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Email encryption in transit – Google Transparency Report

5-7 minutes

When an email is encrypted in transit with a security protocol called transport-layer security (TLS), it is harder for others to read what you're sending. A growing number of email providers are working to encrypt email messages in transit. The data here shows the current state of email encryption in transit.

Encrypted traffic to and from Google

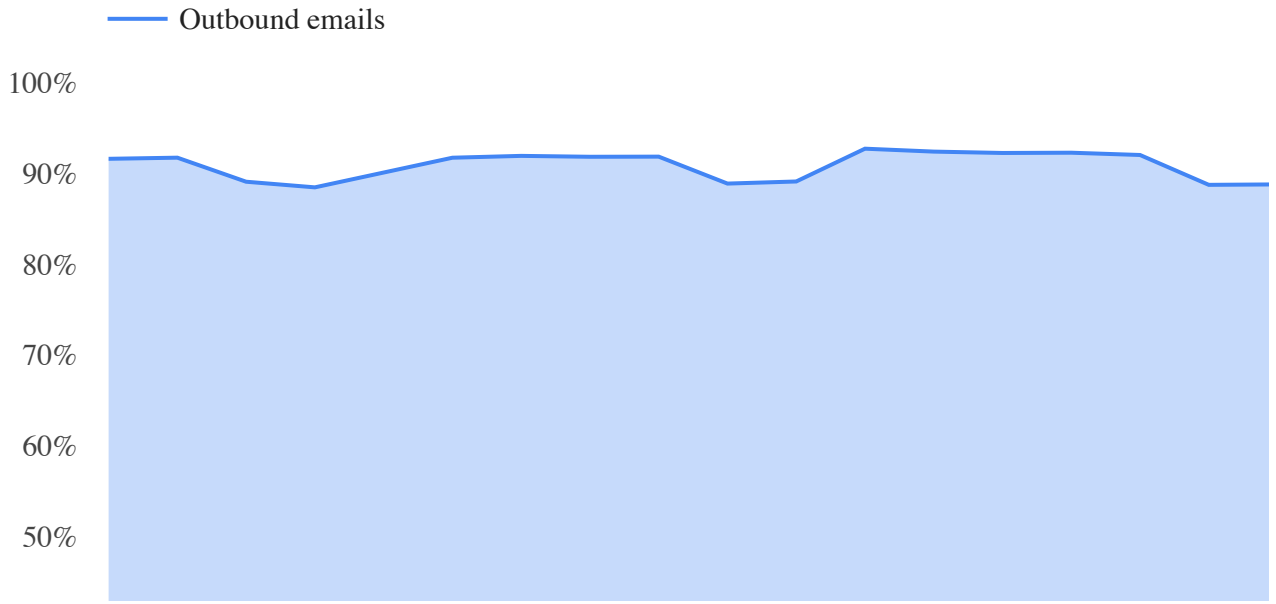
Many email providers don't encrypt messages while they're in transit. When you send or receive emails with one of these providers, your messages are as open to snoopers as a postcard in

the mail. A growing number of email providers are working to change that by encrypting messages sent to and from their services using Transport Layer Security (TLS). Generally speaking, use of encryption in transit continues to increase over time, as more providers enable and maintain their support. Factors such as varying volumes of email may explain other fluctuations in these encryption statistics.

What is encryption? *arrow_forward*

Outbound email encryption: 90%

Start *date_range* End *date_range*



Day	Outbound emails
Aug 1, 2019	92%
Aug 2, 2019	92%
Aug 3, 2019	89%
Aug 4, 2019	88%
Aug 6, 2019	92%

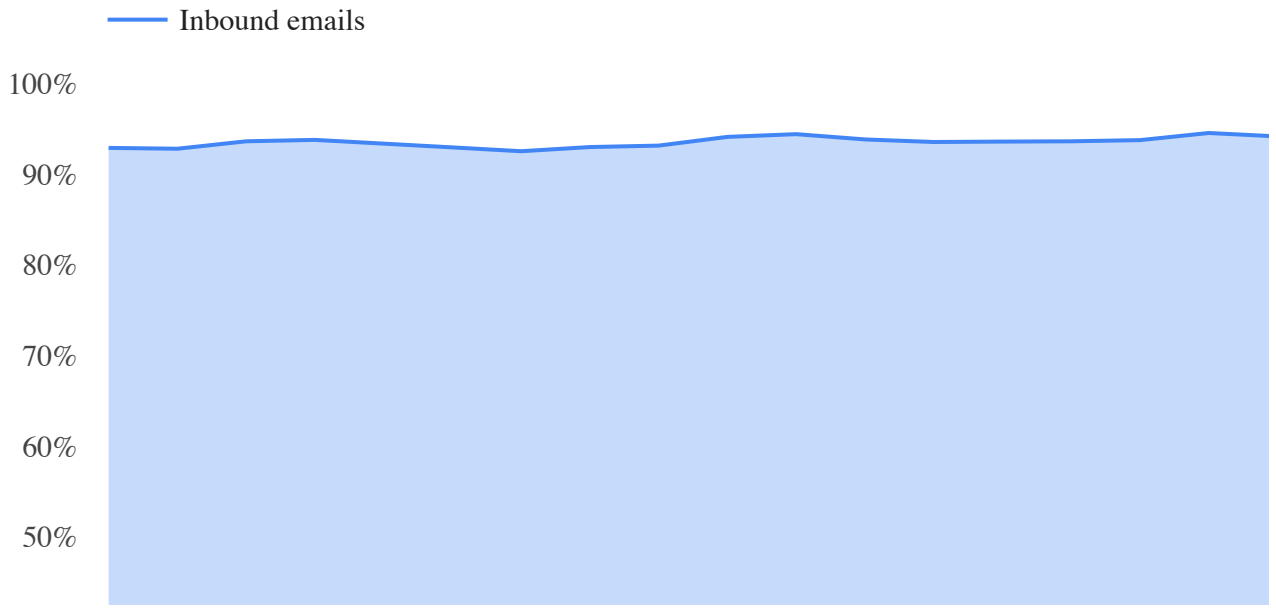
Day	Outbound emails
Aug 7, 2019	92%
Aug 8, 2019	92%
Aug 9, 2019	92%
Aug 10, 2019	89%
Aug 11, 2019	89%
Aug 12, 2019	93%
Aug 13, 2019	92%
Aug 14, 2019	92%
Aug 15, 2019	92%
Aug 16, 2019	92%
Aug 17, 2019	89%
Aug 18, 2019	89%

Day	Outbound emails
Aug 19, 2019	92%
Aug 20, 2019	92%
Aug 21, 2019	92%
Aug 22, 2019	92%
Aug 23, 2019	92%
Aug 24, 2019	88%
Aug 25, 2019	89%
Aug 26, 2019	92%
Aug 27, 2019	92%
Aug 28, 2019	92%
Aug 29, 2019	92%
Aug 30, 2019	92%

Day	Outbound emails
Aug 31, 2019	88%

Inbound email encryption: 94%

Start *date_range* End *date_range*



Day	Inbound emails
Aug 1, 2019	93%

Day	Inbound emails
Aug 2, 2019	93%
Aug 3, 2019	94%
Aug 4, 2019	94%
Aug 6, 2019	93%
Aug 7, 2019	93%
Aug 8, 2019	93%
Aug 9, 2019	93%
Aug 10, 2019	94%
Aug 11, 2019	94%
Aug 12, 2019	94%
Aug 13, 2019	94%
Aug 14, 2019	94%

Day	Inbound emails
Aug 15, 2019	94%
Aug 16, 2019	94%
Aug 17, 2019	95%
Aug 18, 2019	94%
Aug 19, 2019	93%
Aug 20, 2019	93%
Aug 21, 2019	93%
Aug 22, 2019	93%
Aug 23, 2019	93%
Aug 24, 2019	94%
Aug 25, 2019	94%
Aug 26, 2019	93%

Day	Inbound emails
Aug 27, 2019	93%
Aug 28, 2019	93%
Aug 29, 2019	93%
Aug 30, 2019	93%
Aug 31, 2019	94%

Explore the data

Search any domain (e.g. “example.com”) or string (e.g. “de”) to see how much of the email exchanged with Gmail is encrypted in transit.

search

Support for encryption in transit

Below is the percentage of emails encrypted for the top domains in

terms of volume of email to and from Gmail, in alphabetical order.

Top domains by region: Inbound

Domain	%
From: costco.com	0%
From: cuenote.jp	94%
From: emergencyemail.org	0%
From: hm.com	95%
From: irctc.co.in	87%
From: ofertasbmc.com.br	2%
From: secureserver.net	73%
From: timesjobs.com via tbsl.in	0%
From: wattpadmail.com	0%
From: yahoo.co.jp	0%

Top domains by region: Outbound

Domain	%
To: alice.it via aliceposta.it	0%
To: amazon.{...}	59%
To: docomo.ne.jp	0%
To: ezweb.ne.jp	0%
To: istruzione.it	9%
To: nauta.cu via etecsa.net	0%
To: softbank.jp	0%
To: softbank.ne.jp	0%
To: sympatico.ca via bell.net	0%
To: yahoo.co.jp	0%

How encryption works

If you mail a letter to your friend, you're hoping that she'll be the only person who reads it. But a lot could happen to that letter on its way from you to her, and there may be prying eyes who try to read it. That's why we send important messages in sealed envelopes rather than on the back of postcards. Sending and receiving email works in a similar way. But when you send or receive messages with an email provider who doesn't transmit messages via a secure connection, your emails could be open to snooping.

Transport Layer Security (TLS)

Encryption with Transport Layer Security keeps prying eyes away from your messages while they're in transit. TLS is a protocol that encrypts and delivers mail securely, for both inbound and outbound mail traffic. It helps prevent eavesdropping between mail servers – keeping your messages private while they're moving between email providers. TLS is being adopted as the standard for secure email.

Encryption depends on everyone

Your messages are encrypted only if you and the people with whom you you exchange email both use email providers that support Transport Layer Security. Not every email provider uses TLS, and if you send or receive messages from a provider that doesn't, your message could be read by eavesdroppers. While TLS isn’t a perfect solution, if everyone uses it, snooping on email will be more difficult and costly than it is today.