

PisaSales Version 8.1

Technical specification

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System architecture

PisaSales is a modern component-based software. It is based on the middleware PiSA cubes and uses a multistage architecture in which different services can be installed at any location within your company network or even globally. PisaSales CRM users basically only work with web clients or access CRM data via apps using a smartphone or tablet.

A Windows client is not supported.*****

The web clients or the browser that is used communicate with the PisaSales CRM application server (Java). It contains the entire logic of the application and establishes the connection to the database when accessing data. Communication between the single components takes place via standardized network protocols.

Installation scenarios

For the operation of PisaSales you will generally set up the following working environments resp. applications in your company:

1. An enterprise environment for the use of PisaSales on the company network, consisting of the following software components, in most cases distributed on several computers:

- + Database
- + PisaSales application server
- + PisaSales print server
- + Several PisaSales CRM Web-clients on the workstations in the company network (a web browser and a Web transaction server is required).

2. Several mobile environments on the notebook computers of your sales representatives, consisting of the following software components on the notebook computer:

- + Database
- + PisaSales CRM application server
- + PisaSales CRM print server
- + CRM Web-clients on the workstations in the company network (a web browser and a Web transaction server is required).

Enterprise environment and mobile environment use the same PisaSales application server. Merely configuration files and properties files differ.

System requirements

The system requirements apply to the autonomous installation of a component on a computer. If, e.g., database and PisaSales application server are installed together on one computer, the requirements are to be added accordingly.

The system requirements apply to the enterprise environment on the company network as well as to mobile environments on notebook computers. Nevertheless, notice the following statements for the operating system:

- + For operation of the enterprise server a 64bit operating system is required. It provides the applications with more main storage.
Multi Core CPUs are not compulsory but, however, make sense for the enterprise server operation.
- + A 64bit operating system is not necessary for notebook computers.

Database

Hardware

The hardware has to ensure the operation of the database. The user data volume is depending on the saved CRM data. That is why no concrete statements can be made here. Notice the following recommendations for the disk storage of data:

- + System and software in RAID 1 (mirror)
- + RAID 10 is recommended by Oracle/Microsoft. The nest is useful for partition(s) with the data files and provides for high stability and performance.
- + Basically the load sharing improves, if more disks become mirrored and striped.
- + Oracle/Microsoft and PisaSales do not recommend the application of RAID 5 storage (not imperative for a Storage-Area-Network)

Software (operating system and database)

Requirement for the operation of PisaSales is a fit for use database by the following manufacturers:

- + Oracle 12c (12.1.0.x) all editions, only with the latest patches!
- + Oracle 12c (12.2.0.1) all editions
- + Oracle 18c (12.2.0.2) all editions
- + Oracle 19c (12.2.0.3) all editions

Current patches must be installed.

PisaSales supports the following Microsoft SQL servers:

- + Server 2012, (Standard, Enterprise, Workgroup and Express edition)
- + Server 2014 (Standard, Enterprise, Web and Express ed.)
- + Server 2016 (Standard, Enterprise, Web and Express ed.)
- + Server 2017 (Standard, Enterprise, Web and Express ed.)
- + Server 2019 (Standard, Enterprise, Web and Express ed.) – recommended!

Always ensure the latest service pack!

We basically recommend only the use of software for which the manufacturer offers current support.

Please note the limits of the single editions, in particular when applying the Express editions (number of used CPUs, max. usable RAM size and max. database size). You'll find information about in the Microsoft knowledge base and at Oracle.

For mobile environments on notebook computers Oracle Personal edition is recommended. Oracle XE (Express Edition) is not recommended for productive environments (limits: 1 GB main memory, 1 CPU, approx. 9 GB data). This edition is provided by Oracle only as development database without support.

PisaSales Application server

Hardware

- + Usage of modern processors
- + At least 2 GB of free main storage if no further services run except PisaSales, otherwise 4 GB
- + Main storage, utilized capacity in operation: Base load with cache 1.2 GB (with intermediate storage of all masks), base load without cache 300 MB, additional load 50 MB per session

Please orient yourselves by the experience ascertained by PisaSales:

RAM = 2048 MB

+ 100 MB / PowerUser

+ 50 MB / NormalUser

+ RAM des OS

Web-Server:

RAM Webserver = 1024 MB

+ 100 MB / User

+ RAM des OS

The necessary CPU cores should be based considering con current users on following information:

CPUcores = number of current logged in users/10

- + Disk capacity (data volumes) without user data:
 - at least 5 GB for the PisaSales software
 - additionally approx. 5 GB for the database incl. PisaSales repository (in case of installation of application server and database on one computer)
- + Graphic resolution from 800x600 pixels for setup program

The disk capacity for the application server is also dependent on the size and the volume of security files, upgrade files (jar-files), log files and temporarily files, which are stored automatically in the course of the work with PisaSales.

We recommend an additional drive with 30 GB for the PisaSales system

Please store the corresponding directories regularly in order to release hard disk space on the application server.

Please take into consideration additional storage space for possible options like:

- + ZIP database
- + GEO database
- + Text indexes
- + Log files

Notice:

Using of a 64bit operating system provides the application with more main memory. The PisaSales server can then use more than 1.5 GB of main memory.

Cluster operation

If you want to use Cluster software features, you have to install and to license several application servers. PisaSales provides Load balancing during registration. Using several application servers the system stability is enhanced.

Software (operating system)

- + MS Windows 10, 64-Bit-Version (recommended, no more MS support for Windows 7)
the usage under Windows 11 is not recommended at the moment.
- + MS Windows Server 2008 R2; MS Windows Server 2012, R2; MS Windows Server 2016; MS Windows Server 2019
- + UNIX (LINUX, IBM, HP, SUN, Silicon Graphics),
TCP/IP network protocol

All systems must support JAVA SE8 (recommended Java 8 Zulu OpenJDK), either you use the origin Oracle Java or a completely compatible product.

We generally recommend only the use of software for which the manufacturer offers up-to-date support.

Support and maintenance – Software

In order to provide safe and reliable support for installation and maintenance as a contract processor as well as for technical support, we strongly recommend provision of VPN access by the customer and installation of supporting software.

- + .Net Framework 4.7.2 or higher
- + Current patches
- + depending on database system
 - Oracle: SQL Developer
 - Microsoft: SQL Management Studio
- + Notepad ++ (incl. Compare PlugIn)
- + PDF reader
- + Chrome / Firefox
- + ERP client (only when using the interface)
 - SAP GUI
 - PSIpenta client
- + Client of an external e-mail system (only if the corresponding coupling is used)

Software (server's site groupware connection)*

Following groupware servers are provided:

- + MS Exchange Server from 2019
- + MS Exchange online (as a part of MS Office 365)*
- + Lotus Domino Server 7.0, 8.0, 8.5 (with current
fix pack FP and UP) or higher

*See also information in the PisaSales online documentation V.8.1 „PisaSales Groupware-Connector“.

PisaSales CRM-Web-Clients

Hardware (required)

- + Usage of modern processors
- + RAM: at least 4 GB, under consideration of the increased resource requirements when using the Desktop Integration (e.g. Office integration, Groupware, possibly GEO-integration, etc.).
- + Disk capacity (data volumes): approx. 50 MB. According to extent of use and size of documents, pictures, etc. the demand can rise to more than 250 MB, because the data are buffered on the client when edited.
- + Graphic resolution 1920x1080 px, min. 1024x786 px
- + Color depth from 16 bits (24 or 32 bits are recommended)

Software (operating system)

- + MS Windows 10, 32- or 64-bit version, (recommended, since MS support for Windows 7 is no longer available), *the usage under Windows 11 is currently not yet recommended.*
- + .NET-Framework mindestens 4.7.2 oder neuer

Software (visualization)

PisaSales creates reports in the formats RTF, PDF and HTML server-driven via the integrated report generator. For the visualization of documents and multimedia files in the client:

- + A software to represent PDF documents
- + MS Excel from Version 2010 up to 2019
- + where applicable Visual Studio Runtime for Office (if not installed)

Software (map representation)

The PisaSales standard uses Google Maps to represent locations. For expanded representation of addresses, CRM data and route planner following services are supported.

- + Google Maps
- + Bing Maps
- + Here
- + MapQuest Open
- + Microsoft MapPoint Version 2009**
(**please note that MapPoint is no longer developed by Microsoft, if MapPoint is used furthermore, for versions higher than 2009 PisaSales customizing is required).

CTI (Computer Telephony Integration)

Representation of incoming phone calls in the contact management and outgoing phone calls with one mouse click directly from the contact.

- + Support of TAPI driver from TAPI 3.x or higher on an existing TAPI-capable PBX.
- + Support for third-party telephony (host CTI) and first-party telephony (desktop CTI).

Interfaces of existing commercial solutions (e.g., Xphone of C4B) are to be checked on performance for the CRM coupling.

Skype for Business 2015

From PisaSales Web-Client Version 7.1 support of Skype 4 Business 2015.

- + Installation scenario of the interface plugin as web application on IIS or Skype4B server is required.
- + Cloud usage only if server can be administrated directly.
- + Communication between application server and Skype4B server via RESTful web service

Server to server communication must be fully guaranteed without any restrictions (no firewall, VPN or some other).

Citrix terminal server

The PisaSales Web client can be run under Citrix terminal server.***

PisaSales CRM in the browser

Employees, customers or partners can use an Internet browser on the PisaSales Web client both to access to CRM data as well as on the road and locally. For this, in addition to the application server, a transaction server and a web browser are required.

Desktop-integration (DIM)

The web client can also be used without a client-side system integration. The so-called desktop integration with couplings (for example Office integration, Geo integration etc.) requires increased resource requirements for the transaction server or the web client.

*** When using thin clients with the Web client, in a terminal environment the DIM can only be used under certain conditions. Please contact your project manager at PisaSales.

Web-Client (Internet-Browser)

- + Current Firefox or Chromium-based browser (Chrome, Brave, Vivaldi, Opera, Microsoft Edge (new), Safari)
Support at least Java 8+ (recommended Zulu OpenJDK)
- + Graphic resolution from 1280x1024 px

Resource requirements for desktop integration:

- + Assure the use of min. 256 MB RAM
- + Disk capacity (data volumes): approx. 50 MB (depending on the extent of the use and size of documents, images etc., the demand can increase to more than 250 MB because the data are cached on the client).

Software Integration -Plugins-

Office integration is necessary to use the standard functional range of PisaSales.

PisaSales supports the 32-bit and the 64-bit version of Microsoft Office from version 2010 to incl. 2019 (VSTO Runtime required).

For the generation/editing of documents, for viewing templates and reports:

- + MS Word from Version 2010, to incl. 2019

For the generation of report templates and reports:

- + MS Word from version 2010 to 2019
- + MS Excel from Version 2010 to 2019

For the external management of contacts and tasks:

- + MS Outlook version 2010 up to 2019 as a mail client or contact management (optional)
- + MS Project version 2010 up to 2019 for the generation of project plans (optional)

For e-mail application:

- + MS Outlook from Version 2010 up to 2019
- + MS Exchange Server from 2010 (optional)

MS Office 365 is supported

- + Generation and editing of documents in Office 365 applications installed locally on the client (local installation is recommended by Microsoft).

Software (alternative groupware integration)

Lotus Notes from Version 6.5. The integration requires a Lotus Domino Server in the network.

Solutions for Tablet and Smartphone

PisaSales tablet

PisaSales tablet offers the user via tablet/smartphone mobile online access to PisaSales. Access happens via a native app that is installed directly on the device or via a web app in the browser. The browser application is restricted in opposite to the app (for example, no access to a file system, no push message, no SMS, no triggering of e-mail).

PisaSales pocket

Simplified access via smartphone (touchscreen) on selected data of the CRM system (e.g. customer data, sales cases, appointments and tasks) with read / write access.

A special pocket solution that works with web services and has a customized (customizable) data and functional range compared to PisaSales tablet.

Technical prerequisites

PisaSales tablet

- + Java 8+ (recommended Zulu OpenJDK)
- + OS: Windows, Linux, Mac OS
- + RAM – depending on number of users, ca. 20 MB per user

Transaction server

PisaSales Web client, PisaSales tablet and PisaSales pocket require an installed and configured Web Transaction server, which serves all three solutions.

- + Servlet Container (e.g. Apache Tomcat)
- + Web Socket Server (from Apache Tomcat 8.5)
- + Connection – Web Socket Server to Servlet Container
- + Connection – Servlet Container to Sales Server,
- + Valid SSL certificate for secure connection encryption
- + HTTP Web-Server Windows or Linux), e.g. Tomcat, JBoss, Virgo, Jetty, WebSphere (at least Java 8 (recommended Java 8 Zulu OpenJDK or Java 11 Zulu OpenJDK)
- + Java Servlet Container with Servlet API 3.0 or newer, recommended Tomcat 8.5 or Tomcat 9
- + Memory demand 100 MB for the application plus approx. 50 MB per logged-in user****
- + Secure connections (https) are supported
valid SSL certificate is required.

Resource requirements for desktop integration Web client:

Recommended: 3GB hard disk space for files / BLOBs of all currently logged in users and the client configurations of all users ****.

****With using multiple solutions (web client, tablet), the requirements for memory and performance are added.

Requirements and platforms for end devices

iOS from version 11 (11.4) - PisaSales from version 7 is required); Android from Version 7 (7.1) with security patches; Windows from version 10, Smartphone, iPhone, iPad, Tablet with Webkit capable browser.; End devices must be capable for connections to the Web Socket Server.

Virtualization

PisaSales can also run in a VMware and MS HyperV.

Docker Container

PisaSales CRM can be executed as Docker Container.

VSTO Runtime (Office 2010)

When installing / using Office 2010, the VSTO runtime (Visual Studio Tools for Office) of Microsoft is not installed automatically in any case. From PisaSales 7.0 "VSTO runtime" from Microsoft version 4.0 is required and has to be installed additionally if necessary.

With the VSTO Runtime, the AddIns for MS Office 32-bit and 64-bit are supported in the Web client.

PisaSales CRM in a cloud

The CRM system PisaSales is deployed in a private cloud (Enterprise Cloud), hosted in a high-security data center in Germany. Certified "Trusted Cloud Service".

All data are stored in a database (MS SQL Server).

The PisaSales application server includes the application logic for your PisaSales CRM application and the PisaSales Web Transaction server ensures access via web servers (HTTPS, VPN, and Citrix).

The access is basically via PisaSales WEB Client and for mobile devices via PisaSales tablet/pocket.

The server-based integration of other applications (Office 365, ERP, etc.) inside or outside of the private cloud is guaranteed.

Form of organization

With SaaS (Software as a Service) we offer you a complete software package for the standardized mapping of your business processes.

Bandwidth

100 Mbit in the download / upload

PostgreSQL database for cloud customers

PisaSales supports PostgreSQL from version 8.1.

- + Native support for PostgreSQL databases
- + Support of Amazon Aurora PostgreSQL
- + Support of Amazon RDS for PostgreSQL
- + Dedicated migration tool for transferring an Oracle or SQL Server environment
- + Comparable speed and reliability
- + good maintainability in the AWS environment

Advantages:

- + Open Source
- + High availability and scalability
- + Easy to set up, run, and scale in the cloud using Amazon Relational Database Service (Amazon RDS).
- + Amazon RDS supports Amazon RDS for PostgreSQL and Amazon Aurora PostgreSQL-compatible edition.

AWS S3 support in Pisa Sales CRM 8.1

- + Storage of binary data (blobs) in AWS S3
- + Relieve database load in BLOB tablespace
- + S3 support independent of the database used
- + Availability of a dedicated S3 client beyond BLOB management

Data security in the cloud

- + Secure data transmission via sockets, TCP / IP, HTTPS,
- + AES-256-bit encrypted transmission and storage of your data
- + Protection by firewalls
- + SSL / TLS integration
- + ES-256-bit encrypted transmission and storage of your data
- + All data are stored in the relational database.

Access via Internet browser or PisaSales tablet on the web server

- + IP Network access via HTTPS
- + SSL encrypted data transmission
- + Certificate-based authentication to protect against man-in-the-middle attacks
- + Optional VPN access in protected company network possible
- + Connection via proxy / firewall possible
- + No permanent local storage of data on mobile clients. This means that no data is transferred to other hands even if the device is lost or stolen.
- + The PisaSales web server does not host any application logic.
- + Static elements on the web server are limited to the login functionality.

Access of the web server to the application server

- + Connection via proxy / firewall possible
- + HTTP tunneling
- + SSL encryption possible

Access of the application server to the database server

- + Access to the database only allowed for application servers
- + No way to directly enter SQL queries in the client.
All queries to the DB are processed according to the search conditions in the server.
- + Run of queries / search results in a processed form with a defined range of data
- + Thus, immune against SQL injections

Backup in the cloud

Backup in the cloud by daily back-up with 7-day hold back. Optionally extended backup agreements possible.

*****Discontinuation of the Windows-Client

From PisaSales version 8.0 the Win client will no longer be delivered. The last Win client matching the server version 7.6 has the version number 7.6.28.1388 and was delivered in 11/2021. It supports MS Windows 7 to 10 in 32- and 64-bit versions. Necessary updates due to dependencies on the Windows 10 operating system, such as security updates, will continue to be provided.

Users of the resource planning board and the marketing calendar

If, after upgrading to version 8.0, the Windows client modules "Resource Planning Board" and "Marketing Calendar" are still required to map the processes, mixed operation of Web client and Windows client is recommended:

- + Planners use the Windows client exclusively for planning. For this purpose, an environment with the Windows client version 7.6 under Windows 10 must be provided.
Using the Windows client under Windows 11 is explicitly not recommended!
- + The planning scenario assumes that the planner, after logging in to the Windows client, works with an order or appointment list from which he opens the planning board globally or selectively. The prerequisites for this are to be created in Customizing.
- + For all other tasks in daily business, such as message entry or e-mail communication, the planner uses the web client, just like all other users.

PiSA sales GmbH will support the modules "Resource Planning Board" and "Marketing Calendar" in the recommended environment and the described planning scenarios until the end of 2023

For more information to technical prerequisites, please contact us to make arrangements for an individual consulting appointment. To get more information of our products and services, please visit our web site www.pisasales.de