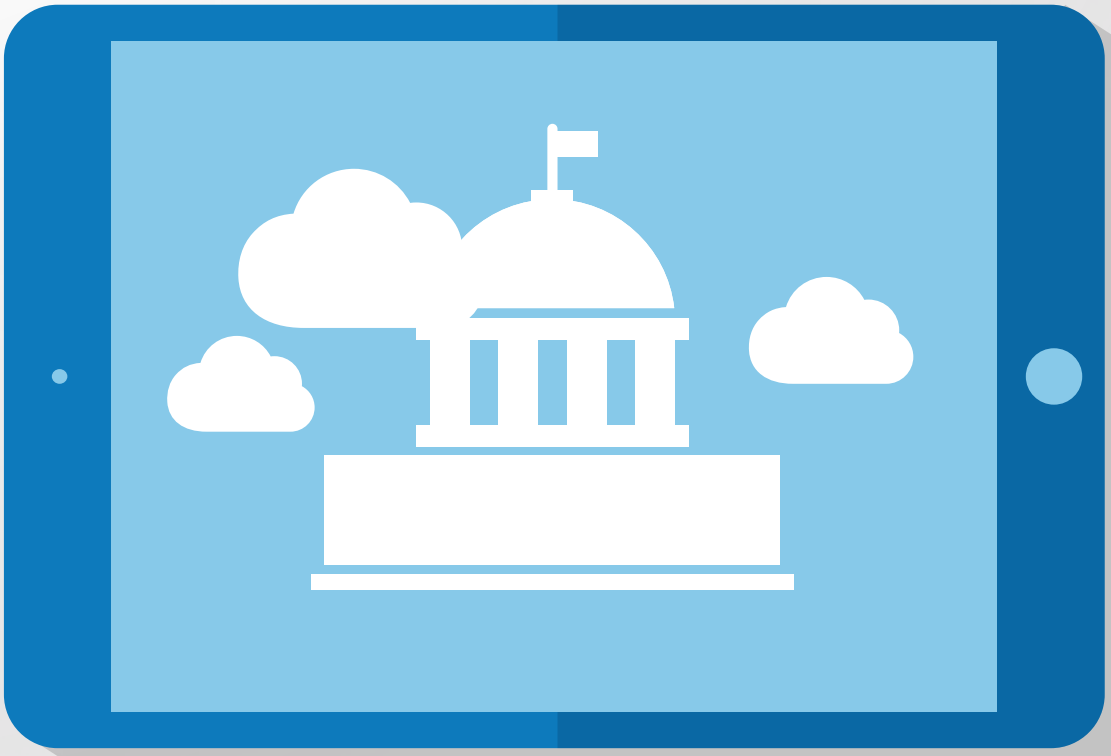
CLOUD ADOPTION & RISK IN GOVERNMENT REPORT

Q4 2014

Published Q1 2015



skyhigh

TABLE OF CONTENTS

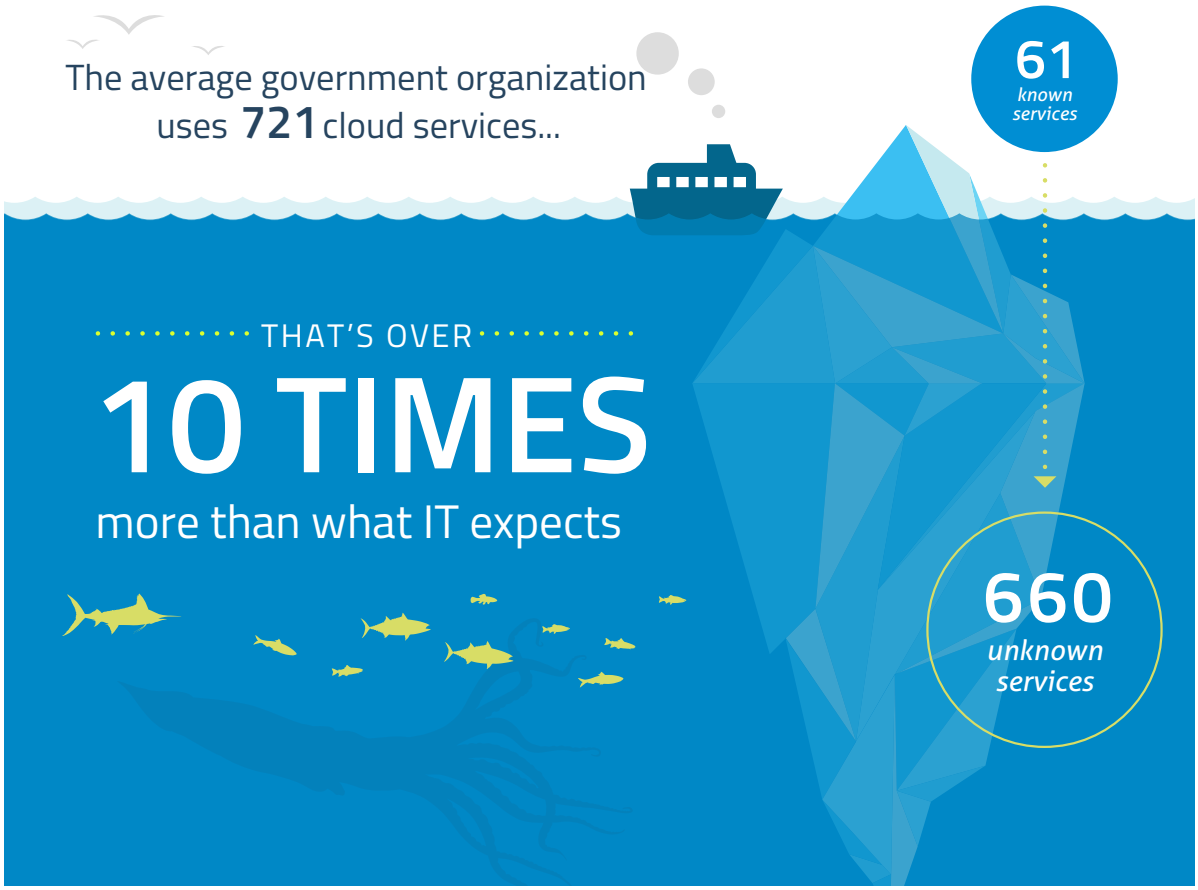
INTRODUCTION

The cloud offers significant agility and cost advantages over resource-intensive legacy applications. At the same time, many public sector organizations are uneasy about surrendering control of their data to third parties. With the dual obligations the public sector faces to minimize costs and safeguard sensitive and classified information, the stakes couldn't be higher.

To better understand cloud usage in the public sector, Skyhigh publishes a Cloud Adoption & Risk (CAR) in Government Report. What makes the report unique is that we base our findings on actual usage data rather than surveys that ask people for their opinions or best guesses. In this quarterly report, we've quantified for the first time how many cloud services are in use on average within the public sector, the top cloud services by category, and the enforcement gap between what IT intends to block and actual block rates. We hope you enjoy the data in our first-ever government report!

OVERVIEW OF CLOUD ADOPTION

The Q4 report is based on data from 200,000 users at government organizations in the United States and Canada. Both governments have a cloud-first IT policy. However, as part of the public sector, they both also have strict security requirements, and a recent study[1] found that only one third of U.S. federal agencies met a June 2014 deadline to follow FedRAMP cloud security guidelines. That study only covered cloud services IT is aware of and did not include what is commonly referred to as shadow IT – the cloud services employees are bringing to work with them. The average public sector organization uses 721 cloud services, which is 10-20 times higher than what IT expects.



[1] MeriTalk 2014 "Cloud Control: Moving to the Comfort Zone" study

The top categories of cloud services used in the public sector are summarized below. The average organization uses 120 collaboration cloud services (e.g. Microsoft Office 365, Gmail, etc.), 31 file-sharing services (Box, Dropbox, Google Drive, etc.), 55 development services (Github, SourceForge, etc.), and 30 social media services (e.g. Facebook, LinkedIn, etc.). In some categories, the fragmentation of cloud services impedes collaboration across teams, introduces friction and creates cost inefficiencies. In addition, employees may not fully understand the risk of cloud services before using them in the workplace.

	Q4 2014
Collaboration	120
File Sharing	31
Content sharing	39
Development	55
Business intelligence	10
Social media	30
Tracking	24

CALCULATED RISK

The risk presented by cloud providers varies widely. Across all cloud services available, just 9.4% achieved the highest rating of "enterprise-ready" by Skyhigh's CloudTrust Program. The good news is that cloud providers invested heavily in security over the last year, and a much larger number now offer more robust security features and certifications. 1,459 services (17%) provide offer multi-factor authentication, as opposed to 705 last year; 533 (5%) are ISO 27001 certified, as opposed to 188 last year; and 1082 (11%) encrypt data sat rest, as opposed to 470 last year.

Clearly, there is still a long way to go as some of the biggest names in cloud computing (including Gmail, and PayPal), can store sensitive, personally identifiable information, including payment card data, and banking information, as unencrypted data. Another service that doesn't encrypt data stored at rest is eBay, which suffered one of the biggest data breaches of 2014 when 145 million account credentials were stolen.

THE CLOUD ENFORCEMENT GAP

For various reasons, some cloud services do not meet an organization's security requirements, and as a result, the organization will block access to these services via their firewall or proxy. But how effectively are organizations actually blocking these services?

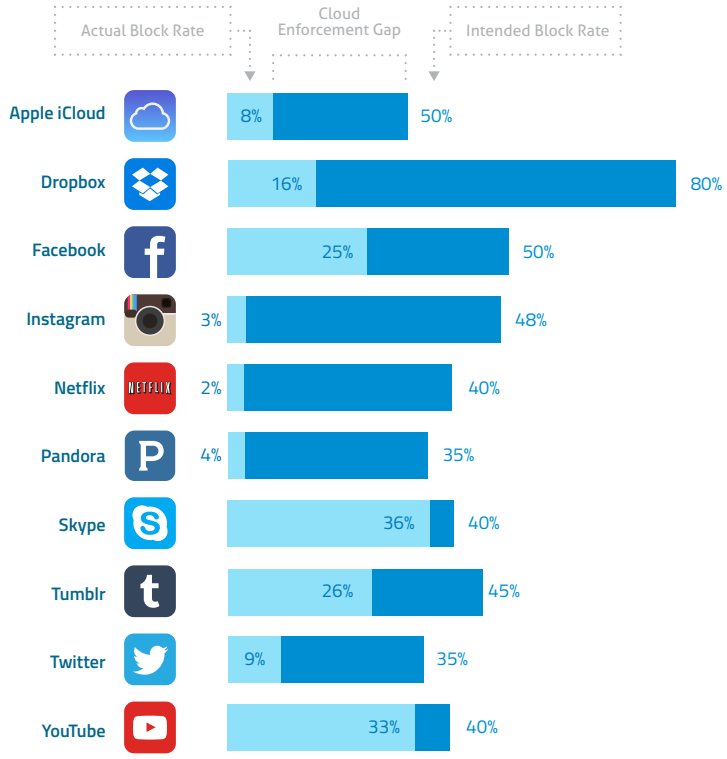
Working with the Cloud Security Alliance, we surveyed IT and IT security professionals to understand the intended block rates for a range of well-known cloud services. We then compared the intended block rates against the actual block rates, which varied widely. What we found is a "cloud enforcement gap" and several causes contributing to the gap include:

- Cloud services regularly introduce new URLs that are not recognized nor blocked
- Lack of standardization of access policies across all firewalls and proxies
- Certain groups in the organization get an exception to access a service, and these exceptions are often applied more broadly than intended

CLOUD ENFORCEMENT GAP

The gap between what government organizations think they're blocking and the actual block rates

Source: 2014 Cloud Security Alliance Survey "Cloud Adoption Practices and Priorities" and Skyhigh Netwo



At 64%, the enforcement gap is highest for Dropbox, Instagram (45%), Apple iCloud (42%), and Netflix (38%). Whether or not these services present risk to the organization and need to be blocked is not the issue; they simply illustrate the depth in which public sector organizations are not enforcing access policies as consistently as they believe.

TOP 10 ENTERPRISE CLOUD SERVICES LIST

The cloud has created a new wave of enterprise software that is not only faster to develop, easier to deploy, and more cost-effective, but it also offers innovative features. That's because much of the innovation today is happening in software delivered via the cloud, and for many customers, the cloud is mainstream. These organizations don't use Salesforce because they think it's the best cloud-based CRM but rather because it's the best CRM, period.

1. Microsoft Office 365
2. Yammer
3. Salesforce
4. Oracle Taleo
5. OneDrive
6. Concur
7. Cisco WebEx
8. Jive
9. SharePoint Online
10. GoToMeeting

Microsoft dominates with four of the top 10 enterprise services used in the public sector, including Office 365, Yammer, OneDrive, and SharePoint Online. Cloud heavyweights like Salesforce, Oracle (Taleo), SAP (Concur), Cisco (WebEx), and Citrix (GoToMeeting) also hold spots in the list. Jive represents a new generation of enterprise software vendors, and is the only vendor on the list that held an IPO in the last 5 years.

TOP 10 CONSUMER APPS IN THE ENTERPRISE

In addition to the enterprise cloud services that are generally sanctioned and procured by the IT department, employees are also bringing a wide variety of consumer applications to work with them. Today, consumer apps frequently offer features that are as good if not better than those found in enterprise software, reversing the long-standing trend in the software industry where enterprise organizations had more advanced technology than the average consumer. While employees sometimes use these apps for personal use, they also upload government data to them, which can put the security and compliance of corporate data at risk.

1. Facebook
2. Twitter
3. Instagram
4. YouTube
5. Dropbox
6. Firedrive
7. LinkedIn
8. Pinterest
9. Tumblr
10. Hotmail

While much has been written about the consumerization of enterprise IT, a new phenomenon is the enterprization of consumer IT. Facebook, Dropbox, Google Drive, and Gmail are all offered in enterprise versions that provide greater controls for businesses. And many consumer apps have professional uses including LinkedIn for sales and recruiting, and YouTube, Twitter, Instagram, and Pinterest for social media marketing. While consumer cloud services may have a legitimate official use, they also present risk since attackers can use them as a vector for exfiltrating sensitive or classified data.

TOP 10 FILE SHARING, COLLABORATION, AND SOCIAL MEDIA SERVICES

A recent Cloud Security Alliance survey[2] asked IT professionals about requests they receive from end users. An overwhelming 79% of respondents said they regularly receive requests for new cloud services. File-sharing and collaboration were the most requested categories with 80% of survey respondents indicating they received requests for services in these categories, followed by social media at 38%. In this section, we review the trends that shaped usage in each of these categories over the last year.

TOP SERVICES *by category*

FILE SHARING

1. Dropbox
2. Firedrive
3. OneDrive
4. Yandex.Disk
5. Uploaded
6. DocStoc
7. Rapidgator
8. Box
9. Hightail
10. Google Drive

COLLABORATION

1. Microsoft Office 365
2. Yammer
3. Hotmail
4. AOL
5. Cisco WebEx
6. Jive
7. Yahoo! Mail
8. Evernote
9. GoToMeeting
10. Prezi

SOCIAL MEDIA

1. Facebook
2. Twitter
3. LiveJournal
4. LinkedIn
5. Tumblr
6. Myspace
7. yFrog Social
8. Foursquare
9. Meetup
10. Nextdoor

[2] Cloud Security Alliance "2015 Cloud Adoption Practices and Priorities Survey"

FILE-SHARING

The average public sector organization uses 31 file-sharing services. While Dropbox, Box, Hightail, and Google Drive have enterprise versions, the other services are squarely aimed at consumers and may not meet the security requirements of the public sector. Meanwhile, Yandex.Disk is developed and hosted in Russia, which may create additional concerns for public sector organizations in the United States, Canada, and Europe.

COLLABORATION

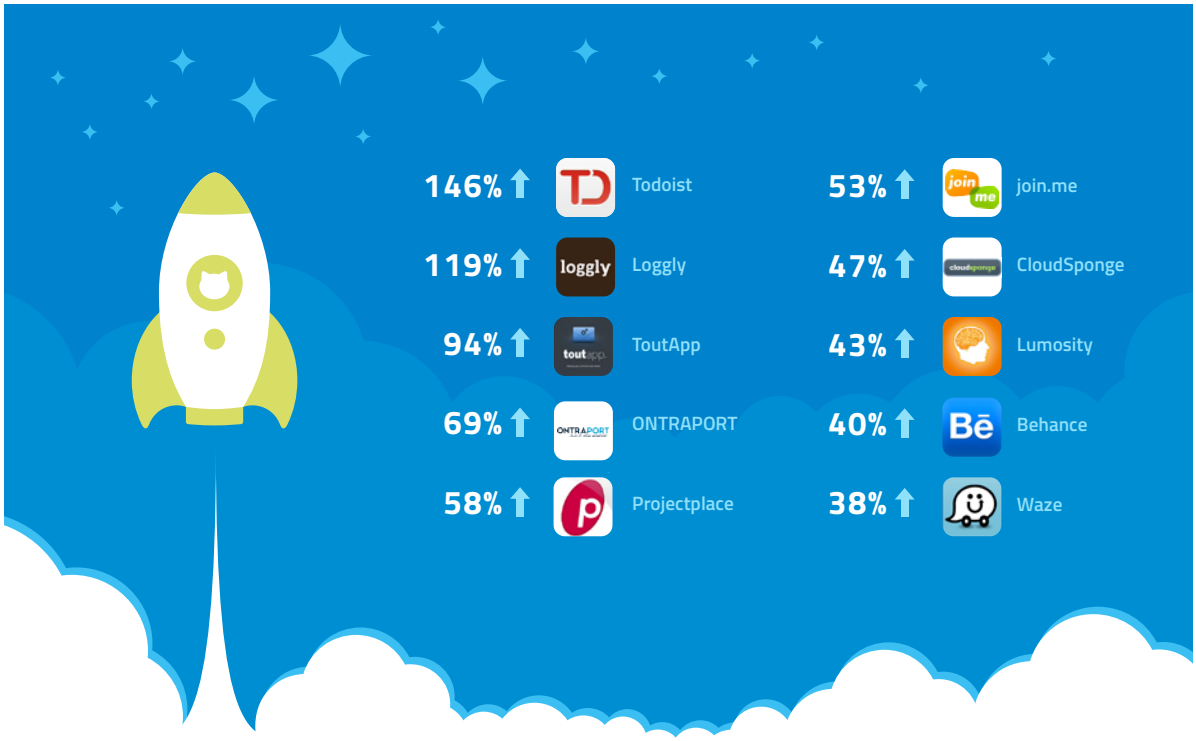
Public sector organizations use a dizzying 120 collaboration services on average, with Microsoft taking the top three spots with Office 365, Yammer, and Hotmail. The conferencing service Cisco WebEx, is slightly more popular in the public sector than GoToMeeting, while Prezi is an online presentation platform to allows users to create and share presentations.

SOCIAL MEDIA

The average public sector organization uses 30 different social media services, including universally well-known services such as Facebook and Twitter, which can be used to communicate with constituents. A lesser known social media service Meetup, allows users to create online communities and organize meetings with members in real life, and offers a new way for government agencies to connect with constituents and organize public meetings.

FASTEST GROWING CLOUD SERVICES

From an entrepreneur's standpoint, launching a new service in the cloud and acquiring customers is very different from building on-premise software. From idea to launch, cloud-enabled entrepreneurs can reach a global market in weeks or months instead of years. From the perspective of the end-user, there is an unprecedented amount of choice and people are inclined to use things that help them, while discontinuing their use of things that either don't help them or are inferior to other solutions. It is this idea that led us to think that by measuring usage patterns across thousands of cloud services, we could help identify the up-and-coming solutions that are on the path to mainstream adoption based on their growth rates.



The fastest-growing apps of Q4 2014
Quarterly growth rate in users

We calculated growth rates for all cloud services, based on the number of active users from Q3 to Q4 of 2014, and ranked them by their quarterly growth rate. The fastest growing cloud services have doubled the number of users in a single quarter, and if they continue their growth could rival established players in the years to come. Todoist and ToutApp have now appeared on the fastest growing list 2 quarters in a row. Demonstrating that a company can deliver features in high-demand by end users while also investing in security, Projectplace made the list and also received a rating of Skyhigh Enterprise-Ready because it satisfies the most stringent security and compliance requirements.

ABOUT SKYHIGH NETWORKS

Skyhigh Networks, the cloud security and enablement company, helps enterprises safely adopt cloud services while meeting their security, compliance, and governance requirements. Over 350 enterprises including Aetna, Cisco, DIRECTV, HP, and Western Union use Skyhigh to gain visibility into all cloud services in use and their associated risk; analyze cloud usage to identify security breaches, compromised accounts, and insider threats; and seamlessly enforce security policies with encryption, data loss prevention, contextual access control, and activity monitoring. Headquartered in Cupertino, Calif., Skyhigh Networks is backed by Greylock Partners, Sequoia Capital, and Salesforce.com. For more information, visit us at **www.skyhighnetworks.com** or follow us on Twitter **@skyhighnetworks**.

UNCOVER SHADOW IT

If you'd like to learn the scope of Shadow IT at your organization, including detailed statistics profiled in this report, sign up for a complimentary cloud audit

REQUEST COMPLIMENTARY CLOUD AUDIT

bit.ly/ComplimentaryCloudAudit

"With Skyhigh we discovered a wide range of services, allowing us to understand their associated risks and put in place policies to protect corporate data."

CISCO

Steve Martino
VP Information Security