Office 365: Network Security & Performance – Simplified

Symantec Cloud-Delivered Network Security for Microsoft Office 365
Powered by Symantec Web Security Service

WHITE PAPER

single point of contact

Symantec™

Migrating to Office 365

Cloud applications, services like Salesforce, Office 365, and Box, are being adopted at a rapid clip and changing the way we work. In fact, Gartner predicts that nearly 40% of enterprise IT application spend be cloud-delivered versus on-premises by 2020.[1] Between the business productivity and cost benefits of the subscription cost model of cloud application services, ubiquitous corporate adoption of cloud-delivered applications appears to be only a matter of time.

Most organizations evaluate and select cloud-based applications primarily for their many business productivity and cost benefits. To enable these benefits, IT and Security teams need to address critical and yet often overlooked security and performance concerns. Ultimately, as organizations adopt cloud application services, these teams are responsible for securing users and content, not the cloud vendor. Office 365, in particular, is a popular cloud application and the teams supporting it are not immune to these challenges. For IT and Security teams planning a company's migration to the cloud email platform, it is important to identify network solutions that deliver strong security and high performance to simultaneously protect users and deliver the great web experience your employees expect. The ideal solution does this without adding operational complexity or overhead.

Performance, Latency & Operational Complexity

There are many issues aside from security that cause enterprises to pause when contemplating an Office 365 migration. Office 365 is not a typical cloud application that gets used by a fraction of employees 10% of the time. It is a collection of applications that everyone uses most of the time.

For example, a typical user of MS Exchange Online maintains six or more concurrent internet connections and an organization with 3,500 people using Exchange Online likely requires an additional 200MB of internet bandwidth. Add new Office 365 applications, and concurrent connections can grow from six to forty, while bandwidth may reach 300MB or more.

Moreover, the placement and configuration of Office 365 application servers can also cause unwanted latency and operational complexity. For example, when Microsoft scales out their infrastructure, the IP addresses and placement of their servers can change over time requiring operational complexity for organizations managing connections to them from their users.

Users notice any speedbump in the implementation of this particular cloud service. IT departments want to avoid swamping their helpdesks as an organization is adopting Office 365, which is why any security solution for the application needs to keep performance, scalability, and operational simplicity front and center as key requirements.

The Symantec Cloud-Delivered Security Solution is Optimized for Office 365

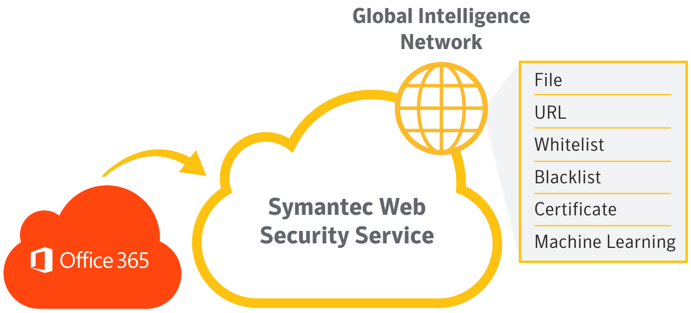
We have analyzed these challenges and have built security solutions that address latency, complexity, and performance concerns as your organization makes a secure and compliant move to Office 365. Symantec Cloud-Delivered Security Services offer a unique combination of API-based and in-line threat prevention and data compliance capabilities for an organization using Office 365. Before we provide an overview of the capabilities, lets first look at some of the innovations Symantec has built into its cloud security infrastructure to optimize its interactions with Microsoft's cloud network.

[1] Gartner report entitled "Market Insight: Cloud Shift — The Transition of IT Spending from Traditional Systems to Cloud." July 2016

Simplified Security Policy Governance

Keeping up with Microsoft's pace of change can be a challenge. One example? The myriad of IP addresses associated with the Office 365 apps frequently changes as a result of Microsoft's seemingly continuous cloud infrastructure scale-out. Organizations trying to apply security policies on Office 365 applications, relying on IP address information to accurately identify the traffic, need to stay on their toes.

This situation is why Symantec partnered with Microsoft to automate the process of IP re-alignment for in-line Office 365 security policies enforcement. Microsoft provides Symantec the planned changes to IP addresses in advance. The new IP Address information automatically updates your policies via our **App Definitions** intelligence feeds, eliminating the need for your team to update your policies manually. This process ensures that your policies enforce correctly and consistently. In fact, the data shared between Microsoft and Symantec is so granular that we can enable policy control over individual Office 365 applications. For example, you can set policies to decrypt file downloads only from OneDrive, send them through dual-anti-virus scanning and, pending results, also send to cloud sandboxing for analysis.



Tight integration of Office 365 with Symantec Web Security Service

Accelerating Security Performance

An advanced, cloud-delivered network security service provides simple, cost-effective, high-performance 'direct to net' protection. Direct-to-net eliminates the resources needed for backhaul internet traffic to your corporate data centers.

Built-in acceleration technologies, such as content peering and optimized connection scaling, further improve key operational metrics and enable you to give your users the performance they demand. Symantec's solution for Office 365 is run on a global telco-grade network backbone monitored by third-party service providers and backed up with a 99.999% uptime SLA. Users enjoy the high performance with content peering with top cloud providers, TCP scaling, and more.

Accelerated Traffic – TCP Window Scaling

Properly tuning network technology throughout the cloud data path can dramatically increase throughput and enhance the user experience. A case in point is the work that Symantec has done in TCP window optimization.

Optimizing the size the TCP window uses in a data transfer can have a significant impact on performance, especially when you are moving big files, for example, large files transfers and media streaming. Symantec has been mastering this process for years since efficient TCP window scaling is a critical capability that is at the core of Symantec Secure Web Gateways.

We evaluate many factors in each transaction, including estimated round-trip time, loss recovery rate, and available TCP window sizes, to select the optimal size for maximum data transfer performance. This optimization increases bandwidth throughput and reduces round trips and latency, resulting in improved user experience with Office 365 applications.

Round Trip Time
Window Size
Loss Recovery

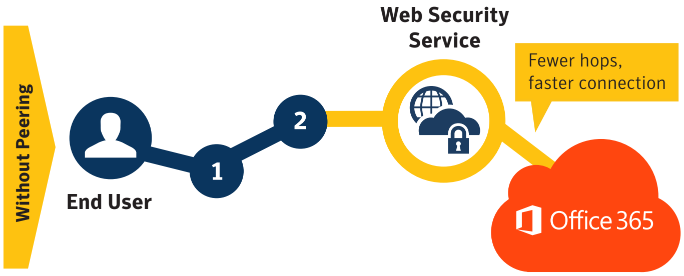
Advanced TCP Window Scaling

Accelerated Traffic – Symantec and Microsoft Network Peering

Symantec has built peering interconnections between its global cloud data center network and Microsoft's major cloud data centers. The peering connections allow for a direct exchange of traffic between the two high-performance networks, so your Office 365 traffic benefits from extremely low latency connections between your applications and your Symantec cloud-delivered security and compliance services. Symantec's peering with Microsoft improves end-user experience and reduces the length of the path our customers' traffic needs to travel to get from source to destination. Performance improvements are dramatic, delivering latency drops on the order of 15-20% along with traffic yield improvements from 20-25%.

Peering Directly with Symantec

Qualifying enterprises may be able to get even more benefits from Symantec's peering infrastructure. If certain criteria are met, the enterprise itself can peer directly with Symantec within our peering exchanges. The result? Even faster performance, and likely substantial savings in bandwidth costs for enterprises when compared the alternative of building out their bandwidth and infrastructure as they re-architect their network for Office 365 traffic.



Accelerated Traffic – Internal Network Optimization

Maintaining performance is not only about what happens when the traffic leaves your environment, but it also about what is happening inside your network as well. Symantec has solutions that allow enterprises to make Quality of Service adjustments to improve internal network performance for specific applications. For example, you can specify a specific amount of your bandwidth on your internal network for Office 365 traffic, prioritizing it over other bandwidth "hogging" apps like YouTube, Netflix, and others.

Symantec has two options for this:

- SD-Cloud Connector – Built off SD-WAN technology, offers simplified connectivity to the Symantec cloud while also providing bandwidth controls and firewall services
- Symantec PacketShaper – Full WAN optimization solution that shapes network traffic to protect critical application performance, improve user experience and align resources with business priorities.

Beyond Performance: Security and Compliance for Office 365

With performance requirements addressed via our cloud network innovations and operational complexity eliminated thanks to our development partnership with Microsoft, Symantec offers the industry's most complete stack of security and compliance solutions for users of Office 365. Enterprises adopt our solutions to help address visibility, data protection and threat prevention requirements associated with their adoption of Office 365.

Lack of Visibility

How do I authorize and log all interactions with O365 for audit/compliance and IR?

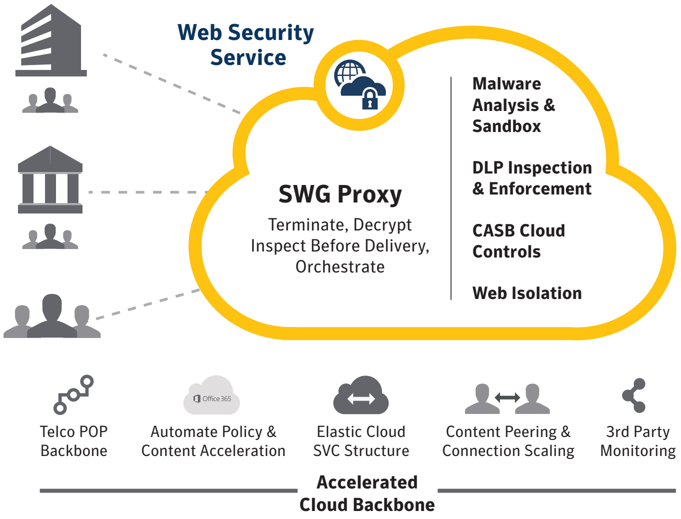
Data Protection & Compliance

How can I ensure we comply with internal and external data protection requirements?

Threat Prevention

How do I prevent malware from file downloads, phishing attacks, etc.?

This section of the paper summarizes some of the key components of our solution. We start with a discussion of our solution to secure Office 365 Email and then review our security controls for the remainder of the Office 365 Suite. Symantec has a deep security stack.


Web Security Service
SWG Proxy
Terminate, Decrypt
Inspect Before Delivery,
Orchestrate
Malware Analysis & Sandbox
DLP Inspection & Enforcement
CASB Cloud Controls
Web Isolation
Office 365
Telco POP Backbone
Automate Policy & Content Acceleration
Elastic Cloud SVC Structure
Content Peering & Connection Scaling
3rd Party Monitoring
Accelerated Cloud Backbone

In-line Proxy-Based Security Controls – Symantec Web Security Service

Symantec Web Security Service is a cloud-delivered security service, based on proxy technology that many organizations rely on to secure their use of Office 365. The service has a deep set of capabilities, from authenticating access and logging interactions to scanning for advanced zero-day malware attacks. It is a subscription-based service, and enterprise can license features and functions based on their specific requirements.

User Authentication

We can authenticate and log all of your Office 365 traffic, satisfying a key compliance and visibility requirement that many of our enterprise customers have. Symantec provides the flexibility to meet the needs of authentication through different means:

- Remote laptop users supported with the Unified Agent program
- Mobile users supported with Apple iOS an Android apps
- Active Directory connectivity and integration

Encrypted Traffic

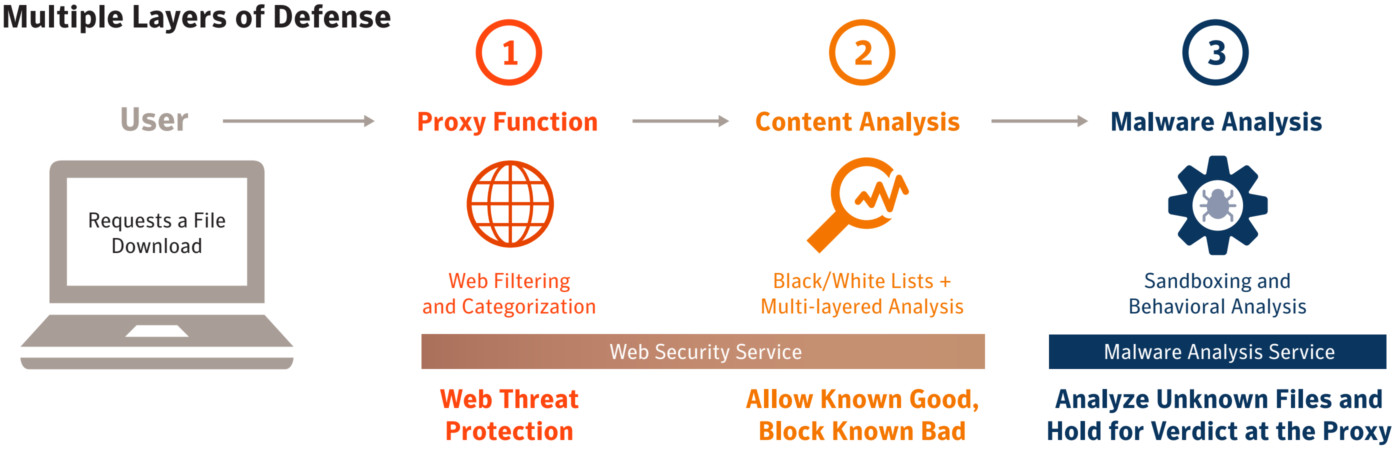
Given the prevalence of SSL/TLS encrypted traffic within Office 365, an effective way to selectively decrypt files for inspection by malware and data loss prevention engines is a critical security and compliance requirement. Finding threats hidden within encrypted traffic is increasingly becoming an important topic in Office 365 migrations. A Ponemon study found that nearly half of cyber-attacks, over a 12-month period, used encryption to sneak into organizations undetected.[2] Symantec Web Security Service can be configured to selectively decrypt your traffic, including Office 365 encrypted traffic, and inspected it for malware and DLP compliance. You can also configure Policies on a per-application basis (for example, only decrypt files from OneDrive for inspection).

The industry has been urging enterprises to make sure they understand how different solutions perform the function of SSL inspection. A recent independent study by leading academics, Google, Mozilla, and others looked at many solutions to determine who was following industry best practices for securely intercepting encrypted web traffic.[3] What they found: Only Symantec appropriately manages decryption and maintains high-security standards. Symantec's proxy technology received an 'A' rating; all other products tested received either a 'C' or an 'F.'

[2] Ashford, Warwick. Encryption hiding malware in half of cyber attacks. computerweekly.com. [Online] http://www.computerweekly. com/news/450303346/Encryption-hiding-malware-in-half-of-cyber-attacks.

[3] Zakir Durumeric, Zane Ma, Drew Springall, Richard Barnes, Nick Sullivan, The Security Impact of HTTPS Interception. jhalderm. com. [Online] https://jhalderm.com/pub/papers/interception-ndss17.pdf

Multiple Layers of Defense


User
Requests a File Download
1
Proxy Function
Web Filtering and Categorization
2
Content Analysis
Black/White Lists + Multi-layered Analysis
3
Malware Analysis
Sandboxing and Behavioral Analysis
Web Security Service
Malware Analysis Service
Web Threat Protection
Allow Known Good, Block Known Bad
Analyze Unknown Files and Hold for Verdict at the Proxy

Malware and Threat Defense

The Web Security Service has multiple layers of cloud malware and ATP defense. The service includes Symantec Content Analysis capabilities along with core proxy functions which integrate together to provide a robust solution to root out malware efficiently. Here is a breakdown of the multilayered defense:

- **Proxy function** – Web filtering and categorization, Web Threat protection, policy control by Gin, SSL inspection, Web application controls
- **Content Analysis** – Black/White lists + multilayered analysis, allow known-good, block known bad files
- **Malware Analysis** – Sandboxing and behavioral analysis, analyze unknown files and hold for the verdict

Data Loss Prevention

Many of our customers want to take advantage of in-line document DLP scanning, leveraging the SSL inspection capabilities of the Web Security Service, to enforce their data compliance policies when using Office 365. They want to make sure that documents being stored and shared in applications like OneDrive do not contain sensitive data or information subject to compliance and privacy requirements. The Web Security Service provides two options for this:

Symantec Cloud DLP – Web Security Service integrates with Symantec's market-leading cloud DLP service. Our solution allows you to selectively decrypt traffic to specific applications in the Office 365 suite and route it to DLP scanning engines in the cloud. This process identifies policy violations and takes the appropriate remediation action.

Cloud to Premise DLP Connector – If you already have a DLP solution that you want to leverage to enforce consistent policies for your data going to Office 365, you can configure the Web Security Service to route specific traffic to your on-premises DLP solution for scanning and remediation.

Global Intelligence Network

The Symantec Global Intelligence Network underpins our threat prevention solution. It collects data from multiple vectors and uses it to help all enterprises using our products, whether they are in the cloud, the network or on the endpoint. This network—the largest civilian intelligence network of its kind—lives natively in the cloud, complementing both on-premises and cloud deployments. Symantec now protects 163 million email users, 80 million web proxy users, 175 million consumer and enterprise endpoints, and processes nearly eight billion security requests across these products every day. This level of visibility across endpoint, email, and web traffic enables Symantec to discover and block targeted attacks that would otherwise be undetectable from any single control point. Our solution provides real-world benefits for you and your Office 365 deployment.

Symantec Global Intelligence Network

Discovered **430M**
new unique pieces of malware last year

1B
Malicious emails stopped last year

100M
Social engineering scams blocked last year

23,000
Cloud applications discovered and protected

182M
Web attacks blocked last year

6 Billion
Previously unseen web requests scanned daily

2 Billion
Emails scanned per day

175 Million
Consumer and enterprise endpoints protected

9 Global threat response centers with **3,000**
researchers and engineers

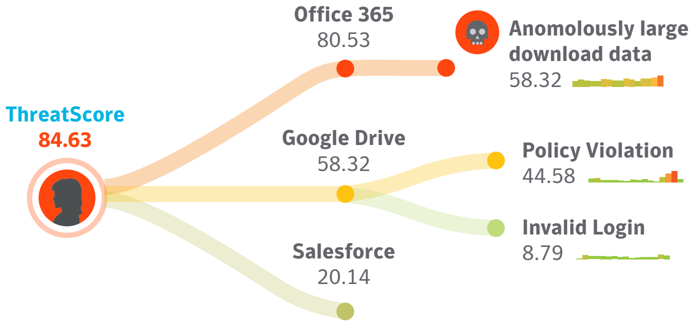
Complementary Products

Cloud Access Security Broker (CASB) Security

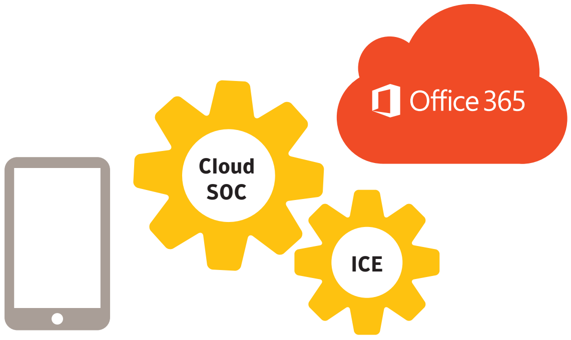
Cloud Access Security Brokers (CASBs) have become an essential element of any cloud security strategy, helping organizations govern the use of cloud and protect sensitive data in the cloud. Gartner predicts that by 2020, 60% of large enterprises will use a CASB to govern cloud services such as Office 365.

Symantec's CASB service, CloudSOC, is an established leader in the market.[4] The service enables companies to confidently use cloud applications and services while staying safe, secure, and compliant. It provides visibility into unsanctioned cloud application usage (Shadow IT), governance over data in cloud apps, and protection against threats targeting cloud accounts such as compromised credentials. For Office 365 there are four areas that we should highlight:

- **Intelligent threat protection** – CloudSOC implements User Behavior Analytics (UBA) to set baselines on "normal" activity levels for different types of users in Office 365. You can track user behavior against those baselines to create threat indicators that can flag risky behavior to security personnel for further investigation, automated account freezes, and more. This approach is a very effective way to quickly identify malicious behavior that may associate with account take-overs (for example, compromised credentials) or insider threats.



- **Information Centric Encryption (ICE)** – You can set rules to dynamically encrypt content based on the classification of the content. Individual access rights can be enforced and revoked at any time at the document level. For example, when an employee leaves the organization, access to docs on their devices can be revoked.



[4] Gartner: Magic Quadrant for Cloud Access Security Brokers Published: 30 November 2017 Forrester: The Forrester Wave™: Cloud Security Gateways, Q4 2016 Published: November 15, 2016

- **Data Loss Prevention (DLP)** – DLP options integrated with CloudSOC can be used to enforce your strict data compliance and security policies with Office 365. A key feature of the solution is its ability to scan your Office 365 accounts on a scheduled basis to check for policy violations. For instance, imagine a situation where an employee uses their phone to access the corporate OneDrive account over a cell network and places a document there that contains some restricted information, like employee social security numbers and salaries. Even the best in-line DLP scanning approach in the world cannot catch this sort of “direct-to-net” case with a personal device. Symantec can catch this “Shadow Data”; the service can be configured to scan your corporate accounts offline to check for information security policy violations and take steps to remediate violations.

- **Incident analysis and response** – Security professionals know that time is of the essence when responding to a security event. The first step in any investigation is to get your hands on the relevant data, and this can be a process-intensive task when dealing with a SaaS provider like Microsoft. CloudSOC integrates with Microsoft’s APIs to present all relevant end user and data interaction information to you in a rich information dashboard that offers powerful visualization and search tools. Incident Response teams, armed with these tools, can quickly get to the job of assessing incident impact, identifying causes and identifying remediation steps.

Email Security

Symantec Email Security.cloud safeguards cloud and on-premises email such as Office 365 and Microsoft Exchange. It blocks email threats such as ransomware, spear phishing, and Business Email Compromise with the highest effectiveness and accuracy using multi-layered defense and insights from the world’s largest civilian threat intelligence network. Email Security solutions include the strongest protection against spear phishing attacks with defense including protection, isolation, visibility, and user awareness techniques plus advanced email security analytics that provides the deepest visibility into targeted attack campaigns.

Single Point of Contact is a Managed Security Service Provider that has been helping businesses with their security and cloud requirements for over ten years. Single Point of Contact can help with integration and migrating your firm to the cloud. Contact us today and our consultants will help determine if Office 365 is the right fit for you firm. Email or call us at **800-791-4300**.

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