



User Guide

Zebra Data Services (ZDS) Agent Software

Device analytics data collection components

ZEBRA DEVICE SERVICE (ZDS) AGENT SOFTWARE

Zebra Data Service (ZDS) is a background service running continuously on Zebra Android devices to collect and upload device usage data. To take advantage of [Zebra Foresight](#) reports, please ensure the following requirements are met on all desired Zebra Android devices:

- **ELIGIBILITY.** Devices must support ZDS Agent Software. Most Zebra Android devices with KitKat (or later) operating systems have ZDS Agent Software preinstalled. For a list of supported devices, please see page 19 of this guide.
- **ENABLEMENT.** ZDS Agent Software must be enabled on the device. Eligible devices are shipped with the ZDS Agent enabled by default. See page 11 of this guide to determine whether ZDS Agent is running and enabled on your device(s).
- **CONNECTIVITY.** The device(s) must be connected to the Internet.
- **PERMISSION.** Your firewall must allow communication to Zebra's server address:
<http://analytics.zebra.com> and server port: 443.

NOTE: If Foresight reports are blank or devices are missing from the reports, please confirm that ALL of the above requirements are met.



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1 Introduction

1.1 Purpose

The Zebra Data Service consists of a service engine and collection agents that work together to collect machine data from the devices and deliver it to a cloud-based backend server. Machine data is then analyzed by server-side logic to provide insights about device usage patterns.

See Appendix 1 (Section 7.1) for more information about machine data.

1.2 Scope

This document covers the device-side ZDS analytics components to provide help installing and configuring the devices.

1.3 Intended Audience

This document is intended for end-users as an aid to device configuration and basic troubleshooting of ZDS components.

1.4 Supported Devices

Please see page 19 for the device-support matrix.

Reference Materials

- [1] Zebra TechDocs: <http://techdocs.zebra.com/zds>
- [2] Tech Docs for MX: <http://techdocs.zebra.com/mx>
- [3] Analytics Manager CSP: <http://techdocs.zebra.com/mx/analyticsmgr>
- [4] Power Manager CSP: <http://techdocs.zebra.com/mx/powermgr>
- [5] Stage Now: <http://techdocs.zebra.com/stagenow/>



2 Overview

2.1 Zebra Data Service

The Zebra Data Service (ZDS) is a continuous background service running on all supported Zebra devices and is responsible for collecting and uploading analytics data coming from ZDS plug-ins and Zebra-authorized third-party apps. Data is uploaded to the Zebra analytics database every 24 hours by default with transport secured with HTTPS. ZDS updates itself and the ZDS Plugin, and can accept configuration changes such as upload interval (5-minute min.) and data-collection events using a barcode scanned by the device.

Configurable data upload parameters:

- A maximum of about 70KB of data can be collected per day.
- A maximum of about 2MB of (compressed) data can be uploaded per day. This higher limit allows ZDS to upload cached data in case ZDS was not able to upload data on previous days.
- A maximum of 5MB of data can be stored in the ZDS database. When the maximum is reached, older data is replaced by newer data.

NOTE: ZDS is enabled on all devices out of the box and transmits collected device data automatically soon after an internet connection is available. To disable data collection, please see Configuring ZDS beginning on page 6.

2.2 Zebra Data Service Plugin

The Zebra Data Service is responsible for collecting machine data. Please see Appendix 1 (Section beginning on page 18) for more information.



2.3 **Application Binary Size**

- Zebra Data Service: ~2 MB
- Zebra Data Service Plugin: ~200 KB



3 Configuring ZDS

3.1 Setup Wizard and Settings Application

- ZDS can be turned On or Off from the EULA UI application

3.2 Analytics Manager CSP

- Configuration of ZDS can be done through the Analytics Manager CSP
- Analytics Manager CSP also can be used to enable/disable ZDS
- **More information:** <https://techdocs.zebra.com/mx/analyticsmgr/>

3.3 StageNow Barcodes

- **More information:** <http://techdocs.zebra.com/stagenow/3-1/gettingstarted/>

4 ZDS EULA

4.1 Overview

The ZDS EULA application allows the device user to enable or disable data collection. The EULA is available on both GMS and non-GMS devices.

The EULA setup wizard appears when a factory-fresh device boots for the first time (or after factory reset). The EULA page also can be accessed from Android Settings panel. The state of the toggle button on the EULA screen shows the state of the analytics data collection, **which is enabled by default**.

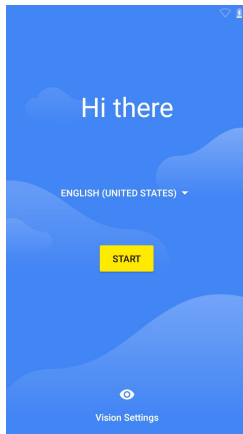


- The device user can choose to enable/disable ZDS using the toggle switch
- The toggle switch can be disabled by the device administrator
- On value tier devices such as TC20 and TC25 and if premium staging applications such as StageNow are used:
 - Analytics will be enabled by default
 - Analytics cannot be disabled from Analytics Manager CSP
 - Analytics cannot be turned off from EULA as Toggle switch will be disabled

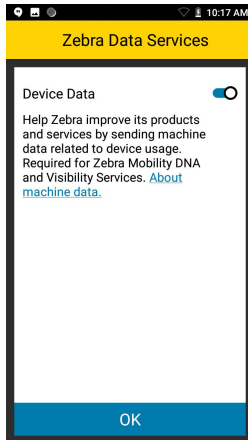
Please Appendix 1 (page 18) for more details about EULA for ZDS.

4.2 EULA Setup Wizard

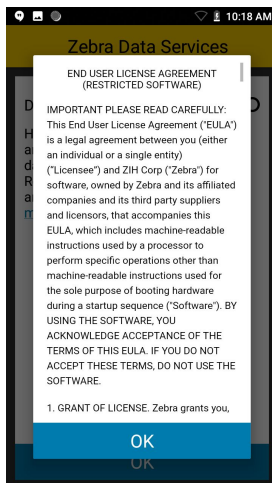
- On GMS devices, the Google setup wizard is displayed when device boots up for the first time (the location consent screen might not appear on all devices).



- The EULA Setup Wizard is employed on devices running Nougat and higher (except WT6000) and appears immediately after the Google Setup Wizard:

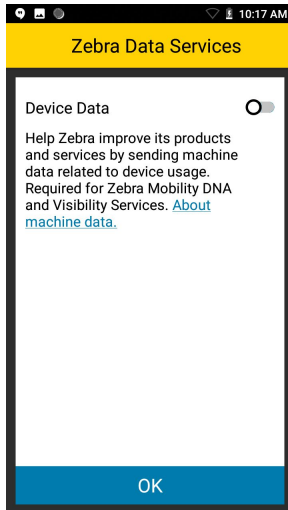


- The EULA can be viewed by clicking on “About Machine Data”

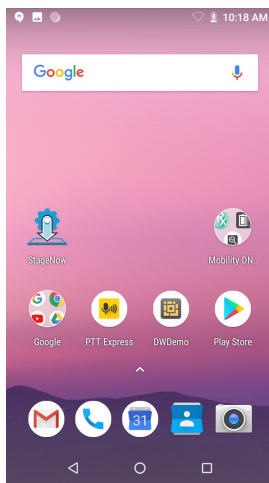




- Disable data collection by toggling off the switch and clicking the “OK” button:



- Clicking “OK” dismisses the Setup Wizard and returns to the Android Home Screen:



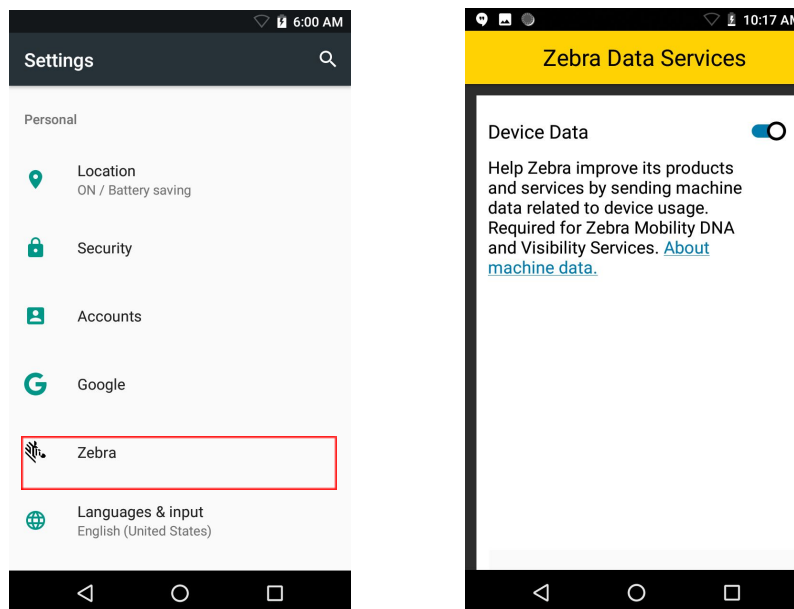


4.3 Notes on EULA Setup Wizard

- The Google Setup Wizard is shown only when the device is fresh "out of the box" or after performing a Factory Reset (not after an Enterprise Reset).
- StageNow barcodes to bypass the Google Setup Wizard also bypass the EULA Setup Wizard.
 - Please see [Power Manager documentation](#) for more information about how to bypass setup wizards.
- Once completed or bypassed, the EULA Setup Wizard is not shown again unless a Factory Reset is performed.

4.4 Accessing EULA from Settings Application

The EULA can be accessed by clicking on "Zebra" in the Android Settings panel, which also is where data collection can be enabled or disabled.



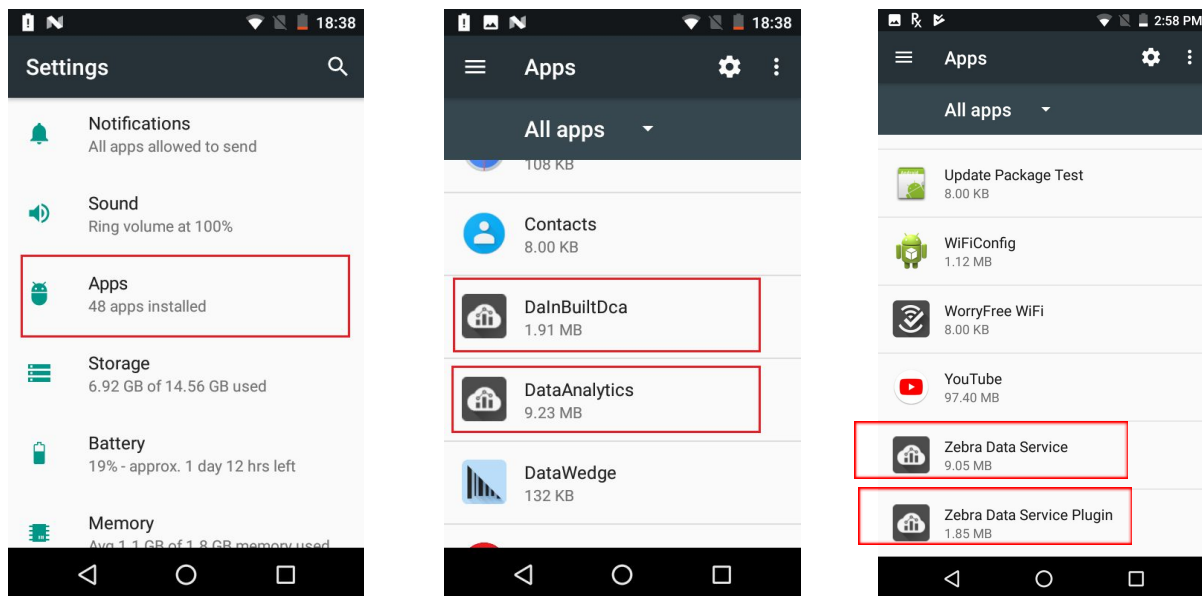
5 Troubleshooting

5.1 Renaming of Data Analytics to Zebra Data Service

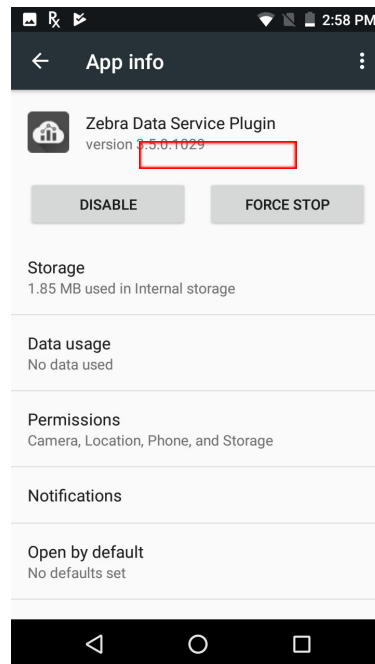
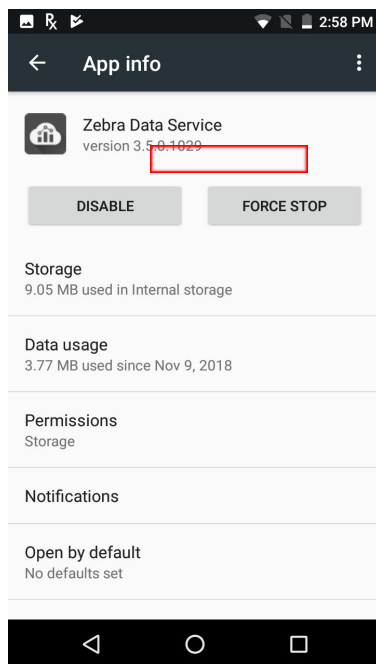
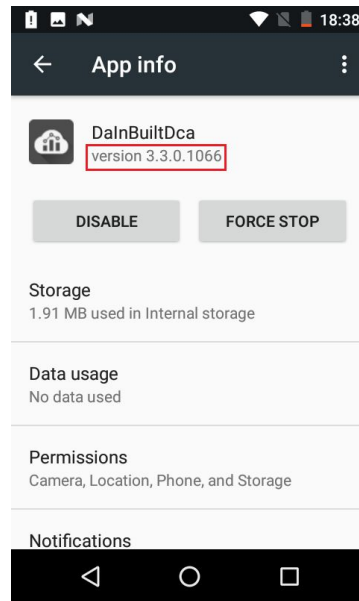
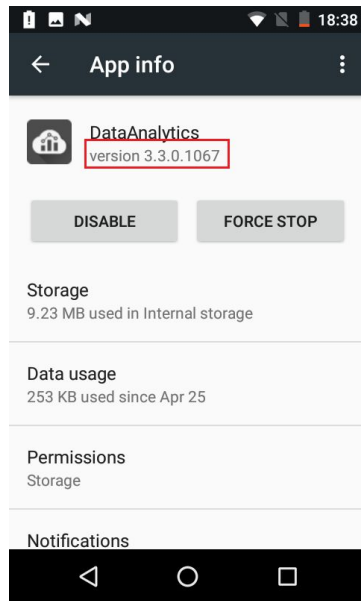
- Older devices might contain components with similar functionality. These were called “**DataAnalytics**” and “**DalnBuiltDca**” (version 3.4.0.1153 and lower)
- On newer devices the components are called “**Zebra Data Service**” and “**Zebra Data Service Plugin**” (version 3.5.0.1029 and higher)

5.2 Getting the Version of Analytics Applications

- Navigate to device **Settings** -> **Apps**
- On the “All apps” screen, click on the menu icon (in the upper-left corner) and select “Show System” to display a list of all system applications.
- Scroll through the apps to find the Analytics apps:



- Click on each application and note the version number, which changes based on the latest self-update version made available by Zebra.

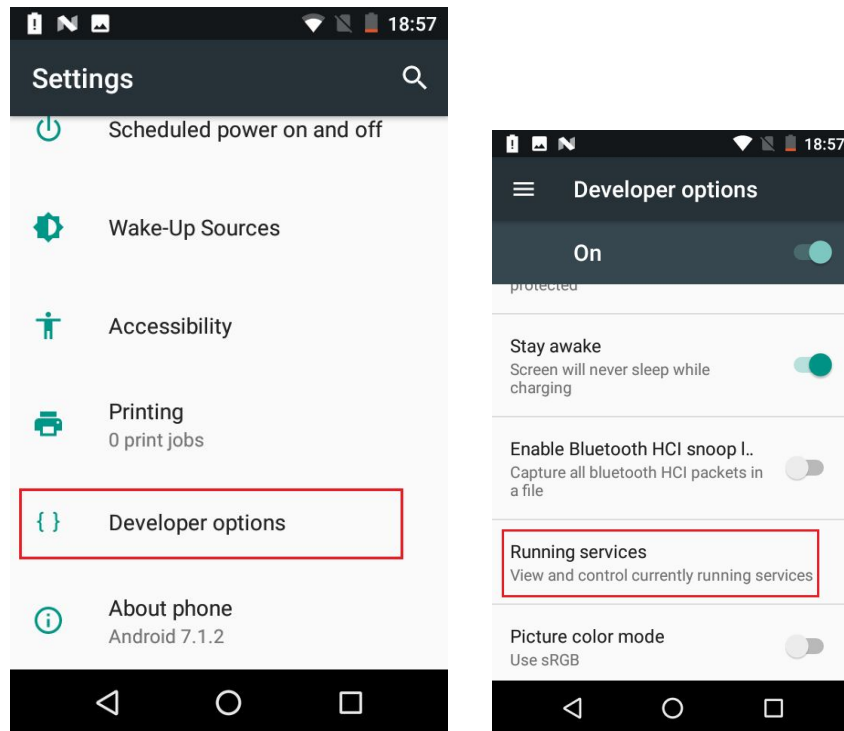


Checking from EULA Screen

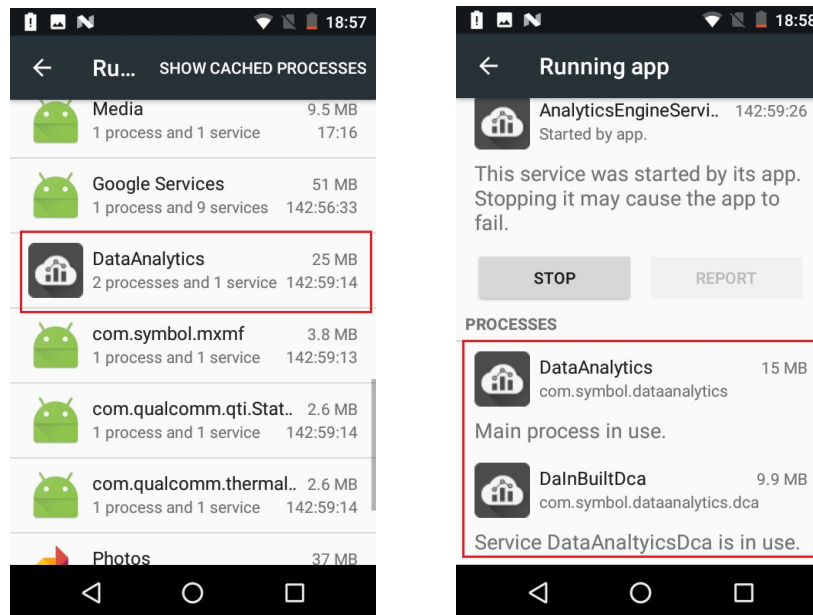
- Check the state of toggle button in the EULA app to determine whether Analytics is disabled (OFF)
- Refer to **Section 4.4** for details

5.3 Checking from Running Services

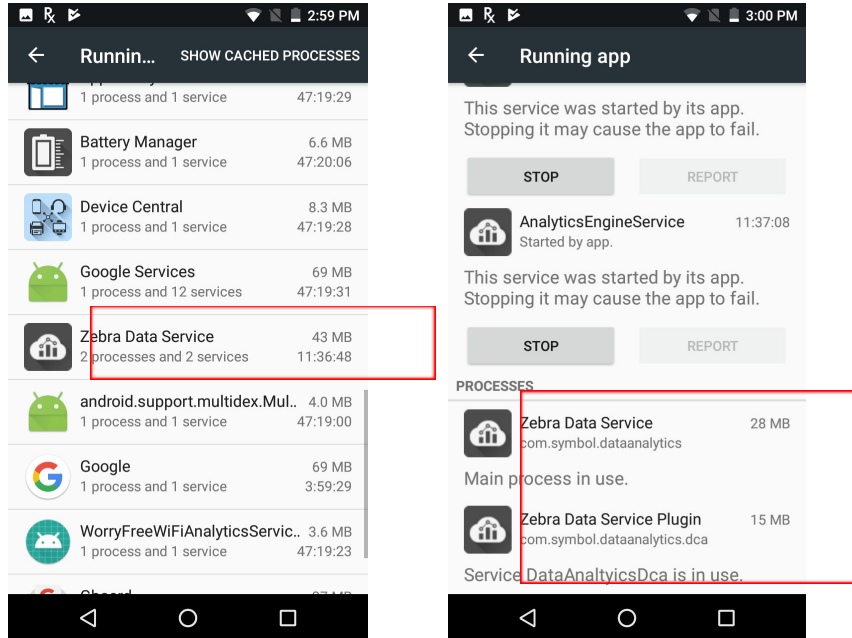
- In the Android Settings panel, go to Developer Options -> Running services -> and scroll down to Data Analytics (old) or Zebra Data Service (new).
- Click to see whether the processes are running:



- Note: To enable developer options go to Settings -> About Phone -> Build Number -> click on the build number repeatedly (about seven times) until it displays a toast message indicating that the developer option is enabled.



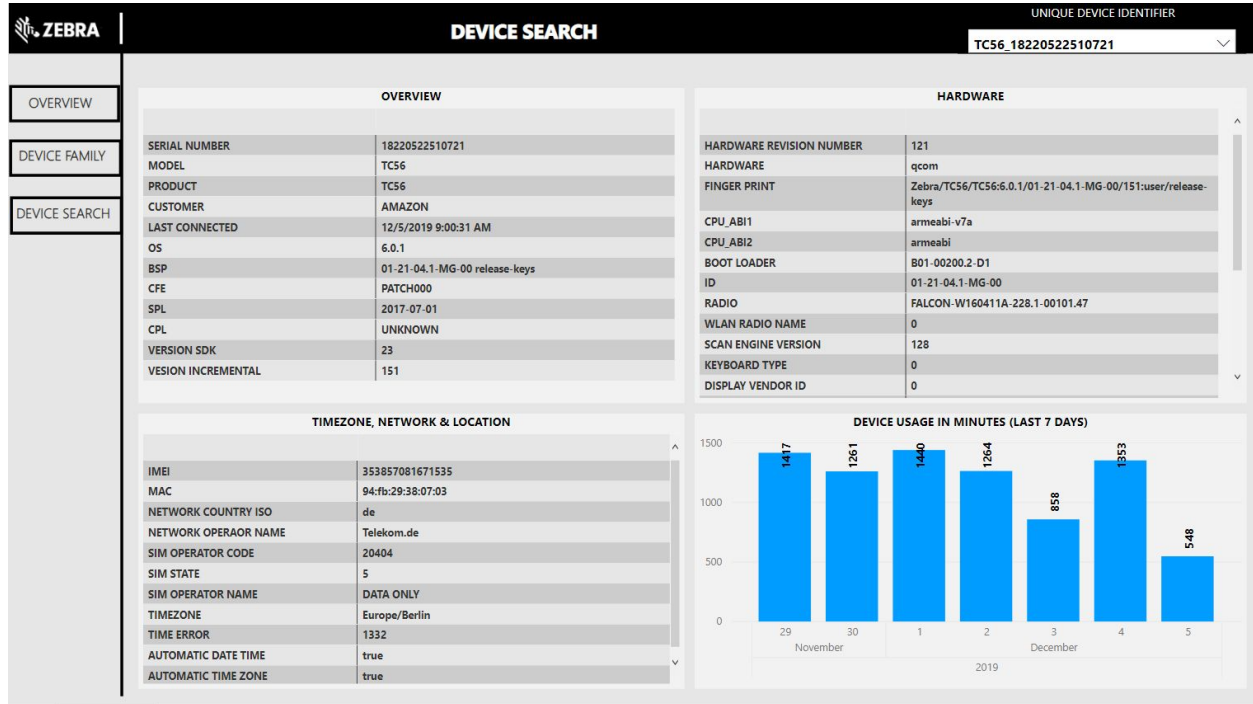
(OLD)



(NEW)

5.4 Checking Last Connected time from Analytics Server

- When was the last time that my device connected to analytics server?
- Answer: Log in to the Analytics server linked below and enter the serial number of the device. In the Overview section, the Last Connected row displays the last known date and time when this device was connected to the server.
- NOTE: For recently deployed devices, it might be necessary to wait 24 hours before data is displayed to allow the data collection service to complete one cycle.
- [Analytics Server URL](#) (login required)
- Click on “Device Search”





6 FAQ

#	Questions	Answers
1.	What is the package name of the current agent?	ZDS Agent Software is implemented in two .apk files: 1. com.symbol.dataanalytics.apk - Main analytics engine 2. com.symbol.dataanalytics.dca.apk - Data collection plug-ins
4.	What is the server address and port number used by the ZDS Agent?	Server address: http://analytics.zebra.com Server Port: 443
6.	How frequently does the ZDS Agent upload device data to the cloud?	The default upload frequency is once every 24 hours.
7.	How much data is sent back during each upload?	The ZDS Agent sends up to approximately 70 KB of data with each upload.
8.	What is the device footprint size of the ZDS Agent?	ZDS Agent Software occupies about 2.2 MB of device storage.
9.	Does ZDS Agent Software components self-update?	Yes. The ZDS agent updates itself and the ZDS Plugins whenever updates are available, typically every 3-4 months.



7 Appendix - 1

7.1 ZDS Machine Data

Standard Data

- Device Info & Device Utilization
- BSP, LG patch & Security patch levels
- RAM available
- Flash info & health
- Battery info & health
- Data Traffic statistics: Wi-Fi / Cellular / Bluetooth / Ethernet
- WLAN Connectivity Info
- WWAN Connectivity Info
- Apps Info and usage
- Additional Apps Info (Value-adds): MX STATS, SimulScan, EMDK, Data Wedge, EHS, StageNow
- Scanner Info and statistics
- Reboots – system and app caused
- ANR
- CPU, Memory usage (Planned)

Optional - based on specific services

- Location: Cellular, GPS
- Location: WLAN, Bluetooth (Planned)

7.2 EULA: About Machine Data

- https://www.zebra.com/content/dam/zebra_new_ja/en-us/channel/terms-conditions/na/zebra-restricted-eula-170515.pdf



7.3 Supported Devices

Zebra Data Services come pre-installed on the following supported devices on Android versions as indicated. Devices and Android versions not shown here are NOT compatible with ZDS. Some devices running KitKat require ZDS to be installed manually. [Contact Zebra Support](#) for more information.

Device	Android 4.x (KitKat)	Android 5.x (Lollipop)	Android 6.x (Marshmallow)	Android 7.x (Nougat)	Android 8.x (Oreo)	Android 9.x (Pie)
TC55	•					
MC40	•	•				
MC9200	•					
TC70/TC75	•	•				
ET5X		•	•			
TC8000		•				
VC8000		•				
MC3300				•		
VC80X					•	
TC20/25				•	•	
EC30					•	
ET51/ET56					•	
L10 Android					•	
MC33X					•	
MC9300					•	
PS20					•	•
TC70X/TC75X			•	•	•	
TC51/TC56			•	•	•	
TC52					•	•
TC57					•	
TC72					•	•
TC77					•	
TC8300					•	
WT6000		•		•		

