WORKSHOP SYSTEM REQUIREMENTS & GUIDELINES

FOR INDEPENDENT OPERATORS

CONTENTS

1 INTRODUCTION

This document describes the technical specifications and standards that need to be incorporated for running VIDA in a workshop process and environment.

In VIDA, the vehicle communication methods differ depending on what diagnostic protocol a vehicle model is using. Also, the diagnostic protocols provide different possibilities in terms of how the vehicle model can be diagnosed in VIDA. There are two main groups of vehicles in VIDA, based on vehicle communication methods:

- VDS protocol-based vehicle models (used by vehicles built on SPA and CMA platforms).
- D2 and GGD protocol-based vehicle models (used by all vehicles on all other existing platforms).

VDS protocol-based vehicles support diagnostics by Ethernet cable. This delivers faster communication and a simplified connection procedure compared to former vehicle communication methods.

2 HOW TO CONNECT VDS PROTOCOL-BASED VEHICLES TO VIDA

VDS protocol-based vehicles support diagnostics over Ethernet.

Connecting VDS protocol-based vehicles to VIDA is done via **peer-to-peer** connection, using Ethernet cables between VIDA workstations and vehicles. For more information, see chapter *4, Ethernet connectivity requirements, on page 8*.

3 VIDA REQUIREMENTS

3.1 Mandatory specifications for VIDA workstation

Having the right infrastructure is one of the first building blocks of a retail business. Understanding Volvo Car Group Retail Infrastructure requirements and going just a few steps above and beyond those requirements could significantly improve the bottom line.

Take action to implement these four simple, yet effective methods:

- **Surge Protection** – Providing surge protection for PCs and network devices is the easiest and most effective way to extend the life of the equipment and avoid expensive downtime.
- **Network workstations using common, modern methods** – Use the STAR DIG, http://www.starstandard.org/index.php/star-standards/dig-dealer-infrastructure-guidelines to implement a computer network with common and standard devices and protocols. Sharing internet connections and printers can directly improve the dealership's bottom line.
- **Provide virus protection** – Virus protection software helps prevent expensive downtime of systems.
- **Maintain reasonable and useful equipment warranty services** – When negotiating for warranty services, keep in mind that the average PC life is three years and onsite repair services are less disruptive and can be less expensive.

Note

Installing and running VIDA in terminal server environments or on other operating systems than the listed is not supported. The functionality of VIDA cannot be guaranteed in such environments.

VIDA is delivered as a desktop application but an installation package has to be installed on the computer to get the necessary software components. Download the VIDA Prerequisites installation package from:

Country	VIDA Prerequisites
China	http://vidainstaller-cncc.volvocars.biz/client-installer-cn/VIDACNSetup.exe
All countries except China	http://vidainstaller.volvocars.biz/client-installer/VIDASetup.exe

Note

It is important to always have the latest VIDA Prerequisites installed in order for VIDA to function properly.

For using VIDA, the workstation requirements are as presented in the table below.

The items with an asterisk (*) are recommendations from now on and is valid from year 2022.

Item	Specifications for VIDA	
Processor	Intel Core i5 or equivalent[1]	
Memory*	8 GB or more	
Free local disc space*	120 GB[2]	
Connections	2 x USB 2.0 or higher[3]	
Operating system	Windows 10 Professional/Enterprise. Only 64-bit operating system[4].	
Installed browser	Microsoft Internet Explorer 11 and Google Chrome	
File system	NTFS	
Display resolution*	**Aspect ratio**	**Recommended resolution**
	16:9[5]	1920 x 1080
Internet connection (internal)	100 Mbit/s [6]	
Bandwidth*	10 Mbit/s Download or higher for better performance [7] 10 Mbit/s Upload or higher for better performance [7]	
NAS drive*	2 TB [8] RAID 1 capable with a minimum of 1 Gbit/s LAN port, with the capability of supporting at least 5 concurrent users.[8]	
Smartphone	USB and Bluetooth tethering capabilities [9] Wi-Fi hotspot feature for internet sharing [9]	

[1]Name of processors is frequently changed. This is examples of what to use.

[2]Amount of disc space which should be available before VIDA is installed. The recommendation is based on the increase of used disc space over three years. If you have other applications, allow extra space for these according to their requirements.

[3]Additional USBs may be needed for other equipment, such as mouse and keyboard.

[4]Minimum retail infrastructure requirements for VIDA. Windows Update must be enabled and all available updates from Microsoft need to be installed.

[5]The application is optimized for widescreen format. However, the application design is “fluid” based, i.e. the application stretches to completely occupy available screen space. This makes it possible to use smaller screens but bear in mind that it can be difficult to read wiring diagrams and other features that contain a lot of information.

[6]An internet connection must be available at all workshops and is used for the communication between the VIDA workstations and the VIDA central servers. This is the mandatory minimum internal network capacity.

[7]Mandatory minimum bandwidth for acceptable performance. However, the larger the bandwidth, the better VIDA will work.

[8]A NAS drive enables every VIDA workstation in the network to access the data stored on it. To locally cache VIDA data, a business grade local network storage of the specified value per customer organisation (Partner ID) is needed. This is managed by a network attached storage (NAS). The amount of storage space necessary for VIDA will increase at given occasions.

[9]The vehicles need mobile internet access in the workshop for the purpose of loading in-car apps, in the same way as the customers would provide internet to their vehicles. Mobile internet is normally supplied to the vehicles by means of a smartphone connected to the vehicles using USB, Bluetooth or Wi-Fi technology (by setting up a Wi-Fi hotspot). USB dongles with 3G/4G cannot be used. Hence, the workshop will need a smartphone for fault tracing of issues related to connectivity in order to be able to re-create what the customers would do. In addition, VIDA needs mobile internet in the case of mobile fault tracing (e.g. while driving the vehicle), where the same smartphone could be utilized. Alternatively a USB dongle could be used for a VIDA workstation.

3.2 Additional software requirements

There are different plug-ins that are needed and software prerequisites that need to be fulfilled for VIDA to work properly. These are described in the sections below.

3.2.1 Adobe Acrobat Reader

Some functions in VIDA require the software **Adobe Acrobat Reader** in order to view .pdf files. Adobe Acrobat Reader has to be installed separately and is available for free via this link: http://get.adobe.com/reader/.

3.3 Other software and software interfaces

3.3.1 TIE CLASSIC and TIE NG

TIE CLASSIC is used to report errors/discrepancies and to distribute information. To access TIE CLASSIC, Microsoft Internet Explorer 11 is required.

TIE NG is used to distribute Service Journals. To access TIE NG, Google Chrome is required.

4 ETHERNET CONNECTIVITY REQUIREMENTS

VDS protocol-based vehicles can be connected directly to a VIDA workstation with a standard Ethernet cable using network connectors for a peer-to-peer connection for diagnostics and software download.

The following are the components required:

Mandatory components

- VOE (Volvo OBD to Ethernet) adapters, Volvo special tool number 9513108.

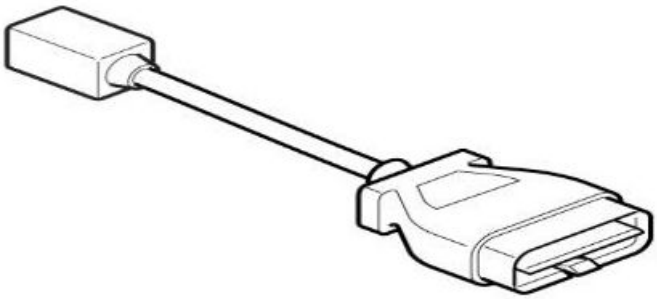

*Fig. 1 VOE adapter**

* The image is showing a generation 2 adapter. Generation 1 can still be used.

- Ethernet network input for each VIDA workstation for peer-to-peer connection. It can be either a PCI network card or a USB Ethernet adapter.
- Ethernet cable type CAT5, CAT5e or CAT6, Volvo special tool number 9513095. This cable tolerates cold environment.

Fig. 2 Ethernet cable

- An Ethernet cable tester (not a Volvo special tool).

Optional components

- USB Ethernet adapters (not a Volvo special tool) for internet connection when a peer-to-peer connected vehicle occupies the VIDA workstation's Ethernet port.

Note

The connection may differ and depends on the manufacturer of the USB Ethernet adapter. During development phase, Volvo Cars found the following adapters to be best suited for this task and is therefore recommended:

D-link 3.0 Fast Ethernet Adapter

D-link DUB-1312

There may be other adapters with similar properties, but since they are not tested by Volvo Cars they cannot be not recommended.

Fig. 3 USB Ethernet adapter

5 CONFIGURATION SPECIFICATIONS

5.1 Universal Resource Locators

VIDA will use several URLs, all will be on *.volvocars.biz* – make sure that *.volvocars.biz* is not blocked by a proxy or firewall.

The following outbound ports in an internet firewall need to be open:

Protocol	Port number	Destination	Usage
TCP	80	Any	For VIDA to reach central systems.
TCP	443	Any	

5.2 Microsoft Windows user account

In order to install VIDA, the user account for Microsoft Windows has to be set to administrator.

Note

It is not possible to run VIDA while logged in to the operating system with a guest account. Try to avoid having a domain policy that will override the normal rights for the supported user accounts. Some restrictions might make VIDA not work. For example, a user must have right to change the registry since VIDA requires that when adding a DiCE. It is strongly recommended that all VIDA users log in as administrators with full admin rights.

6 VEHICLE COMMUNICATION TOOLS

Vehicle communication tools are used to perform diagnostic readouts, diagnostic fault tracing and software downloads on D2 and GGD protocol-based vehicles. For VDS protocol-based vehicles, VIDA does not need to be connected to the vehicle through a communication tool.

VIDA supports DiCE and J2534 devices. Volvo Cars recommends DiCE for vehicle communication with D2 and GGD protocol-based vehicles.

6.1 DiCE

DiCE uses a Bluetooth connection to transfer information between VIDA and the vehicle. A USB cable can be used as an alternative to the Bluetooth connection.

Please note that no third party Bluetooth dongles can be used with DiCE, only Volvo Cars DiCE equipment can be used.

Multiple DiCEs

You can have more than one DiCE connected to VIDA at the same time. This makes it possible to download software to more than one vehicle simultaneously.

6.2 J2534 devices

For all vehicles with model year 2004 and later, equipped with OBD and reprogramming capability, manufacturers shall comply with SAE J2534. There are two different versions of J2534:

- J2534-1 can be used to download software to vehicles from, and including, model year 2004. J2534-1 manages software to control modules on CAN HS (Controller Area Network High Speed) that are emission related. J2534-1 cannot be used for diagnostics.
- J2534-2 manages software download to control modules on both CAN HS and CAN MS (Controller Area Network Middle Speed).

The hardware used to validate VIDA's compliance with J2534 can be purchased separately from third-party suppliers. Validation has been done using the following J2534 pass-thru devices:

- J2534-1: Actia Passthru+ XS and CarDAQ2534.
- J2534-2s: CarDAQ Plus.

For more information regarding these devices, please contact the respective manufacturer.

7 ABBREVIATIONS

CAT – Category (cable)
CAN HS – Controller Area Network High Speed
CAN MS – Controller Area Network Middle Speed
CMA – Compact Modular Architecture
D2 – Volvo Diagnostics II
DiCE – Diagnostic Communication Equipment
GGD – Generic Global Diagnostic Specification
NAS – Network Attached Storage
NTFS – New Technology File System
OBD – On Board Diagnosis
PCI – Peripheral Component Interconnect
SPA – Scalable Product Architecture
TIE – Technical Information Exchange
USB – Universal Serial Bus
URL – Universal Resource Locator
VDS – Volvo Diagnostics and Software download

8 HISTORY LOG

8.1 320EN11

Shared drive has been removed. A NAS should always be used instead.

The URL to VIDA Prerequisites for China and other China specific URLs have been added.

8.2 320EN12

URLs used by VIDA have been removed and replaced with *.volvocars.biz*

End date for Windows 7 has been postponed until 2020-01-14.

8.3 320EN13

Destination Any, has been added to the *Universal Resource Locators* table.

8.4 320EN20

Updated information about mandatory requirements for the VIDA workstation.

Chapter about TIE is updated with information about requirements for TIE NG.

Changed required NAS drive storage space from 1 TB to 2 TB.

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