

Tungsten SignDoc Technical Specifications

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TUNGSTEN
AUTOMATION

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Chapter 1

About Tungsten SignDoc technical specifications

Tungsten SignDoc is an enterprise level e-signature product family, which may either be utilized as part of an integration, or as a standalone application. Due to its integration options, it provides a starting point for any digital transformation initiative and provides a broad range of e-signing capabilities. Tungsten SignDoc supports all signing scenarios in any location (in-branch, in-store, in-office, in-field, at home), assisted, or non-assisted as self-service.

The technical specifications in this document are specific to the following components of SignDoc 3.4.0:

- SignDoc Standard 3.4.0
- SignDoc SDK 5.0.1.32
- SignAlyze 2.2.0
- SignDoc Device Support 3.4.0
- SignDoc Assistant 2.0
- SignDoc Microsoft Teams 1.0

This document lists the required amount of memory and disk space. You must meet these requirements to support your SignDoc system. These requirements specifically relate to SignDoc and do not include any amount of memory or disk space you require for the operating system, environment, or other software that runs on the same computer.


Chapter 2



Product requirements

SignDoc Server

This section describes the software that runs on a server and references to requirements for SignDoc Standard server. Requirements that only apply to one component are indicated as such.

Specification	Description
Hardware	<p>A server class system is required to run SignDoc servers in an enterprise environment.</p> <p>SignDoc servers can be operated on x86_64 architectures (Intel / AMD CPUs).</p> <p>The processing power of each physical server directly affects performance. As a minimum requirement, a quad core processor running at 2 GHz should be used.</p> <p>Memory: Minimum 16 GB RAM, recommended 32 GB.</p> <p>Free disk space: Minimum 100 GB or more hard disk space.</p>
Accessibility	<p>1 GBit/sec network minimum, configured at full duplex, is required for this server and the database server.</p> <p>If the system is installed behind a firewall, HTTP or HTTPS ports should be open within firewalls that restrict client access across your WAN or LAN.</p> <p>Certain hardware is prone to networking issues when TCP offloading is enabled. If you experience frequent networking issues, or use a Virtual Machine (VM), disable TCP offloading. You must disable this setting at all levels, including the host operating for both the Virtual Machine and its host, and NIC; and all machines within the SignDoc server system including the database server. Refer to documentation from your vendor for instructions on how to disable TCP offloading.</p>

Specification	Description
Server Operating Systems	<p>We recommend that you upgrade to the latest operating system update for the following supported operating system versions.</p> <p>Microsoft Windows</p> <ul style="list-style-type: none"> • Windows Server 2022 • Windows Server 64-bit 2019 • Windows Server 64-bit 2016 <ul style="list-style-type: none"> • Windows Server 2016 Extended support (end date: Dec. 1, 2027) <p>Linux</p> <ul style="list-style-type: none"> • Ubuntu 22.04 LTS <ul style="list-style-type: none"> • Canonical Ltd Support until 2027 • End of life April 2032
Web Servers/Web Application Servers	<p>SignDoc Standard</p> <p>SignDoc Standard is supported for the provided installation package that includes a Windows Service or Docker container.</p> <p>Application Server</p> <ul style="list-style-type: none"> • Apache Tomcat 10.1 <p>Java runtime for application server</p> <ul style="list-style-type: none"> • Windows 64-bit: Java 21 • Linux 64-bit: Java 21
DBMS (SignDoc Standard only)	<p>Microsoft SQL Server</p> <p>For the supported Microsoft SQL Server versions, the latest service pack is required.</p> <div data-bbox="643 1188 1451 1278" style="background-color: #e0f2f7; padding: 5px;"> <p> For direct access to the database, SQL Server Command Line Utilities or Management Studio must be installed.</p> </div> <ul style="list-style-type: none"> • Azure SQL database • 2022 • 2019 • 2017 <ul style="list-style-type: none"> • Microsoft Extended support (end date: Oct. 12, 2027) <p>H2 DB</p> <ul style="list-style-type: none"> • Supported for evaluation only

Specification	Description
SMTP (SignDoc Standard only)	Using the email functionality, an SMTP server must be installed and/or accessible. The required SMTP configuration is dependent on the network setup for each organization, along with other factors.  Tungsten SignDoc does not need to receive emails.
Required 3rd Party Technologies	<ul style="list-style-type: none"> Windows systems <ul style="list-style-type: none"> Visual C++ 2017 Redistributable Package (x64) Java Runtime Environment <ul style="list-style-type: none"> Windows 64-bit: Java 21 Linux 64-bit: Java 21
Compatible Software	<p>Tungsten Total Agility (using SignDoc Standard)</p> <ul style="list-style-type: none"> 8.0, 7.11, 7.10 <p>Tungsten Communication Manager (using SignDoc Standard)</p> <ul style="list-style-type: none"> 5.8, 5.7, 5.6 <p>Tungsten Power PDF (using SignDoc Standard)</p> <ul style="list-style-type: none"> Windows version: 5.0, 4.1  The connection between Power PDF and SignDoc does not support TLS 1.3 and must be configured to TLS 1.2.
Languages supported	English
Virtual System	You can deploy SignDoc server components on VMs running on operating systems as specified above.

SignDoc Clients

This section describes what users need on the client side to create and maintain accounts as well as to create and maintain signing packages in SignDoc Standard. It also describes what users need to sign or review documents using SignDoc Standard.

Requirements that apply to all clients of a web application are summarized in the [General requirements](#) section. Particular requirements that apply only to individual components are listed in a separate section.



General requirements

This section describes requirements that apply to all SignDoc clients not operating on mobile devices.

Specification	Description
Hardware	We recommend a standard office desktop computer with at least 2 GB of RAM (4 GB RAM is recommended). There are additional requirements for client applications when native handwritten signatures have to be captured.
Browser (usage on desktop computer)	<p>Microsoft Edge</p> <ul style="list-style-type: none"> • Governed by Microsoft Modern Policy • Windows 11, 10 <p>Google Chrome</p> <ul style="list-style-type: none"> • Stable version <p>Mozilla Firefox</p> <ul style="list-style-type: none"> • ESR (current version) <p>Safari</p> <ul style="list-style-type: none"> • Mac OS X
Operating Systems	We recommend that you upgrade to the latest operating system update for the following supported operating system versions. <p>Microsoft Windows</p> <ul style="list-style-type: none"> • Windows 11, 10 (governed by Microsoft Modern Policy) <p>Linux</p> <ul style="list-style-type: none"> • Only x86/x64 <p>Mac OS</p> <ul style="list-style-type: none"> • Mac OS 14.x, 13.x


SignDoc Standard Manage Client and Administration Center

This section describes additional requirements and details for the client application to create and maintain accounts as well as to create and maintain signing packages using SignDoc Standard.

Specification	Description
Accessibility	We recommend an Internet connection capable of 100 Mbps.
Mobile operating system	We recommend administrating SignDoc Standard via desktop computer. <p> When using a mobile device for administration, we support medium size devices (tablets, 768 pixels and up).</p>
Languages supported	<p>GUI available in:</p> <ul style="list-style-type: none"> • Dutch, English, French, German, Italian, Japanese, Portuguese (Brazil), Simplified Chinese, Spanish <p> Other languages are in the responsibility of the customer.</p>

SignDoc Signing Client

This section describes additional requirements and details for the client web applications to sign or review documents.

Specification	Description
Compatible Hardware	<p>For desktop computers, we support devices that are compatible with the supported browser technology and supported client operating system as listed below as well as 10 GB or more free hard disk space for installing software for native handwritten signature capture.</p> <p>For mobile devices, we support devices that are compatible with the supported mobile operating system as listed below using device default (standard) browser technology.</p> <div style="background-color: #e0f2f7; padding: 5px; border: 1px solid #ccc;"> <p> On mobile devices, the handwritten signature capturing is supported with a minimum of HTML5 capture.</p> </div>
Accessibility	<p>The browser-based signing clients require an Internet connection capable of the equivalent bandwidth of a 3G/LTE connection.</p> <p>Support mobile devices with mobile network or Wi-Fi network connectivity.</p>
Mobile Operating Systems	<p>Apple OS</p> <ul style="list-style-type: none"> • iOS 17, 16 <ul style="list-style-type: none"> • iOS 15, 14, 13, 12, 11, 10, 9.3 are deprecated • iPadOS 17, 16 <ul style="list-style-type: none"> • iPadOS 15, 14, 13.1 are deprecated <p>Google Android OS</p> <ul style="list-style-type: none"> • 14x, 13.x, 12.x, 11.x <p>Microsoft Windows OS</p> <ul style="list-style-type: none"> • Windows 10 (governed by Microsoft Modern Policy) • Windows 10 2022/H2 will retire on Oct. 14, 2025
Handwritten Signature Capture on mobile operating systems	<p>The default (standard) browser technology delivered with the supported mobile operating system is supported for handwritten signature capturing.</p>


Specification	Description
Handwritten Signature Capturing (using browsers on desktop computer)	Microsoft Windows OS <ul style="list-style-type: none"> Native handwritten signature capture support via SignDoc Device Support minimum 3.2.0 <ul style="list-style-type: none"> Microsoft Edge Google Chrome (stable version) Mozilla Firefox ESR (current version) HTML5 handwritten signature capture <ul style="list-style-type: none"> Microsoft Edge Google Chrome (stable version) Mozilla Firefox ESR (current version) Apple Mac OS <ul style="list-style-type: none"> HTML5 handwritten signature capture <ul style="list-style-type: none"> Safari
Swedish BankID service	Microsoft Windows OS <ul style="list-style-type: none"> Microsoft Edge Google Chrome (stable version) Mozilla Firefox ESR (current version)
Compatible Software (via browser on desktop computer)	SignDoc Device Support (only for Windows desktop systems) <ul style="list-style-type: none"> 3.4.0, 3.2.0 native signature capture via Google Chrome, Mozilla Firefox, Microsoft Edge <div style="background-color: #e0f2f7; padding: 5px; margin-top: 10px;"> <p>i The usage of "client certificates" requires Windows 10 as operating system.</p> </div>
Languages supported	GUI available in: <ul style="list-style-type: none"> Dutch, English, French, German, Italian, Japanese, Portuguese (Brazil), Simplified Chinese, Spanish <div style="background-color: #e0f2f7; padding: 5px; margin-top: 10px;"> <p>i Other languages are in the responsibility of the customer.</p> </div>


SignDoc SDK

SignDoc SDK enables the creation of applications that process SignDoc documents, rendering as images, signing, and verifying PDF and TIFF documents. It provides functionality to capture and verify handwritten signatures on mobile devices, or from specific USB signature pads. The technical specifications in this section are specific to SignDoc SDK 5.0.1.32.

SignDoc SDK is delivered as 64-bit package. For selected handwritten signature capturing components, a 32-bit version is available upon request.

Specification	Description
Hardware System Requirement for Development	Windows Microsoft Windows 11/10 (64-bit) Processor: Minimum 2 GB RAM, recommended 8 GB RAM 2 GB or more available disk space Additional disk space for development environment Linux Restricted to headless operations (no GUI and no GUI elements) Android Android development environment iOS As defined by iOS development environment
Hardware System Requirement for Deployment	Windows 100 MB or more available disk space 1 GB RAM Linux 100 MB or more available disk space 1 GB RAM Android 1 GB RAM All Android devices are supported for signature capture. iOS 1 GB RAM 64-bit capable iOS hardware
Supported Platforms	android-arm64v8a android-armv7a darwin-x86_64 darwin_arm64 iOS-universal (arm64, x86_64) linux-x86_64 Win64 (amd64, x86)
Software System Requirement for Development	Windows, Linux Java 21 Java Development Kit (JDK) 21 Visual Studio 2017 Android As defined by Android development environment iOS Xcode 15


Specification	Description
Software System Requirement for Deployment	Windows Visual C++ 2017 Redistributable Packages Java 21 Linux Java 21 Android 1 GB RAM iOS 1 GB RAM
Toolkits	Windows <ul style="list-style-type: none"> • C, C++, .NET, Java Linux <ul style="list-style-type: none"> • C, C++, Java Android <ul style="list-style-type: none"> • Java iOS <ul style="list-style-type: none"> • C, C++
Operating Systems	Windows <ul style="list-style-type: none"> • Windows 11, 10 (64-bit) <ul style="list-style-type: none"> • Governed by Microsoft Modern Policy <div style="background-color: #e0f2f7; padding: 5px; margin: 5px 0;">  SignDoc SDK WinRT interface supports only Windows 10. </div> <ul style="list-style-type: none"> • Windows Server 2022 • Windows Server 64-bit 2019 • Windows Server 64-bit 2016 Linux <ul style="list-style-type: none"> • Ubuntu 22.04 LTS <ul style="list-style-type: none"> • Canonical Ltd Support until 2027 • End of life April 2032 Mac OS <ul style="list-style-type: none"> • Mac OS 14.x, 13.x Apple OS <ul style="list-style-type: none"> • iOS 17, 16 <ul style="list-style-type: none"> • 15, 14, 13, 12, 11, 10, 9.3 are deprecated • iPadOS 17, 16 <ul style="list-style-type: none"> • iPadOS 15, 14, 13.1 are deprecated Google Android OS <ul style="list-style-type: none"> • 14x, 13.x, 12.x, 11.x

Specification	Description
Mobile devices supported Pen	<p>Android</p> <ul style="list-style-type: none"> • S-Pen (requires device supporting S Pen) • Pens supported via Android SDK <p>Apple Pencil</p> <ul style="list-style-type: none"> • Apple Pencil 2nd generation (12.9" iPad Pro 3rd generation, 11" iPad Pro) • Apple Pencil (12.9" iPad Pro 1st and 2nd generation, 10.5" iPad Pro, 9.7" iPad Pro, iPad 6th generation, iPad Air 3rd generation, iPad mini 5th generation) <p>Wacom Stylus with Apple devices</p> <ul style="list-style-type: none"> • Intuos Creative Stylus (iPad Air 1 / 2, iPad mini 1 - 3, iPad 3 / 4) • Intuos Creative Stylus 2 (iPad Air 1, iPad mini 1 - 3, iPad 3 / 4) • Bamboo Stylus Finition (iPad, iPad Air 1 / 2, iPad mini 1 - 4, iPad 3rd - 4th generation) • Bamboo Finition (iPad Air 1 / 2, iPad mini 1 - 4, iPad 3rd - 6th generation, 10.5 inch iPad Pro, 12.9 inch iPad Pro 1st - 2nd generation) • Bamboo Finition 2 (iPad, iPad Air 1 / 2, iPad mini 1 - 4, iPad 3rd - 4th generation) • Bamboo Sketch (iPad Air 1 / 2, iPad mini 1 - 4, iPad 3rd - 6th generation, 9.7 inch iPad Pro, 10.5 inch iPad Pro, 12.9 inch iPad Pro 1st - 2nd generation)
Mobile devices from Apple	<p>iPhone (compatible with iOS 17.x)</p> <ul style="list-style-type: none"> • iPhone iPhone 14, 14 Plus, 14 Pro, 14 Pro Max, 13 Pro Max, 13 Pro, 13, 13 mini • iPhone 12 Pro Max, 12 Pro, 12, 12 mini • iPhone 11, 11 Pro, 11 Pro Max • iPhone X, XS, XS Max, XR • iPhone 8, 8Plus • iPhone 7, 7Plus • Phone 6S, 6S Plus • iPhone SE (1st, 2nd and 3rd generation) <p>iPad (compatible with iPadOS 17.x)</p> <ul style="list-style-type: none"> • iPad Pro 12,9" (5th, 4th, 3rd, 1st generation), 11" (1st, 2nd, 3rd generation), 9,7", 10,5" • iPad Air (4th, 3rd generation), AirPad 2 • iPad Mini (6th, 5th generation), mini 4 • iPad (9th, 8th, 7th, 6th, 5th generation) <p> Apple devices not upgradable to specified operating systems are not available for the described SignDoc SDK version. Apple devices that are unsupported by Apple are not supported.</p>

Specification	Description
Required 3rd Party Technologies	Android For S-Pen support: Samsung S-Pen SDK Pens supported via Android SDK
Languages supported	English

SignAlyze

SignAlyze is a standalone application to visualize handwritten biometric signatures, compare them, and validate certificates associated with the document including the signature data. It is an interactive tool providing forensic experts additional information for signature analysis. The technical specifications in this section are specific to SignAlyze 2.2.0.

Specification	Description
Hardware	We recommend 1 GHz or faster, at least 1 GB of RAM and 500 MB or more free hard disk space.
Client Operating Systems	We recommend that you upgrade to the latest operating system update for the following supported operating system versions. Microsoft Windows <ul style="list-style-type: none"> Windows 11, 10 (64-bit) Governed by Microsoft Modern Policy
Required 3rd Party Technologies	Microsoft shared runtime libraries: <ul style="list-style-type: none"> Visual C++ 2017 Redistributable Packages
Compatible Software	SignDoc Device Support <ul style="list-style-type: none"> 3.4.0, 3.2.0 native signature capture <div style="background-color: #e0f2f7; padding: 5px; border: 1px solid #ccc;"> <p> SignDoc Device Support includes DeviceConnector and also the drivers for supported handwritten signature capture devices previously available with Softpro Driver Setup.</p> </div>
Languages supported	GUI available in: <ul style="list-style-type: none"> English German

SignDoc Device Support

SignDoc Device Setup supports handwritten signature capture using external devices. It replaces the Softpro Driver Setup. The technical specifications in this section are specific to SignDoc Device Driver Setup 3.4.0.


Setup

The setup installs the SignDoc Device components.

Specification	Description
Hardware	We recommend 1 GHz or faster, at least 1 GB of RAM and 200 MB or more free hard disk space.
Operating Systems	We recommend that you upgrade to the latest operating system patch of the following supported operating system versions. Microsoft Windows Client <ul style="list-style-type: none"> Windows 11, 10 (64-bit) Governed by Microsoft Modern Policy
Required 3rd Party Technologies	<ul style="list-style-type: none"> Microsoft Visual C++ 2017 Redistributable (x86) Manufacturer device drivers for signature pads.
Languages supported	English

Core - Device Connector

The Device Connector enables the web-based capture of handwritten signatures. The Device Connector is also required to retrieve certificates.

 The usage of "client certificates" requires Windows 11 or 10 as operating system.

Specification	Description
Hardware	We recommend 1 GHz or faster, at least 1 GB of RAM and 200 MB or more free hard disk space.
Browser	We recommend that you upgrade to the latest stable channel or long-term supported versions <ul style="list-style-type: none"> Microsoft Edge Google Chrome (stable version) Mozilla Firefox ESR (current version)
Client Operating Systems	We recommend that you upgrade to the latest operating system update for the following supported operating system versions. Microsoft Windows <ul style="list-style-type: none"> Windows 11, 10
Required 3rd Party Technologies	<ul style="list-style-type: none"> Microsoft Visual C++ 2017 Redistributable (x86) Wacom STU Driver Manufacturer device drivers for interactive Pen Displays and signature pads without display. SafeNet eToken 5110 Series Driver

Specification	Description
Compatible 3rd Party Technologies	<p>USB Signature Pads with LCD</p> <ul style="list-style-type: none"> • WACOM STU-500, STU-520, STU-530, STU-540, STU-541 • WACOM STU-430 • WACOM STU-300 <p>Interactive Pen Displays</p> <ul style="list-style-type: none"> • WACOM DTU-1031 • WACOM DTU-1031X • WACOM DTU-1141, DTU-1141B • WACOM DTU-1631 <p>Signature Pads without Display</p> <ul style="list-style-type: none"> • WACOM Intuos Pro - Inking Pen: KP-130 <p>USB Token</p> <ul style="list-style-type: none"> • SafeNet eToken 5110 Series
Compatible Software	<p>Tungsten SignDoc Standard</p> <ul style="list-style-type: none"> • 3.4.0, 3.3.x

Core - SignPad Driver, Touch & Pen Support

SignPad driver components enable capture of handwritten signatures using WACOM devices and provide an access module for Windows integrated touch pen devices.

Specification	Description
Hardware	We recommend 1 GHz or faster, at least 1 GB of RAM and 200 MB or more free hard disk space.
Client Operating Systems	<p>We recommend that you upgrade to the latest operating system update for the following supported operating system versions.</p> <p>Microsoft Windows</p> <ul style="list-style-type: none"> • Windows 11, 10
Required 3rd Party Technologies	<ul style="list-style-type: none"> • Microsoft Visual C++ 2017 Redistributable (x86) • Wacom STU Driver • Manufacturer device drivers for interactive Pen Displays and signature pads without display.

Specification	Description
Compatible 3rd Party Technologies	<p>USB Signature Pads with LCD</p> <ul style="list-style-type: none"> • WACOM STU-500, STU-520, STU-530, STU-540, STU-541 • WACOM STU-430 • WACOM STU-300 <p>Interactive Pen Displays</p> <ul style="list-style-type: none"> • WACOM DTU-1031 • WACOM DTU-1031X • WACOM DTU-1141, DTU-1141B • WACOM DTU-1631 <p>Signature Pads without Display</p> <ul style="list-style-type: none"> • WACOM Intuos Pro - Inking Pen: KP-130
Compatible Software	<p>Tungsten SignDoc</p> <ul style="list-style-type: none"> • 3.4.0, 3.3.x

Core - Virtual Channel

The Virtual Channel component allows the usage of USB signature pads without a COM Port Mapping.

Specification	Description
Hardware	We recommend 1 GHz or faster, at least 1 GB of RAM and 1 MB or more free hard disk space.
Operating System	<p>Microsoft Windows</p> <ul style="list-style-type: none"> • Windows 11, 10, (64-bit) • Windows Server 64-bit 2019 • Windows Server 64-bit 2016 <p>Linux</p> <ul style="list-style-type: none"> • Ubuntu 22.04 LTS <ul style="list-style-type: none"> • Canonical Ltd Support until 2027 • End of life April 2032

Specification	Description
Client - Server Protocol	Windows <ul style="list-style-type: none">• ICA• RDP Linux <ul style="list-style-type: none">• ICA
Required 3rd Party Technologies	<ul style="list-style-type: none">• Citrix Client<ul style="list-style-type: none">• Windows (32-bit, 64-bit)• Linux (x86)• Terminal Service - Microsoft Remote Desktop Client on Windows (32-bit and 64-bit)
Compatible 3rd Party Technologies	USB Signature Pads with LCD <ul style="list-style-type: none">• WACOM STU-500, STU-520, STU-530, STU-540, STU-541• WACOM STU-430• WACOM STU-300
Compatible Software	Tungsten SignDoc <ul style="list-style-type: none">• 3.4.0, 3.3.x