and monitor violations; and helps prevent misdirected emails and data leaks.

The company offers the following suite of services:

365 Total Protection – offers protection for Microsoft 365 and Microsoft cloud services. It is available in four versions:

- **Business** (Plan 1) comprises:
 - *Threat Detection*
 - *Global S/MIME and PGP Encryption*

- **Enterprise** (Plan 2) adds:
 - *Forensic Analyses + AI*
 - *URL Malware Control*
 - *ATP-Sandboxing*
 - *GDPR + GoBD*
 - *Global Security Dashboard*
 - *Email continuity*
 - *Email archiving*

- **Enterprise Backup** (Plan 3) adds data loss prevention (DLP) functionality through:
 - *Automatic backup of M365 data*
 - *Endpoint backup*

- **Enterprise Compliance and Awareness** (Plan 4) adds phishing attack simulations, security awareness service, an employee security index; permission management, alerts and auditing, as follows:
 - *Next-Gen Security Awareness Training Service*
 - *365 Permission Manager* – allows administrators to more easily manage Microsoft 365 permissions, enforce compliance policies, and monitor violations.

- *AI Recipient Validation* – to prevent misdirected emails and protect against data leaks.
- *DMARC Manager* – to help partners and customers set up and monitor their DMARC record.

Hornetsecurity also offers the following services as stand-alone solutions:

- **Spam and Malware Protection.**
- **Advanced Threat Protection**
- **Email Continuity Service**
- **Email Archiving**
- **Security Awareness Training**
- **365 Permission Manager**
- **AI Recipient Validation**
- **DMARC Manager**
- **365 Multi-Tenant Manager for MSPs**

In addition, Hornetsecurity 365 Total Protection can deliver a hybrid solution which combines Secure email gateway (SEG) technology and application programming interface (API) contact to Microsoft 365. The hybrid approach provides features like ex-post deletion (claw-back) and facilitates onboarding to Microsoft 365 with a direct synchronization of company data in near real time.

STRENGTHS

- Hornetsecurity's 365 Total Protection offers email security, backup, awareness training, and GRC in an easy-to-use platform at an attractive price point aimed at Microsoft 365 customers of all sizes.
- Hornetsecurity's automated training service, based on a patented spear phishing engine is simple to use, and offers individually customized, needs-based training to users.
- With DMARC Manager, Hornetsecurity enables customers to optimize their security, brand protection and email deliverability.

- Coupled with email protection, Hornetsecurity also offers data loss prevention capabilities for Microsoft 365 and Windows endpoints, providing a single vendor solution managed through a single pane of glass.
- Hornetsecurity leverages AI across multiple features to improve detection capabilities, as well as automate interactions between security analysts and end-users using Large Language Models to help reduce TCO.

WEAKNESSES

- Hornetsecurity 365 Total Protection is aimed primarily at Microsoft 365 customers, rather than being email platform agnostic. However, Hornetsecurity does offer API integration into Google Workspace.
- While Hornetsecurity is currently well known in Europe, it is less visible in the North American market. The company is working to address this.
- Hornetsecurity offers strong email protection, however, it does not offer endpoint security which may disappoint customers looking to source both from a single vendor.

RETARUS

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Retarus offers APIs, gateways, and applications for messaging, email management, and the exchange of structured data for business processes for enterprise customers worldwide. The company, founded in 1992, is headquartered in Munich, Germany and has offices worldwide. Retarus is privately held.

SOLUTIONS

The Retarus **Secure Email Platform** provides a modular solution for business email needs. It can be deployed as a pre-filter, by changing the MX record; or inline, by integration with the Microsoft

Office365 API. The platform provides advanced threat protection for inbound and outbound email, mitigating risks such as Business Email Compromise (BEC), account takeover, and phishing. Retarus also enables critical use cases like email continuity, encryption, and archiving. Retarus uses a security framework, and an information security management system (ISMS) audited according to ISAE 3000 SOC2 Type II and certified in accordance with DIN EN ISO/IEC 27001:2017. Retarus offers an entirely European based option for compliance-sensitive customers and industries.

Key features of the Retarus Secure Email Platform include:

- *Email Security* – provides a layer of protection using multiple antivirus and antispam engines to offer end-to-end protection from phishing and spoofing, as well as inbound traffic management. Retarus supports and validates SPF (Sender Policy Framework), DKIM (DomainKeys Identified Mail) and DMARC (Domain-based Message Authentication, Reporting and Conformance).
- *Advanced Threat Protection* – Retarus uses Machine Learning, NLP and behavioral analytics to address complex threat vectors such as social engineering/BEC and elaborated phishing techniques. Retarus ATP is powered by a comprehensive set of algorithms combining multi-vendor data sources and Retarus' own technology and threat intelligence.
- *Sandboxing* – in-depth analysis of specific file attachments, including AI/ML algorithms and heuristics to identify “zero-day attacks”.
- *Post-Delivery Protection* – is a patented Retarus technology that allows early recognition and alerting of previously unknown malware and phishing URLs. It combines data sources to digitally fingerprint messages to back-track, detect and automatically claw back emails even if they have already been delivered. In addition, the systematic rewriting of URLs (“Time-of-click Protection”) also offers continuous protection against malicious websites.

Retarus also offers **Email Compliance** services to help organizations comply with legal or regulatory requirements, industry standards, or internal policies. Compatible with all standard email services, on-premises and in the cloud, these services comprise:

- *Email Archive* – offers tamper-proof, real-time email archiving. Retarus ensures that communications remain unalterable and protected, preventing unauthorized access.

- *Encryption* – key-based encryption is provided via S/MIME, PGP and OpenPGP at the gateway level. Additional password-based encryption is available via the Secure Webmailer service, allowing encrypted communication with recipients without the need for an encryption solution.
- *Data Loss Prevention* – pattern recognition to prevent loss of internal and confidential information in emails

Retarus **Email Infrastructure** solutions address the needs of SMBs (via partners) as well as enterprise organizations, to close gaps in functionality, email management and security. The system can handle routing traffic, blocking or automatically rewriting emails, and resolves the send/receive limits of Microsoft365 and Google Workspace for application traffic. It includes:

- *Predelivery Logic* – enables the consolidation and protection of email environments by organizing, editing, and routing messages.
- *Email Continuity* – cloud-based webmail backup providing ready-to-use, pre-provisioned inboxes and access to the company address book.
- *Transactional Email* – an additional service delivering high-volume emails generated by business applications such as CRM and e-commerce systems. Advanced mechanisms provide improved deliverability rates, enhanced security, detailed tracking, and secure document handling.
- *SMTP Concentrator* – is a secure email proxy leveraging a TLS-encrypted SMTP connection to facilitate seamless communication with the Retarus Secure Email Platform. It helps ensure secure email delivery without exposing customer systems directly to the public internet.

Retarus **Monitoring, Reporting and Configuration services** include:

- ***Retarus Enterprise Administration Services Portal (Retarus EAS Portal)*** – provides administrators with transparency and detailed Live Search and Reporting on a message-level. Reporting can be integrated with SIEM, M/SOAR and training solutions.

- *Quarantine portal* – is a self-service portal that educates users about the potential risk of each blocked message, including a secure preview mode for all quarantined emails. Threats are displayed distinctly from messages that were filtered via self-configured rules.
- *Email Signature* – centralized management of personalized email signatures and disclaimers.

STRENGTHS

- Retarus delivers an attractive portfolio of email security capabilities in an efficient cloud-based solution that meets the needs of customers of all sizes.
- Retarus Patient Zero Detection extends email security to post-delivery, providing new levels of risk mitigation.
- The Retarus Enterprise Administration Portal offers easy-to-use real-time message tracking, including analytics and IT forensics.
- Retarus provides flexible access management and end-to-end encryption.
- Retarus offers email continuity services, which are a value-added for customers.
- As a European company with headquarters in Germany, Retarus offers cloud services that are fully GDPR compliant.

WEAKNESSES

- Retarus Email Security is entirely cloud-based, which may not suit organizations still reluctant to rely entirely on cloud-based security.
- Retarus offers email encryption through its Retarus Email Encryption module. However, this is an extra cost item.
- Retarus does not offer an automated inline phishing awareness training solution as do currently many other vendors in this space. Retarus, however, relies on partners and value-added resellers to provide phishing awareness training.

- While Retarus is well known in EMEA, the company currently lacks visibility in other geographies, particularly in North America.

MATURE PLAYERS

PROOFPOINT

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Proofpoint delivers solutions for archive and compliance, email security, data loss prevention, identity threat defense, insider threat management and security awareness. The company also has a managed security services arm. Proofpoint is owned by investment firm Thoma Bravo and in 2023 acquired Tessian an AI-based email security company.

SOLUTIONS

Proofpoint offers email security solutions as tiered packages to stop phishing, business email compromise, malware and ransomware, supply chain risk and email authentication, to identify and remediate compromised cloud accounts, and to prevent data exfiltration. Proofpoint offers a wide choice of deployment options including cloud, dedicated appliance, virtual appliance, or a hybrid deployment.

Proofpoint offers the **Proofpoint Threat Protection** platform as an on-premises or cloud-based email gateway, as well as an integrated cloud email security (ICES) solution that allows companies to deploy using an inline API architecture without MX changes required. It offers the following capabilities:

- *URL and Attachment Sandboxing* – Guards against phishing and ransomware attacks by analyzing all URLs and attachments in email and cloud-based applications. Analysis is done both statically and dynamically in Proofpoint's cloud-based sandbox. Suspicious URLs are proactively analyzed, re-written for additional analysis upon click and are sent to an isolated browsing session where content is accessed in read only mode to ensure that users are

protected from malicious behavior.

- *AI/ML-Based Advanced Threat Defense* – Proofpoint Nexus, an AI-based detection platform, uses a multi-model approach—combining semantic and behavioral AI, machine learning, and curated threat intelligence—and allows customers to uncover and block sophisticated business email compromise (BEC) and phishing attacks before they are delivered to a user's inbox. This pre-delivery method analyzes multiple aspects of email messages, such as: header data, sender IP addresses, content of the email, including words/phrases commonly used in email fraud attacks and intent behind the email content with new analysis from in-house large language models.
- *Actionable Insights* – Proofpoint scores all threats entering an organization and assigns an Attack Index score to every person in the organization. This helps identify Very Attacked Persons (VAPs) and enables a connection between email security and other adjacent controls, such as security awareness training, browser isolation, email warning tags and cloud application security.
- *Threat Simulation & Security Awareness Training* – Using VAP reporting and adaptive learning groups, specific segments of users can be auto-enrolled in training appropriate to the threats that they are being targeted with, those they may need to improve their response on, or those deemed appropriate for an applicable user-property such as their role or department. This can also help assess end user vulnerability and puts in place corrective training to enhance the user's ability to identify and report threats.
- *Email Authentication (SFP, DKIM, and DMARC)* – Prevents fraudulent outbound use of an organization's domain (spoofing) and protects the company brand from being used in fraudulent email attacks. Proofpoint also offers managed services for email authentication, including implementation of inbound DMARC enforcement.
- *Automated Abuse Mailbox Analysis and Remediation* – Closed Loop Email Analysis and Response (CLEAR) automates the analysis, identification, and removal of malicious emails reported by end users through a monitored abuse mailbox. It also provides user feedback to help reinforce end user learning.
- *Account Compromise Detection* – Monitors and detects account compromise from several sources, as well as detects suspicious behavior across cloud accounts. It includes identity

threat detection and response (ITDR) capabilities that also discover and remediate identity vulnerabilities that can be used to move laterally or escalate privileges.

- *Automated Response/mSOAR* – For email, it includes the ability to automatically remove potentially malicious email from end user inboxes across the organization, including forwarded messages. It also automates other remediation actions, such as issuing SIEM alerts, blacklisting IP addresses, and disabling email forwarding rules.
- *Block Attacks through Personal Webmail* – Browser isolation integrations protect against inbound threats and data exfiltration originating from employee use of personal email accounts, such as Gmail or Outlook.com, on corporate devices.
- *Outbound information protection* – Provides rule-based and adaptive AI-based controls for automated encryption and data loss prevention which protects against the loss of private or sensitive data including that associated with GDPR, HIPAA, PII or corporate email fraud. It uses behavioral modeling to prevent email mis delivery or sending sensitive data to unintended recipients.
- *Supplier Risk Protection* – Identifies compromised vendor email accounts and accounts using lookalike domains of suppliers that may be sending threats to users. This detection powers adaptive controls such as automated quarantining of senders, which protects users while still allowing the flow of critical business communications. Additional forensic visibility is also provided, including an overall risk score to highlight risky partners.
- *Cloud Application Security Broker (CASB)* – Offers visibility and control with a people-centric approach to protect users and safeguard sensitive data across both cloud and email threats. It also helps discover shadow IT and govern the use of cloud and third-party OAuth apps.

STRENGTHS

- Proofpoint includes both pre- and post-delivery detection to identify and stop known and unknown threats across the entire enterprise.

- Proofpoint leverages a multi-layered detection stack comprised of threat intelligence, machine learning, behavioral AI, sandbox detection, content, and semantic analysis (LLMs).
- Proofpoint's unique process for identifying Very Attacked Persons (VAPs), enables security teams to understand their organization's human attack surface and implement more effective security postures.
- Proofpoint can protect against malicious URLs in attachments and embedded images (such as QR codes), as well as against threats that are delivered as password-protected attachments.
- Integration between sandboxing analysis and browser isolation offers an additional layer of security while allowing end users to access websites in a read-only mode.
- Proofpoint offers the option to analyze internal emails to identify threats that may originate inside the organization due to compromised accounts.
- Proofpoint provides extensive reporting for email, threat forensics and DLP. DLP events are displayed in a dashboard via prioritization, so administrators know which events to investigate.
- Automated remediation capabilities allow IT and security teams to resolve security incidents without incurring additional management overhead.

WEAKNESSES

- While Proofpoint offers best-in-breed email security, DLP, and ITM solutions, and has partnerships that integrates out-of-the-box with endpoint security vendors (e.g., CrowdStrike, IBM, Microsoft, Palo Alto Networks, SentinelOne, Splunk/Cisco), it does not offer endpoint protection. Customers wanting to source an integrated solution from a single vendor that combines secure email gateways and endpoint protection will need to look elsewhere.
- Customers indicate that while feature rich, Proofpoint Threat Protection can be complex to install and maintain. However, Proofpoint does offer managed services for email security and the new Core Email Protection API to directly integrate with Microsoft Graph API, designed for organizations that need low-touch email security.

- While feature-rich Proofpoint's Threat Protection platform appears to be somewhat more expensive than competing solutions. The vendor has recently introduced simplified packaging to customers both for Enterprise and Commercial channels.

SPECIALISTS

CISCO

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Cisco is a leading vendor of networking hardware, software, telecommunications and security technology. Cisco's security solutions are powered by the Cisco Talos Intelligence Group, one of the largest commercial threat intelligence teams. Cisco is publicly traded.

SOLUTIONS

Cisco Secure **Email Threat Defense** is a cloud-based solution which integrates with Microsoft 365 through the Microsoft Graph API. It leverages advanced threat intelligence from Cisco Talos to detect advanced threats like BEC and account takeovers and provides easy integration with other security tools through a RESTful API. It integrates artificial intelligence, machine learning, and natural language processing that combine local identity and relationship modeling with real-time behavior analytics to protect against identity deception-based threats. Email Threat Defense offers a single interface for reporting, configuration and tracking. It provides conversation and message trajectory views for full visibility into Microsoft 365 mailboxes to help protect against phishing, ransomware, and business email compromise. It can be combined with Cisco Vulnerability Management, Cisco XDR and Cisco Secure Endpoint to deliver an enhanced enterprise-wide security posture.

Cisco also offers **Secure Email Gateway** MX record-based appliance solutions for on-premises deployment, which provide layered protection to defend against phishing, spoofing, business email compromise and loss of sensitive information. The appliances are available in several form-factors, including Cloud Gateway (SECG), Gateway (SEG), Virtual Secure Email Gateway

(vSEG) for VMware and AWS, as well as a Hybrid (Cloud and On-Premises) solution. All gateway deployment options have feature parity.

Secure Email is available through 3 licensing bundles:

- *Secure Email Essentials* – delivers tools powered by Cisco Talos intelligence to detect threats and quarantine suspicious messages.
- *Secure Email Advantage* – includes all the features of Essentials plus enhanced data loss prevention (DLP), Secure Email Encryption Service, and Safe Unsubscribe. It allows administrators to create rules to prevent unauthorized data sharing and encrypt outbound messages.
- *Secure Email Premier* – includes all features of Advantage plus Email Threat Defense and security awareness training.

Cisco's email security solutions comprise the following capabilities:

- *Spam & Threat Filtering* – Sender Reputation includes Sender IP Reputation filtering, and Sender Domain Reputation Filtering. Content Scanning is performed by Context Adaptive Scanning Engine (CASE) and Talos Anti-spam Logic eNgin (TALN) engines, which leverage both heuristic and Bayesian scanning techniques.
- *Anti-Phishing and Malicious URL Detection* – offers deep inspection of URLs in four distinct phases during the scanning of messages. URL Reputation Service (URS) identifies known bad URLs which are filtered as part of the CASE engine. Content Filters are customizable filters with different options to control URLs, found in emails, this includes actions on their reputation and/or web categorization, as well as replacing the hyperlink with text (e.g., "This URL is blocked by policy"). Cloud URL Analysis (CUA) is triggered via Threat Outbreak Filters, which use crawling and static analysis techniques to determine if a threat exists in the URLs payload or code. URL Rewrite & Web Interaction Tracking allows administrators to see the URLs that were re-written by Content or Outbreak filters, who the message was targeting and if they had clicked on the URL. Cisco Secure Email Threat Defense augments sender authentication and business email compromise (BEC) detection capabilities. Secure Awareness Training provides phishing simulations and awareness training.

- *Anti-Spoofing* – includes Sender Domain Reputation which can determine if a well-known brand is being spoofed in the sender’s email without having to create long lists of domains to monitor. Inbound message verification relies on DMARC, DKIM and SPF analysis to determine the legitimacy and authenticity of the sender and potentially block messages from being delivered. Forged Email Detection detects spoofed and fraudulent messages with a forged sender address and performs specified actions to protect high-valued executive names.
- *Malware Defense* – is provided through three distinct services: Secure Malware Analytics, Virus Outbreak Filters, and Anti-Virus.
- *Attachment Claw-back and Filtering* – Mailbox Auto Remediation automatically removes malicious files from inboxes supporting Microsoft Exchange 2016 and 2019, Microsoft 365 and hybrid deployments.
- *Threat Visibility and Investigation* – offers Cisco XDR threat response integration, which provides investigative capabilities on threats based on URL, SHA values or domains and pivoting into Message Tracking data to simplify the investigation of threats. Cisco XDR is integrated with the Cisco Security portfolio, including Secure Email, Umbrella, Malware Defense and NGFW.
- *Outbound Control* – includes Data Loss Prevention (DLP), offered as a built-in engine that uses pre-tuned data structures along with optional settings to create policies. Encryption leverages TLS and S/MIME as well as DANE support to provide effective detection of DNS poisoning attacks with TLSA support. Full payload encryption is available through the Cisco Secure Email Encryption Service (SEES), which is available as part of the Cisco Outbound Essentials and Premium bundle and provides both push and pull encryption.
- *Cisco Secure Awareness Training* – delivers phishing simulations and awareness training for end users. It integrates with the Secure Email Gateway to create differentiated policies for the repeated clickers who “failed” the phishing simulations most frequently.

Several add-ons are also available, including:

- **Intelligent multi-scan** – provides additional anti-spam classification capabilities by combining the results of multiple anti-spam engines.

- **Image analyzer** – helps scan for adult content in images contained in emails. It is often deployed with DLP to implement acceptable use policies.
- **McAfee anti-malware** – provides additional antivirus protection.
- **Cisco Secure Email Management** – provides centralized reporting and message tracking. It can quarantine across multiple Cisco Secure Email Gateway appliances.

STRENGTHS

- Cisco email security leverages threat intelligence capabilities from Talos, as well as customer generated intelligence to provide advanced protection against both large scale and targeted attacks.
- Cisco email security integrates with the Cisco Secure Endpoint and Cisco XDR solutions. This provides customers with visibility, control and automation from the network perimeter to the endpoint.
- Cisco email security supports multi-layer defense capabilities that combine big data analytics harvested from signature-based analysis, reputation services, and behavioral analytics to deliver thorough risk analysis and low false positives.
- Cisco has focused on product simplification, which eases deployment complexity for customers across all sizes.

WEAKNESSES

- Email Threat Defense is only aimed at Microsoft 365 environments.
- Customers indicate that some of the management interface and reporting functionality could be improved for greater ease of use.
- Features such as Email domain protection (e.g., DMARC authentication), Image analyzer (to scan for adult image content), and Intelligent multi-scan (which combines results of multiple anti-spam classifiers) are only available as add-ons to Cisco Secure Email plans, whereas

they are typically part of the baseline offering in most competing solutions.

- Cisco does not currently offer its own email continuity services. However, it offers archiving in partnership with Theta Lake.

SOPHOS

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Sophos offers IT security solutions for businesses, which include Managed Detection and Response (MDR) and incident response services, as well as endpoint, network, email and cloud security technologies. All solutions are managed through Sophos Central, a cloud-based management platform, backed by Sophos X-Ops, its global threat intelligence network. Sophos is owned by private equity firm Thoma Bravo and headquartered in Oxford, U.K.

SOLUTIONS

Sophos Email uses a combination of detection methods and machine learning, to protect against malware, spam, phishing impersonation attacks, and data loss. It is available in conjunction with a full portfolio of security solutions managed through a single cloud management console. Sophos Email relies on advanced machine learning capabilities from Sophos Labs, which enables it to detect both known and unknown malware without having to rely on signatures. The product can also identify sophisticated Business Email Compromise (BEC) attacks through message body content and subject line analysis to identify conversations with suspicious content. Sophos Email works with Microsoft Exchange Online, Microsoft 365, Google Workspace, and any other email solution.

Sophos Email is managed through Sophos Central, a single SaaS-based console for all Sophos products. Sophos Email security solutions are deployed in the cloud, and support both cloud-based and on-premises email services. There are two deployment options:

- Sophos Mailflow – integrates directly with Microsoft 365 using the Microsoft Exchange Connector Services to scan emails.
- Sophos Gateway – integrates with on-premises or cloud-based email solutions (including Microsoft 365) via an MX Record update to route email traffic through the Sophos Email gateway.

Sophos Email delivers the following key capabilities:

- *Impersonation Protection* – Sophos Email relies on a variety of technology methods, including machine learning, to identify impersonation attempts using VIP identities to commit fraud or other illegal activity. Utilizing the Sophos-owned deep learning neural network, Sophos’ advanced ML capabilities can analyze message body content and subject lines to identify conversations with suspicious content, specifically in relation to tone and wording which may be used to identify unusual requests from a sender.
- *Advanced Threat Protection* – SophosLabs advanced threat detection technology including Sophos Sandstorm, deploys sophisticated machine learning technology to detect new and emerging suspicious payloads containing threats, malware, and unwanted applications, as well as high-level threats embedded in documents, including ransomware. Sophos Sandstorm detonates these files in series of virtual machines, simulating a real end user environment where behavior can be monitored, delivering safe documents, not just PDFs.
- *Single Management Console* – Sophos Email is part of Sophos Central, a single integrated cloud-based management console that enables organizations to manage a layered defense including email, network security, next-generation endpoint and server protection with XDR, mobile device protection, encryption, wireless, a range of public cloud security solutions including cloud security posture management, and a human-led Managed Detection and Response team.

Sophos Phish Threat is a phishing attack simulation and cybersecurity awareness training solution, which connects to Sophos Email through Sophos Synchronized Security. It is part of Sophos Central and it can identify users that have been blocked or warned from visiting high risk profile websites, and seamlessly enroll them into targeted phishing simulations and training.

STRENGTHS

- Sophos Email's Advanced Threat Report provides deep visibility into email attachments detonated in the Sophos cloud sandbox, with a breakdown of threat verdicts based on machine learning analysis, file reputation scores, VirusTotal results and Mitre ATT&CK Matrix tactics.
- Sophos Managed Detection and Response (MDR) provides fully managed service, delivered by Sophos experts who detect and respond to cyberattacks targeting a customer's email accounts, servers, networks, cloud workloads and computers.
- Sophos Email integrates with the Sophos Phish Threat service to provide phishing simulations and security awareness training in the same console.
- Sophos Central offers a single integrated cloud-based management console to manage a layered defense which includes email, network security, next-generation endpoint and server protection with XDR.

WEAKNESSES

- Customers indicated that Sophos reporting through Sophos Central, while easy to use and comprehensive, could offer greater reporting granularity.
- Sophos offers phishing awareness training integrated into Sophos Central, however this requires a separate license.
- Sophos email security solutions are a best fit for organizations with small to medium sized IT teams, where management simplicity is a key purchase driver.

MICROSOFT

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Microsoft offers products and services for businesses and consumers, through a portfolio of solutions for office productivity, messaging, collaboration, and more.

SOLUTIONS

Microsoft Exchange Online Protection (EOP) is a cloud-based filtering service that protects against spam, malware, phishing and other email threats. It is an integral part of Microsoft Office 365 and is included with all Exchange Online mailboxes. It does not require client software installation but is activated by changing the customer's MX record. It can be deployed in the following modes:

- *Standalone* – where it provides cloud-based email protection for on-premises Microsoft Exchange Server environments, legacy Exchange Server versions, and any other on-premises SMTP email solution.
- *Microsoft Exchange Online* – EOP is an integral part of Microsoft Exchange Online which is the email service component of Office 365.
- *Hybrid* – EOP can be configured to protect and control email routing in a mixed environment of on-premises and cloud mailboxes.

Customers can add **Microsoft Defender for Office 365**, **Microsoft Defender XDR**, **Purview Data Loss Prevention (DLP)**, and **Purview Message Encryption** for a more fully featured security solution.

- **Microsoft Defender for Office 365** – is a cloud-based email filtering solution that protects against phishing, malware and spam attacks. It offers near real-time protection against high-volume spam campaigns, with DKIM and DMARC support. It also protects against “zero-day” attachments and harmful URL links, through real-time behavioral analysis and sandboxing. It can be deployed as an add-on to on-premises Microsoft Exchange Server

deployments, Microsoft Exchange Online cloud mailboxes, or hybrid environments. It is available in two plans:

- *Microsoft Defender for Office 365 Plan 1* – adds protection of email and collaboration from zero-day malware, phishing and business email compromise.
- *Microsoft Defender for Office 365 Plan 2* – adds post-breach investigation, hunting, and response, as well as automation, and simulation for training purposes.

The services are cumulative. EOP is available with all subscriptions that include Exchange Online. Microsoft Defender for Office 365 Plan 1 is included in Microsoft 365 Business Premium. Microsoft Defender for Office 365 Plan 2 is included in Office 365 E5, Office 365 A5, and Microsoft 365 E5. Both Plan 1 and Plan 2 are also each available as an add-on to certain subscriptions. A *Safe Documents* feature, which allows viewing of documents in a protected state, is only available with the Microsoft 365 E5 plan, or Microsoft 365 E5 Security licenses.

- **Microsoft Defender XDR** – is a unified pre- and post-breach defense suite that integrates with Microsoft Defender for Office 365 and natively coordinates detection, prevention, investigation, and response across all security services. It takes automatic action to prevent or stop attacks and self-heal affected mailboxes, endpoints, and user identities. Defender XDR incidents can be streamed to **Microsoft Sentinel (SIEM)**. Microsoft has also integrated **Microsoft Security Copilot**, a platform that brings together AI and human expertise, into Microsoft Defender XDR.
- **Purview Data Loss Prevention (DLP)** – Microsoft 365 E3 includes DLP protection for SharePoint Online, OneDrive and Exchange Online. It also includes protection for files shared through Teams because Teams uses SharePoint Online and OneDrive to share files. DLP protection in Teams Chat requires an E5 license. The Microsoft Purview Compliance Center provides a central policy management console that allows administrators to manage DLP policies across different services. The DLP on-premises scanner extends DLP protection to on-premises file shares and SharePoint document libraries.
- **Purview Message Encryption** – allows users to share protected email with anyone on any device. Users can exchange protected messages with other Microsoft 365 organizations, as well as third parties using Outlook.com, Gmail, and other email services. Microsoft Purview

Message Encryption leverages the protection features in Azure Rights Management Services (Azure RMS), the technology used by Azure Information Protection to protect emails and documents through encryption and access controls. Microsoft Purview Message Encryption relies on Azure Rights Management having been activated in the organization's tenant.

STRENGTHS

- Microsoft Exchange Online Protection and Microsoft Defender for Office 365 solutions are easy to deploy and administer for customers of all sizes.
- Microsoft Exchange Online Protection and add-on services for Microsoft Defender for Office 365, Purview DLP and Purview message encryption come mostly native, free of charge with many Microsoft Office 365 plans, where an additional fee is required, it is usually very small.
- Microsoft is investing heavily to address threats posed by spam, spoofing, phishing attacks, as well as blended attacks through attachments and harmful URLs.

WEAKNESSES

- While Microsoft has been investing heavily in its anti-malware, antispam, phishing, spoofing and zero-day protection capabilities, customers still report high degrees of spam, malware and other forms of attack. Most customers tend to deploy additional email security solutions from other security vendors.
- Microsoft offers many different plans at different price points, but it is often difficult for customers to understand exactly what security features they are getting with what plans.
- Microsoft offers a rich ecosystem of security solutions, however, integrating all components correctly and maintaining them fully integrated throughout Microsoft's continuous upgrade cycle can be daunting for many organizations.
- As a purely cloud-based solution, Microsoft Defender for Office 365, is not applicable to customers with purely on-premises deployments or air-gapped networks.
- Microsoft customers we spoke to as part of this research, often indicated that Microsoft's customer support organization is not sufficiently knowledgeable about email security issues.

TREND MICRO

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Founded in 1988, Trend Micro provides security solutions for organizations, service providers, and consumers. Trend Micro develops enterprise security software for servers, containers, and cloud computing environments. Its cloud-based Smart Protection Network brings together threat reporting and analysis based on a worldwide threat assessment infrastructure. Trend Micro is publicly traded.

SOLUTIONS

Trend Micro offers a broad range of email security solutions aimed at enterprises that include antivirus, antispam, anti-spyware, and anti-phishing, along with compliance and content filtering features. Email security solutions integrate with Trend Micro's **Vision One** XDR (Extended detection and response) managed service which offers correlated detection and response across email, endpoints, servers, cloud workloads, and networks. Trend Micro email security solutions are available as cloud or on-premises solutions in different packages, as follows:

Cloud-based Solutions:

- **Email and Collaboration Security** – is a cloud-based service that offers protection against spam, malware, phishing, ransomware, and advanced threats before they enter the customer network. It protects Microsoft Exchange, Microsoft 365, Google Workspace, and other hosted and on-premises email solutions. It offers Business Email Compromise (BEC) protection and offers flexible user profile definitions. It is available in two bundles: *Standard*, and *Advanced* (which adds sandboxing, AI-based fraud/BED detection, and email continuity).
- **Cloud App Security** – is a Trend Micro's Cloud Access Security Broker (CASB) solution that secures email and cloud sharing in Microsoft 365, Google Workspace, Salesforce, Box, and Dropbox. It relies on artificial intelligence and machine learning to uncover ransomware, Business Email Compromise (BEC), and other attacks.

- **Email Security Advanced** – helps prevent phishing and Business Email Compromise (BEC) attacks and offers antivirus, anti-malware, heuristics, and dynamic sandbox analysis to detect ransomware and zero-day malware. It integrates with other Trend Micro security layers to share threat intelligence and provide central visibility of threats across the organization. It also provides DLP and advanced malware protection for OneDrive for Business, SharePoint Online, Box, Dropbox, and Google Drive.
- **Phish Insight** – is a phishing simulation service that lets organizations test and educate employees on recognizing and avoiding phishing attacks.

On-premises Solutions:

- **Deep Discovery Email Inspector** – is an email appliance that provides advanced threat protection against targeted attacks.
- **InterScan Messaging Security** – is an on-premises gateway that defends against spam, malware, ransomware, and targeted email attacks.
- **ScanMail Suite for Microsoft Exchange** – offers mail server security for Microsoft Exchange protecting internal and external email against phishing, ransomware, and targeted attacks.
- **ScanMail Suite for Domino** – offers malware and spam protection as a native Domino server application.
- **PortalProtect for Microsoft SharePoint** – on-premises software for SharePoint server, providing antivirus, content filtering, and data loss prevention.
- **IM Security for Microsoft Skype for Business** – on-premises software to protect Microsoft Skype for Business Servers from malware, web threats, content violations and data loss.
- **Deep Discovery Inspector** – available as a physical or virtual network appliance, detects and blocks ransomware spear phishing emails using advanced analysis for known and unknown attacks. Sandboxing identifies mass file changes, encryption behavior and backup process alterations.

- **Smart Protection for Office 365** – leverages machine learning to detect and protect against Business Email Compromise (BEC). It also leverages the Trend Micro Smart Protection Network to correlate web, email, file and domain registries to identify attacker infrastructures before they are launched.

Trend Micro offers a range of versions of its security solutions tailored to small, medium, and large organizations. Trend Micro also offers a stand-alone archiving and compliance solution.

STRENGTHS

- Trend Micro offers a comprehensive suite of email security solutions in all form factors (cloud and on-premises) in a variety of different packages to fit the needs of customers of all sizes.
- Trend Micro's email security solutions integrate with its Trend Vision One cyber security platform which delivers XDR across endpoint, email, cloud, network and OT security.
- Trend Micro email security solutions are easy to deploy and manage.
- A stand-alone encryption solution is available for customers looking for extra security.

WEAKNESSES

- Trend Micro offers basic DLP functionality, but only at an extra cost.
- Trend Micro email solutions track URL usage, but do not support preventive actions such as url replacement or quarantining.
- Customers indicate that administration and policy setup for Trend Micro email security solutions is somewhat lacking and could be improved, particularly for hybrid gateway scenarios.
- Trend Micro's email security portfolio shows signs of aging and does not appear to be updated as frequently as those of its competitors.

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