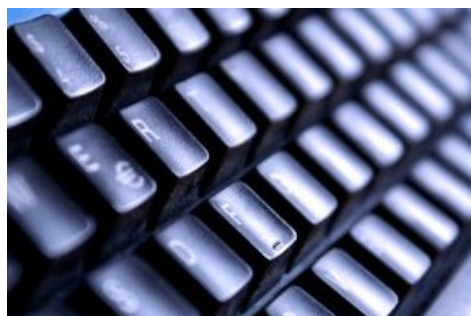


System V-Desk

Technical Specification



Manage your information easily and intelligently...

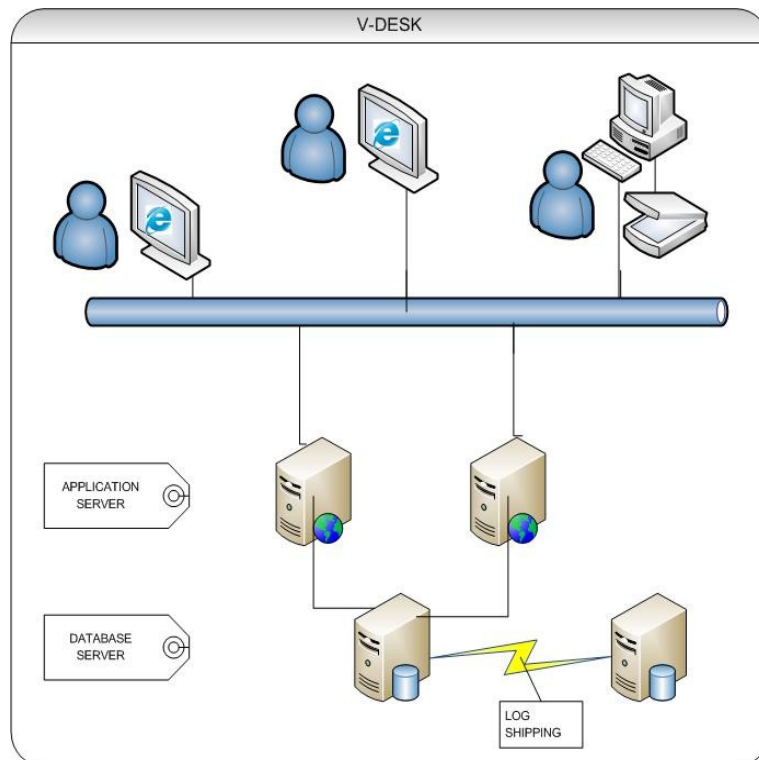


V-Desk architecture

The V-Desk system is a web application. By building a system based on the internet technology platform, the system is characterised by significant flexibility and scalability. Its implementation is possible both in concentrated enterprises and in multi-departmental, dispersed enterprises, which base their activities on a network of mobile co-workers who require remote access to data.

Our clients include companies in the case of which about 30-50 users take advantage of the system, as well as companies where several thousand users work in the V-Desk system.

The system is written in a three-layer architecture: data layer, application layer and presentation (client's) layer. The application on the side of the client, which is responsible for the presentation of data, is an internet browser. We have done our best to make the system function properly on practically all internet browsers available on the market.



Application server

The application server is a www server with a possibility of processing the PHP files. Most of the implementations are based on the Apache server. The application server does not store the temporary data (e.g. caches of data bases), hence it is easy to scale the efficiency of the system, applying NLB solutions (Network Load Balancing) in the case of great loads or a company dispersed territorially.

The user is connected with the server using only the **HTTP** connections. Applying the standard mechanisms of the www server, it is possible to easily ensure safety and integrity of the transmitted data by application of coding in the **HTTPS** protocol. In this way, it is also possible to make the system available in the Internet network.

The application server may be integrated with the logging server (AD), which provides the users with a possibility of one-time logging to the company resources (SSO – Single sign-on), and the administrators have a possibility to define the users and their authorisations in the AD bases.

Database server

At present, the V-Desk system has got an implementation for two database systems. These are: Microsoft SQL Server (versions: 2000, 2005 and 2008) and PostgreSQL.

For large installations requiring minimisation of risk of unavailability of the system in the case of a failure, we propose to configure a back-up SQL server operating in the passive mode, for instance, by means of the Log Shipping mechanism.

Client

The main client of the system is the internet browser. The system fully takes advantage of the W3C standards (HTML, JS and CSS), which causes it to be available on most of the internet browsers.

For effective scanning of documents, we offer the V-Desk Scan desktop solutions, written in the Microsoft.Net technology (framework 2.0).

In the case of a small number of scanned documents, we propose the Active-X component (only for the Internet Explorer browsers) placed on websites, directly in the browser.

Integration of V-Desk with external systems

Integration is the key element during the implementation of process management and document flow systems. The V-Desk system makes it possible to prepare connections for external applications, taking advantage of the possibility of programming on the side of the client and on the side of the server.

V-Desk may be integrated with any external system by means of an interface. Most frequently, the integration consists in downloading data from external systems to V-Desk, transmitting the data from V-Desk to external systems and displaying the scanned images of documents from the V-Desk level or making such images available outside the system.

One of the basic design assumptions accepted for the V-Desk system was its autonomy. On the one hand, such an approach enables installation in any software-hardware environment of the Client, and on the other hand, it imposes an obligation to build such an architecture, which will enable integration with these systems. To a very small extent, the workflow systems may operate separately from the domain systems of the Client; it is limited to the simplest processes, which do not constitute the basis for activities of an organisation.

In the implementations which have been performed so far, PrimeSoft Polska has successfully integrated the V-Desk system with various systems used by the Clients many times. The integration has taken place by means of various technologies:

- ✓ file exchange – CSV, XML (through network share, through FTP, through http/https protocols)
- ✓ synchronisation at the database level
- ✓ dedicated API
- ✓ through Web Services
- ✓ SOA architecture

The integration concerned systems based on various database engines:

- ✓ MS SQL
- ✓ Sybase
- ✓ Oracle
- ✓ DB2
- ✓ MySql
- ✓ Access
- ✓ Dbase
- ✓ Progress
- ✓ PostgreSQL

The functional scope of the integration concerned various areas, whereby the finance-accounting area is the area in which our experience is particularly great. We would like to emphasise that irrespective of the operated system and technology, in which the exchange interfaces are realised, the business scenarios of integration may be different. They depend on the characteristics of the Client, its organisation, division of competences between business units and many other factors. It is not possible to make a prior indication of one correct method of integration between the finance-accounting system and the workflow system that realises the invoice flow. It follows from our experience that the problem of integration is, for the most part, related not to the technological layer, but rather the correct setting of the process on the business level.

In the implementations performed so far, the V-Desk system has been integrated with the ERP class systems, banking systems, finance-accounting systems, warehouse systems, controlling systems and other systems characteristic for the client's industry.

The V-Desk system both read out the data from the external systems and constituted a source of supply for them. At the stage of implementation, a detailed analysis is carried out, on the basis of which the most effective interfaces are installed.

The selected systems with which the V-Desk system was integrated:

System	Manufacturer	Scope of integration
FK AGROBEX	PPUiH Agrobex Sp. z o.o.	finance-accounting
KOM-PRO	KOM-PAKT	finance-accounting
SM-BOSS	Great Plains Polska	finance-accounting warehouse
MFG/PRO	QAD	finance-accounting
ELSE	ELSE Systemy Informatyczne	finance-accounting
Symfonia	MATRIX.PL	finance-accounting
Likwidatura	EFL S.A.	finance-accounting
CAB	ISC	budgeting, warehouse
interLAN Controlling	InterLAN	controlling
Rekord.ERP	REKORD SI	finance-accounting
XYZ	ZETO Opole	finance-accounting
Compac Gold	Cal Software Ltd	sales, warehouse
Simple	Simpe Sp. z o.o.	finance-accounting
AS 400 / DB2	IBM	sales
CRM People Soft	PeopleSoft	sales, customer service
Oracle E-Business Suite	Oracle	finance-accounting
BaaN	BaaN	finance-accounting
Navision	Microsoft	finance-accounting
SAP	SAP AG	finance
Exact	Exact	finance-accounting

The exemplary hardware specification for the V-Desk system

Server

The proposed solution for hardware:

Preliminary data up to 100 users

Installation of the application server and the data base server on one physical server:
Quad-Core Intel Xeon Processor 2.50 GHz, 8 GB RAM, HDD: 2 x 146GB (RAID 1), 4-6 x 146GB
– (RAID 10), MS Windows Server 2003 Standard R2 32 or 64 bit, MS SQL Server (> =
2000) /MS SQL Server 2005 (or 2008) Standard Edition recommended/

Preliminary data - 1500 users

2 x Application Server (NLB configured) – 2 x Quad-Core Intel Xeon Processor 2.50 GHz, 4GB
RAM, Windows Server 2003 R2 64-bit, 2 x 74 GB HDD (RAID1)

Database Server - Quad-Core Intel Xeon Processor 2.50 GHz, 8GB RAM, HDD 2 x 146GB
(RAID1), 6 x 146GB (RAID 10), Windows Server 2003 R2 64-bit, MS SQL 2005 (2008) 64-bit
Standard

Database Server (Passive Failover) - Quad-Core Intel Xeon Processor 2.50 GHz, 8GB RAM,
HDD 2 x 146GB (RAID1), 6 x 146GB (RAID 10), Windows Server 2003 R2 64-bit, MS SQL
2005 (2008) 64-bit Standard

The rough size of the archives (scanned images):

1000 documents x 3 pages x 50kB/page [200DPI, B&W mode] x 36 months => ~6 GB/3 years

Specification of the scanning point for the V-Desk system

The proposed solution for hardware:

Processor: Pentium D/Core 2 Duo class

Memory: 1 GB RAM

Disks: 1 x 80 GB SATA (II) 7.200 rpm

Scanner: Fujitsu fi-6130 or fi 6230 (enclosed please see the description)

Barcode scanner: TLP 2824 (enclosed please see the description)

The proposed software solution:

MS Windows XP Pro is required as the operating system

Additional information:

In the case of documents with worsened quality, we propose the application of a module
improving the scanning quality – Kofax VRS 4.0. – it cleans up the document automatically,
removes the background colours, “pulls out” to the front even very pale, tissue textures, and
makes them legible.

Specification of the work station cooperating with the V-Desk system

Hardware parameters:

Processor: x 86 class, tacting frequency – over 1 GHz,
Memory: 256 MB RAM,
Monitor: min. resolution - 1024x768

Software parameters:

Operating system: MS Windows 2000 or higher + Microsoft.NET Framework in the 1.1 version.
Internet Browser: Firefox 2.x or higher, MS Internet Explorer 6.0 or higher.

Device

Fujitsu fi-6130 scanner

The fi-6130 scanner is the ideal equipment for organisations which want to introduce an effective document management system. ADF with a capacity of 50 documents is equipped with an ultrasound detector for picking more than one document, which eliminates the cases of scanning multi-page documents which are glued or stamped with each other. The speed of the device ranges from 30 to 40 A4 documents per minute with a resolution of 200 dpi, both one-sidedly and two-sidedly, in black and white, in greyness scale and colour. The maximum resolution in which scanning is possible amounts to 600 dpi. Fi-6130 processes documents with sizes ranging from A8 to A4, as well as long documents up to 863 mm and extruded plastic cards. In order to raise the effectiveness of the scanner, the operator is equipped with such functions as image straightening, document image trimming (removing), colour removal, the possibility to select the black background and others.

The USB interface 2.0 guarantees easy connection with any system.

Application: An ideal device for small and medium-size offices as well as dispersed archiving systems and document flow systems. Letters, invoices, shipping lists, patient and client data, business cards – all these documents may be put in without any problem. In the case of a necessity to use the flat scanner, for instance, for thicker documents, the corresponding model is fi-6230.

The package includes: ISIS and TWAIN controllers, QuickScan Pro Demo software, VRS, Cable and USB adapter, user handbook.



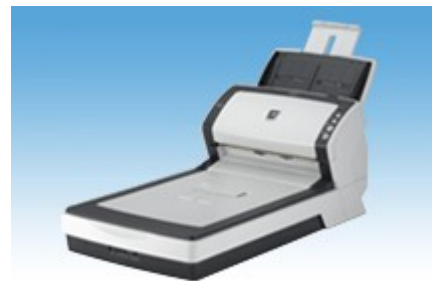
Fujitsu fi-6230 scanner

Fi-6230 is an excellent scanner both for small offices and large organisations working in a dispersed system, wishing to introduce an effective document management system. ADF with a capacity of 50 documents is equipped with an ultrasound detector for picking more than one document, which eliminates the cases of scanning multi-page documents which are glued or stamped with each other. The speed of the device ranges from 30 to 40 A4 documents per minute with a resolution of 200 dpi, both one-sidedly and two-sidedly, in black and white and in greyness scale and colour.

Fi-6230 processes documents with sizes ranging from A8 to A4, as well as long documents up to 863 mm and extruded plastic cards. In the case of a necessity to scan books or other multi-page materials, the use of a flat scanner, scanning A4-format documents in the resolution of 200 dpi at the time of 2.2 seconds is a solution. In order to raise the effectiveness of the scanner, the operator is equipped with such functions as image straightening, document image trimming (removing), colour removal, the possibility to select the black background and others.

The USB interface 2.0 guarantees easy connection with any system.

Application: Fujitsu fi-6230 is an ideal scanner for small and medium-size offices and dispersed archiving systems as well as document flow systems. Letters, invoices, shipping lists, registration cards as well as files and business cards may be scanned without any problem.



Device

The package includes: ISIS and TWAIN controllers, QuickScan Pro Demo software, VRS, Cable and USB adapter, user handbook.

Metrologic MS5145 Eclipse

It is a new ergonomic laser reader equipped with a CodeGate trigger. MS5145 has a greater reading range than typical diode readers at a similar price. Owing to the CodeGate, the user may easily direct the reader to the required code, and after pushing the button, the code may be sent to the system. The reader is equipped with the flash memory in which the operating mode settings and the so called firmware – internal software controlling the scanner – are stored.



Selected technical data:

Light source: laser, wave length 650 +/-10nm; laser power: below 1mW; ray shape: 1 scanning line; reading speed: 72 scans/sec; power supply: 5.2V; 675 mW; power consumption: 135 mA; signalling: sound and optical signals

Weight: 97g without the wire; dimensions: 169x63x35, plastic housing; safe fall: from the height of 1.5 m.

Read barcodes: all standard commercial and industrial barcodes (including: Code 128, UCC/EAN-128, UPC-A, EAN/JAN-13, Codabar, Code 39/Code 32, Code 93, 2 of 5, IATA, Code 11, MSI/Plessey, Telepen, German Postal Code)

TLP 2824 barcode printer

The LP/TLP 2824 printer is a light and small barcode label printer. It enables printing one- and two-dimensional barcodes, any texts, graphics or other objects such as lines, rectangles or ellipses. The device may serve the purpose of printing labels with a barcode for manufactured goods or documents (labels with serial numbers, warranty seals, rating plates).

