AUGUST 2019

CLOUD REPORT

CLOUD SERVICES ACCOUNT FOR 85 PERCENT OF ALL ENTERPRISE WEB TRAFFIC

Enterprises need to adopt a holistic approach to secure both cloud and web

REPORT HIGHLIGHTS

- Cloud services account for the vast majority—85 percent—of all web traffic flowing across enterprise internet connections.
- The top policy violations differ for cloud and web traffic, with DLP policy violations topping the list for cloud services while acceptable use policy violations and malicious activity detection topped the list for traditional web traffic.
- For cloud services like Facebook and Google Gmail, the average enterprise is using approximately 100 distinct instances of each of these services.
- Enterprises have an average of 1,295 cloud services in use, an increase from 1,246 in the last cloud report.
- The majority of these cloud services are subject to vulnerabilities and are not enterprise ready, earning a rating of "medium" or below based on the Netskope Cloud Confidence Index™ (CCI).

EXECUTIVE SUMMARY

In this Netskope Cloud Report™, we've compiled the most interesting trends on cloud service and web usage based on aggregated, anonymized data from the Netskope Platform. Report findings are based on usage seen across millions of users in hundreds of accounts globally and represent usage trends from February 1 through April 30, 2019.

Beginning with this cloud report, we are offering an expanded view of enterprise internet traffic. This is the result of our introduction of Netskope for Web in early 2018. Netskope customers using Netskope for Web run all of their cloud and web traffic through the Netskope Platform, and this new dataset provides a unique view into the trends across both cloud and web.

One of the highlights of this cloud report is the amount of cloud service traffic compared to traditional web use. According to our most recent data, 85% of enterprise web traffic is being used for cloud services with only 15% for traditional web use. We recommend that organizations monitor the mix of web traffic going to cloud services, and assess whether they have the right controls in place to ensure that all of their cloud and web traffic is properly secured.

Looking at the top policy violations detected in enterprise cloud and web traffic, DLP policy violations topped the list for cloud services while acceptable use policy violations and malicious activity detection topped the list for traditional web traffic. We recommend that organizations implement a broad set of capabilities to secure cloud and web traffic, from DLP and activity-level controls for cloud services to acceptable use policy controls and threat detection for the web.

Microsoft Office 365 services are well represented on the top 20 cloud services list, as are other enterprise collaboration and cloud storage apps. Security policies for cloud storage and collaboration services should be a priority for security teams, but it's also important to keep a close eye on popular social media services in the top 20 list to make sure that personal use of these services does not lead to security or compliance issues.

The use of the top cloud services in enterprise in not one dimensional. Rather, heavy use of these cloud services is driven by multiple instances of these cloud services being used across an organization. Beyond an organization's use of a corporate-managed instance of a cloud service, many other personal or business partner instances of these services are also in use. We recommend that organizations move beyond a single, blanket policy based only on the cloud service and instead use layered policies to enforce different controls for the different cloud services instances being used.

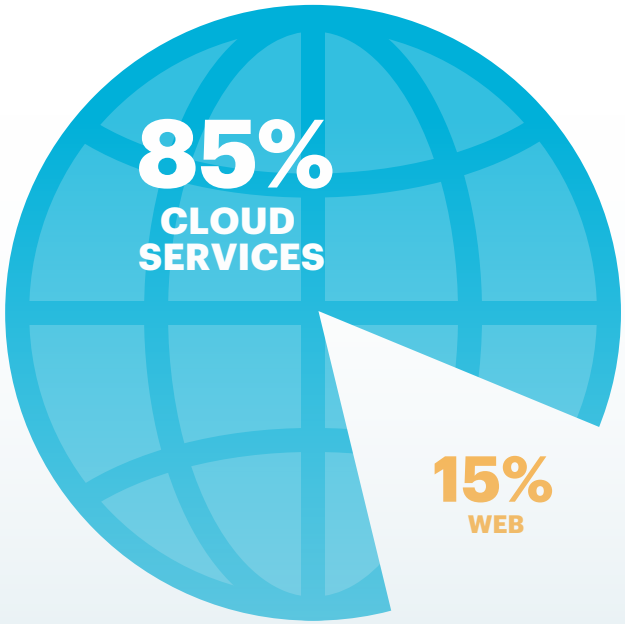
Finally, in this cloud report there were an average of 1,295 cloud services in use per enterprise, up from 1,246 in our last report. The average number of cloud services has hovered in the low thousands in recent cloud reports. In conducting cloud risk assessments for our customers, we've found that the number of cloud services can vary from several hundred to over 3,000 at larger organizations.

IMPACT OF CLOUD SERVICES ON ENTERPRISE WEB TRAFFIC

Beginning with this cloud report, we are offering an expanded view of enterprise internet traffic. This is the result of our introduction of Netskope for Web early last year. Netskope customers using Netskope for Web run all of their cloud and web traffic through the Netskope Platform, and this aggregated, anonymized dataset provides a unique view into the trends across both cloud and web.

The line between cloud services and the broader web is a blurry one. So how does Netskope differentiate between cloud and web? In general, to be classified as a cloud service by Netskope, the service must be designed for multi-tenant support, require a login to access the service, and provide the ability to store and process data. Based on these criteria, Netskope tracks more than 36,000 cloud services in our Cloud Confidence Index. Included in these cloud services are popular enterprise cloud services like Microsoft Office 365, Google Apps, and Box. Also included are popular consumer-focused cloud services like Facebook, Twitter, and Youtube.

These cloud services account for the vast majority—85 percent—of enterprise web traffic. We recommend that organizations monitor the mix of web traffic going to cloud services, and assess whether they have the right controls in place to ensure that all of their cloud and web traffic is properly secured.



TOP POLICY VIOLATIONS FOR CLOUD AND WEB

Looking beyond cloud and web traffic patterns, we also compared the top policy violations detected in enterprise cloud services and the broader web. In enterprise cloud services, the top three policy violations detected in the Netskope Platform were DLP policy violations, cloud activity policy violations, and anomalous activity violations. For traditional web traffic, the top three policy violations were acceptable use policy violations, malicious site violations, and malware detections.

Given the bi-directional nature of enterprise cloud services and the large amount of data moving out of organizations into the cloud, it is not surprising to see DLP policy violations at the top of the list for enterprise cloud services. One of the key use cases that we recommend is to identify sensitive data and prevent its movement to specific cloud services. The second most common policy violation for cloud traffic—cloud activity violations—underscores our recommendation to safely enable cloud services by carving out specific risky activities.

In contrast, traditional web traffic is primarily inbound with a different set of associated risks. Topping the list of policy violations for the web are acceptable use violations that prevent users from visiting inappropriate websites. The second most common policy violation for web traffic is the detection and blocking of known malicious websites used to distribute malware or provide command and control for malicious campaigns. Finally, the detection of malware distributed via the web remains an important use case for any web security solution.

We recommend that organizations implement a set of inline and API-based capabilities to address the key requirements of cloud and web traffic, including DLP and granular, activity-level controls for cloud traffic and acceptable use policy controls and threat detection for web traffic.

Cloud Policy Violations

1. DLP policy violations
2. Cloud activity policy violations
3. Anomalous activity violations

Web Policy Violations

1. Acceptable use policy violations
2. Malicious site violations
3. Malware detections

TOP 20 CLOUD SERVICES LIST

Microsoft Office 365 services are again well represented in our list of the top 20 cloud services as measured by use. As in past reports, cloud storage and collaboration apps make up the majority of the list. Security policies for cloud storage and collaboration services should be a priority for security teams, but it's also important to keep a close eye on popular social media services to make sure that personal use of these services does not lead to security or compliance issues.

1	Microsoft Office 365 SharePoint	Collaboration	11	Salesforce	CRM
2	Google Drive	Cloud Storage	12	Twitter	Social
3	Microsoft Office 365 OneDrive for Business	Cloud Storage	13	ServiceNow	Infrastructure
4	Microsoft Office 365 Outlook.com	Collaboration	14	iCloud	Cloud Storage
5	Box	Cloud Storage/ Collaboration	15	Microsoft Teams	Collaboration
6	Google App Suite	Productivity	16	Microsoft OneDrive	Cloud Storage
7	Facebook	Social	17	LinkedIn	Social
8	YouTube	Consumer	18	Microsot Office 365 Suite	Productivity
9	Google Gmail	Webmail	19	Dropbox	Cloud Storage
10	Amazon S3	Infrastructure	20	Slack	Collaboration

MULTIPLE APP INSTANCES DRIVE HEAVY CLOUD SERVICE USE

The use of the top cloud services in the enterprise is not one-dimensional. Rather, we have found that the heavy use of these cloud services is often driven by multiple instances of these cloud services being used across an organization. Beyond an organization's use of a corporate-managed instance of a cloud service like Google Gmail or Box, we find many other distinct instances of these services in use. Factors affecting the number of instances being used include the personal use of popular services like Facebook and Google Gmail, as well as the use of app instances by individual departments or teams within an organization, and the use of app instances with external parties like business partners and customers.

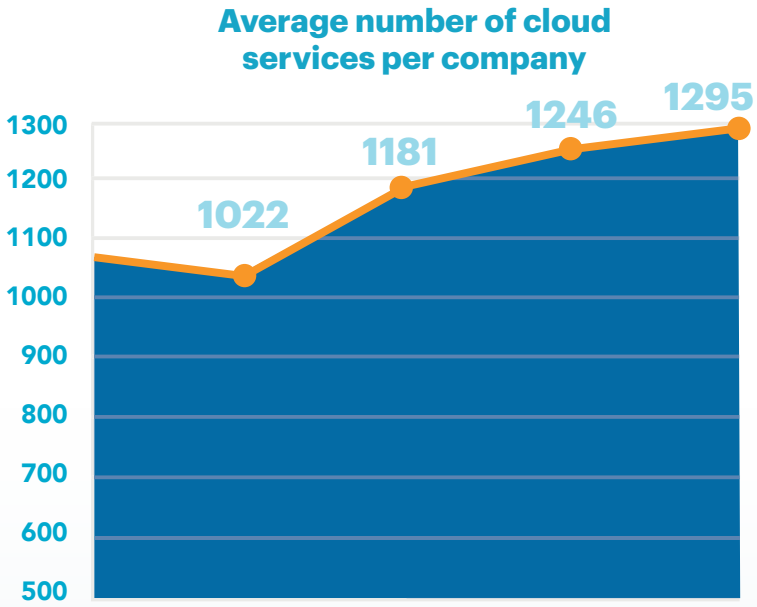
Netskope has long recommended that organizations need to define and enforce different policies for the different versions of cloud services being used. You might allow sensitive business information to be stored in your organization's sanctioned version of Microsoft Office 365 OneDrive for Business or Box, but restrict that information from personal or business partner instances of those cloud services. With so many distinct instances of cloud services being used, it is clear that a single, blanket policy based only on the cloud service lacks the granularity needed to ensure secure and compliant use of these cloud services.

APP	AVERAGE NUMBER OF APP INSTANCES
Facebook	112
Yahoo Mail	111
Google Gmail	99
Box	78
Google Drive	52
Slack	46

ENTERPRISES USE AN AVERAGE OF 1,295 CLOUD SERVICES

In this report, the average number of cloud services per enterprise increased 3.9% to 1,295 cloud services, compared to 1,246 in our last report in October 2018. Most (96.3%) of these cloud services are not enterprise ready, earning a rating of "medium" or below in the Netskope Cloud Confidence Index™ (CCI).

The top three cloud service categories are unchanged since our last report, although marketing apps overtook HR apps for the top spot in our latest cloud report. Given the potential for the exposure of customer data in marketing apps and employee data in HR apps, both of these categories should be carefully monitored and are good candidates for DLP and access controls to secure any sensitive data stored in these cloud services.



CATEGORY	AVERAGE # PER ENTERPRISE	NOT ENTERPRISE-READY
Marketing	120	99%
HR	100	99%
Collaboration	87	93%
Customer Relationship Management	69	98%
Finance/Accounting	51	98%
Business Intelligence and Data Analytics	50	97%
Development Tools	38	96%
Cloud Storage	30	90%

THREE QUICK WINS FOR ENTERPRISES IN A CLOUD-FIRST WORLD

1. Monitor the mix of web traffic going to cloud services, and assess whether the right controls are in place to ensure all cloud and web traffic is properly secured.

2. Implement a broad set of inline and API-based capabilities to secure both cloud and web—from DLP and granular activity-level controls for cloud, to acceptable use policy controls and threat detection for the web.

3. Use layered policies to enforce different controls for different cloud service instances—corporate-managed versus personal—to ensure secure and compliant use of these services.

In this Netskope Cloud Report™, we've compiled the most interesting trends on cloud service adoption and usage based on aggregated, anonymized data from the Netskope Platform™ seen across millions of users in thousands of accounts globally.

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