



Appendix 1

TECHNICAL ANALYSIS DPIA ZOOM ENTERPRISE
SLM MICROSOFT RIJK

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Colophon

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Project name Appendix 1 – Technical Analysis DPIA Zoom enterprise

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1. Description of technical set-up and research methods

The Zoom Services allow people to make (video)calls, mute and record calls, require passwords, require waiting rooms, download the chat sessions, add a profile picture or virtual background, share screens, touch up appearance, schedule and start meetings, invite participants from different domains and create a personal profile in the Zoom Account. When a Dutch government or university employee uses Zoom Enterprise, in principle the data processing takes place on Zooms cloud servers. It is not possible to inspect via traffic interception how Zoom processes diagnostic data in its system generated logs about the use of the Zoom services.

Zoom makes some of these system generated log files available to administrators. These logs for administrators are operator logs. Through these audit logs it is possible for administrators (and Privacy Company) to inspect some of the data Zoom collects about the interactions from end-users with its cloud servers. Initially, Privacy Company was provided with a 'free' test account by Zoom. This account did not give access to the audit logs. On 21 October 2020 Zoom changed the type of subscription to a paid Enterprise account. This enabled Privacy Company to export the available historical operational logs (*Zoom usage reports*) from the administrator console that contained information about the activities performed by the two test accounts prior to the export. These results are described below, in Section 2.1.

The Zoom videoconferencing services were tested on:

- Android and iOS app
- Zoom client for meetings (Windows and MacOS)
- Zoom extension for the browser Chrome

In order to map the data processing in the audit logs, first test scripts were executed on Windows and MacOS and in the different installed iOS and Android apps, and in the Zoom extension for the Chrome browser

Additionally the following two extra services and topics were tested with scripted scenarios:

- Microsoft Outlook add-in
- Usage of cookies and similar technology on the publicly accessible and restricted access Zoom website

Two test accounts were created and used for this research.

The account Henrike.vanvoorst@privacycompany.nl was used to test the Android app (tested on Nokia Android phone), the Chrome extension, the Outlook add-in and Windows 10 (tested on Windows PC). The account floor.terra@privacycompany.nl was used to test the processing of data on macOS (tested on MacBook) and iOS (tested on an iPhone).

All scripts contain a selection of representative user actions in the different Zoom services: scheduling and making video and (separate) audio calls, inviting participants in the same organisation, inviting guests from outside the organisation, adding virtual backgrounds and profile pictures, sending private messages, sending channel messages and creating and using a private room.

In principle the default settings were followed with regard to privacy and security options. However, Privacy Company also tested the difference when privacy friendly options were enabled:

- Make us of waiting room mandatory for all participants
- Prohibit recording
- Prohibit downloading
- Prohibit use of Marketplace apps

Where possible, additional functionality was used in combination with the videoconferencing facilities. Privacy Company tested the following extra services/features:

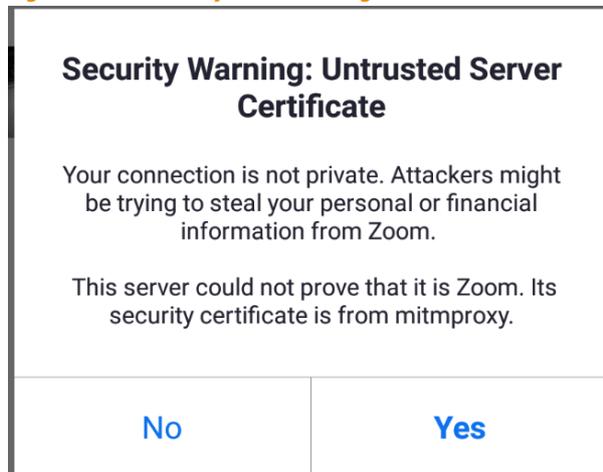
- Downloading chatlogs by meeting participants
- Recording a meeting
- Creating and participating in a poll
- Changing profile information (incl. user image)
- Using virtual backgrounds
- Using the “touch up my appearance” feature
- Using waiting rooms
- Screen sharing
- Muting call participants
- Inviting external users to a meeting

The scenarios were developed in order to reproduce the everyday actions of an employee of a Dutch government organisation. The scenarios were executed on 7 October 2020 (macOS, Windows, iOS and Android apps). The test scenarios on the Android and iOS apps were repeated on 10 November 2020, in order to intercept a legible form of the telemetry data. In spite of Zoom’s public documentation about an in-built possibility for admins to work around the certificate pinning in both apps, this option did not work in the Android and iOS app. Zoom explained on 15 October 2020 that it was possible to intercept the iOS app traffic with Intune MDM, but this solution did not work on Android.

By e-mail of 2 November 2020, Zoom explained that a similar workaround was available for the newest version of the Android app. As mentioned above, the re-tests were conducted on 10 November 2020. They were a partial success. On Android the re-test was successful, and Privacy Company was able to disable certificate pinning through an MDM setting. However, the Zoom app kept popping up frequent certificate warnings during testing. These pop-ups immediately disappeared (sometimes within a second) without user interaction, but when the user failed to click “yes” to allow mitmproxy to intercept network traffic, all network traffic from the app will be blocked rendering the app unusable until it’s re-started.

This behaviour makes the app virtually unusable in this configuration, but Privacy Company was able to intercept telemetry data for the relevant test-scenario’s.

Figure 1 Zoom certificate warning on Android



Privacy Company initially failed to successfully configure Zoom’s iOS app with MDM, but succeeded on 18 November 2020 with a creative workaround.

1.1 Settings in test set-up Zoom enterprise

For this DPIA a test environment was created in Zoom Enterprise with the default privacy settings.

Via ‘Role Management’, by default the admin has access to:

- All recorded content in the account – (under Account Management)

Under Dashboard (only the options relevant for this DPIA):

- View overview of usage statistics for Meetings and [Zoom Rooms – out of scope]
- View detail information of real-time and past Zoom meetings and relevant participants
- Join Live as Assistant: Allow users to join meetings as an assistant from dashboard¹
- [View detail information of real-time and past webinars and relevant panelist - webinars are out of scope]
- View usage statistics of chat messages and message types

The admin can view a number of different log files, and aggregated reports.² Below all the options are mentioned, and where relevant, with a screenshot of its contents.

- **Show daily number of new users, meetings, participants and meeting minutes in a month.**

Figure 2: Zoom daily usage statistics

Date	New Users	Meetings/Webinars	Participants	Meeting Minutes
09/01/2020	0	0	0	0
09/02/2020	0	0	0	0
09/03/2020	0	0	0	0
09/04/2020	0	0	0	0
09/05/2020	0	0	0	0
09/06/2020	0	0	0	0
09/07/2020	3	3	6	92
09/08/2020	0	0	0	0
09/09/2020	0	0	0	0
09/10/2020	0	0	0	0
09/11/2020	0	0	0	0
09/12/2020	0	0	0	0
09/13/2020	0	0	0	0
09/14/2020	0	0	0	0
09/15/2020	0	0	0	0
09/16/2020	0	0	0	0
09/17/2020	0	0	0	0
09/18/2020	0	0	0	0
09/19/2020	0	0	0	0
09/20/2020	0	0	0	0
09/21/2020	0	0	0	0
09/22/2020	0	0	0	0
09/23/2020	0	0	0	0
09/24/2020	0	0	0	0
09/25/2020	0	0	0	0
09/26/2020	0	0	0	0
09/27/2020	0	0	0	0
09/28/2020	0	2	4	6
09/29/2020	0	0	0	0
09/30/2020	1	14	31	139
Total	4	19	41	237

- **View meetings, participants and meeting minutes within a specified time range.**

This log file also registers the categorisation given to users. In the test scenarios, 3 qualifications were applied and tested: boss, boaring and sexy.

¹ <https://support.zoom.us/hc/en-us/articles/360039017432-Dashboard-for-Meetings-and-Webinars>

² <https://Zoom.us/account/report>

Figure 3: Zoom log files about active hosts

Topic	Meeting ID	User Name	User Email	Department	Group	Has Zoom Rooms?	Creation Time	Start Time	End Time	Duration (Minutes)	Participants	Source	boss	boaring	sexy
Sjoera Nas' Zoom Meeting	966 1922 4321	Sjoera Nas	sjoera.nas@privacycompany.nl	DPIA force		No	09/07/2020 10:09:30 AM	09/07/2020 10:09:32 AM	09/07/2020 10:17:07 AM	8	2	Zoom	2		
Sjoera Nas' Zoom Meeting	924 8773 6405	Sjoera Nas	sjoera.nas@privacycompany.nl	DPIA force		No	09/07/2020 12:00:59 PM	09/07/2020 12:01:01 PM	09/07/2020 12:58:59 PM	58	2	Zoom	2		
welkom bij Inkoopgunning	955 3268 8277	Floor Terra	floor.terra@privacycompany.nl			No	09/07/2020 01:04:27 PM	09/07/2020 01:04:57 PM	09/07/2020 01:07:26 PM	3	2	Zoom			
Floor Terra's Zoom Meeting	629 9836 7832	Floor Terra	floor.terra@privacycompany.nl			No	09/28/2020 02:24:59 PM	09/28/2020 02:25:01 PM	09/28/2020 02:26:10 PM	2	2	Zoom			
Floor Terra's Zoom Meeting	670 8918 0797	Floor Terra	floor.terra@privacycompany.nl			No	09/28/2020 02:36:35 PM	09/28/2020 02:36:36 PM	09/28/2020 02:39:00 PM	3	2	Zoom			
Floor Terra's Zoom Meeting	675 0948 8552	Floor Terra	floor.terra@privacycompany.nl			No	09/30/2020 11:34:45 AM	09/30/2020 11:34:46 AM	09/30/2020 11:39:11 AM	5	3	Zoom			
Floor Terra's Personal Meetin...	252 122 0008	Floor Terra	floor.terra@privacycompany.nl			No	08/27/2020 01:28:27 PM	09/30/2020 11:47:19 AM	09/30/2020 11:49:27 AM	3	2	Zoom			
Floor Terra's Zoom Meeting	629 6728 4284	Floor Terra	floor.terra@privacycompany.nl			No	09/30/2020 11:51:35 AM	09/30/2020 11:51:36 AM	09/30/2020 11:53:53 AM	3	2	Zoom			
Henrike van Voorst's Zoom ...	636 7983 3770	Henrike van Voorst	henrike.vanvoorst@privacycompany.nl			No	09/30/2020 11:57:22 AM	09/30/2020 11:57:23 AM	09/30/2020 12:00:44 PM	4	2	Zoom			
Floor Terra's Zoom Meeting	673 2193 4760	Floor Terra	floor.terra@privacycompany.nl			No	09/30/2020 12:00:40 PM	09/30/2020 12:00:41 PM	09/30/2020 12:03:07 PM	3	2	Zoom			
Floor Terra's Zoom Meeting	672 3163 0701	Floor Terra	floor.terra@privacycompany.nl			No	09/30/2020 12:05:01 PM	09/30/2020 12:05:02 PM	09/30/2020 12:06:24 PM	2	2	Zoom			
Floor Terra's Zoom Meeting	680 4860 2829	Floor Terra	floor.terra@privacycompany.nl			No	09/30/2020 12:08:12 PM	09/30/2020 12:08:13 PM	09/30/2020 12:11:08 PM	3	2	Zoom			
Floor Terra's Zoom Meeting	656 6956 3206	Floor Terra	floor.terra@privacycompany.nl			No	09/30/2020 12:12:27 PM	09/30/2020 12:12:28 PM	09/30/2020 12:16:18 PM	4	2	Zoom			
Floor Terra's Zoom Meeting	637 6154 2861	Floor Terra	floor.terra@privacycompany.nl			No	09/30/2020 12:18:38 PM	09/30/2020 12:18:39 PM	09/30/2020 12:22:01 PM	4	2	Zoom			
Floor Terra's Zoom Meeting	647 9643 8224	Floor Terra	floor.terra@privacycompany.nl			No	09/30/2020 02:05:05 PM	09/30/2020 02:05:22 PM	09/30/2020 02:06:56 PM	2	2	Zoom			

- Show the users who are not active during a period.

Figure 4: Zoom log files about inactive hosts

Email	Type	Department	Group	Client Version	Last Login	Creation Time
rooms_spyr0Wjr0-954yx93zq-w@privacycompany.nl	Basic					Sep 30, 2020 11:45 AM
rooms_qo86d5ewqiaed7mfb7jmw@privacycompany.nl	Basic					Sep 7, 2020 10:36 AM
rooms_sbojcmxsege8kghtky4xg@privacycompany.nl	Licensed					Sep 7, 2020 10:36 AM
rooms_0ymwpcj1rawd6sda69etaa@privacycompany.nl	Licensed					Sep 7, 2020 10:33 AM
sure@xs4all.nl	Basic	DPIA force		5.3.52877.0927 (iphone)	Oct 12, 2020 08:41 PM	Sep 7, 2020 10:04 AM

- **Upcoming Events - View upcoming meetings and webinars.**

These logs show what upcoming events each user has.

Figure 5: Zoom log files about upcoming events

Reports > Usage Reports > Upcoming Events Document

Search by time range: From: 11/16/2020 To: 11/16/2020 Enter host's email or host name

Maximum report duration: 12 Months

Include no fixed time events

All events

Start Time	Topic	Host Name	Host	Department	ID	
11/16/2020 15:30	Floor's meeting	Floor Terra	floor.terra@privacycompany.nl		684 7064 0778	<input type="button" value="Start"/>

Total 1

- **View registration reports and poll reports for meetings.**

Figure 6: Zoom log files about Meetings

<input type="checkbox"/>	Scheduled Time	Start Time	Topic	Meeting ID	Attendees	
<input type="checkbox"/>	09/30/2020 03:00:00 PM	09/30/2020 03:28:24 PM	Sollicitatiegesprek	692 2851 7264	2	<input type="button" value="Generate"/>
<input type="checkbox"/>	09/30/2020 03:00:00 PM	09/30/2020 03:19:43 PM	Sollicitatiegesprek	692 2851 7264	3	<input type="button" value="Generate"/>
<input type="checkbox"/>		09/30/2020 11:47:19 AM	Floor Terra's Personal Meeting Room	252 122 0008	2	<input type="button" value="Generate"/>
<input type="checkbox"/>	09/07/2020 01:00:00 PM	09/07/2020 01:04:57 PM	welkom bij Inkoopgunning	955 3268 8277	2	<input type="button" value="Generate"/>

- **Webinar [out of scope] - View registration, attendee, performance, Q&A, poll and survey reports for webinars.**
- **Cloud Recording - View detailed information about cloud storage usage by host.**
- **Remote Support - View in-meeting support sessions during a certain period.**
- **User activities Reports: this category of reports, accessible for admins, disclose information from 3 different logs: Operation Logs, Sign-in/Sign-out Logs and User Disclaimer Logs.**

When Privacy Company initially performed the test scenarios, it was given a 'free' test account by Zoom. This account did not allow for access to the log files and reports. When the account was later upgraded to an Enterprise account, Zoom was able to show all historical data from the initial tests. Privacy Company deduces from this setting that Zoom does not show the historical user activity reports to the customer, but still collects those data. In other words: the default setting does not mean Zoom does not collect these data.

Figure 7: Zoom user activities reports – turned Off by default

Usage Reports User Activity Reports Document

Operation Logs	Audit admins' operation within up to a month.
Sign In/Sign Out	Audit user activities of sign-in and sign-out.
User Disclaimer	View disclaimer type and status of users within up to a month.

1. Operation Logs

This log file contains admin-like activities, also by regular users, such as a user changing her password, and the self-chosen qualifications given to users (in this case, for example, 'boss'). These logs also contain the Room Passcode in clear text.

Figure 8: Zoom Operation Logs with admin-type operations

Time	Operator	Category	Action	Operation Detail
Sep 30, 2020 11:45:11 AM	floor.terra@privacycompany.nl	Zoom Rooms	Add	Add Sollicitatiegesprek F. Ictief - Room Name: Sollicitatiegesprek F. Ictief - Type: Work Email - Work Email
Sep 30, 2020 11:44:36 AM	floor.terra@privacycompany.nl	Zoom Rooms	Delete	Delete sollicitatiegesprek F. Ictief
Sep 30, 2020 11:43:30 AM	floor.terra@privacycompany.nl	Zoom Rooms	Add	Add sollicitatiegesprek F. Ictief - Room Name: sollicitatiegesprek F. Ictief - Type: Work Email - Work Email
Sep 28, 2020 01:58:03 PM	henrike.vanvoorst@privacycompany.nl	User Settings	Update	Change Password - henrike.vanvoorst@privacycompany.nl
Sep 28, 2020 01:29:34 PM	floor.terra@privacycompany.nl	User	Add	Add Users henrike.vanvoorst@privacycompany.nl - User Type: Licensed
Sep 7, 2020 10:36:48 AM	floor.terra@privacycompany.nl	Zoom Rooms	Add	Add Privé Sjoera - Room Name: Privé Sjoera - Type: Work Email - Work Email
Sep 7, 2020 10:36:27 AM	floor.terra@privacycompany.nl	Zoom Rooms	Add	Add Inkoopgunning - Room Name: Inkoopgunning - Type: Work Email - Work Email
Sep 7, 2020 10:35:39 AM	floor.terra@privacycompany.nl	Zoom Rooms	Update	Edit Account Floor Terra - Room Passcode: set to Y0da was h3re!
Sep 7, 2020 10:33:49 AM	floor.terra@privacycompany.nl	Zoom Rooms	Add	Add Staatsgeheim - Room Name: Staatsgeheim - Type: Work Email - Work Email
Sep 7, 2020 10:32:42 AM	floor.terra@privacycompany.nl	User	Update	Update User sure@xs4all.nl - sexy: set to 3
Sep 7, 2020 10:32:35 AM	floor.terra@privacycompany.nl	User	Update	Update User sjoera.nas@privacycompany.nl - boss: set to 2
Sep 7, 2020 09:52:14 AM	floor.terra@privacycompany.nl	User	Add	Add Users sure@xs4all.nl - User Type: Basic - Department: DPIA force
Sep 7, 2020 09:51:45 AM	floor.terra@privacycompany.nl	User	Add	Add Users sjoera.nas@privacycompany.nl - User Type: Licensed - Webinar: Webinar500 - Large Meeting: Large500 - Department: DPIA force
Sep 7, 2020 09:50:53 AM	floor.terra@privacycompany.nl	User	Advanced Manage	Custom Attributes - Add attribute: sexy
Sep 7, 2020 09:50:40 AM	floor.terra@privacycompany.nl	User	Advanced Manage	Custom Attributes - Add attribute: boaring

2. Sign In/Sign Out - Audit user activities of sign-in and sign-out.

These user activity logs only contain information about the sign-in and sign-out times per user, no other user activities.

Figure 9: Zoom Sign-in/Sign-out logs

User Email	Time	Type	IP Address	Client Type	Version
henrike.vanvoorst@privacycompany.nl	Sep 30, 2020 04:52:13 PM	Sign in	82.217.32.212	win	5.3.52879.0927
henrike.vanvoorst@privacycompany.nl	Sep 30, 2020 04:47:59 PM	Sign in	82.217.32.212	Browser	-
henrike.vanvoorst@privacycompany.nl	Sep 30, 2020 04:36:19 PM	Sign in	82.217.32.212	Browser	-
floor.terra@privacycompany.nl	Sep 30, 2020 02:57:16 PM	Sign in	82.217.32.212	mac	5.3.52877.0927
henrike.vanvoorst@privacycompany.nl	Sep 30, 2020 02:15:57 PM	Sign in	82.217.32.212	win	5.3.52879.0927
floor.terra@privacycompany.nl	Sep 30, 2020 02:15:42 PM	Sign in	82.217.32.212	mac	5.3.52877.0927
floor.terra@privacycompany.nl	Sep 30, 2020 02:05:01 PM	Sign in	82.217.32.212	mac	5.3.52877.0927
floor.terra@privacycompany.nl	Sep 30, 2020 02:03:58 PM	Sign in	82.217.32.212	mac	5.3.52877.0927
floor.terra@privacycompany.nl	Sep 30, 2020 01:59:43 PM	Sign in	82.217.32.212	mac	5.3.52877.0927
henrike.vanvoorst@privacycompany.nl	Sep 30, 2020 01:31:33 PM	Sign in	82.217.32.212	win	5.3.52879.0927
henrike.vanvoorst@privacycompany.nl	Sep 30, 2020 12:22:35 PM	Sign in	82.217.32.212	android	5.3.52640.0920
floor.terra@privacycompany.nl	Sep 30, 2020 11:51:22 AM	Sign in	82.217.32.212	iphone	5.3.52686.0921
henrike.vanvoorst@privacycompany.nl	Sep 30, 2020 11:49:58 AM	Sign in	82.217.32.212	android	5.3.52640.0920
henrike.vanvoorst@privacycompany.nl	Sep 30, 2020 11:45:56 AM	Sign in	82.217.32.212	android	5.3.52640.0920
henrike.vanvoorst@privacycompany.nl	Sep 30, 2020 11:34:10 AM	Sign in	82.217.32.212	android	5.3.52640.0920

3. User Disclaimer - View disclaimer type and status of users within up to a month.

- **Chat history** – View archived chat messages in the account.

As shown in the insert pop-up, no contents are logged if the admin does not change the default.

Figure 10: Zoom Chat History – turned Off by default

The screenshot displays the Zoom chat history interface. At the top, there is a search bar and a 'Compress All for Download' link. Below this is a table listing chat rooms with columns for 'Type', 'Participants / Group Name', and 'Last Message Sent'. Each row includes 'View' and 'Download' links. A 'Chat History' pop-up window is overlaid on the table, showing an empty list of messages and a 'Close' button at the bottom right.

Type	Participants / Group Name	Last Message Sent
1:1	floor.terra@privacycompany.nl henrike.vanvoorst@privacycompany.nl	Sep 30, 2020 03:29:35 PM
1:1	floor.terra@privacycompany.nl rooms_kfpmqzrvvgdbq-11us1q@privacycompany.nl	Sep 30, 2020 11:44:08 AM
1:1	floor.terra@privacycompany.nl rooms_0ymwpcj1rawd6sda69etaa@privacycompany.nl	Sep 30, 2020 11:41:52 AM
1:1	henrike.vanvoorst@privacycompany.nl rooms_sbojcmxsege8kghtky4xg@privacycompany.nl	Sep 30, 2020 11:41:38 AM
1:1	floor.terra@privacycompany.nl rooms_sbojcmxsege8kghtky4xg@privacycompany.nl	Sep 30, 2020 11:41:31 AM
1:1	sjoera.nas@privacycompany.nl sure@xs4all.nl	Sep 7, 2020 10:17:07 AM

- **Schedule tracking fields** – View or edit fields that can be used to analyze meeting usage. By default no such specific fields are provided. For this test, Privacy Company used the fields ‘Team’, ‘HR’ and ‘Klantcontact’.

Figure 11: Schedule tracking fields

Scheduling tracking fields allows you to analyze usage by various fields within an organization. For example, "Team Name" and "Project". You can require users to provide tracking information when scheduling a meeting.

No scheduling tracking fields found. [Add](#)

Scheduling tracking fields allows you to analyze usage by various fields within an organization. For example, "Team Name" and "Project". You can require users to provide tracking information when scheduling a meeting.

Visible to Users	Tracking Field	Recommended Values	Required	
✓	Team	HR, Klantcontact	No	Edit Delete

[Add Tracking Field](#)

A maximum of 10 tracking fields are allowed.

Additionally, a Zoom admin has access to a number of **password requirements and security settings**.

Figure 12: View or edit user password requirements and other security settings

Security

Authentication

Basic Password Requirement

- Minimum of 8 characters
- Have at least 1 letter (a, b, c...)
- Have at least 1 number (1, 2, 3...)
- Include both uppercase and lowercase characters

Enhanced Password Requirement

- Have a minimum password length
- Have at least 1 special character (!, @, #...)
- Cannot contain consecutive characters (e.g. "11111", "12345", "abcde", or "qwert")
- Use enhanced weak password detection [?](#)

Password Policy

- New users need to change their passwords upon first sign-in
- Password expires automatically and needs to be changed after the specified number of days
- Users cannot reuse any password used in the previous number of times
- Users can change their password a maximum number of times every 24 hours

An admin can also access the options for **Single Sign On** – View or edit SSO configurations for Zoom account. This includes extensive configuration options for SAML fields etc.)

Figure 13: Single Sign-On options

What is Single Sign-On?

- Single Sign-On (SSO) allows account admin to enable members to use corporate credentials (such as Active Directory or SAML2.0) to access Zoom.

How is SSO enabled?

- SSO is free and can be enabled for Paid plans with more than 10 hosts such as Business or Education.

How do I upgrade to a Paid plan with more than 10 hosts?

- To upgrade to a Paid plan with more than 10 hosts, please click on "Billing".

How do I start?

- Once you have a Paid plan with more than 10 hosts, click on "Enable Single Sign-On".

A blue rectangular button with rounded corners and white text that reads "Enable Single Sign-On".

Figure 14: Zoom explanation about account permissions for apps³

Change Account Permissions

1. Click **Manage**.
2. Under **My Admin Dashboard**, click **Permissions** to change your pre-approval settings.

Note: Pre-approval will be required by default when you create an account. If you do not want apps to be pre-approved before they can be installed by members, you can change your permissions after your account is made.
3. As an Admin, you can restrict the members on your account to only install apps that are pre-approved. Enable or disable the setting **Require all the apps that are listed on the Zoom App Marketplace to be pre-approved**.
4. You can choose to exclude types of published apps from this requirement:
 - **Exclude apps created by Zoom:** Allows your members to install any app created by Zoom without first requiring pre-approval. These apps will have "By Zoom" listed under their name.
 - **Exclude apps created by my account members:** Allows your members to install any app created by users on your account without first requiring pre-approval.
5. You can choose to exclude types of unpublished apps from this requirement:
 - **Exclude apps created by Zoom:** Allows your members to install any unpublished app created by Zoom without first requiring pre-approval.
 - **Exclude apps created by my account members:** Allows your members to install any unpublished app created by users on your account without first requiring pre-approval.

Permissions

Requiring pre-approval restricts users on your account from installing any kinds of apps that are not pre-approved. When enabled, your users will not be able to install apps that are not pre-approved. Changing this setting does not affect existing subscriptions.

Require all the apps that are listed on Zoom App Marketplace to be pre-approved

Your account users will only be able to install a Marketplace listed app after your pre-approval.

Exclude apps created by Zoom

Exclude apps created by my account members

Require all the apps that are not currently listed on Zoom App Marketplace to be pre-approved

Your account users will only be able to install a private app or a Marketplace listed app using its development credential after your pre-approval.

Exclude apps created by Zoom

Exclude apps created by my account members

An admin has access to a number of **API features**. Zoom users can give access to their Zoom Account via the API, for example, if they want to authorize a chatbot to send messages on their behalf in Zoom. Access to the API is turned Off by default. This means the admin has to pre-approve use of all apps in the Marketplace. There is an option for admins to enable API access to all users' chat messages in this account. However, the user still needs to authorise any permissions asked by applications. By default, the admin has to approve all authorisation requests.

Admins can also allow or disallow access to apps listed in the Zoom App Marketplace (See Figure 14).

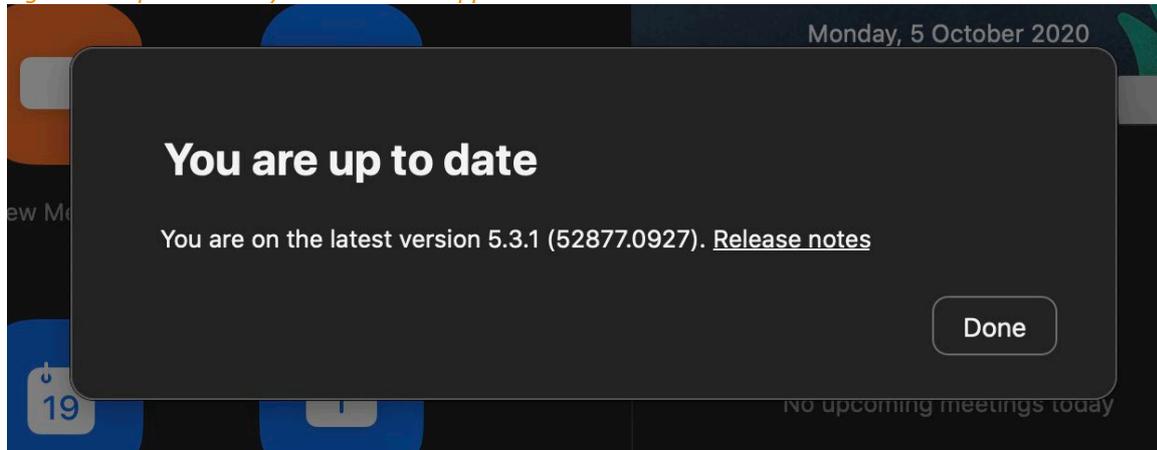
1.2 Tested versions Zoom

Zoom displays release notes for Windows, MacOS, iOS, Android Zoom apps and the browser plugins.⁴

³ See also Zoom's information, URL: <https://support.zoom.us/hc/en-us/articles/360032447812-Managing-Zoom-Marketplace>

⁴ <https://support.zoom.us/hc/en-us/sections/360008531112-Zoom-Releases-By-Product?page=1#articles>

Figure 15: Update history Mac OS Zoom app



Privacy Company conducted its technical research on four operating systems (Android, iOS, macOS and Windows 10 Business Premium), and on the Zoom extension in a Chrome browser.

Table 1: Tested app versions per operating system

Operating system	Zoom client or app first test run	Zoom app second test run
macOS version 10.15.7	5.3.1 (52877.0927)	
Windows 10 Pro 19041.508	5.3.1 (52879.0927)	
Android OS Versie 9, 5 september 2020	5.3.52640.0920	5.4.2.524
iOS 12.3.1	5.3.0	5.4.1
Windows 10 Pro 19041.508	Chrome version 85.0.4183.121 Zoom extension version 1.5.9	
Windows 10 Pro 19041.508	Outlook version 2008 build 13127.20408 (<i>Click and Run</i>) App version 5.3.52819.0925	

1.3 Methodology interception outgoing data traffic

Privacy Company intercepted the outgoing data from the four devices with Mitmproxy version 5.0.1 (software that makes it possible to inspect the content of traffic with and without TLS encryption).

The Mitmproxy was used as follows:

- ConFigure the laptop or phone to use the proxy
- Start the Mitmproxy
- Launch the specific mobile application
- Log in with a Zoom administrator, licensed user or guest account as needed
- Run the scripted scenario. Make screenshots of each step.
- Once the script is fully executed, stop the Mitmproxy.

Privacy Company ensured that the research is reproducible and repeatable. This was achieved by working with written scenarios in which the number of actions is limited. There was a pause of 30 seconds between each action. Screenshots were taken of all actions. All data have been recorded.

2. Contents of Diagnostic Data

Zoom provides access to some Diagnostic Data it collects and generates via the different log interfaces available for admins/owners. The contents of these log files are analysed in Section 2.1 below.

Zoom does not provide public information about the telemetry data it collects through the different applications. Privacy Company describes the results of its inspections in Section 2.2.

Section 2.3 describes the personal data collected through cookies and sent to third parties through the Zoom website.

In addition, a Data Subject Access requests was filed with Zoom as a (self qualified) data controller. The results are described in Section 2.4.

Section 2.5 shows Tables, per platform, of the traffic to different network domains from the installed applications.

2.1 Diagnostic Data in Admin logfiles and reports

Privacy Company analysed all available personal data about the two test accounts which Zoom makes available in its role as data processor through the admin console.

These are:

- the active hosts report
- the meetings report
- the operation logs with information about admin-like activities
- Zoom use activities (sign-in/sign-out)
- Log of chat history
- Log of scheduled tracking fields (to analyze meeting usage).

Zoom processes Diagnostic Data on its own cloud servers. This data flow cannot be monitored from the users' terminal devices. After all, the data are only processed on Zoom's own servers. Therefore, in its role of system administrator of the test environment, Privacy Company has accessed all the log files Zoom makes available for the two test accounts.



Figure 16 Screenshot of 'Active Hosts' report

Reports > Usage Reports > Active Hosts Document

From: 09/01/2020 To: 09/30/2020

Maximum report duration: 1 Month
The report displays information for meetings that ended at least 15 minutes ago.

By Meetings | By Users | Report Queue

Export as CSV File | Generate details report Toggle columns

Total: 19 < >

Topic	Meeting ID	User Name	User Email	Department	Group	Has Zoom Rooms?	Creation Time	Start Time	End Time	Duration (Minutes)	Participants	Source	boss	boaring	sexy
Sjoera Nas' Zoom Meeting	966 1922 4321	Sjoera Nas	sjoera.nas@privacycompany.nl	DPIA force		No	09/07/2020 10:09:30 AM	09/07/2020 10:09:32 AM	09/07/2020 10:17:07 AM	8	2	Zoom			
Sjoera Nas' Zoom Meeting	924 8773 6405	Sjoera Nas	sjoera.nas@privacycompany.nl	DPIA force		No	09/07/2020 12:00:59 PM	09/07/2020 12:01:01 PM	09/07/2020 12:58:59 PM	58	2	Zoom			
welkom bij Inkoopgunning	955 3268 8277	Floor Terra	floor.terra@privacycompany.nl			No	09/07/2020 01:04:27 PM	09/07/2020 01:04:57 PM	09/07/2020 01:07:26 PM	3	2	Zoom			
Floor Terra's Zoom Meeting	629 9836 7832	Floor Terra	floor.terra@privacycompany.nl			No	09/28/2020 02:24:59 PM	09/28/2020 02:25:01 PM	09/28/2020 02:26:10 PM	2	2	Zoom			
Floor Terra's Zoom Meeting	670 8918 0797	Floor Terra	floor.terra@privacycompany.nl			No	09/28/2020 02:36:35 PM	09/28/2020 02:36:36 PM	09/28/2020 02:39:00 PM	3	2	Zoom			
Floor Terra's Zoom Meeting	675 0948 8552	Floor Terra	floor.terra@privacycompany.nl			No	09/30/2020 11:34:45 AM	09/30/2020 11:34:46 AM	09/30/2020 11:39:11 AM	5	3	Zoom			
Floor Terra's Personal Meetin...	252 122 0008	Floor Terra	floor.terra@privacycompany.nl			No	08/27/2020 01:28:27 PM	09/30/2020 11:47:19 AM	09/30/2020 11:49:27 AM	3	2	Zoom			
Floor Terra's Zoom Meeting	629 6728 4284	Floor Terra	floor.terra@privacycompany.nl			No	09/30/2020 11:51:35 AM	09/30/2020 11:51:36 AM	09/30/2020 11:53:53 AM	3	2	Zoom			
Henrike van Voorst's Zoom ...	636 7983 3770	Henrike van Voorst	henrike.vanvoorst@privacycompany.nl			No	09/30/2020 11:57:22 AM	09/30/2020 11:57:23 AM	09/30/2020 12:00:44 PM	4	2	Zoom			
Floor Terra's Zoom Meeting	673 2193 4760	Floor Terra	floor.terra@privacycompany.nl			No	09/30/2020 12:00:40 PM	09/30/2020 12:00:41 PM	09/30/2020 12:03:07 PM	3	2	Zoom			
Floor Terra's Zoom Meeting	672 3163 0701	Floor Terra	floor.terra@privacycompany.nl			No	09/30/2020 12:05:01 PM	09/30/2020 12:05:02 PM	09/30/2020 12:06:24 PM	2	2	Zoom			
Floor Terra's Zoom Meeting	680 4860 2829	Floor Terra	floor.terra@privacycompany.nl			No	09/30/2020 12:08:12 PM	09/30/2020 12:08:13 PM	09/30/2020 12:11:08 PM	3	2	Zoom			
Floor Terra's Zoom Meeting	656 6956 3206	Floor Terra	floor.terra@privacycompany.nl			No	09/30/2020 12:12:27 PM	09/30/2020 12:12:28 PM	09/30/2020 12:16:18 PM	4	2	Zoom			
Floor Terra's Zoom Meeting	637 6154 2861	Floor Terra	floor.terra@privacycompany.nl			No	09/30/2020 12:18:38 PM	09/30/2020 12:18:39 PM	09/30/2020 12:22:01 PM	4	2	Zoom			
Floor Terra's Zoom Meeting	647 9643 8224	Floor Terra	floor.terra@privacycompany.nl			No	09/30/2020 02:05:05 PM	09/30/2020 02:05:22 PM	09/30/2020 02:06:56 PM	2	2	Zoom			

Figure 17 Screenshot of 'Meeting' report'

Reports > Usage Reports > Meeting Document

Meeting Report Report Queue

Report Type Registration Report Poll Report

Search by time range ▾ From: 09/01/2020 To: 09/30/2020

Maximum report duration: 1 Month

<input type="checkbox"/>	Scheduled Time	Start Time	Topic	Meeting ID	Attendees	
<input type="checkbox"/>	09/30/2020 03:00:00 PM	09/30/2020 03:28:24 PM	Sollicitatiegesprek	692 2851 7264	2	Generate
<input type="checkbox"/>	09/30/2020 03:00:00 PM	09/30/2020 03:19:43 PM	Sollicitatiegesprek	692 2851 7264	3	Generate
<input type="checkbox"/>		09/30/2020 11:47:19 AM	Floor Terra's Personal Meeting Room	252 122 0008	2	Generate
<input type="checkbox"/>	09/07/2020 01:00:00 PM	09/07/2020 01:04:57 PM	welkom bij Inkoopgunning	955 3268 8277	2	Generate

Figure 18 Screenshot of 'Operation logs'

Reports > User Activity Reports > Operation Logs

From: 09/01/2020 To: 09/30/2020 All Categories

Maximum report duration: 1 Month

Time	Operator	Category	Action	Operation Detail
Sep 30, 2020 11:45:11 AM	floor.terra@privacycompany.nl	Zoom Rooms	Add	Add Sollicitatiegesprek F. Ictief - Room Name: Sollicitatiegesprek F. Ictief - Type: Work Email - Work Email
Sep 30, 2020 11:44:36 AM	floor.terra@privacycompany.nl	Zoom Rooms	Delete	Delete sollicitatiegesprek F. Ictief
Sep 30, 2020 11:43:30 AM	floor.terra@privacycompany.nl	Zoom Rooms	Add	Add sollicitatiegesprek F. Ictief - Room Name: sollicitatiegesprek F. Ictief - Type: Work Email - Work Email
Sep 28, 2020 01:58:03 PM	henrike.vanvoorst@privacycompany.nl	User Settings	Update	Change Password - henrike.vanvoorst@privacycompany.nl
Sep 28, 2020 01:29:34 PM	floor.terra@privacycompany.nl	User	Add	Add Users henrike.vanvoorst@privacycompany.nl - User Type: Licensed
Sep 7, 2020 10:36:48 AM	floor.terra@privacycompany.nl	Zoom Rooms	Add	Add Privé Sjoera - Room Name: Privé Sjoera - Type: Work Email - Work Email
Sep 7, 2020 10:36:27 AM	floor.terra@privacycompany.nl	Zoom Rooms	Add	Add Inkoopgunning - Room Name: Inkoopgunning - Type: Work Email - Work Email
Sep 7, 2020 10:35:39 AM	floor.terra@privacycompany.nl	Zoom Rooms	Update	Edit Account Floor Terra - Room Passcode: set to Y0da was h3re!
Sep 7, 2020 10:33:49 AM	floor.terra@privacycompany.nl	Zoom Rooms	Add	Add Staatsgeheim - Room Name: Staatsgeheim - Type: Work Email - Work Email
Sep 7, 2020 10:32:42 AM	floor.terra@privacycompany.nl	User	Update	Update User sure@xs4all.nl - sexy: set to 3
Sep 7, 2020 10:32:35 AM	floor.terra@privacycompany.nl	User	Update	Update User sjoera.nas@privacycompany.nl - boss: set to 2
Sep 7, 2020 09:52:14 AM	floor.terra@privacycompany.nl	User	Add	Add Users sure@xs4all.nl - User Type: Basic - Department: DPIA force
Sep 7, 2020 09:51:45 AM	floor.terra@privacycompany.nl	User	Add	Add Users sjoera.nas@privacycompany.nl - User Type: Licensed - Webinar: Webinar500 - Large Meeting: Large500 - Department: DPIA force
Sep 7, 2020 09:50:53 AM	floor.terra@privacycompany.nl	User	Advanced Manage	Custom Attributes - Add attribute: sexy
Sep 7, 2020 09:50:40 AM	floor.terra@privacycompany.nl	User	Advanced Manage	Custom Attributes - Add attribute: boaring

Figure 19: Screenshot of Zoom use activities (only Sign-in/Sign-out)

User Email	Time	Type	IP Address	Client Type	Version
henrike.vanvoorst@privacycompany.nl	Sep 30, 2020 04:52:13 PM	Sign in	82.217.32.212	win	5.3.52879.0927
henrike.vanvoorst@privacycompany.nl	Sep 30, 2020 04:47:59 PM	Sign in	82.217.32.212	Browser	-
henrike.vanvoorst@privacycompany.nl	Sep 30, 2020 04:36:19 PM	Sign in	82.217.32.212	Browser	-
floor.terra@privacycompany.nl	Sep 30, 2020 02:57:16 PM	Sign in	82.217.32.212	mac	5.3.52877.0927
henrike.vanvoorst@privacycompany.nl	Sep 30, 2020 02:15:57 PM	Sign in	82.217.32.212	win	5.3.52879.0927
floor.terra@privacycompany.nl	Sep 30, 2020 02:15:42 PM	Sign in	82.217.32.212	mac	5.3.52877.0927
floor.terra@privacycompany.nl	Sep 30, 2020 02:05:01 PM	Sign in	82.217.32.212	mac	5.3.52877.0927
floor.terra@privacycompany.nl	Sep 30, 2020 02:03:58 PM	Sign in	82.217.32.212	mac	5.3.52877.0927
floor.terra@privacycompany.nl	Sep 30, 2020 01:59:43 PM	Sign in	82.217.32.212	mac	5.3.52877.0927
henrike.vanvoorst@privacycompany.nl	Sep 30, 2020 01:31:33 PM	Sign in	82.217.32.212	win	5.3.52879.0927
henrike.vanvoorst@privacycompany.nl	Sep 30, 2020 12:22:35 PM	Sign in	82.217.32.212	android	5.3.52640.0920
floor.terra@privacycompany.nl	Sep 30, 2020 11:51:22 AM	Sign in	82.217.32.212	iphone	5.3.52686.0921
henrike.vanvoorst@privacycompany.nl	Sep 30, 2020 11:49:58 AM	Sign in	82.217.32.212	android	5.3.52640.0920
henrike.vanvoorst@privacycompany.nl	Sep 30, 2020 11:45:56 AM	Sign in	82.217.32.212	android	5.3.52640.0920
henrike.vanvoorst@privacycompany.nl	Sep 30, 2020 11:34:10 AM	Sign in	82.217.32.212	android	5.3.52640.0920

Figure 20: Log of chat history

Search Results Compress All for Download

Type	Participants / Group Name	Last Message Sent	
1:1	floor.terra@privacycompany.nl henrike.vanvoorst@privacycompany.nl	Sep 30, 2020 03:29:35 PM	View Download
1:1	floor.terra@privacycompany.nl rooms_kfpmqzrvvgdibq-11us1q@privacycompany.nl	Sep 30, 2020 11:44:08 AM	View Download
1:1	floor.terra@privacycompany.nl rooms_Oymwpcj1rawd6sd69etaa@privacycompany.nl	Sep 30, 2020 11:41:52 AM	View Download
1:1	henrike.vanvoorst@privacycompany.nl rooms_sbojcmplxsege8kghtky4kg@privacycompany.nl	Sep 30, 2020 11:41:38 AM	View Download
1:1	floor.terra@privacycompany.nl rooms_sbojcmplxsege8kghtky4kg@privacycompany.nl	Sep 30, 2020 11:41:31 AM	View Download
1:1	sjoera.nav@privacycompany.nl sure@cs4all.nl	Sep 7, 2020 10:17:07 AM	View Download

Search Results Compress All for Download

Type	Participants / Group Name	Last Message Sent	
1:1	floor.terra@privacycompany.nl henrike.vanvoorst@privacycompany.nl	Sep 30, 2020 03:29:35 PM	View Download
1:1	floor.terra@privacycompany.nl rooms_kfpmqzrvvgdibq-11us1q@privacycompany.nl	Sep 30, 2020 11:44:08 AM	View Download
1:1	floor.terra@privacycompany.nl rooms_Oymwpcj1rawd6sd69etaa@privacycompany.nl	Sep 30, 2020 11:41:52 AM	View Download
1:1	henrike.vanvoorst@privacycompany.nl rooms_sbojcmplxsege8kghtky4kg@privacycompany.nl	Sep 30, 2020 11:41:38 AM	View Download
1:1	floor.terra@privacycompany.nl rooms_sbojcmplxsege8kghtky4kg@privacycompany.nl	Sep 30, 2020 11:41:31 AM	View Download
1:1	sjoera.nav@privacycompany.nl sure@cs4all.nl	Sep 7, 2020 10:17:07 AM	View Download

Chat History ✕

[Close](#)

Figure 21: Log of tracking fields

Scheduling tracking fields allows you to analyze usage by various fields within an organization. For example, "Team Name" and "Project". You can require users to provide tracking information when scheduling a meeting.

Visible to Users	Tracking Field	Recommended Values	Required	
✓	Team	HR, Klantcontact	No	Edit Delete

[Add Tracking Field](#) A maximum of 10 tracking fields are allowed.

2.2 Telemetry Data

Zoom does not offer any tools similar to the Data Viewing Tool provided by Microsoft for end-users to see what telemetry data have been sent from their apps. Nor does Zoom provide access via tools for admins to see the Diagnostic Data that are automatically sent to Zoom from the end-user devices.

Initially, interception of the traffic generated by the iOS and Android apps was not possible with the regular MiTM procedure, because the traffic was protected against interception with certificate pinning. In stead, the traffic was intercepted with Wireshark. This resulted in a higher level of uncertainty about the contents of the captured network traffic from the apps.

However, Privacy Company saved the log files from the first test run and compared the network endpoints with the limited public information Zoom publishes about them.⁵ Zoom documents it's network endpoints in it's firewall configuration guide. System administrators can use this information to configure their network firewall.

Table 2: Zoom firewall rules

Protocol	Ports	Source	Destination
TCP	80,443	All Zoom clients	*.Zoom.us
TCP	443, 8801, 8802	All Zoom clients	Long list of IP ranges, no domainname given
UDP	3478, 3479, 8801 - 8810	All Zoom clients	Long list of IP ranges, no domainname given

Table 3: Firewall rules for Zoom websites hosted on Zoom.us

Protocol	Ports	Source	Destination
TCP	80, 443	All Zoom Clients	*.Zoom.us *.cloudfront.net

In November 2020 Zoom informed Privacy Company about work-arounds to intercept the telemetry data from the iOS and Android apps. Based on that information, a second test run was conducted on the apps on both operating systems. Privacy Company was then able to (separately) capture and analyse the telemetry traffic.

Zooms sends log events to its own servers as a POST request. Below are two examples of two such POST requests. The first example (from MacOS) contains two events, sent to the URL: <https://eu01logfiles.Zoom.us/stat/append/3bdDCvtUdtgM7X%2BuLZf79WIDlu7jTmLQ2YNzdLgl7A%3D>:

⁵ <https://support.Zoom.us/hc/en-us/articles/201362683-Network-firewall-or-proxy-server-settings-for-Zoom>

```

{
  "client_os":"mac",
  "client_type":"Zoom Main Client",
  "client_version":"5.3.52877.0927",
  "event":"Tap Security",
  "event_loc":"In Meeting",
  "event_time":"9/30/2020 12:19:40",
  "in_sharing":"0",
  "meeting_id":"focAptkITTSfHTiULJWSlw=",
  "sub_event": "",
  "user_id":"6n1pCAW4TT2qj5tmnGoKSg",
  "uuid":"3bdDCvtUdtgM7X uLZf79WIDlu7jTmLQ2YNzdDLgl7A="
}
{
  "client_os":"mac",
  "client_type":"Zoom Main Client",
  "client_version":"5.3.52877.0927",
  "event":"Recording",
  "event_loc":"In Meeting",
  "event_time":"9/30/2020 12:20:51",
  "meeting_id":"68460188777",
  "record":"toolbar-button",
  "sub_event":"Cancel",
  "user_id":"6n1pCAW4TT2qj5tmnGoKSg",
  "uuid":"3bdDCvtUdtgM7X uLZf79WIDlu7jTmLQ2YNzdDLgl7A="
} ....

```

Another example from Zoom on Windows:

```

{
  "client_os":"win7",
  "client_type":"Zoom Main Client",
  "client_version":"5.3.52879.0927",
  "event":"Adjust Settings",
  "event_loc":"In Meeting",
  "event_time":"9/30/2020 12:27:14",
  "sub_event":"UnMute",
  "uuid":"MWPXi9JgWviiBVGzwm6Y v FOuzuOmLUPkd72ggBM:"
}

```

All observed Zoom-telemetry follow a similar structure: a few fields describe the client and the operating system, the type- and subtype of the event, the location in the app where the event occurred, a timestamp and some unique identifiers, including a UUID, user_id and meeting_id. **Privacy Company did not observe any content data in the intercepted telemetry events.** The events also **did not contain information about other users, meeting names or other user-supplied values such as profile names.**

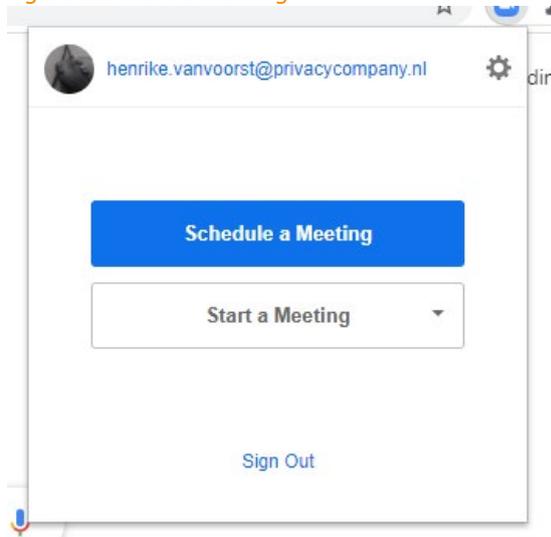
In a Zoom-meeting⁶ with Zoom's representatives, Zoom explained that the purpose of the telemetry is to measure what functionalities of the app are used. Zoom also explained that the collected telemetry is only analysed in aggregate.

⁶ Meeting Privacy Company on 10 November 2020 with Zoom's CTO, senior privacy counsel and lead application security architect.

2.2.1 Telemetry Chrome plugin

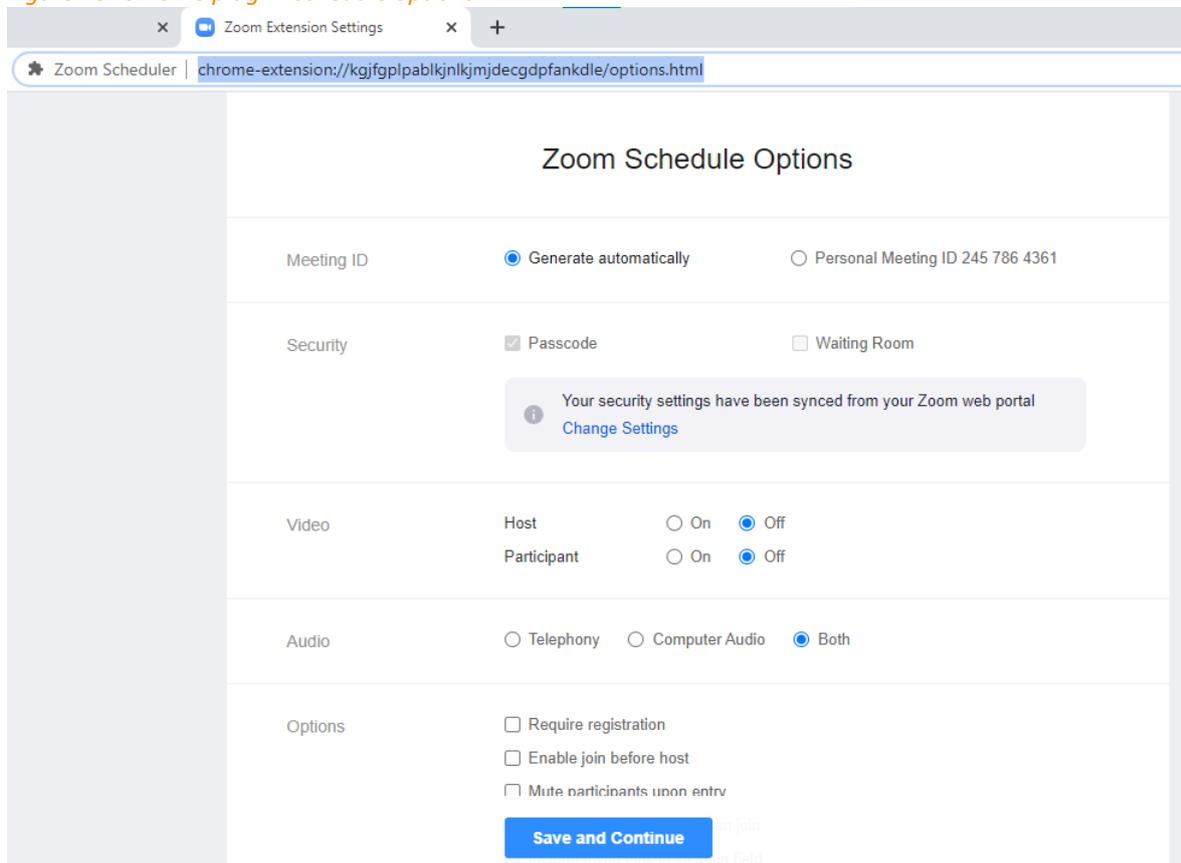
Zoom’s Chrome plugin has two features *Schedule a meeting* and *Start a meeting*.

Figure 22: Start a meeting



The activity of scheduling a meeting displays a form where meeting details can be entered. No network traffic from the plugin was observed while filling in the form.

Figure 23: Chrome plug-in schedule options



Only when the user clicks on the “Save and Continue” button, a single POST request is made to https://eu01web.Zoom.us/mimo/save_setting with the meeting details. The user is redirected to a Google Calendar URL to save the meeting details in a Google Calendar. The processing in Google Calendar itself is out of scope of this DPIA.

Figure 24: Screenshot of Post Request to submit a new meeting

```

Flow Details
2020-09-30 16:38:27 POST https://eu01web.zoom.us/mimo/save_setting HTTP/2.0
  ↳ 200 application/json 760b 79ms

Request Response Detail
:authority: eu01web.zoom.us
content-length: 1271
x-zm-cluster-id: eu01
user-agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/85.0.4183.121 Safari/537.36
x-requested-from: ZOOM-EXTENSION
x-zm-haid: 166
accept: application/json, text/javascript, */*; q=0.01
x-zm-aid: Y0SSX0DYSVWxcvtpiKodWw
x-requested-with: XMLHttpRequest
content-type: application/x-www-form-urlencoded; charset=UTF-8
origin: chrome-extension://kgjfgplpablknkjmdcggdpfankldl
sec-fetch-site: none
sec-fetch-mode: cors
sec-fetch-dest: empty
accept-encoding: gzip, deflate, br
accept-language: nl-NL,nl;q=0.9,en-US;q=0.8,en;q=0.7
cookie: zm_cn1_guid=v2=dffcRo0dCdAg0u5broz2/hqr6L0Ij0NedGcTwD5uZr0gQ+rP+iW63S2GhJf1UmC0CK3PM/E3chqFzhAsXkgVWh/n9pcFnbPMwAMsM; _zm_currency=EUR;
_zm_mtk_guid=d26704c1772a453081158232d3a976e6; _zm_lang=en-US; _zm_cdn_blocked=unlog_unblk; _ga=GA1.2.191280894.1601475872;
_gid=GA1.2.1264994767.1601475872; notice_preferences=2; notice_gdpr_prefs=0,1,2; cmapi_cookie_privacy=permit 1,2,3; cmapi_gtm_bl=;
_hjid=573277ad-5ad0-451e-9770-0c5216cef181; _hjAbsoluteSessionInProgress=0; __adroll_fpc=6be26428588705f342c2c2038b9ced2a-1601475883865;
__ar_v4=%7CFYTRZRUQEVVGS7EWCIOE64A%3A20200930%3A1%7CMNBMSUBVSA6DJOSTXTI32%3A20200930%3A1%7CDV47DVTZ4NHJNMSBVKACVM%3A20200930%3A1;
_fbp=fb.1.1601475884160.621779612; _zm_page_auth=aw1_c_WqGxg1UHTWqLB080Igruxw; zm_cluster=eu01; zm_aid=Y0SSX0DYSVWxcvtpiKodWw; zm_haid=166;
cred=9A8941A0B893DE9DBF888F2CDCCA8AFB; _zm_date_format=mm/dd/yy; _zm_ssid=eu01_c_3qQ0ey2kT1OP3C5smvNT3g

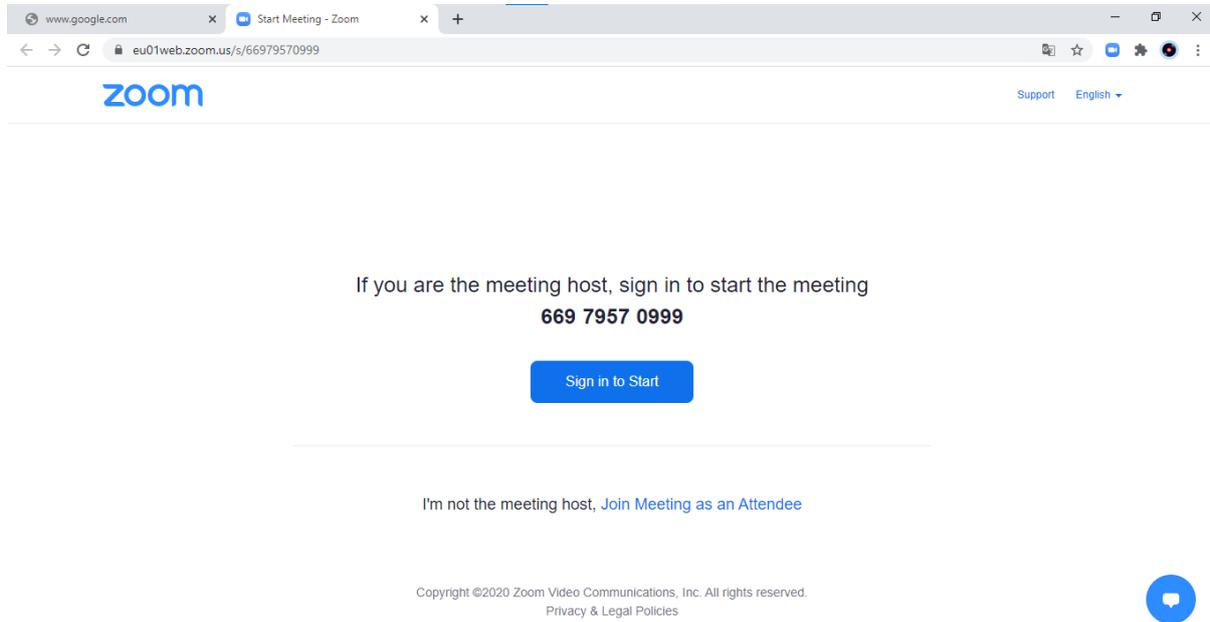
URLEncoded form [auto]
ext_version: 1.5.9
zak: eyJ6bV9za20i0iJ6bV9vMm0iLCJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJhdWQiOiJ6bG1bnQlLCJ1aWQiOiJxTmtrU0t0a1M3U2F0dDkZjNHInIiwiaXNz
Ijoide2ViIiwic3R5IjoxMDAsIndjZCI6ImV1MDEiLCJjbHUiOiJAsInnBayI6IlRyWmdEawdZTjExcwVNSkdteFozUEFqjNpV2I1tWVBUc3Byb2s5X1FwcEUUQndVNFVqTkJTmk15V2k05uSnJXV0Z3ZDB0R2RWV
nFlamwTKV4c2YsZGxVWnByU1R0U0FVbnh0MmRYZFCZGVVyeFjXBU13VUR0Q1BUUjFR1JjWkRsaE5UTXQnNm114TnpkbVpHTm0eKUZmpkaFlUZzJNMLZtWpNk5XVmtaaiF5WTJ3ak5URmx0ak5rTnpJev1qZ3
hZBUZ4FJRMEl5RatN09FmT5mMavG5mhOMGRXV01sNGJteSxwLM0xZWtKR1ExwKRSMUBLVhOSVRVY0F0R1YxTURFIiwzXWwJj0xNjA0MDY4NjE0L3pYXQ10jE2MDE0NzY2MTQ3ImFkIiwiaWF0Ijoi
XeGNZdHhPS29kV38iLCJjWQ10iIiF0.3Vur3gmxsilaFuivVQs0z-VsZrTtI0hJcVWtjyh0g
zoom_config_schedule_for:
zoom_config_pmi: false
zoom_config_jbh: true
public_cal: false
mute_upon_entry: true
zoom_config_video_host: on
zoom_config_video_participants: on
zoom_config_audio: both
record_type: -1
zoom_config_watermark: false
zoom_config_audiomark: false
zoom_config_alternativehost:
zoom_config_fixed_popup: false
zoom_config_joinurl: true
require_reg: true
enableAuthentication:
updateAuthOptionItem: {"name": "Sign in to Zoom", "type": "0", "id": "sign_In_Y0SSX0DYSVWxcvtpiKodWw"}
enable_unmute_all: false
enableDC: ""

```

Starting a meeting from within the plug-in immediately takes the user to a webpage on Zoom’s website (<https://eu01images.Zoom.us/p/qNkkSKqjS7sNu7CzFc4yg/ebba3038-6cd0-4304-8841-7eed79be3d3c-1202?type>). The only traffic observed from the plug-in is a single request loading the user’s own account image.⁷

⁷ <https://eu01images.Zoom.us/p/qNkkSKqjS7sNu7CzFc4yg/ebba3038-6cd0-4304-8841-7eed79be3d3c-1202?type>

Figure 25: Screenshot of starting of meeting in Chrome plug-in



2.2.2 Telemetry Outlook plugin

The Outlook plugin does not send any telemetry data to Zoom, only functional traffic, such as loading the profile image and the login to the service.

2.2.3 Telemetry on Android, iOS, macOS and Windows

In total, on all platforms and based on the exhaustive list of all telemetry events provided by Zoom, Zoom collects 277 different telemetry events. This a low amount of events, compared to other telemetry streams to cloud providers inspected by Privacy Company. Privacy Company observed 240 of the 277 possible events as a result of the execution of the test scenarios. As mentioned in Section 2.2, the contents of these telemetry events are unsurprising, with the exception of the UUID and UID. This will be analysed in more detail in the DPIA report. The information they contain appears adequate, and not excessive, for the purpose of measuring what functionalities of the app are used.

Table 4: Telemetry events observed by Privacy Company per operating system

Event	Sub Event	Android	iOS	macOS	Windows
Adjust Settings	Join Computer Audio	8	0	0	11
Adjust Settings	Mute	0	7	0	3
Adjust Settings	Stop Video	0	1	0	0
Adjust Settings	UnMute	0	0	0	6
Adjust Settings	Unmute	0	1	0	0
Cancel		0	0	1	0
Change Views	To Active Speaker View	9	10	0	0
Done Speaking		1	0	0	0
Edit Profile Picture	Save	0	0	0	1
End Meeting	Cancel	2	0	0	0
End Meeting	End Meeting	0	0	6	1
End Meeting	Leave Meeting	1	0	0	3

Handle Remote Control Disclaimer	Approve	0	0	0	1
Invite To Meeting		1	3	1	2
Invite To Meeting	By Contacts	0	3	0	0
Invite To Meeting	Invite By Email	0	0	0	1
Join Audio	By Internet Audio	5	11	0	0
Lock Meeting	Off	0	1	0	0
Lock Meeting	On	0	1	0	0
Login		0	11	0	0
Mute Actions	Ask to Unmute All	1	0	0	0
Mute Actions	More	0	0	1	4
Mute Actions	Mute All	0	1	0	2
Mute Actions	Mute Me	0	0	0	1
Open More Menu	Cancel	8	12	0	0
Open More Menu	Chat	3	2	0	0
Open More Menu	Meeting Settings	0	13	0	0
Open More Menu	Thumbs Up	0	2	0	0
Rate App	Record Short Meeting	0	1	0	0
Rate App	Reset Meeting Score Times	0	18	0	0
Recording	Cancel	0	0	4	0
Recording	Start Recording	0	2	0	3
Recording	Stop Recording	0	1	0	0
Refresh		7	0	0	0
Report		0	0	1	0
Send Chat Message		0	2	0	0
Send Invitation		1	0	0	0
Share Screen	Meeting Share	0	0	0	1
Share Screen	On	0	1	0	0
Show Participants		4	9	0	0
Start Meeting		0	1	0	0
Start Meeting	Join	0	2	0	0
Start Meeting	Start With Video	0	9	0	0
Switch Camera	To Back	0	1	0	0
Switch Camera	To Front	0	1	0	0
Switch Mode	To Safe Driving	9	8	0	0
Switch Tab	To Meetings	7	5	3	1
Tap Security		0	0	6	1
Tap To Speak		5	0	0	0

2.3 Cookies and traffic sent to third parties via the Zoom.us website

Zoom only uses the Zoom.us domain for its different information streams, both for publicly accessible information, and for information only available for logged-in users and administrators.

Zoom uses the TrustArc Consent Manager tool to provide choices to website visitors. By default, the level on both types of web pages is set to 'Functional Cookies', with the purpose *to measure and improve performance* of the site.

Figure 26: Screenshot of first pop-up Zoom Consent Manager

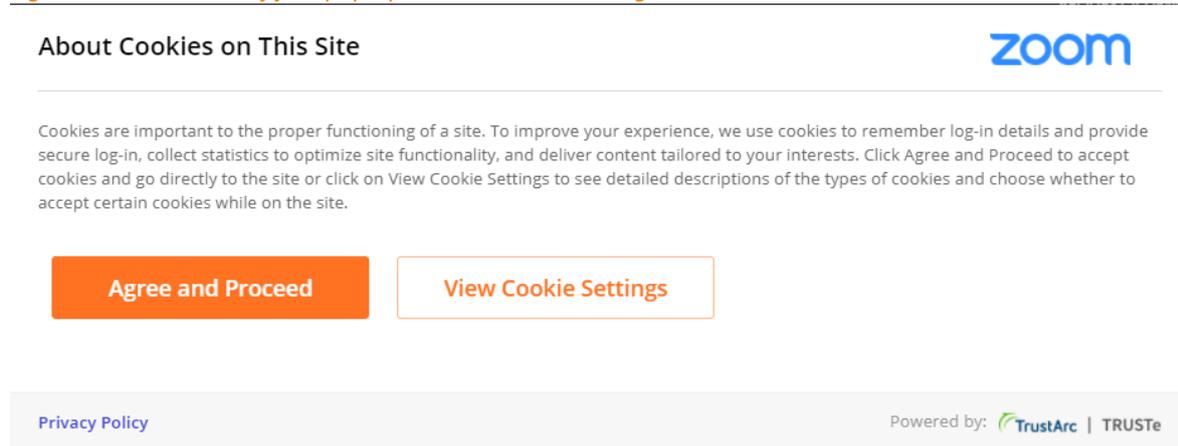


Figure 27: Screenshot of default settings in Zoom Consent Manager

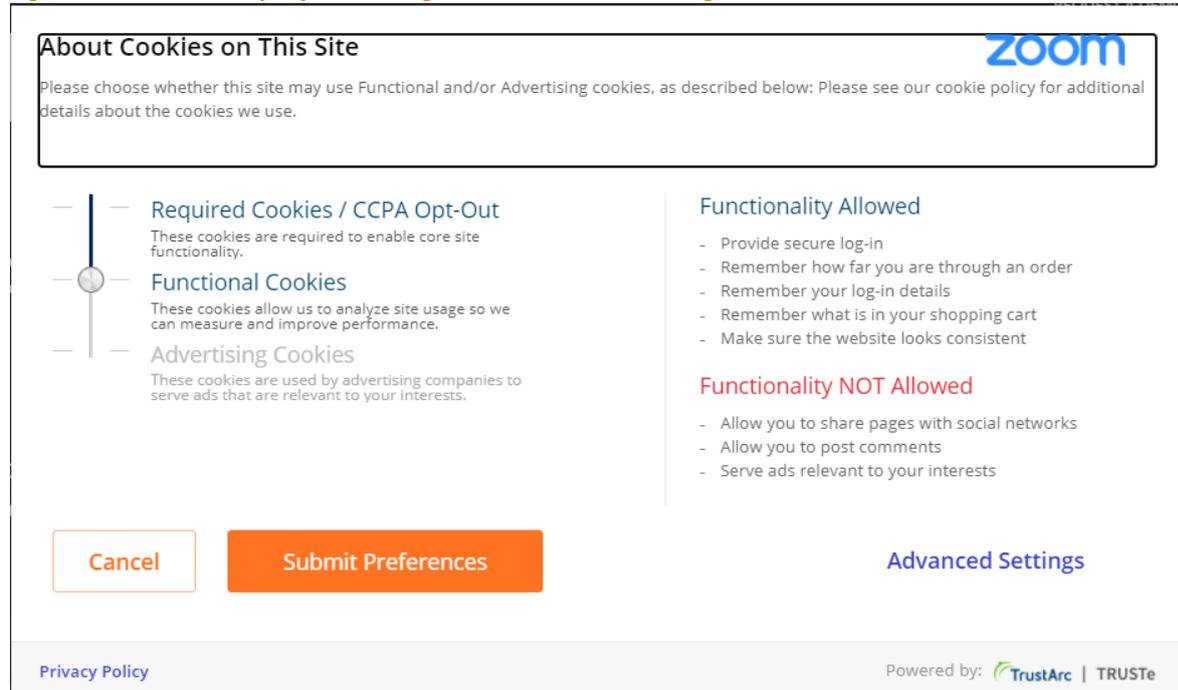


Table 5: Cookies set after user has logged in to Zoom account

Domain	Level: Required ⁸	Level: Functional ⁹	Cookies/remarks	Purpose according to Zoom
eligibility.wootric.com	yes	yes	No cookie, but identifying e-mail in url: https://eligibility.wootric.com/eligible.json?account_token=NPS-0487a3ac&email=floor.terra%40privacycompany.nl &end_user_created_at=1598527703&end_user_last_seen=1603106475119&language%5Bcode%5D=&language%5Baudience_text%5D=&language%5Bproduct_name%5D=&sdk_version=wootric-js-sdk-1.6.0&properties%5Bpricing%5D=Red&properties%5Bdomain%5D=&properties%5Bage%5D=52&properties%5Bbaa%5D=Red&properties%5Bpaidhostnum%5D=10&properties%5BZoomroomsnum%5D=4&properties%5Baudio%5D=Red&properties%5Bwebinar%5D=Red&properties%5Bmcapacity%5D=Red&properties%5Bsso%5D=Red&properties%5Bmanagedomain%5D=Red&properties%5BZoomphone%5D=Red&properties%5BZoomrooms%5D=Red	Wootric for customer feedback on how our platform is performing.
in.hotjar.com		yes	No cookies, but id in POST request: user_id": "970ec51e-871d-5887-92d0-a1003f8add5e"	Hotjar to track anonymized impressions within Zoom's marketing pages
scout.salesloft.com		yes	site_identity=87561651-b4b0-480b-af16-16f32ddd0684	Salesloft for tracking
stats.g.doubleclick.net		yes	No cookies, but several identifiers in URL https://stats.g.doubleclick.net/j/collect?t=dc&aip=1&r=3&v=1&v=j86&tid=UA-29692388-1&cid=1728847884.1603106421&jid=866255365&gjid=1127245364&gid=16716511.1603106421&u=aHDAAEACQAAAAC~&z=1419623239	Google Analytics to track impressions on Zoom's marketing pages.
www.google-analytics.com	yes	yes	No cookies, but several identifiers in URL https://www.google-analytics.com/j/collect?v=1&v=j86&aip=1&a=66200520&t=pageview&s=1&dl=https%3A%2F%2FZoom.us%2F&ul=en-gb&de=UTF-8&dt=Video%20Conferencing%2C%20Web%20Conferencing%2C%20Webinars%2C%20Screen%20Sharing%20-%20Zoom&sd=30-bit&sr=3840x2160&vp=1200x2014&je=0&u=aHDAAEADQAAAAC~&jid=866255365&gjid=1127245364&cid=1728847884.1603106421&tid=UA-29692388-1&gid=16716511.1603106421&r=1&gtm=2wg9u15WKFT9&cd18=en-US&cd19=unknown&cd20=&cd26=%2F&cd35=nl&cd42=EUR&cd45=3840%20x%202160&cd46=1200%20x%202014&z=943282302	Google Analytics to track impressions on Zoom's marketing pages.

⁸ Cookies marked here are observed when visiting the Zoom websites with consent for "Required" cookies in Zoom's cookie consent manager.

⁹ Cookies marked here are observed when visiting the Zoom websites with consent for "Functional" cookies in Zoom's cookie consent manager.

www.google.com	yes	yes	NID=204=p9cWldmLARic3_8Hkbx4OBQeEKMvRRBd_QquVz-Yovwimb_VF41eOicEtr5e9mJLCE-8dPSaH5zVGWgTaAMSg8DUBaC3CXHJKVITW6b145YUsKuCiH9O09maTIQMJUKmuqnNyb3E_lo-qyGheKeztwvcieRA3b8Y9G2-bctPERU NID=204=YauZalu2rUJqCYMShgGxGKoSiZqZjKZOhaueEXbxhahRN3CUmylBUlu7HocdolLsRaZvBOIzJtOQK1Ny6b0zBcuY1TqPwoPYfM4mpRqTQYst3v06ROxQj-xXEOsN_HGqlq99FtdWwr5BZf0PZ9po5RmN7wZiUUD9fPutSy5Pm0	Google reCAPTCHA for fraud and abuse prevention
www.youtube.com		yes	YSC=qQidTVOUMwY VISITOR_INFO1_LIVE=lpP2KmqLJ7Y	Embed YouTube videos in our support pages

Table 6: Cookies set on publicly accessible Zoom webpages

Domain	Required ¹⁰	Functional ¹¹	Cookies/remarks	Purpose according to Zoom
api.company-target.com	yes	yes	tuuid=91925c74-87d3-4e28-97e2-d8c8eb370f67 tuuid_lu=1603110975	Demandbase for tracking.
cdn.rawgit.com	yes	yes	__cfduid=d802b0a8fc9111fc67e6288633f161cc41603044882	-serving CDN content
match.prod.bidr.io	yes	yes	bito=AAEAbU6_GxAAAA90k1GCrw checkForPermission=ok checkForPermission=bitolsSecure=ok	Demandbase for tracking
segments.company-target.com	yes	yes	tuuid=91925c74-87d3-4e28-97e2-d8c8eb370f67 tuuid_lu=1603110975	Demandbase for tracking
www.youtube.com	yes	yes	VISITOR_INFO1_LIVE=G0waL_798yE GPS=1 YSC=nWdES_47jbw	Embed YouTube videos in support pages
Zoomus.zendesk.com	yes	yes	__cfduid=d8045d7bc7dd6a7137299803d0346adc31603110976 __cfduid=dd62ce99d4a83730aef085f4c88e2cf6f1603110974 __cfduid=d8853479681bff3593b29a62c952c476a1603111039 __cfruid=08b87f52c6f372cf115dcd6fae79ac27ce12bcc2-1603110974 __cfruid=03885d879f1fc5b2040b1110842b04325a6111f1-1603110976 __cfruid=75a29798aa1882ba5e868a4dc355d864a6dba838-1603111039	ZenDesk for our Support Chat

¹⁰ Cookies marked here are observed when visiting the Zoom websites with consent for “Required” cookies in Zoom’s cookie consent manager.

¹¹ Cookies marked here are observed when visiting the Zoom websites with consent for “Functional” cookies in Zoom’s cookie consent manager.

Hotjar.com	yes	yes	No cookies, but id in URL request: https://identify.hotjar.com/sites/400083/users/9f86dd90-9afe-5c93-bb35-7227ce43c1a6	Hotjar to track impressions within Zoom's marketing pages
scout.salesloft.com			site_identity=c8da92d5-d1eb-487f-8913-666da4fc1ea8	Salesloft for tracking
stats.g.doubleclick.net	yes	yes	No cookies, but several identifiers in URL https://stats.g.doubleclick.net/j/collect?t=dc&aip=1&r=3&v=1&v=j86&tid=UA-29692388-1&cid=997841211.1603110954&jid=357998936&gid=2135379035&gid=248099600.1603110954&u=aHDAAEACQAAAAC~&z=1543343823	Google Analytics to track impressions on Zoom's marketing pages
www.google-analytics.com	yes	yes	Identifiers in URL https://www.google-analytics.com/j/collect?v=1&_v=j86&aip=1&a=696567096&t=pageview&s=1&dl=https%3A%2F%2FZoom.us%2F&ul=en-gb&de=UTF-8&dt=Video%20Conferencing%2C%20Web%20Conferencing%2C%20Webinars%2C%20Screen%20Sharing%20%20Zoom&sd=30-bit&sr=3840x2160&vp=1200x2014&je=0&u=aHDAEADQAAAAC~&jid=357998936&gid=2135379035&cid=997841211.1603110954&tid=UA-29692388-1&gid=248099600.1603110954&r=1&gtm=2wg9u15WKFT9&cd19=unknown&cd20=&cd26=%2F&cd35=nl&cd42=EUR&cd45=3840%20x%202160&cd46=1200%20x%202014&z=1990921762	Google Analytics to track impressions on Zoom's marketing pages

2.4 Results Data Subject Access Requests to Zoom

A Data Subject Access Request was sent to Zoom on 12 October 2020 for the two test accounts. The request was filed in order to be able to compare the data collected from the outgoing traffic with the data that Zoom knowingly collects.

Zoom did not provide any personal data in response to these access requests, but referred by e-mail of 12 October 2020 to the information available in-product for users and in the console for Zoom administrators¹². On 13 November 2020 Zoom replied with a more substantial response to the access requests. The response contains the following information:

The personal data Zoom is processing:

- Additional (opaque) identifiers attached to both test-accounts. The identifiers appear to be base64-encoded values with no explained or discernible structure.
- An explanation that data that is connected only to an IP address, not to other identifiers, cannot be used to uniquely identify an individual.
- A short description of Meeting Logs. The log is included in the response, analysis below.
- A short description of Event Logs (called *telemetry data* in this DPIA). This log is included in the response, analysis below.
- A short description of Account Logs. This log is included in the response, analysis below.
- Web request logs. No details provided about the cookies and traffic sent to third parties. Zoom explained with the following statement why it did not provide third party data: *“Third-Party Data Not Provided: We have confirmed with the third-parties outlined above that either no data was collected related to any identifiers for the subjects, or that this data was not available in an identifiable fashion. Thus we cannot provide any information pursuant to your request for these third-parties.”*
- A listing of cookies or other comparable methods used on the Zoom platform, (for logged-in users) by Zoom in a self-qualified role as (sole) data controller (see Addendum for listing)
- A listing of cookies or other comparable methods used on the Zoom platform (for logged-in users) with a third party as a data controller, as qualified by Zoom (see Addendum for listing)
- A listing of cookies or other comparable methods used on the publicly accessible Zoom website by Zoom, in a self-qualified role as a data controller (see Addendum for listing)
- A listing of cookies or other comparable methods used on the publicly accessible Zoom website, with a third party as a data controller, as qualified by Zoom (see Addendum for listing)
- Zoom refers (and links to) its general privacy statement for further explanations.

Zooms response did not contain any information regarding:

- The specific purposes of processing for each of the categories of data processing;
- The envisioned retention period of the data;
- Whether or not Zoom applies automated decision making or profiling;
- The safeguards for transfers to third countries.

2.4.1 Event logs

The Excel file sent by Zoom contains 277 events relating to the test account. The log contains the following columns:

- **Ext** On some events this field contains additional information about an event. For example: *‘PMI=252 122 0008#&#platform=iPhone 7#&#video_on_off=ON’*
- **request_time** The time of the request rounded to whole 5 minute increments
- **uuid** Base64-encoded identifier
- **event_time** The date/time of the specified up to the second
- **client_type** Only found *‘Zoom Main Client’* in our tests
- **event_loc** The location in the zoom app where the event occurred. Values found:
 - Meeting Tab
 - In Meeting
 - Participants Panel
 - Security Panel
 - Meeting Report Panel
 - Main Tab

¹² Zoom writes: *“The administrator of your account as the controller of your data is responsible for providing you with information requested through a valid data subject access request. Please contact your Zoom account administrator to complete your request.”*

- Meeting Settings
- Meetings
- **Event** The type of event. Values found:
 - Login
 - Start Meeting
 - Join Audio
 - Show Participants
 - Invite To Meeting
 - Rate App
 - Switch Mode
 - End Meeting
 - Adjust Settings
 - Tap Security
 - Recording
 - Report
 - Cancel
 - Mute Actions
 - Switch Tab
 - Open More Menu
 - Share Screen
 - Change Views
 - Lock Meeting
 - Switch Camera
 - Send Chat Message
 - Handle Remote Control Disclaimer
 - Edit Profile Picture
 - Refresh
 - Tap To Speak
 - Done Speaking
 - Send Invitation
- **sub_event** For most eventtypes, this contains a further specification of the type of event. Values found:
 - [blank value]
 - Start With Video
 - By Internet Audio
 - By Contacts
 - Reset Meeting Score Times
 - To Safe Driving
 - Join
 - Leave Meeting
 - Join Computer Audio
 - Invite By Email
 - Cancel
 - More
 - End Meeting
 - To Meetings
 - Meeting Settings
 - Mute All
 - Mute
 - On
 - To Active Speaker View
 - Thumbs Up
 - Record Short Meeting
 - Stop Video
 - Off
 - Unmute

- To Front
- To Back
- Chat
- Start Recording
- Stop Recording
- UnMute
- Approve
- Meeting Share
- Mute Me
- Save
- Ask to Unmute All
- client_version
- client_os
- user_id user_email
- in_meeting
- meeting_id
- year
- month day
- **client_version** The version number of the client software used
- **client_os** The operating system the client was build for: ios, win7, android and mac. While we tested on Windows 10 our speculation is that the software is build for Windows 7 and above.
- **user_id** Opaque user identifier, for example 'qNkkSKqjS7SaNu7CzFc4yg'
- **user_email** Contained no data in our tests
- **in_meeting** Contains, true, false or no value
- **meeting_id** Opaque user identifier encoded in base64
- **year** Contains the year the event occurred
- **month** Contains the month the event occurred
- **day** Contains the day the event occurred

2.4.2 Meeting Logs

Zoom sent these logs as single CSV-files per meeting. They contain the following information about the activities of test accounts.

- **Host ID** Opaque host-user identifier
- **Host Email** e-mail adres of the host of the meeting
- **Host Account** Account id of the host
- **Meeting Number** Numer identifying meeting.
- **Meeting ID** Opaque meeting identifier
- **Start Time** Date and time of meeting start
- **End Time** Date and time of meeting end
- **Node ID** Unkown meaning.
- **Associated Node ID** Unkown meaning.
- **User Name** User's full name
- **Email** User's e-mail
- **User ID** User's account ID
- **Account Number** User's account number
- **ClientUUID** Opaque identifier for the Zoom client in base64
- **Platform** Details about the computer running the Zoom client. For example (two separate examples):

```
5.2.44052.0816;Windows 10+ 19041;amd64;CPU Core:8 Frenquency:3.6 G Memory size:65486MB CPU Brand:AMD
Ryzen 7 3700X 8-Core Processor ;b1;ci:8/16; GPU Brand:AMD Radeon RX 5700;27.20.2001.9003;V-1002;D-
731f;S-b361002;R-c4;win64_client:0
```

```
5.3.52877.0927;Version 10.15.7 (Build 19H2);physicalMemory= 16384MB CPUModel=Intel(R) Core(TM) i7-8850H
CPU @ 2.60GHz processorCount=12 version:Version 10.15.7 (Build
19H2) serialNumber=C02X983QJG5J displayInfo=Display0:{NSDeviceSize:NSSize:
{1680 1050} NSDeviceResolution:NSSize:
{144 144} NSDeviceBitsPerSample:8 NSDeviceColorSpaceName:NSCalibratedRGBColorSpace NSDeviceIsScreen:Y
ES NSScreenNumber:69734406 RefreshRate: 0.0}Display1:{NSDeviceSize:NSSize:
{3840 2160} NSDeviceResolution:NSSize:
{72 72} NSDeviceBitsPerSample:8 NSDeviceColorSpaceName:NSCalibratedRGBColorSpace NSDeviceIsScreen:YES
NSScreenNumber:459137121 RefreshRate: 60.0} modal=MacBookPro15
1 isDualMonitorChecked=0 manufactureDate= 2018
```

- **Internal IP** The IP address on the local network of the Zoom client
- **External IP** The IP address on the public network of the Zoom client
- **Mac Address** Hardware identifier of the network interface
- **Camera** Description of the camera used. For example: FaceTime HD Camera (Built-in)
- **Speaker** Description of the speaker used. For example: Headset Earphone (5- Arctis 7 Chat)
- **Microphone** Description of the microphone used. For example: Headset Microphone (5- Arctis 7 Chat)
- **Video** Is video used in chat? Yes or no.
- **Audio** Is audio used in chat? Yes or no.
- **Screen Share** Is screen sharing used in chat? Yes or no.
- **Share Detail** No data found in test
- **Join Time** Date and time when user joined the meeting
- **Leave Time** Date and time when user left the meeting
- **Leave Reason** The reason for leaving the meeting, for example: host closing the meeting or user leaving on his/her own request.

2.4.3 Account Logs

Zoom provided access to the Account logs in a single CSV-file containing log-events about actions taken to the user account. The events contain the following fields.

- **AccountId** Opaque account identifier
- **UserId** Opaque user identifier, for example 'qNkkSKqjS7SaNu7CzFc4yg'
- **SourceIP** The IP-address from which the action is taken
- **EventType** The type of event. Values Found:
 - user
 - meeting
 - room
 - account
- **Action** The action that is taken. Values Found:
 - create
 - activate
 - changePwd
 - updateProfile
 - invite
 - confirmInvite
 - roomDeleted
 - edit
 - uploadPic
 - update
 - AccountSaveBillingPlan
 - forgotPwd
- **Info** Depending on the action, this field contains additional information about the action. Such as:
- **roomDeleted:** {id: pDLS9_-ASW-RR-qqtetW1w, account_id: Y0SSX0DYSVWxcvtpiKodWw, user_id: kFPmqzxvRvGGdbq-11uS1Q, resource: sollicitatiegesprek F. Ictief, displayName:

399ac219f895daa70c57ce4097a1101b67ca367edf8cee9e1310bcb76de92650, resourceEmail: , type: 2, roomEmail: , createTime: Wed Sep 30 09:43:30 UTC 2020, modifyTime: Wed Sep 30 09:43:30 UTC 2020, currentVersion: , targetVersion: , displayTargetVersion: null, updownAction: null, clientPlatform: , zrcVersion: , locationId: , zrcPlatform: , personalUserId: , xmppResourceId: }

- **invite:** sure@xs4all.nl:basicR:account owner
- **Time** De datum/tijd van de actie tot op de seconde gespecificeerd.

The consequences of these results are analysed in more detail in the DPIA-report.

2.5 Domains found in network traffic

When studying the network traffic, it is difficult to distinguish between traffic generated by the device, the operating system and the local network set-up, and the specific traffic caused by the inspected application, in this case the Zoom application. Zoom does provide a list of domains to admins to which they must allow traffic to be sent in their firewalls.¹³ Where this is the case, it has been noted in the column Remarks. If the traffic is due to the local network set-up, this has also been noted.

Generally, no traffic was observed from the apps to undocumented third parties. There are no major differences in the set-up of traffic caused by the application on the different platforms.

2.5.1 Research results iOS: domains found in network traffic

Table 7: Results iOS App on 30-09-2020

Address	Packets	Remarks
192.168.2.2	296692	Local traffic, unrelated to Zoom
149.137.1.224	67516	Documented by Zoom
Zoomamo62mmr.am.Zoom.us	53848	Documented by Zoom
Zoomamo214mmr.am.Zoom.us	37169	Documented by Zoom
Zoomam176mmr.am.Zoom.us	36919	Documented by Zoom
149.137.1.229	22191	Documented by Zoom
gcs-eu-00002.content-storage-upload.googleapis.com	18833	
gcs-eu-00002.content-storage-upload.googleapis.com	17445	
Zoomff312012172mmr.cloud.Zoom.us	12210	Documented by Zoom
gcs-eu-00002.content-storage-upload.googleapis.com	9476	
Zoomamo93mmr.am.Zoom.us	9314	Documented by Zoom
gcs-eu-00002.content-storage-upload.googleapis.com	3174	
eu01file-ff.Zoom.us	2537	Documented by Zoom
eu01www3.Zoom.us	584	Documented by Zoom
eu01xmpp-ff.Zoom.us	456	Documented by Zoom
eu01web.Zoom.us	437	Documented by Zoom
gateway.fe.apple-dns.net	349	iOS/macOS functionality, not Zoom's app
eu01xmpp-ff.Zoom.us	348	Documented by Zoom
gateway.fe.apple-dns.net	341	iOS/macOS functionality, not Zoom's app
gateway.fe.apple-dns.net	328	iOS/macOS functionality, not Zoom's app
gateway.fe.apple-dns.net	304	iOS/macOS functionality, not Zoom's app

¹³ Zoom, Network Firewall Settings for CRC, [https://support.zoom.us/hc/en-us/articles/201458316-Network-Firewall-Settings-for-CRC e](https://support.zoom.us/hc/en-us/articles/201458316-Network-Firewall-Settings-for-CRC-e)

eu01xmppapi-ff.Zoom.us	261	Documented by Zoom
Zoomam160zc.am.Zoom.us	209	Documented by Zoom
Zoomam161zc.am.Zoom.us	202	Documented by Zoom
17.252.76.20	199	
eu01xmppapi-ff.Zoom.us	178	Documented by Zoom
gateway.fe.apple-dns.net	169	iOS/macOS functionality, not Zoom's app
Zoomfr160zc.fr.Zoom.us	164	Documented by Zoom
gateway.fe.apple-dns.net	159	iOS/macOS functionality, not Zoom's app
gateway.fe.apple-dns.net	151	iOS/macOS functionality, not Zoom's app
gateway.fe.apple-dns.net	138	iOS/macOS functionality, not Zoom's app
192.168.137.125	133	Local traffic, unrelated to Zoom
gateway.fe.apple-dns.net	122	
Zoomfr161zc.fr.Zoom.us	118	Documented by Zoom
eu01logfiles-ff.Zoom.us	85	Documented by Zoom
224.0.0.251	74	
gateway.fe.apple-dns.net	66	iOS/macOS functionality, not Zoom's app
guzzoni-apple-com.v.aaplimg.com	53	iOS/macOS functionality, not Zoom's app
gateway.fe.apple-dns.net	51	iOS/macOS functionality, not Zoom's app
gateway.fe.apple-dns.net	50	iOS/macOS functionality, not Zoom's app
gateway.fe.apple-dns.net	49	iOS/macOS functionality, not Zoom's app
192.168.178.248	49	Local traffic, unrelated to Zoom
gateway.fe.apple-dns.net	48	iOS/macOS functionality, not Zoom's app
192.168.1.103	48	Local traffic, unrelated to Zoom
gateway.fe.apple-dns.net	40	iOS/macOS functionality, not Zoom's app
eu01as.Zoom.us	29	Documented by Zoom
safebrowsing.googleapis.com	29	
Floors-MacBook-Pro.local	27	Local traffic, unrelated to Zoom
Zoomdv124zc.dv.Zoom.us	14	Documented by Zoom
Zoomdv125zc.dv.Zoom.us	6	Documented by Zoom
time-iOS.g.aaplimg.com	5	
time-iOS.g.aaplimg.com	5	
time-iOS.g.aaplimg.com	3	
all-routers.mcast.net	3	
fd2e:9d17:7868:69bc:f51c:9772:d0ff:15ed	7279	
gcs-eu-00002.content-storage-upload.googleapis.com	3982	
gcs-eu-00002.content-storage-upload.googleapis.com	1768	
fe80::18b9:7954:7d23:fdab	440	
Floors-MacBook-Pro.local	410	Local traffic, unrelated to Zoom
gcs-eu-00002.content-storage-upload.googleapis.com	406	
gcs-eu-00002.content-storage-upload.googleapis.com	379	
gateway.fe.apple-dns.net	106	iOS/macOS functionality, not Zoom's app
gateway.fe.apple-dns.net	100	iOS/macOS functionality, not Zoom's app
gateway.fe.apple-dns.net	99	iOS/macOS functionality, not Zoom's app

gateway.fe.apple-dns.net	98	iOS/macOS functionality, not Zoom's app
gateway.fe.apple-dns.net	96	iOS/macOS functionality, not Zoom's app
ff02::fb	71	
gateway.fe.apple-dns.net	54	iOS/macOS functionality, not Zoom's app
gateway.fe.apple-dns.net	54	iOS/macOS functionality, not Zoom's app
gateway.fe.apple-dns.net	51	iOS/macOS functionality, not Zoom's app
gateway.fe.apple-dns.net	50	iOS/macOS functionality, not Zoom's app
fd2e:9d17:7868:69bc:f5e8:931f:87f3:a257	36	
ff02::1	20	
ff02::16	4	
ff02::1:ff23:fdab	1	

2.5.2 Research results Android: domains found in network traffic

Privacy Company performed the tests on the Android twice, because it was initially not possible to bypass the certificate protection. During the retest with MitMproxy, Privacy Company only saw first party outgoing traffic to Zoom itself from the Android app.

Table 8: Retest of Android App on 10-11-2020

Address	Requests	Remarks
eu01web.Zoom.us	28	
eu01logfiles.Zoom.us	5	Zoom telemetry endpoint
eu01www3.Zoom.us	16	
eu01xmppapi.Zoom.us	11	
eu01as.Zoom.us	2	

Table 9: Original test of Android App on 30-09-2020

Address	Packets	Remarks
Android.local	234605	Local traffic, unrelated to Zoom
Zoomamo224mmr.am.Zoom.us	64472	Documented by Zoom
Zoomamo62mmr.am.Zoom.us	49881	Documented by Zoom
Zoomamo214mmr.am.Zoom.us	38356	Documented by Zoom
Zoomam176mmr.am.Zoom.us	30631	Documented by Zoom
149.137.1.229	18933	Documented by Zoom
Zoomff312012172mmr.cloud.Zoom.us	12791	Documented by Zoom
Zoomamo93mmr.am.Zoom.us	8557	Documented by Zoom
www.gstatic.com	2584	
eu01www3.Zoom.us	1612	Documented by Zoom
www.googleapis.com	1103	
eu01www3.Zoom.us	773	
ec2-3-120-121-17.eu-central-1.compute.amazonaws.com	689	Documented by Zoom
r5.sn-5hnekn7d.gvt1.com	533	
DESKTOP-3TB1802.local	326	Local traffic, unrelated to Zoom
Zoomam161zc.am.Zoom.us	320	Documented by Zoom

Zoomam160zc.am.Zoom.us	306	Documented by Zoom
192.168.2.2	284	Local traffic, unrelated to Zoom
youtubei.googleapis.com	226	
eu01xmppapi-ff.Zoom.us	210	Documented by Zoom
eu01logfiles-ff.Zoom.us	178	Documented by Zoom
r4.sn-5hnekn7l.gvt1.com	168	
eu01xmppapi-ff.Zoom.us	153	Documented by Zoom
eu01logfiles-ff.Zoom.us	118	Documented by Zoom
www.google.com	110	
eu01file-ff.Zoom.us	105	Documented by Zoom
www.googleapis.com	99	
Android.l.google.com	95	
play.googleapis.com	93	
mobilenetworkscoring-pa.googleapis.com	92	
Zoomfr160zc.fr.Zoom.us	82	Documented by Zoom
Zoomfr161zc.fr.Zoom.us	81	Documented by Zoom
eu01file-ff.Zoom.us	67	Documented by Zoom
connectivitycheck.gstatic.com	64	
224.0.0.251	57	
notes-pa.googleapis.com	47	
pagead46.l.doubleclick.net	38	
i.ytimg.com	37	
www.googleapis.com	37	
Android.l.google.com	33	
mobile-gtalk.l.google.com	29	
igmp.mcast.net	27	
www.googleapis.com	27	
www.googleapis.com	25	
ssl-google-analytics.l.google.com	25	
ssl-google-analytics.l.google.com	23	
connectivitycheck.gstatic.com	21	
pagead46.l.doubleclick.net	20	
ssl-google-analytics.l.google.com	19	
ssl-google-analytics.l.google.com	18	
pagead.l.doubleclick.net	14	
172.217.132.103	12	
Android.l.google.com	8	
elb-dms2-318247689.ap-southeast-1.elb.amazonaws.com	8	
142.250.27.188	3	
239.255.255.250	3	
DESKTOP-3TB1802.local	99	Local traffic, unrelated to Zoom
ff02::1:fff7:a14e	90	
Android.local	63	Local traffic, unrelated to Zoom

ff02::fb	52	
ff02::16	19	
ff02::2	1	

2.5.3 Research results Windows10: domains found in network traffic

Table 10: Results Zoom app on Windows 10 on 30-09-2020

Address	Packets	Remarks
DESKTOP-3TB1802.local	364022	Local traffic, unrelated to Zoom
192.168.178.66	337346	Local traffic, unrelated to Zoom
Zoomamo209mmr.am.Zoom.us	333961	Documented by Zoom
Floors-MacBook-Pro.local	301697	Local traffic, unrelated to Zoom
Floor-Gaming.local	70963	Local traffic, unrelated to Zoom
Zoomamo62mmr.am.Zoom.us	43463	Documented by Zoom
224.0.0.251	25701	
ff02::fb	22513	
Zoomam213mmr.am.Zoom.us	12021	Documented by Zoom
224.0.0.252	10751	
ff02::1:3	10751	
Zoomamo98mmr.am.Zoom.us	5979	Documented by Zoom
239.255.255.250	3458	
192.168.178.59	3390	Local traffic, unrelated to Zoom
ff02::c	2514	
fe80::925c:44ff:fe77:a14e	2461	
2001-1c00-1508-7900-925c-44ff-fe77-a14e.cable.dynamic.v6.ziggo.	2420	
192.168.178.255	1913	Local traffic, unrelated to Zoom
192.168.178.1	1232	Local traffic, unrelated to Zoom
ff05::c	1210	
ff0e::c	1210	
ff02::1:ff75:e0f3	513	
84.116.46.21	496	
ec2-3-120-121-16.eu-central-1.compute.amazonaws.com	415	
ff02::1:ff5f:e4bf	381	
eu01web.Zoom.us	373	Documented by Zoom
eu01xmpp-ff.Zoom.us	282	Documented by Zoom
spo-0004.spo-msedge.net	227	
eu01xmppwebinar-ff.Zoom.us	219	Documented by Zoom
Zoomam160zc.am.Zoom.us	208	Documented by Zoom
Zoomam161zc.am.Zoom.us	204	Documented by Zoom
eu01www3.Zoom.us	196	Documented by Zoom
ff02::16	166	
eu01logfiles-ff.Zoom.us	160	Documented by Zoom
www.google.com	146	

iPhone-van-Floor.local	127	Local traffic, unrelated to Zoom
dj29ua41vfohe.cloudfront.net	117	Documented by Zoom
40.67.254.36	108	
ff02::1:ff2a:9644	83	
ff02::1:2	80	
www.gstatic.com	80	
eu01file-ff.Zoom.us	78	Documented by Zoom
ff02::1:ff1f:a91d	78	
ff02::1:ffee:7b3e	77	
array801.prod.do.dsp.mp.microsoft.com	68	
fe80::efe:45ff:fe83:48c7	55	
settingsfd-geo.trafficmanager.net	47	
array805.prod.do.dsp.mp.microsoft.com	47	
ff02::1:ffd6:2e82	45	
nas.local	45	Local traffic, unrelated to Zoom
fe80::d6f5:47ff:fe1c:1270	40	
eu01xmppapi-ff.Zoom.us	39	Documented by Zoom
edge-web.dual-gslb.spotify.com	38	
skypedataprdocolwus12.cloudapp.net	32	
content-autofill.googleapis.com	31	
::	30	
fe80::4609:b8ff:fe68:991d	29	
dual-a-0001.a-msedge.net	29	
translate.googleapis.com	29	
ff02::1	28	
skypedataprdocolweu05.cloudapp.net	28	
e15275.g.akamaiedge.net	28	
safebrowsing.googleapis.com	28	
Android.local	26	Local traffic, unrelated to Zoom
52.137.103.130	25	
Zoom.ada.support	24	
static.ada.support	24	
Zoomfr161zc.fr.Zoom.us	24	Documented by Zoom
oauthaccountmanager.googleapis.com	24	
e-0009.e-msedge.net	23	
rollout.ada.support	23	
mobile-gtalk.l.google.com	22	
accounts.google.com	20	
clients.l.google.com	20	
skypedataprdocoleus04.cloudapp.net	18	
skypedataprdocolwus01.cloudapp.net	18	
Zoomfr160zc.fr.Zoom.us	17	Documented by Zoom
update.googleapis.com	17	

igmp.mcast.net	15	
Zoomdv15zc.dv.Zoom.us	12	Documented by Zoom
84.116.46.20	12	
2606:2800:133:206e:1315:22a5:2006:24fd	12	
cds.f7y3z2w8.hwcdn.net	9	
a767.dscg3.akamai.net	9	
Zoomdv14zc.dv.Zoom.us	6	Documented by Zoom
192.168.178.100	5	Local traffic, unrelated to Zoom
ff02::2	5	
ff02::1:ffe4:743d	4	
ff02::1:ff1c:1270	4	
ff02::1:ff61:8fc1	4	
Android-2.local	3	Local traffic, unrelated to Zoom
ff02::1:ff25:a24b	3	
fe80::a228:edff:fea6:96c2	2	
ff02::1:ffb1:b713	2	
13.107.4.254	1	
20.140.56.69	1	
204.79.197.222	1	
2001:730:2205:25::d52e:bf32	1	
nl-ams04a-ri3-ae51-0.aorta.net	1	
gv-rc0052-cr102-ae106-0.core.as9143.net	1	
2001:4de0:7003:8000::e	1	
2620:1ec:bdf::10	1	
2620:1ec:bdf::254	1	
fe80::baae:edff:fe7f:d67a	1	
ff02::1:ff34:8443	1	
ff02::1:ff74:2c6e	1	
ff02::1:ff77:8c67	1	
ff02::1:ff7d:bd8b	1	
ff02::1:ffd5:2306	1	
ff02::1:ffe4:638b	1	

2.5.4 Research results MacOS: domains found in network traffic

Table 11: Results Zoom app on MacOS on 30-09-2020

Address	Packets	Remarks
Floors-MacBook-Pro.local	739487	Local traffic, unrelated to Zoom?
zoomamo209mmr.am.zoom.us	349401	Documented by Zoom
DESKTOP-3TB1802.local	299355	Local traffic, unrelated to Zoom?
Floor-Gaming.local	70576	Local traffic, unrelated to Zoom?
zoomamo62mmr.am.zoom.us	45737	Documented by Zoom
224.0.0.251	25575	
ff02::fb	22383	

zoomam213mmr.am.zoom.us	13383	Documented by Zoom
224.0.0.252	10691	
ff02::1:3	10691	
d11yldzmag5yn.cloudfront.net	9151	Documented by Zoom
2001-1c00-1508-7900-dc7a-ebbe-c5f0-395d.cable.dynamic.v6.ziggo.	6076	
eu01web.zoom.us	4657	Documented by Zoom
dj29ua41vfohe.cloudfront.net	4256	Documented by Zoom
zoomamo98mmr.am.zoom.us	3856	Documented by Zoom
239.255.255.250	3437	
192.168.178.59	3392	Local traffic, unrelated to Zoom
192.168.178.66	3149	Local traffic, unrelated to Zoom
fe80::925c:44ff:fef7:a14e	2769	
ff02::c	2499	
2001-1c00-1508-7900-925c-44ff-fef7-a14e.cable.dynamic.v6.ziggo.	2398	
192.168.178.255	1916	Local traffic, unrelated to Zoom
192.168.178.1	1203	Local traffic, unrelated to Zoom
ff05::c	1199	
ff0e::c	1199	
gateway.fe.apple-dns.net	1198	iOS/macOS functionality, not Zoom's app
dns-resolver1-mnd-anycast.ziggo.nl	1150	
cf.zdassets.com	818	
eu01xmpp-ff.zoom.us	807	Documented by Zoom
a1806.dscb.akamai.net	656	
ff02::1:ff75:e0f3	519	
api-glb-euc1b.smoot.apple.com	505	
d24cgw3uvb9a9h.cloudfront.net	488	Documented by Zoom
e17437.dscb.akamaiedge.net	431	
eu01xmppapi-ff.zoom.us	393	Documented by Zoom
ff02::1:ff5f:e4bf	381	
e673.dsce9.akamaiedge.net	310	
youtube-ui.l.google.com	306	
www.google.com	303	
dual-a-0001.a-msedge.net	263	
blob.bn8prdstr05a.store.core.windows.net	239	
www-google-analytics.l.google.com	205	
eu01logfiles-ff.zoom.us	202	Documented by Zoom
eu01xmppwebinar-ff.zoom.us	197	Documented by Zoom
geo-applefinance-cache.internal.query.g03.yahoodns.net	172	
ff02::16	162	
www-googletagmanager.l.google.com	155	
cdn.wootric.com	147	

ocsp.g.aaplimg.com	143	
static.ada.support	136	
api.company-target.com	132	
iPhone-van-Floor.local	126	Local traffic, unrelated to Zoom
eu01file-ff.zoom.us	123	Documented by Zoom
update.googleapis.com	117	
contacts.fe.apple-dns.net	114	iOS/macOS functionality, not Zoom's app
skypedataprddcoleus02.cloudapp.net	103	
skypedataprddcoleus01.cloudapp.net	91	
eu01as.zoom.us	91	Documented by Zoom
content-autofill.googleapis.com	90	
skypedataprddcoleus03.cloudapp.net	89	
zoomam160zc.am.zoom.us	89	Documented by Zoom
zoom.ada.support	85	
ff02::1:ff2a:9644	83	
adserver-vpc-alb-1-1446435489.eu-west-1.elb.amazonaws.com	81	
ff02::1:2	80	
keyvalueservice-g.fe.apple-dns.net	79	iOS/macOS functionality, not Zoom's app
ff02::1:ff1f:a91d	78	
ff02::1:ffee:7b3e	77	
skypedataprddcoleus09.cloudapp.net	75	
187067-ipv4.farm.dprodmgd104.aar.sharepoint.com	73	
e12437.g.akamaiedge.net	67	
api-glb-ams.smoot.apple.com	64	
zoomam161zc.am.zoom.us	64	Documented by Zoom
caldav.fe.apple-dns.net	60	iOS/macOS functionality, not Zoom's app
skypedataprddcolweu06.cloudapp.net	53	
fe80::efe:45ff:fe83:48c7	53	
consent.trustarc.com	53	
www.googleapis.com	52	
oauthaccountmanager.googleapis.com	50	
safebrowsing.googleapis.com	46	
api.apple-cloudkit.fe.apple-dns.net	43	
o-9999.o-msedge.net	43	
nas.local	43	Local traffic, unrelated to Zoom
storage.googleapis.com	43	
accounts.google.com	43	
ff02::1:ffd6:2e82	42	
www.gstatic.com	42	
r3.sn-5hnedn7e.gvt1.com	42	
fe80::d6f5:47ff:fe1c:1270	41	

89ca855a075f1d47c0a490ec8aa47d0c-100.s.section.io	41	
clientservices.googleapis.com	41	
tag.demandbase.com	38	
e4007.g.akamaiedge.net	38	
scout.us1.salesloft.com	37	
settingsfd-prod-weu1-endpoint.trafficmanager.net	36	
ghs.googlehosted.com	36	
l-9999.l.msedge.net	35	
a-0019.a.msedge.net	35	
tracking.g2crowd.com	33	
ssl-google-analytics.l.google.com	33	
::	30	
nginxfileprodnlb-cb40bcdbc33e557a.elb.us-east-1.amazonaws.com	30	
weu-breeziest-in.cloudapp.net	30	
zoomfr160zc.fr.zoom.us	28	Documented by Zoom
fe80::4609:b8ff:fe68:991d	28	
ff02::1	28	
zoomus.zendesk.com	28	
odc-common-us-meta.onedrive.akadns.net	27	
apt-lb.techtarget.com	27	
segments.company-target.com	27	Zoom has documented the existence of traffic to Company-target but not to this specific subdomain
skypedataprddcoluks05.cloudapp.net	26	
Android.local	26	Local traffic, unrelated to Zoom
match.prod.bidr.io	26	bidr
www.tm.a.prd.aadg.akadns.net	25	
skypedataprddcoleus04.cloudapp.net	24	
edge-web.dual-gslb.spotify.com	24	
trk.techtarget.com.wtxcdn.com	23	
a767.dscg3.akamai.net	22	
me.apple-dns.net	20	iOS/macOS functionality, not Zoom's app
gstaticadssl.l.google.com	18	
e15275.g.akamaiedge.net	16	
igmp.mcast.net	15	
time-osx.g.aaplimg.com	14	
skypedataprddcolwus14.cloudapp.net	12	
17.57.146.169	12	
array801.prod.do.dsp.mp.microsoft.com	10	
52.137.103.130	10	
52.143.80.209	10	
array807.prod.do.dsp.mp.microsoft.com	10	

192.168.178.100	5	Local traffic, unrelated to Zoom
ff02::2	5	
ff02::1:ffe4:743d	4	
ff02::1:ff1c:1270	4	
ff02::1:ff61:8fc1	4	
Android-2.local	3	Local traffic, unrelated to Zoom
ff02::1:ff25:a24b	3	
fe80::a228:edff:fea6:96c2	2	
ff02::1:ffb1:b713	2	
fe80::baae:edff:fe7f:d67a	1	
ff02::1:ff34:8443	1	
ff02::1:ff74:2c6e	1	
ff02::1:ff77:8c67	1	
ff02::1:ff7d:bd8b	1	
ff02::1:ffd5:2306	1	
ff02::1:ffe4:638b	1	

ADDENDUM - Zoom: full response to Data Subject Access Request



Your request ([#8221223](#)) has been updated. Reply to this email or follow the link above.



Glory Francke (Zoom)

Nov 12, 2020, 19:45 PST

Hello Floor,

Thanks again for submitting your data access request and for your interest in Zoom's data processing practices. For clarity and convenience, this email contains a summary of all the personal data we've provided in response to your request.

From your given identifiers

(floor.terra@privacycompany.nl and henrike.vanvoorst@privacycompany.nl) we derived some additional identifiers that you may see present in included data. They are:

floor.terra@privacycompany.nl:

- 6n1pCAW4TT2qj5tmnGoKSg
- 3bdDCvtUdtgM7X+uLZf79WIDlu7jTmLQ2YNzdDLgl7A=
- D56ofjF39u39wcvdodJFUwAXkz1EDPHwW3EDaLU9GpU=
- wchA/dn9JgekPMHUmDMeAbB+Qjb8mHx4RP8J3o8ETCc=

henrike.vanvoorst@privacycompany.nl:

- qNkkSKqjS7SaNu7CzFc4yg

- MWPXi9JgWvilbBVGzwm6Y+v+FOuzuOmLUPKd72ggBM=
- b9Y1AKztbo3CkOiKjEtADVxASmQy1Yw3zEWMBrW0psw=

As an IP address alone cannot uniquely identify an individual—meaning that we cannot ensure that the data connected to *only* an IP address is yours to receive—it was not used as part of our data processing.

We have provided information both within this email and in an attached zip archive, “LOCKED_ZD8221223.zip”, to which the password is your account number.

Meeting Logs: Provided within the “meeting_logs” directory in the attached zip. This data was generated on 19 October 2020, and was previously provided.

Event Logs: Events reported by clients for the subjects (as sent to, e.g., eu01logfiles.Zoom.us) have been included in the attached zip as “event_logs_for_users.xlsx”. This data was generated on 11 November 2020.

Account Logs: Account operations performed or related to the subjects of the data request have been included in the attached zip as “account_logs_for_users.csv”. This data was generated on 10 November 2020.

Web Request Logs: We do not store any detailed information sufficient to identify these requests as from an individual, only as from an IP address.

Cookies Used by Zoom Platform with Zoom as the Data Controller:

_pastdue_msg_close: Used to toggle the display of an “invoice past due” message if the user has dismissed it.

_zm_bu: Used as part of platform redirects.

_zm_currency: Used for internationalization to display prices in the user’s preferred currency.

_zm_date_format: Used for localization to render dates in the user's preferred format.

_zm_everlogin_type: Used for altering platform UI based on the user's type of account.

_zm_kms: Our "Keep Me Signed In" cookie.

_zm_lang: Used for localization to render text in the user's preferred language.

_zm_param_email: Used to prefill the user's email address in platform forms, e.g. sign in.

_zm_mtk_guid: Used to track user conversion through signup.

_zm_csp_script_nonce: Used as part of the platform's Content Security Policy.

zm_gnl_guid_v2: Used for rate limiting protection.

zm_gnl_ruid: Used for rate limiting protection.

_zm_ssid: A platform session cookie.

cred: A platform session cookie.

_zm_sid_ma: A platform session cookie.

_zm_sid_ma_n: A platform session cookie.

_zm_htableid: Used for platform routing.

_zm_ctaid: Used for platform routing.

_zm_page_auth: Used for platform routing.

type: Used for platform routing.

zm_aid: Used for platform routing.

zm_cluster: Used for platform routing.

zm_haid: Used for platform routing.

zm_routing_email: Used for platform routing.

zm_routing_snsid: Used for platform routing.

From ZenDesk, for Support Chat: __cfduid, __cf_bm, __cfruid, AWSALB, AWSALBCORS, tuuid, tuuid_lu

Cookies Used by Zoom Platform with a Third-Party as the Data Controller:

From Google, for reCAPTCHA (for Fraud and Abuse Prevention):NID

Cookies Used Outside the Zoom Platform with Zoom as the Data Controller:

From Google, for Analytics: _zm_ga_trackid; was used to determine a user's language for emails.

From SalesLoft, for tracking: site_identity

From Demandbase, for tracking: __cfduid, bito, bitolsSecure, checkForPermission

Cookies Used Outside the Zoom Platform where the Third-Party is the Data Controller:

From Google, for YouTube: GPS, IDE, test_cookie, VISITOR_INFO1_LIVE, YSC

From Rawgit, for serving CDN content: __cfduid

From SalesLoft, for tracking: site_identity

Requests Made Within the Zoom Platform to a Third-Party:

eligibility.wootric.com: We use Wootric for customer feedback on how our platform is performing.

www.google.com: We use Google reCAPTCHA for fraud and abuse prevention.

Requests Made Outside the Zoom Platform to a Third-Party:

in.hotjar.com: We use Hotjar to track anonymized impressions within our marketing pages, e.g., how far down a page users scroll, interactions (with any user input removed).

scout.salesloft.com: We use Salesloft for tracking.

stats.g.doubleclick.net: We use Google Analytics to track impressions on our marketing pages.

www.google-analytics.com: We use Google Analytics to track impressions on our marketing pages.

www.google.com: We use Google reCAPTCHA for fraud and abuse prevention.

www.youtube.com: We embed YouTube videos in our support pages.

api.company-target.com: We use Demandbase for tracking.

cdn.rawgit.com: We load some open source software such as Prettify.js from public CDNs such as Rawgit.

match.prod.bidr.io: We use Demandbase for tracking, which leverages Beeswax.

segments.company-target.com: We use Demandbase for tracking.

Zoomus.zendesk.com: We use ZenDesk for our Support Chat.

hotjar.com: We use Hotjar to track impressions within our marketing pages e.g., how far down a page user scrolls, interactions (with any user input removed).

Third-Party Data Not Provided: We have confirmed with the third-parties outlined above that either no data was collected related to any identifiers for the subjects, or that this data was not available in an identifiable fashion. Thus we cannot provide any information pursuant to your request for these third-parties.

In addition to the above-listed information, you are entitled to receive information about our processing practices, which corresponds with the information we provide in

our [Privacy Statement](#).

Please let us know if you would like to discuss.

Thank you,

Glory Francke & the Privacy Team

Attachment(s)

[LOCKED_ZD8221223.zip](#)