

# ***ABSSolute***

Multi-Tier Laundry Information System



## ***ABSSolute***

### **Version Certification Matrix**

### **For Current Releases**

## Document History

Change history				
Author	Version	Release Date	Status	Comment
J. Minnaar	V903.3	25-Mar-2019	Update	- Moved statement de-supported 32-bits ABSSolute Client to next core release V904
C. Florea / J. Minnaar	V9.04.00	24-Jan-2020	Final	<ul style="list-style-type: none"> <li>- Important Announcements:</li> <li>- Use Java 11 (Azul's Zulu OpenJDK) for ABSSolute</li> <li>- Use Payara web server use for Web apps</li> <li>- Removed chapter 9.01.00</li> <li>- Added chapter v9.04.00</li> <li>- Added support for Oracle Database 19c</li> <li>- Added application LocalPrintServer</li> <li>- Removed support for 32-bits ABSSolute Client</li> <li>- Removed support for Oracle Database 12.1</li> <li>- Removed Windows 7 support</li> <li>- Removed Windows Server 2008 and 2008 R2 support</li> <li>- Mobile apps chapters updated</li> <li>- Added MyUniformAssistant</li> <li>- Added BulkPacking and TruckLoad Assistant Android</li> <li>- Announcement de-support for Windows Mobile apps</li> </ul>
J. Minnaar	V9.04.1	28-Jan-2020	Update	<ul style="list-style-type: none"> <li>- Mobile apps chapter updated</li> <li>- Updated compatibility matrix Route Assistant Android</li> </ul>
J. Minnaar	V9.04.2	5-Mrt-2020	Update	- Added Windows 2019 support for Business Intelligence
J. Minnaar	V9.05.1	17-Feb-2021	Update	<ul style="list-style-type: none"> <li>- Added chapter V905 for new core release</li> <li>- Removed chapter V903, to support only</li> <li>- Added chapter independent applications</li> <li>- General Support announcements updated 3<sup>rd</sup> party EOL dates</li> <li>- Removed chapter Windows mobile apps (out of support)</li> </ul>
J. Minnaar	V9.06.1	25-Mar-2022	Update	<ul style="list-style-type: none"> <li>- Added chapter V906 for new core release</li> <li>- Removed chapter V904, to support only</li> <li>- Added Windows 11 support for V906 ABSSolute client</li> <li>- Updated BI Analytics to V5.9</li> <li>- Updated General Support announcements - 3rd party EOL dates</li> <li>- Updated chapter Android apps</li> <li>- Updated V906 web portal &amp; Web apps browser compatibility</li> </ul>
J. Minnaar	V9.07.1	30-Jan-2023	Concept	<ul style="list-style-type: none"> <li>- Updated General Support announcements – ABS products <ul style="list-style-type: none"> <li>• Web applications will be deployed with Tomcat 9</li> <li>• Payara web server is reaching EOL</li> </ul> </li> <li>- Updated General Support announcements - 3rd party EOL dates <ul style="list-style-type: none"> <li>• Added Windows 11 &amp; 2022 Server current builds</li> <li>• Removed obsolete Windows &amp; Linux releases</li> <li>• Removed obsolete BI releases</li> </ul> </li> <li>- Added chapter V907 for new core release <ul style="list-style-type: none"> <li>• Added support for Windows 2022 Server</li> </ul> </li> <li>- Removed chapter V905</li> <li>- Updated BI Analytics to V20.6.4</li> </ul>
A.Banciu / J. Minnaar	V9.08.0	07-Mar-2024	Update	<ul style="list-style-type: none"> <li>- Updated General Support announcements – ABS products <ul style="list-style-type: none"> <li>• Web applications will be deployed with TomEE 9 and Tomcat9</li> </ul> </li> <li>- Updated General Support announcements - 3rd party EOL dates <ul style="list-style-type: none"> <li>• Added Windows 10, 11 &amp; 2022 Server current builds</li> <li>• Removed obsolete Windows &amp; Linux releases</li> <li>• Removed obsolete BI releases</li> </ul> </li> <li>- Added new chapter (Cyber) Security overview</li> <li>- Added chapter V10 for new client</li> <li>- Added chapter V908 for new core release</li> <li>- Removed chapter V906</li> <li>- Updated OAS to V2023</li> <li>- Updated Independent applications chapter</li> </ul>
A.Banciu / J. Minnaar	V9.09.0	27-Jan-2025		<ul style="list-style-type: none"> <li>Updated General Support announcements – ABS products <ul style="list-style-type: none"> <li>• Web applications will be deployed with Tomcat10.1</li> <li>• Java update from version 17 to version 21</li> <li>• ABS Mobile Gateway introduction for all Android mobile applications</li> </ul> </li> <li>Updated chapter (Cyber) Security overview</li> <li>Added new chapter v909 for new core release</li> <li>Removed chapter v907</li> <li>Updated OAS to V2024/2025</li> <li>Updated Independent applications chapter (added Peripheral Agent)</li> </ul>

## Contents

Contents .....	3
Introduction .....	4
Release development status .....	5
Current release .....	5
Support-Only release .....	5
ABSSolute System .....	6
General Support announcements .....	6
ABS products .....	6
3 <sup>rd</sup> party products .....	6
ABSSolute (Cyber) Security overview .....	8
ABS Security Risk Classification .....	8
ABSSolute Version 9.09.00 (V909) and higher .....	10
ABSSolute Version 9.08.00 (V908) and higher .....	12
ABSSolute Business Intelligence .....	14
Oracle Analytics 2024/2025 .....	14
Independent Applications .....	15
ABSSolute PDA Applications .....	17
Android app requirements .....	17
RFID UHF readers .....	17
Linen Assistant Android .....	18
Garment Assistant Android .....	19
Route Assistant Android .....	19
SI Tag Android .....	20
Item Dispense Android .....	20
Packing Assistant Android .....	21
Bulk Packing Assistant Android .....	21
Truck Load Assistant Android .....	21
Exchange Cart Assistant Android .....	22
ABSSolute Server virtualization & Cloud .....	22



## Introduction

The core of the three-tier *ABSSolute* system consists of the components:

- *ABSSolute* client,
- *ABSSolute* middle tiers (Application server & Report server),
- Oracle database.

The Client and middle tier components are written in 100% pure Java. These components run with Java Run-time Environment (JRE). The core middle tier components make use of Oracle client and database software.

For implementation possibilities and certification, the *ABSSolute* system depends on Java and Oracle database supported system configurations.

The *ABSSolute* web services and web application are by default deployed on TomEE/Tomcat and written in 100% Java and only depends on the required Java Runtime Environment.

The next chapters provide the supported system configuration matrixes for the current *ABSSolute* releases.

Feel free to contact ABS Support desk for specific configurations not listed or for any other certification questions.

## Release development status

ABS recognizes the development status of an ABSSolute release in current releases and support-only releases.

### ***Current release***

An ABSSolute Current release is a release that is currently actively maintained by development. Certifications for new system configurations can be added for such a release.

When a new system configuration gets certified, this normally results in a new full build for an ABSSolute release.

The certification matrix for current releases is described in this document.

### ***Support-Only release***

An ABSSolute Support-Only release is a release that is taken out development. Certification against new system configurations is frozen. ABS offers an upgrade path to higher releases. Contact the ABS support desk for upgrade support questions.

The certification matrix for terminal releases is described in document: "ABSSolute Certification Matrix – Support-Only releases"

## ABSSolute System

### General Support announcements

#### ABS products

- From ABSSolute releases higher than V9.09.00:
  - Web applications will be deployed with Tomcat 10.1
  - All Android applications will connect via REST to ABS Mobile Gateway standalone application
  - Starting with ABSSolute release V9.09.00, all applications Java runtime version is updated to Java 21 (21.0.5)
- From ABSSolute releases higher than V9.08.00:
  - Web applications will be deployed with TomEE 9 and Tomcat 9, because Payara web server is replaced (reaching EOL) and TomEE8 reached EOL
  - Starting with ABSSolute release V9.07.04, Java 11 runtime version is updated to Java 17 (17.44.15)
- From ABSSolute releases higher than V9.07.00:
  - Web applications will be deployed with TomEE 8, where Payara web server is replaced (reaching EOL)
  - For security & compatibility ABSSolute components are shipped with latest Java 11 Runtime (11.60.19)
- Starting from ABSSolute release V9.05.00:
  - Connections will not be possible from Windows mobile apps
- Starting from ABSSolute releases higher than V9.04.00:
  - Windows Mobile Apps are not supported anymore
- Starting from ABSSolute V9.04.00:
  - ABSSolute client can be deployed on 64-bit Windows systems only

For Azul's Zulu OpenJDK Java and Tomcat web server, ABS ships by default the community editions. If needed for example from company policy perspective, a commercial license can be acquired thru ABS.

#### 3<sup>rd</sup> party products

To avoid security risks it's important to budget and plan the phase out of technology that's reaching end of live. Please take the following End of support dates into account.

#### Technology

##### Windows

- |   |                                 |
|---|---------------------------------|
| • Microsoft support for Windows 11 build 24H2(E)    | October 12 <sup>th</sup> , 2027 |
| • Microsoft support for Windows 11 build 23H2(E)LTS | October 9 <sup>th</sup> , 2029  |
| • Microsoft support for Windows 11 build 23H2(E)    | November 10, 2026               |
| • Microsoft support for Windows 11 build 22H2(E)    | October 14, 2025                |
| • Microsoft support for Windows 10 build 22H2(E)    | October 14, 2025                |

#### End of support date

- Microsoft support for Windows 10 build 21H2(E)LTS January 12, 2027
- Microsoft support for Windows Server 2022(LTSC) October 14, 2031
- Microsoft support for Windows Server 2019(LTSC) January 09, 2029
- Microsoft support for Windows Server 2016(LTSC) January 12, 2027

**Linux**

- Redhat support for RHEL 8 Linux May 31<sup>st</sup>, 2029
- Redhat support for RHEL 7 Linux June 30<sup>th</sup>, 2024
- Oracle Linux 8 July 1<sup>st</sup>, 2029
- Oracle Linux 7 December 1<sup>st</sup>, 2024

**Oracle Database, OAS & Business Intelligence**

- Oracle support for database 19c (LTS) December 31<sup>st</sup>, 2029
- Oracle support for Oracle Analytics Server 2023 (20.7.0) March 1<sup>st</sup>, 2025
- Oracle support for Oracle Analytics Server 2024 (24.7.6) March 1<sup>st</sup>, 2026
- Oracle support for Oracle Analytics Server 2025 (25.7.6) March 1<sup>st</sup>, 2027

## ABSSolute (Cyber) Security overview

ABS has recognized that security is ever increasing in importance, and we therefore start going into detail regarding the security improvements included in our latest release. Beyond functional improvements, security improvements are important reasons to upgrade to our latest release, to keep you and your customers' (data) safe. The most notable changes have been included based on input from audits, both initiated by ABS itself and its' customers, for example on the ABS Web Portal.

The ABS support department is available for any support in this matter.

### ***ABS Security Risk Classification***

The following risk classification is defined for the Security Overview:

Nr	Security Risk Classification	In Support Software (ABS / 3rd Party)	Out of Support Software	Description
1	Low / None	X	X	No known issues or hardly a threat
2	Medium	X	X	Possible threat
3	High / Critical	X	X	High Risk & Active threats

High and critical items do have a CVSS v3 classification of 7.0 or higher.

More information about CVS classification can be found at: <https://www.sans.org/blog/what-is-cvss/>

The following ABSSolute system Security Overview does contain the risks identified for the ABSSolute software together with their 3<sup>rd</sup> party software components used:



## ABSSolute Component Security Risk Overview

Nr	ABSSolute Component	Function	ABS Versions with Release date (latest patch applied)						
			V903 2019	V904 2020	V905 2021	V906 2022	V907 2023	V908 2024	V909 2025
1	Client	FAT client installed on PC for application	X	X	X	X	X	X	X
2	V10 Web client	Web client for application users	-	-	-	-	-	X	X
3	Application Server	Server for ABSSolute client and Web services	X	X	X	X	X	X	X
4	Report server	Reporting for ABSSolute client and Web portal	X	X	X	X	X	X	X
5	Web services	Used for Android / Mobile Apps / Integration	X	X	X	X	X	X	X
6	Web Portal	Customer Web Portal	X	X	X	X	X	X	X

## 3rd party Software Component Security Risk Overview

Nr	3rd Party Component	Function	Versions	3rd party SW with Release date (latest patch applied)						
				V903 2019	V904 2020	V905 2021	V906 2022	V907 2023	V908 2024	V909 2025
1	Apache HTTP web server	Traffic redirection, load divider & SSL certificate	Version 2.4	X	X	X	X	X	X	X
2	Web server	Deploys Web portal and ABS Web services	Glassfish 4.1.1	X	-	-	-	-	-	-
			Payara 5	-	X	X	X	-	-	-
			TomEE 8/9	-	-	-	-	X	X	-
			Tomcat 9	-	-	-	-	X	X	-
			Tomcat 10	-	-	-	-	-	X	X
3	Oracle database	Transactional database	11C (11.2)	X	-	-	-	-	-	-
			12C (12.2)	X	X	X	X	-	-	-
			19C	-	X	X	X	X	X	X
4	BI server	Business Intelligence/ Oracle Analytics Server	OBIEE 12.2.0.3	X	X	X	X	-	-	-
			OBIEE 12.2.0.4	-	X	X	X	X	-	-
			Analytics 2023	-	-	-	-	X	X	X
			Analytics 2024	-	-	-	-	X	X	X
			Analytics 2025	-	-	-	-	X	X	X

## Recommendations

Important remarks to keep the software stack safe:

- Stay on a *supported ABSSolute software release*.
- Have *periodically software fixes applied*, for 3<sup>rd</sup> party software components is on quarterly cycle currently.
- *Software fixes* are made available on supported releases through the ABS support maintenance agreement.
- Periodically software patch *installation activities* are covered by a Technical SLA - or Hosting agreement.
- *Monitor actively* ABS security announcements, those will be shared by the support department when needed.

## ABSSolute Version 9.09.00 (V909) and higher

ABSSolute Fat Client and TouchScreen Apps	Supported
Windows 8	No
Windows 10	Yes
Windows 11	Yes
Windows 2012 Server R2 - Terminal server	No
Windows 2016 Server - Terminal server	Yes
Windows 2019 Server – Terminal server	Yes
Windows 2022 Server – Terminal server	Yes

### Remarks:

- Supports 64 bit Windows only
- ABSSolute support for 4K (3840 × 2160) resolution
- Supported screen resolutions are 1024x768 and higher
- 4K (3840 × 2160) resolution requires 100% display scale. Other font sizes or scales not supported
- ABSSolute clients are supported on x86/x64 CPU architecture only. ARM-based processors are not supported

ABSSolute Infinity (V10) WebClient supported Operating Systems	Supported
Windows 8	No
Windows 10	Yes
Windows 11	Yes

v10 Client Version	Angular Version	Node.JS Version	NX Version	Nginx Version **	ABSSolute Version	Min LocalPrintServer Version	Max LocalPrintServer Version *	Min PeripheralAgent Version	Max PeripheralAgent Version *	Comments	Supported
10.0.0	12.2.13	16.19.0	13.1.3	1.22.1 stable	9.07.01.RELEASE.p02 and all next patches	2.0	2.0	N/A	N/A	-	Y
10.1.0	16.0.0	16.19.0	16.1.4	1.24 stable	9.07.04.RELEASE and all next patches	2.0	2.0	N/A	N/A	-	Y
10.2.0	16.0.0	16.19.0	16.1.4	1.24 stable	9.08.00.RC1	2.1	-	N/A	N/A	-	N
10.3.0	16.0.0	16.19.0	16.1.4	1.24 stable	9.08.00.RELEASE	2.1	2.1	N/A	N/A	-	N
10.4.0	16.0.0	16.19.0	16.1.4	1.24 stable	9.08.00.RELEASE.p01 and all next patches	2.1	-	N/A	N/A	-	Y
10.6.X	18.1.2	20.15.1	19.5.6	1.24 stable	9.08.02	2.1 http / 2.2 with https	-	1.0.0	1.0.0	-	Y
10.7.0	18.1.2	20.15.1	19.5.6	1.24 stable	9.09.00	2.3.0	-	1.1.0	1.1.0	-	Y
10.8.0	18.1.2	20.15.1	19.5.6	1.24 stable	9.09.01	2.4.0	-	1.2.0	-	-	Y

ABSSolute V10 WebClient Supported browsers	Supported
Internet Explorer V11	No
Microsoft Edge – V103.* and higher major versions	Yes
Firefox - current major Extended Support Release (ESR) version V102.* and above	Yes
Google Chrome - most current major stable channel release only V103.* and above	Yes
Apple Safari	No

### Remarks:

- ABSSolute support for 4K (3840 × 2160) resolution
- Supported screen resolutions are 1366 x 768 and higher
- 4K (3840 × 2160) resolution requires 150% display scale. Other font sizes or scales not supported
- ABSSolute clients are supported on x86/x64 CPU architecture only. ARM-based processors are not supported

<b>ABSSolute Application and Report Server</b>	<b>Supported</b>
Windows Server 2012 R2	No
Windows Server 2016	Yes
Windows Server 2019	Yes
Windows Server 2022	Yes
Red Hat Enterprise Linux 7/ Oracle Linux 7	No
Red Hat Enterprise Linux 8/ Oracle Linux 8	Yes

<b>ABSSolute Web Applications</b>	<b>Supported</b>
Windows Server 2012 R2	No
Windows Server 2016	Yes
Windows Server 2019	Yes
Windows Server 2022	Yes
Red Hat Enterprise Linux 7/ Oracle Linux 7	No
Red Hat Enterprise Linux 8/ Oracle Linux 8	Yes

**Remarks:**

- Supports 64 bit OS only
- ABSSolute web applications and web services are deployed on Tomcat10.1 open source edition, commercial license can be gathered at ABS
- Web applications: AbsWebPortal, WebClientX, WebClientCleanroomPacking Instructions, WebClientReplace SmartBarcode, WebClientResidentialDelivery, WebClientRouteReturns, UhfMonitor

<b>ABSSolute Web Applications Supported browsers</b>	<b>Supported</b>
Internet Explorer V11	No
Microsoft Edge – V103.* and higher major versions	Yes
Firefox - current major Extended Support Release (ESR) version V102.* and above	Yes
Google Chrome - most current major stable channel release only V103.* and above	Yes
Apple Safari	No

**Remarks:**

- Certification is done for Edge, Firefox & Chrome on Windows 10/11 against default browser settings
- Browsers on Apple devices are not certified, but can work at own risk
- Web apps must be allowed to use Java script and use pop ups in browser settings
- PDF reader must be installed to view the reports
- Responsive layout design is based on screen resolutions from 1024x768 and higher
- Web portal is designed for use on desktops, laptops and tablets, not for smart phones
- Web Clients: WebClientX, WebClientRouteReturns, WebClientResidentialDelivery, UHFMonitor, RepairRegistration
- WebClientX runs on desktops, tablets, not on smart phones and resolution is responsive
- WebClientRouteReturns and WebClientResidentialDelivery are built to run on touch screens

<b>Oracle 19C Database (19.25.0.0.0) 64 bits only</b>	<b>Supported</b>
Windows Server 2012 R2	No
Windows Server 2016	Yes
Windows Server 2019	Yes
Windows Server 2022	Yes
Red Hat Enterprise Linux 7/ Oracle Linux 7	No
Red Hat Enterprise Linux 8/ Oracle Linux 8	Yes

## Remarks:

- Oracle 19C is the only supported version
- Build 19.13.0.0.0 or higher provides support for Windows Server 2022

## ABSSolute Version 9.08.00 (V908) and higher

ABSSolute Fat Client and TouchScreen Apps	Supported
Windows 8	No
Windows 10	Yes
Windows 11	Yes
Windows 2012 Server R2 - Terminal server	No
Windows 2016 Server - Terminal server	Yes
Windows 2019 Server – Terminal server	Yes
Windows 2022 Server – Terminal server	Yes

## Remarks:

- Supports 64 bit Windows only
- ABSSolute support for 4K (3840 × 2160) resolution
- Supported screen resolutions are 1024x768 and higher
- 4K (3840 × 2160) resolution requires 100% display scale. Other font sizes or scales not supported
- ABSSolute clients are supported on x86/x64 CPU architecture only. ARM-based processors are not supported

ABSSolute V10 WebClient supported Operating Systems	Supported
Windows 8	No
Windows 10	Yes
Windows 11	Yes

v10 Client Version	Angular Version	Node.JS Version	NX Version	Nginx Version **	ABSSolute Version	Min LocalPrintServer Version	Max LocalPrintServer Version *	Min PeripheralAgent Version	Max PeripheralAgent Version *	Comments	Supported
10.0.0	12.2.13	16.19.0	13.1.3	1.22.1 stable	9.07.01.RELEASE.p02 and all next patches	2.0	2.0	N/A	N/A	-	Y
10.1.0	16.0.0	16.19.0	16.1.4	1.24 stable	9.07.04.RELEASE and all next patches	2.0	2.0	N/A	N/A	-	Y
10.2.0	16.0.0	16.19.0	16.1.4	1.24 stable	9.08.00.RC1	2.1	-	N/A	N/A		N
10.3.0	16.0.0	16.19.0	16.1.4	1.24 stable	9.08.00.RELEASE	2.1	2.1	N/A	N/A	-	N
10.4.0	16.0.0	16.19.0	16.1.4	1.24 stable	9.08.00.RELEASE.p01 and all next patches	2.1	2.1	N/A	N/A	-	Y

ABSSolute V10 WebClient Supported browsers	Supported
Internet Explorer V11	No
Microsoft Edge – V103.* and higher major versions	Yes
Firefox - current major Extended Support Release (ESR) version V102.* and above	Yes
Google Chrome - most current major stable channel release only V103.* and above	Yes
Apple Safari	No

## Remarks:

- ABSSolute support for 4K (3840 × 2160) resolution
- Supported screen resolutions are 1366 x 768 and higher
- 4K (3840 × 2160) resolution requires 150% display scale. Other font sizes or scales not supported
- ABSSolute clients are supported on x86/x64 CPU architecture only. ARM-based processors are not supported

<b>ABSSolute Application and Report Server</b>	<b>Supported</b>
Windows Server 2012 R2	No
Windows Server 2016	Yes
Windows Server 2019	Yes
Windows Server 2022	Yes
Red Hat Enterprise Linux 7/ Oracle Linux 7	No
Red Hat Enterprise Linux 8/ Oracle Linux 8	Yes

<b>ABSSolute Web Applications</b>	<b>Supported</b>
Windows Server 2012 R2	No
Windows Server 2016	Yes
Windows Server 2019	Yes
Windows Server 2022	Yes
Red Hat Enterprise Linux 7/ Oracle Linux 7	No
Red Hat Enterprise Linux 8/ Oracle Linux 8	Yes

**Remarks:**

- Supports 64 bit OS only
- ABSSolute web applications and web services are deployed on TomEE9 and/or Tomcat9 open source edition, commercial license can be gathered at ABS
- Web applications: AbsWebPortal, WebClientX, WebClientCleanroomPacking Instructions, WebClientReplace SmartBarcode, WebClientResidentialDelivery, WebClientRouteReturns, UhfMonitor, ABSSolute v10 Client, MyUniformAssistant, WorkOrderFulfillment, Mat Shipment List, Pallet Management, Repair Registration, API Gateway

<b>ABSSolute Web Services</b>	<b>Supported</b>
Windows Server 2012 R2	No
Windows Server 2016	Yes
Windows Server 2019	Yes
Windows Server 2022	Yes
Red Hat Enterprise Linux 7/ Oracle Linux 7	No
Red Hat Enterprise Linux 8/ Oracle Linux 8	Yes

**Remarks:**

- Supports 64 bit OS only
- ABSSolute web applications and web services are deployed on TomEE9 and/or Tomcat9 open source edition, commercial license can be gathered at ABS
- Web Services:
  - SOAP: ABSGenericWebService, ABSWS4MobileApps
  - REST: AbsMobileFirebaseServices, AbsMobileRestServices, AbsRestServices

<b>ABSSolute Web Applications and Web services Supported browsers</b>	<b>Supported</b>
Internet Explorer V11	No
Microsoft Edge – V103.* and higher major versions	Yes
Firefox - current major Extended Support Release (ESR) version V102.* and above	Yes
Google Chrome - most current major stable channel release only V103.* and above	Yes
Apple Safari	No

## Remarks:

- Certification is done for Edge, Firefox & Chrome on Windows 10/11 against default browser settings
- Browsers on Apple devices are not certified, but can work at own risk
- Web apps must be allowed to use Java script and use pop ups in browser settings
- PDF reader must be installed to view the reports
- Responsive layout design is based on screen resolutions from 1024x768 and higher
- Web portal is designed for use on desktops, laptops and tablets, not for smart phones
- Web Clients: WebClientX, WebClientRouteReturns, WebClientResidentialDelivery, UHFMonitor, RepairRegistration
- WebClientX runs on desktops, tablets, not on smart phones and resolution is responsive
- WebClientRouteReturns and WebClientResidentialDelivery are built to run on touch screens

Oracle 19C Database (19.22.0.0.0) 64 bits only	Supported
Windows Server 2012 R2	No
Windows Server 2016	Yes
Windows Server 2019	Yes
Windows Server 2022	Yes
Red Hat Enterprise Linux 7/ Oracle Linux 7	No
Red Hat Enterprise Linux 8/ Oracle Linux 8	Yes

## Remarks:

- Oracle 19C is the only supported version
- Build 19.13.0.0.0 or higher provides support for Windows Server 2022

## ABSSolute Business Intelligence

Starting with 9.08.00 ABSSolute version, the new Oracle Analytics is introduced and recommended.

### Oracle Analytics 2024/2025

Oracle Analytics Suite EE or SE1 (Release 24.7.6.0/24.8.2.0) x64	Supported
Windows Server 2012 R2	No
Windows Server 2016	Yes
Windows Server 2019	Yes
Windows Server 2022	Yes
Redhat Enterprise Linux 7 & 8 or bin compatible	Yes
Oracle Linux 7 & 8	Yes

## Remarks:

- Supports 64 bit OS only

Oracle Analytics BI frontend - Supported browsers (Release 24.7.6.0/24.8.2.0) x64	Supported
Internet Explorer V11	No
Microsoft Edge – V103.* and higher major versions	Yes
Firefox - current major Extended Support Release (ESR) version V102.* and above	Yes
Google Chrome - most current major stable channel release only V103.* and above	Yes
Apple Safari V14.* and above	Yes



## Independent Applications

Decoupled with REST services communication, built with SpringBoot/Angular, self-deployed.

Application	Current version	ABSSolute min.version	Framework & Version	User GUI interface	Deployment (automatic)
UHFConcentrator	3.2.0	9.08.00.RELEASE.p04 http + https	Java 11.0.17 / Zulu 11.60.19 Spring Boot 2.3.0.RELEASE	Web browser	Tomcat 9
Local Print Server	2.4.0	9.08.00.RELEASE.p13 http + https	Java 11.0.17 / Zulu 11.60.19 Spring Boot 2.3.0.RELEASE	Web browser	Tomcat 9
Peripheral Agent	1.2.0	N/A	Java 17.0.8 / Zulu 17.44.15 Spring Boot 3.0.1	Web browser	Tomcat 10

ABSSolute UHF Concentrator	OS 64bit
Windows 10	Yes
Windows 11	Yes
Windows 2012 Server R2	No
Windows 2016 Server	Yes
Windows 2019 Server	Yes
Windows 2022 Server	Yes

### UHFConcentrator

UHFConcentrator	Min ABSSolute Version	Max ABSSolute Version	LLRP library/version used	Max Impinj Firmware supported	Supported
2.10	9.04.03	9.08.00.RELEASE	OctaneSDKJava-4.0.0.0-jar-with-dependencies	7.6.1.240	NO
2.11	9.04.03	9.08.00.RELEASE	OctaneSDKJava-4.0.0.0-jar-with-dependencies	7.6.1.240	YES
3.0.0	9.08.00.p01	-	OctaneSDKJava-4.0.0.0-jar-with-dependencies	7.6.1.240	NO
3.1.0	9.08.00.p04	-	OctaneSDKJava-4.0.0.0-jar-with-dependencies	7.6.1.240	NO
3.2.0	9.08.00.p04	-	OctaneSDKJava-4.0.0.0-jar-with-dependencies	7.6.1.240	YES

### Remarks:

- Independent applications are installed locally in the laundries.

ABSSolute LocalPrintServer	OS 64bit
Windows 10	Yes
Windows 11	Yes
Windows 2012 Server R2	No
Windows 2016 Server	Yes
Windows 2019 Server	Yes
Windows 2022 Server	Yes

Version	Min ABSSolute Version	Max ABSSolute Version	JRE version*	Supported
1.0	9.03.00	9.04.04	Azul Zulu 11.0.5+10 JRE	NO
1.01	9.05.00	9.05.02	Azul Zulu 11.0.5+10 JRE	NO
1.02	9.05.03	9.07.03	Azul Zulu 11.0.5+10 JRE	NO
1.03				
1.04				
<b>1.05</b>	<b>9.05.03</b>	<b>9.07.03</b>	<b>Azul Zulu 11.0.5+10 JRE</b>	<b>Yes</b>
2.0	9.07.04	9.07.04	Azul Zulu 11.0.5+10 JRE	No
2.1	9.08.00.RC1 http only	-	Azul Zulu 11.0.5+10 JRE	No
2.2	9.08.00.p13 http + https	-	Azul Zulu 11.0.5+10 JRE	No
2.3.0	9.08.00.p13 http + https	-	Azul Zulu 21	No
<b>2.4.0</b>	<b>9.08.00.p13 http + https</b>	-	<b>Azul Zulu 21</b>	<b>Yes</b>

## Remarks:

- Independent applications are installed locally in the laundries.

ABSSolute Peripheral Agent	OS 64bit
Windows 10	Yes
Windows 11	Yes
Windows 2012 Server R2	No
Windows 2016 Server	Yes
Windows 2019 Server	Yes
Windows 2022 Server	Yes

Version	Min Infinity Version	Max Infinity Version	JRE Version	SpringBoot Version	jSerialComm Version	SerialDeviceComm Version	UHFRReaderComm version	OctaneSDK Version	Min Impinj Firmware Version	Supported
1.0.0	10.6.0	10.6.x	Azul Zulu 17.0.8	3.0.1	2.11.0	1.0.0	1.0.0	OctaneSDKJava-4.0.0.0-jar-with-dependencies	7.6.1.240	YES
1.1.0	10.7.0	10.7.0	Java 21	3.4.1	2.11.0	1.1.0	1.1.0	OctaneSDKJava-4.0.0.0-jar-with-dependencies	7.6.1.240	Yes
1.2.0	10.8.0	10.8.0	Java 21	3.4.1	2.11.0	N/A anymore - included in the PA repo	N/A anymore - included in the PA repo	OctaneSDKJavaWithDependencies:5.0.0.0		

## Remarks:

- Independent applications are installed locally in the laundries.



## ABSSolute PDA Applications

### Android app requirements

Minimum requirements for apps (recommended)									
	Linen Assistant Android	Route Assistant Android	Garment Assistant Android	Packing Assistant Android	Bulk Packing Assistant Android	Truck Load Assistant Android	SI Tag Android	Item Dispense	Exchange Cart Assistant
Android OS, min.	4.1	5	4.4	5	5	5	5	4.1	11
Android OS, max	-	-	-	-	-	-	-	-	-
Display size	4"	4"	4"	4"	4"	-	-	-	5"
Resolution	160 dpi (240 dpi)								
Orientation	Portrait			Landscape		Portrait, Landscape	Portrait	Portrait	Portrait
CPU	1 Ghz								
CPU with RFID Multi Read									
Memory	1 GB (2 GB)								
Local storage									
Wi-Fi	 (Recommended)								
Cellular 3G/4G/5G	 (Improves usage options)	 (Improves usage options)	 (Improves usage options)	 (Optional, but Wi-Fi recommended)	 (Optional, but Wi-Fi recommended)	 (Improves usage options)	 (Improves usage options)	 (Improves usage options)	 (Improves usage options)
Typical data transferred for 1 day per device									
Bluetooth	 (for external RFID device/ printer)								
GPS		 (Optional)							
Camera		 (Optional)				 (Optional)		 (Optional)	
NFC									
Multitouch		 (for images)							

#### Trusted brands/devices:

- Samsung Xcover 3 (very cheap).
- Tablets from Samsung, Galaxy Tab2(tablet) and Galaxy S5/6.
- Caterpillar phones
- Internally we are testing with Samsung S4, S7, S8, S, Asus Zenfone, Asus Zenpad(tablet)

StarActive (<https://www.sfrcaraibe.fr/mtq/produit/staractive/>) phone NOT compatible with TSL scanner!

### RFID UHF readers

Supplier	Model	Linen Assistant Android	Route Assistant Android	Garment Assistant Android	Packing Assistant Android OBSOLETE	Bulk Packing Assistant Android	SI Tag Android	Truck Load Assistant	Item Dispense	Exchange Cart Assistant
TSL	1128	✓	✓	✓	✗	✗	✓	✓	✓	✗
TSL	1153	✓	✓	?	✗	✗	✓	✗	✓	✗
TSL	1166	✓	✓	?	✗	✗	✓	✓	✓	✗
Embisphere	EmbiVentry (Obsolete)	✓	✗	✗	✗	✗	✗	✗	✗	✗
AXEM	Orca-50 (Obsolete)	✓	✗	✗	✗	✗	✗	✗	✗	✗
AXEM	MBA-5 (Obsolete)	✓	✗	✗	✗	✗	✗	✗	✗	✗
AXEM	MBS (new 2021)	✗	✗	✗	✗	✗	✗	✗	✗	✗
Tertium	BlueBerry HS UHF	✗	✗	✗	✗	✗	✓	✗	✗	✗

### Supported printers

Supplier	Model	Linen Assistant Android	Route Assistant Android	Garment Assistant Android	Bulk Packing Assistant Android	SI Tag Android	Truck Load Assistant	Item Dispense	Exchange Cart Assistant
ABS	LPS	✗	✗	✗	✗	✗	✓	✗	✗
Zebra	Bluetooth ZEBRA ZQ320 Plus	✗	✗	✗	✗	✗	✗	✗	✓
Zebra	Zebra printer QLX220	✗	✗	✗	✗	✗	✗	✓	✗

## Linen Assistant Android

Version	Minimum Required ABSSolute Release ( <i>ABSWS4MobileApps</i> )	Max Allowed ABSSolute Release ("-" means ABSSolute latest - no maximum version) ( <i>ABSWS4MobileApps</i> )	Minimum Required ABSSolute Release ( <i>ABSMobileRestServices</i> )	Max Allowed ABSSolute Release ("-" means ABSSolute latest - no maximum version) ( <i>ABSMobileRestServices</i> )	Supported
1.x	8.03.12.b	not applicable	not applicable	not applicable	N
2.x	8.03.12.g	not applicable	not applicable	not applicable	N
3.x	8.03.12.o	9.00.07.a	not applicable	not applicable	N
4.x	9.00.00.c	9.02.02.a	not applicable	not applicable	N
5.x	9.01.01.a	9.02.02.a	not applicable	not applicable	N
6.x	9.01.00.a.p49 (available only for patches 49+) 9.01.03.a 9.02.03.a.p02 (available only for patches 02+)	9.01.00.a last patch 9.02.02.a last patch 9.08.00.RELEASE	not applicable	not applicable	Y
7.00	9.02.03	9.02.03.p01	not applicable	not applicable	N
7.x	9.02.03.p02	9.08.00.RELEASE	not applicable	not applicable	Y
8.01 - 8.03	9.02.03.p02	9.08.00.RELEASE	not applicable	not applicable	Y
8.04+	9.02.03.p02	9.08.00.RELEASE	9.06.00	-	Y

### Remarks:

**Linen Assistant Android** supports UHF/RFID and 2D barcode scanners from Technology Solution (all models should work - TSL 1128, TSL 1153, TSL 1166) and any Bluetooth device capable to read TAGS and emulate keyboard (HID profile).

### Models:

1. **TSL**
  - a. TSL-1128 - <https://www.tsl.com/products/1128-bluetooth-handheld-uhf-rfid-reader/>
  - b. TSL-1153 - <https://www.tsl.com/products/1153-bluetooth-wearable-uhf-rfid-reader/>
  - c. TSL-1166 - <https://www.tsl.com/products/1166-bluetooth-rugged-uhf-rfid-reader/>
2. **ORCA-50** - <https://www.axemtec.com/en/product/ap-05-uhf/>
3. **MBA-5** - <https://www.axemtec.com/en/product/mba5/>
4. **embiVentory** - <http://www.embisphere.com/en/rfid-products/embiventory-power>

Web service: ABSWS4MobileApps (**OBSOLETE starting with 9.08.02**)

NOTE!!! Linen Assistant cannot be upgraded from version 7 to version 8. Version 8.x was created for Google Play Store and will be installed as a separate application.

ABSMobileRestServices: can be used starting with version 8.04+ of Linen Assistant Android and is based on REST architecture. (Versions 8.04+ can be used either with ABSWS4MobileApps or with ABSMobileRestServices). Minimum ABSSolute server version 9.06.00

Starting ABSSolute 9.09.00, ABSMobileRestServices webservice is replaced by ABS Mobile Gateway, a springboot separate application with same functionality.

## Garment Assistant Android

Version	Minimum Required ABSSolute Release ( <i>ABSWS4MobileApps</i> )	Max Allowed ABSSolute Release ("-" means ABSSolute latest - no maximum version) ( <i>ABSWS4MobileApps</i> )	Minimum Required ABSSolute Release ( <i>ABSMobileRestServices</i> )	Max Allowed ABSSolute Release ("-" means ABSSolute latest - no maximum version) ( <i>ABSMobileRestServices</i> )	Supported
1.x	8.03.12.g	9.02.00.a	not applicable	not applicable	N
1.04	9.01.02	9.02.00.a	not applicable	not applicable	N
2.xx	9.02.01.a	9.08.00.RELEASE	not applicable	not applicable	Y
3.00	9.02.01.a	9.08.00.RELEASE	not applicable	not applicable	Y
3.01+	9.02.01.a	9.08.00.RELEASE	9.06.00	-	Y

Web service: ABSWS4MobileApps: can be used with all versions of Garment Assistant Android and is based on SOAP architecture.  
(**OBSOLETE starting with 9.08.02**)

ABSMobileRestServices: can be used starting with version 3.01+ of Garment Assistant Android and is based on REST architecture.  
(Versions 3.01+ can be used either with ABSWS4MobileApps or with ABSMobileRestServices). Minimum ABSSolute server version 9.06.00

Starting ABSSolute 9.09.00, ABSMobileRestServices webservice is replaced by ABS Mobile Gateway, a springboot separate application with same functionality.

## Route Assistant Android

Version	Minimum Required ABSSolute Release ( <i>ABSWS4MobileApps</i> )	Max Allowed ABSSolute Release ("-" means ABSSolute latest - no maximum version) ( <i>ABSWS4MobileApps</i> )	Minimum Required ABSSolute Release ( <i>ABSMobileRestServices</i> )	Max Allowed ABSSolute Release ("-" means ABSSolute latest - no maximum version) ( <i>ABSMobileRestServices</i> )	Supported
1.x	8.03.12.g	not applicable	not applicable	not applicable	N
2.x	8.03.12.o	not applicable	not applicable	not applicable	N
3.x	8.03.12.o	not applicable	not applicable	not applicable	N
4.x	9.00.00.a	not applicable	not applicable	not applicable	N
5.x	9.00.00.b	9.01.04.a	not applicable	not applicable	N
6.x	9.00.03.a	9.01.04.a	not applicable	not applicable	N
7.x	9.00.07.a	9.01.04.a	not applicable	not applicable	N
8.00 & 8.01	9.01.01.a	9.01.04.a	not applicable	not applicable	N
9.x	9.02.00.a 9.03.03.p15 9.03.04.p20	9.03.02 9.03.03 last patch -	not applicable	not applicable	Y
10.00 - 10.25	9.03.03	9.08.00.RELEASE	not applicable	not applicable	Y (Only for UNF)
10.26+	9.03.03	9.08.00.RELEASE	9.05.00.RELEASE.p07_UNF 9.05.01	9.05.00.RELEASE_UNF (last patch) -	Y (Only for UNF)
11.x	9.03.03	9.08.00.RELEASE	not applicable	not applicable	Y (Only for UNF)
12.00 - 12.03	9.03.03	9.08.00.RELEASE	not applicable	not applicable	Y
12.04+	9.03.03	9.08.00.RELEASE	9.05.01	-	Y
13.00+	9.03.03	9.08.00.RELEASE	9.05.01	-	Y

### Remarks:

- Route Assistant Android** supports UHF/RFID scanners from Technology Solution (all models should work - TSL 1128, TSL 1153, TSL 1166) and any Bluetooth device capable to read TAGS and emulate keyboard (HID profile). Models: <https://www.tsl.com/products/1128-bluetooth-handheld-uhf-rfid-reader>

Web service: ABSWS4MobileApps: can be used with all versions of Route Assistant Android and is based on SOAP architecture.  
**(OBSOLETE starting with 9.08.02)**  
 ABSSoluteRestServices: can be used starting with version 12.04+ of Route Assistant Android and is based on REST architecture.  
 (Versions 12.04+ can be used either with ABSWS4MobileApps or with ABSSoluteRestServices). Minimum ABSSolute server version 9.06.00  
 Starting ABSSolute 9.09.00, ABSSoluteRestServices webservice is replaced by ABS Mobile Gateway, a springboot separate application with same functionality.

### SI Tag Android

Version	Minimum Required ABSSolute Release ( <i>ABSWS4MobileApps</i> )	Max Allowed ABSSolute Release ("-" means ABSSolute latest - no maximum version) ( <i>ABSWS4MobileApps</i> )	Minimum Required ABSSolute Release ( <i>ABSSoluteRestServices</i> )	Max Allowed ABSSolute Release ("-" means ABSSolute latest - no maximum version) ( <i>ABSSoluteRestServices</i> )	Supported
1.00 - 1.07	8.03.12.t (initial solution delivered in customized patch 8.03.12.p.p37)	9.08.00.RELEASE	not applicable	not applicable	Y
1.08+	8.03.12.t (initial solution delivered in customized patch 8.03.12.p.p37)	9.08.00.RELEASE	9.06.00	-	Y

Web service: ABSWS4MobileApps: can be used with all versions of SI Tag Android and is based on SOAP architecture.  
**(OBSOLETE starting with 9.08.02)**  
 ABSSoluteRestServices: can be used starting with version 1.08+ of SI Tag Android and is based on REST architecture. (Versions 1.08+ can be used either with ABSWS4MobileApps or with ABSSoluteRestServices). Minimum ABSSolute server version 9.06.00  
 Starting ABSSolute 9.09.00, ABSSoluteRestServices webservice is replaced by ABS Mobile Gateway, a springboot separate application with same functionality.

### Item Dispense Android

Version	Minimum Required ABSSolute Release ( <i>ABSWS4MobileApps</i> )	Max Allowed ABSSolute Release ("-" means ABSSolute latest - no maximum version) ( <i>ABSWS4MobileApps</i> )	Minimum Required ABSSolute Release ( <i>ABSSoluteRestServices</i> )	Max Allowed ABSSolute Release ("-" means ABSSolute latest - no maximum version) ( <i>ABSSoluteRestServices</i> )	Supported
1.00 - 1.13	9.01.00	9.08.00.RELEASE	not applicable	not applicable	Y
1.14+	9.01.00	9.08.00.RELEASE	9.06.00	-	Y

Web service: ABSWS4MobileApps: can be used with all versions of Item Dispense Android and is based on SOAP architecture.  
**(OBSOLETE starting with 9.08.02)**  
 ABSSoluteRestServices: can be used starting with version 1.14+ of Item Dispense Android and is based on REST architecture.  
 (Versions 1.14+ can be used either with ABSWS4MobileApps or with ABSSoluteRestServices). Minimum ABSSolute server version 9.06.00  
 Starting ABSSolute 9.09.00, ABSSoluteRestServices webservice is replaced by ABS Mobile Gateway, a springboot separate application with same functionality.

## Packing Assistant Android

Version	Minimum Required ABSSolute Release ( <i>ABSWS4MobileApps</i> )	Max Allowed ABSSolute Release ("-" means ABSSolute latest - no maximum version) ( <i>ABSWS4MobileApps</i> )	Minimum Required ABSSolute Release ( <i>ABSMobileRestServices</i> )	Max Allowed ABSSolute Release ("-" means ABSSolute latest - no maximum version) ( <i>ABSMobileRestServices</i> )	Supported
1.00 - 1.03	9.02.02.a	9.08.00.RELEASE	not applicable	not applicable	Y
1.04+	9.02.02.a	9.08.00.RELEASE	9.06.00	-	Y

Web service: ABSWS4MobileApps: can be used with all versions of Packing Assistant Android and is based on SOAP architecture.  
(**OBSOLETE starting with 9.08.02**)

ABSMobileRestServices: can be used starting with version 1.04+ of Packing Assistant Android and is based on REST architecture.  
(Versions 1.04+ can be used either with ABSWS4MobileApps or with ABSMobileRestServices). Minimum ABSSolute server version 9.06.00

Starting ABSSolute 9.09.00, ABSMobileRestServices webservice is replaced by ABS Mobile Gateway, a springboot separate application with same functionality.

## Bulk Packing Assistant Android

Version	Minimum Required ABSSolute Release ( <i>ABSRestServices</i> )	Max Allowed ABSSolute Release ("-" means ABSSolute latest - no maximum version) ( <i>ABSRestServices</i> )	Minimum Required ABSSolute Release ( <i>ABSMobileRestServices</i> )	Max Allowed ABSSolute Release ("-" means ABSSolute latest - no maximum version) ( <i>ABSMobileRestServices</i> )	Supported
1.00 - 1.05	9.03.02.release	9.08.00.RELEASE	not applicable	not applicable	Y
1.06+	9.03.02.release	9.08.00.RELEASE	9.06.00	-	Y
2.00+	-	9.08.00.RELEASE	9.06.00	-	Y

Webservices: ABSRestServices: can be used with all versions of Bulk Packing Assistant Android and is based on REST architecture.  
ABSMobileRestServices: can be used starting with version 1.06+ of Bulk Packing Assistant Android and is based on REST architecture. (Versions 1.06+ can be used either with ABSRestServices or with ABSMobileRestServices). Minimum ABSSolute server version 9.06.00

Starting ABSSolute 9.09.00, ABSMobileRestServices webservice is replaced by ABS Mobile Gateway, a springboot separate application with same functionality.

## Truck Load Assistant Android

Version	Minimum Required ABSSolute Release ( <i>ABSRestServices</i> )	Max Allowed ABSSolute Release ("-" means ABSSolute latest - no maximum version) ( <i>ABSRestServices</i> )	Minimum Required ABSSolute Release ( <i>ABSMobileRestServices</i> )	Max Allowed ABSSolute Release ("-" means ABSSolute latest - no maximum version) ( <i>ABSMobileRestServices</i> )	Supported
1.00 - 1.02	9.03.03.release	9.08.00.RELEASE	not applicable	not applicable	Y
1.03+	9.03.03.release	9.08.00.RELEASE	9.06.00	9.07.04	Y
2.00+	-	9.08.00.RELEASE	9.08.00	-	Y

Webservices: ABSRestServices: can be used with all versions of Truck Load Assistant Android and is based on REST architecture.  
ABSMobileRestServices: can be used starting with version 1.03+ of Truck Load Assistant Android and is based on REST architecture. (Versions 1.03+ can be used either with ABSRestServices or with ABSMobileRestServices). Minimum ABSSolute server version 9.06.00

Starting ABSSolute 9.09.00, ABSMobileRestServices webservice is replaced by ABS Mobile Gateway, a springboot separate application with same functionality.



## Exchange Cart Assistant Android

Version	Minimum Required ABSSolute Release ( <i>ABSMobileRestServices</i> )	Max Allowed ABSSolute Release ("- " means ABSSolute latest - no maximum version) ( <i>ABSMobileRestServices</i> )	Supported	Supported printers	Supported scanners
1.xx	9.07.02	-	Y	Bluetooth ZEBRA ZQ320 Plus	-

Webservices: ABSMobileRestServices: is based on REST architecture. Minimum ABSSolute server version 9.07.02  
Starting ABSSolute 9.09.00, ABSMobileRestServices webservice is replaced by ABS Mobile Gateway, a springboot separate application with same functionality.

## ABSSolute Server virtualization & Cloud

### Supported Virtualization Products:

All the above operating systems are also certified when running as virtual guest on a hypervisor as long as the operating system is supported by that hypervisor. When virtualization becomes in scope, please consult ABS for specific requirements.

Commonly used hypervisors are:

- VMware
- Microsoft Hyper-V
- Oracle VM

### Oracle license restriction for Virtualization & Cloud:

Oracle products are difficult to license for other vendor virtualization products than Oracle VM.  
To overcome this, ABS delivers oracle licenses without virtualization limitations.  
Please contact ABS to validate if the right licenses are in place for starting with Cloud hosting or server virtualization.