

# piDOC services delivery.

Working conditions.

This document verifies the feasibility of the services delivery regarding the site on which they should apply.

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## Working conditions.

A service contract is generally a risky operation, and many of you have probably done the hard experience of financial excesses or delays they sometimes create.

To reduce these risks, we are committed to a full refund any benefit that does not meet the acceptance criteria defined in this document.

Our low costs are made possible through our technical choices that define infrastructure based on "free" components or freely distributed. These components are widely used but we never retain those too "High Tech" or that impose a strong competence in operating the system. Our achievements are based on this infrastructure. We completely control your achievements (our code is not based on any licenses or commercial library).

In other words, we seek through these choices, to reduce as far as possible the total cost of ownership of the system.

Our delivery approach rather unusual in the publishing field, has several objectives and among them:

- Promoting our products and your investment by allowing fast deployment;
- Getting to know your functional or technical concerns;
- Supporting the advancement of your system while providing new features.

Note that we assume that documents repository that does what is expected of him does not necessarily intended to migrate frequently and we reject the idea of evolution for evolution. This brings us to a rigorous policy of monitoring versions.

## Support tailored to your needs:

The implementation of a document repository requires technical skills you not have or poor enough.

It is to address this concern we offer flat-rate benefits ranging from operational deployment to the accompaniment during the various system updates.

Performed remotely, they require prerequisites that this document describes.

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## General Limitations.

Our role is limited to install and to bring the piDOC system in an operational status. However, system performances are not part of our commitment as they depend on the architecture you have or you decide to implement. Indeed, the system can be installed entirely on a single laptop (mobile worker) or on one or two machines or more when it is deployed on a cluster. The number and power of these machines depends on many factors related to your organization (number of users that can be connected at the same time, criticality of the application, resilience requirements, etc.).

You are free to use virtual machines instead of physical machines. The system has been tested in these conditions and works perfectly (you can test our RFC repository that runs on a VPS<sup>1</sup>). In the following, the term "machine" relates both to a physical system as a virtual instance. The term "server" refers to a program to receive "client" requests locally or from a network.

We do not provide clustering servers neither for the application server nor the database server as part of the services described here.

The piDOC system servers can be installed on separate machines, but our services within those described herein, are limited to a single instance of each server. Thus, a maximum of two machines is concerned by a service.

Clusters concern big organizations (scalability) or where data are critical (replication of databases in real time) or which have a strong need for resilience (fault tolerance). If you need this type, please contact us ([info@piapplications](mailto:info@piapplications)) to establish a specific service quote.

We limit our interventions on machines with Windows or Linux operating systems regardless of their architecture (32 or 64 bit). For Windows, the minimum supported versions are Vista (workstation) or Windows 2000 (server machine). For Linux, the minimum kernel version should be 2.0 (see **uname -a** command).

The execution of a service can only be achieved via a remote connection (to perform the service at low cost). This requires that you provide a way to allow connection from the Internet to each machine on which it is necessary to intervene. In addition, accounts to use on each machine must have administrative privilege. We recommend that you create temporary accounts or change their passwords once the service provided.

When two machines are involved in the service, a local network segment must connect them. If this segment includes active protection such as firewalls, they must be configured to allow two-way communications on all ports and protocols between the two machines. The technical report at the end of the service lists ports and protocols used by the system. So, you will be able to set security parameters later.

The acquisition of a certificate allows you to create as many instances of the Web application as you need on a single server or on servers hosted on different machines.

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<sup>1</sup> VPS : *Virtual Private Server*

For example you can create a second standby instance on another machine in order to take over in case of failure of the main application server. Both instances can be connected to the same database or to different replicated databases<sup>2</sup>.

Finally, the service delivery does not provide system integration to an existing Web infrastructure (Apache, IIS, etc.). It does not provide the attack of the Tomcat server for secure transport SSL / TLS (https: //). Again, if you have special needs, contact us to establish a quote adapted to your specific service delivery.

If one of the prerequisites cannot be satisfied to produce expected results (for example, connection failure to one or several machines or communication failure between two machines, etc.), the service delivery will be fully refunded.

### Process for the implementation of the service delivery.

The following table summarizes the steps to do from your wish to obtain assistance until its implementation:

Actor	Role
Purchaser	Order via our <a href="#">website</a> . The email exchanges can be made in French or English.
PiApplications	Making an order summary with an online payment via PayPal.
PiApplications and Purchaser	Upon receipt of the completion of the transaction through PayPal, email exchange to set out the technical conditions for the implementation of our service delivery with integrating of your choices and specific constraints. Our first email contains a form whose content depends on the service.
PiApplications	Execution of the service on the date and at the appointed time. In case of completion of the service, an email invites you to use the system immediately. In case of technical impossibility of achievement, an email is sent to cancel the order and to refund this service.
PiApplications	Writing and sending email with a technical report that specifies the details of the execution, the controls, and all changes to your system.

<sup>2</sup> By crossing instances of the application server, instances of piDOC application (on a same server), number of database servers and database instances on a single server, you get a very large number of combinations. This should provide meet all needs.

## Connection to the Internet from machines.

As we mentioned above, the achievement of the service depends primarily on our ability to connect to the machines involved in the service delivery. These connections are essentially prevented by the network security hardware and software. It is not always easy to know how to allow a particular connection. This connection often depends on the operating system.

### Microsoft Windows operating system.

This system family offers two native connection softwares and we propose another software "free" and widespread:

- Enabling SSH or Telnet (console);
- Activation of "Remote Desktop" (Remote Desktop Protocol or RDP);
- Using the TeamViewer software.

On request, we can provide assistance in setting each of these means but we will quickly brush the advantages and disadvantages:

Software	Description
Telnet (or SSH)	<p>"Shell" type remote console. This method is very simple to implement, but information flows without protecting (unless SSH) including the administrator account password to use.</p> <p>The command "<b>ftp</b>" (console mode) allows downloading the resources to install software by downloading them from the PiApplications FTP site.</p> <p><b>Although it is simple to implement, we don't recommend the use of telnet.</b></p> <p>However the use of SSH allows the same operations but with encryption of exchanges. However, the SSH server is not included with the Windows operating systems. You will need to use a third party product.</p>
Enabling Remote Desktop	<p>Remote access to the Windows desktop. This system is simple to implement, but the underlying transport protocols are generally not allowed on the "public" networks like the Internet.</p> <p>Desktop remoting allows downloading of resources without using FTP (console or graphical FTP client like FileZilla). We can use any browser from remote desktop to do that.</p>
TeamViewer	<p>The <a href="#">TeamViewer</a> software also allows the "desktop" remoting mode. The communications are redirected through a remote server. This server transforms "inbound" connections to "outgoing" connections. There is no more need to set the firewalls to accept the "inbound" connections. TeamViewer also enables the transfer of files. Finally, its use is free for occasional use and its installation is simple enough. TeamViewer is the solution that we recommend on Windows machines.</p>

## Linux operating system.

These systems inherit from their UNIX atavism which are professional systems and not "large public." Also, Linux has effective integrated solutions to the needs of remote connections.

Moreover, with equivalent physical resources, Linux / UNIX systems are quite clearly more efficient than Windows systems, and this is particularly true in terms of performance with Java platforms and virtualized platforms. That is why we recommend Linux systems as a basis for the piDOC system infrastructure.

	Description
Telnet	Same as the Windows family. <b>Although it is simple to implement, we do not recommend this method.</b>
SSH	The SSH protocol is a transport protocol encrypted via the establishment of a tunnel. It provides the Linux console remoting (like Telnet but with communication encryption). All distributions offer an <b>sshd</b> server which must be activated and joinable. The <b>ftp</b> command in console mode allows downloading the resources to install by downloading them from the PiApplications website.

There is much software to remote graphical desktops (Gnome, KDE, XFE, etc.). But, on Linux, graphical desktop are optional and when you have one of them, it is usually difficult to configure the network elements or safety devices so that they are accessible via the Internet (XDMCP, VNC, etc.).

In all cases and whatever the system, if you have another way to connect to your machines (e.g. cloud), we are ready to study it.

## Our services delivery.

Our services are of 2 types:

1. Installation and initial configuration;
2. Upgrade of an installed and operational piDOC system..

Each service successfully achieved ends with a technical report in PDF format sent by email.

### Installation and initial configuration.

This service installs and configures the system on one or two machines in the conditions and limitations mentioned above.

The service delivery consists of:

- Download and install the JRE 1.8 (operational part of the Java platform) if it is not already installed. Note that if there is an existing JDK or JRE from a previous version on the machine where to install the Tomcat application server, which is not a risked cohabitation. We also update the extension libraries of the encryption policy (local\_policy.jar and US\_export\_policy.jar) in order to authorize a 256 bit encryption.
- Download and install the PostgreSQL database server as a "service" (Linux or Windows) after creating the management account "postgres". If a previous version (8 and lower) has been already installed on the machine that must support our database, you will have to change the machine or to update PostgreSQL to a version 9 or greater, (forbidden cohabitation);
- Download and install the Tomcat server as a "service" (Linux or Windows) after creating the management account "tomcat8" if there is no Tomcat server version 8 or higher already installed. Note that if Tomcat 8 (or higher) have been already installed on the machine we can use it to deploy the piDOC system **if it runs on a version 1.8 (or higher) of the JVM.**
- Deploy and configure the piDOC web application on the infrastructure described above.

The following tables list the inventory elements which you must send to us:

#### Architecture machines:

<b>PostgreSQL database server</b>	Alias or IP address of the machine	
	Operating system	(Windows or Linux)
	Architecture	32 or 64 bit.
<b>Tomcat application server</b>	Alias or IP address of the machine	
	Operating system	(Windows or Linux)
	Architecture	32 or 64 bit.

Note that without a particular justification, there is no obligation to use two machines. This is a bad choice when a single machine is sufficient to accommodate both the database server and the application server (better performance with only one machine because they do not communicate on the network).

If you use only one machine, fill only the concerned table.

Connection means:

For each machine running a Windows system family		
Connection mean	Telnet	IP address
		Port number
		Account
		Password
	Remote desktop	IP address
		Port number
		Account
		Password
	TeamViewer	Machine identifier (« Your ID »)
		Password

On this operating system family, we recommend using the TeamViewer software.

For each machine running a Linux system distribution		
Connection mean	Telnet	IP address
		Port number
		Account
		Password
	SSH	IP address
		Port number
		Account
		Password

The desired windows of dates and times for intervention :

Date 1	Start time	End time (optional)	Time zone
Date 2	Start time	End time (optional)	Time zone
..			
Date N	Start time	End time (optional)	Time zone

If the machines are permanently accessible it is better to indicate this capacity rather than completing this table.

If you prefer to complete this table, we will send an email with the chosen windows).

The dates may be any day of the week except Sunday. Schedules are themselves arbitrary but must be given details of their time zone. When it is unspecified the default time zone is GMT.

Choice of configuration settings:

These parameters are all optional except when one or both servers already exist (operational or not for other applications ). Note that the piDOC deployment on an existing infrastructure does not normally require an interruption of the database server or of the application server. If such an interruption is critical please let us know. Without this clarification, we will make a restart of each server to verify their configuration.

**Configuring the PostgreSQL 9 database server:**

When the default value has two lines, the first indicates a default value if the server is installed on a Windows machine, while the second indicates the value of this parameter if the server is installed on a Linux machine.

Parameter	Default value	Your value
Installation directory of executable files	C:\Program Files\PostgreSQL\{X.Y} <sup>3</sup>	
	Default values of the used Linux distribution	
Root directory of database files	C:\Program Files\PostgreSQL\{X.Y}\data	
	Default values of the used Linux distribution	
DBA password (account 'postgres')	Will be delivered in the technical report.	
Port Number (listener)	5432	
Default locale	That of the machine	
IP address of the machine	Read from the connection	
Name of the database that hosts the document repository	pidoc3	
Use of SSL/TLS encryption	Not if not already configured this way.	
Address of the machine that hosts the Tomcat server (pg_hba.conf)	Read from the connection to the machine which hosts Tomcat.	
DBA account ID	postgres	

<sup>3</sup> X.Y: the server version number (9.4 at the time of this writing, for example).

Parameter	Default value	Your value
Database account with reduced privilege used by the piDOC application.	pidoc	
Password of the database account with reduced privileges used by the piDOC application.	Will be delivered in the technical report.	
Directory where to place the 'admin' account's logon token.	C:\pidoc\token	
	/usr/local/pidoc/token	
'admin' email <sup>4</sup> .		
PKCS12 file containing the piDOC certificate.	C:\pidoc\certs\piDOC.p12	
	/etc/ssl/certs/piDOC.p12	
Password to access to the PKCS12 file above.	Will be delivered without encryption in the technical report but is already configured with encryption here <sup>5</sup> .	

The parameters without a default value (gray cells) are the only required settings (if you are in the concerned use case). Thus, even if the tables seem large enough, only 1 2-parameter are required.

<sup>4</sup> This email must exist.

<sup>5</sup> If you set the password, it must contain at least 7 characters consisting of letters and numbers (at least one of each).

**Configuration of the Tomcat application server's JRE 1.8:**

Parameter	Default value	Your value
Installation directory of executable files.	C:\Program Files\Java\jre1.8.{X_Y} <sup>6</sup>	
	/java/jre1.8.{X_Y} The symbolic /java/latest will eventually point this JRE.	

**Tomcat 8 application server configuration:**

When the default value has two lines, the first indicates a default value if the server is installed on a Windows machine, while the second indicates the value of this parameter if the server is installed on a Linux machine.

Parameter	Default value	Your value
Tomcat installation directory.	C:\Program Files\Apache Software Foundation\Tomcat {X.Y} <sup>7</sup>	
	That of the distribution (if it is 8 or higher).	
IP address of the machine.	Read from the connection.	
IP port number to stop the server.	8005	
IP Port to listen HTTP requests.	8080	
Integration port of the AJP 1.3 protocol.	8009	
Service name.	tomcat8	
	tomcat8	

<sup>6</sup> X\_Y: version number of the JRE (1.8.0\_40 at the time of this document writing for example).

<sup>7</sup> X.Y: version number of the used Tomcat server.

Parameter	Default value	Your value
Tomcat's account allowed deploying web applications (manager-script role).	tomcat	
Tomcat account's password allowed deploying web applications (manager-script role).	Will be delivered in the technical report.	
IP address of the SMTP server to use to send emails from the web application.		
IP Port of the SMTP server to use to send emails from the web application.		
Server language.	en (English) [or fr (French)]	
Server locale.	US [or FR]	
Log file name.	C:\pidoc\log /var/log/pidoc.log	
Severity level from which the traces are taken into account.	warning [other values: 'error', 'info ' or 'all']	
Appends or overwrites old traces at startup.	1 to add [or 0 to overwrite]	
Root directory of the session cache.	C:\pidoc\cache /var/cache/pidoc	
Repository directory of archived digital images	C:\pidoc\archives /usr/local/pidoc/archives	

Parameter	Default value	Your value
Files directory that make up the text search index.	C:\pidoc\index	
	/usr/local/pidoc/index	
Application email ("from"). <sup>8</sup>	pidoc@piapplications.eu	
Maximum operating duration of a session.	20 minutes	
Name of the document repository (displayed as description of the application by the Tomcat manager).	« piDOC documents repository »	
Documentation URL.	<a href="https://www.piapplications.eu/products/pidoc/%s/index.html">https://www.piapplications.eu/products/pidoc/%s/index.html</a> <sup>9</sup>	
List of SMTP ports to scan in order to test the presence of a mailbox.	25	
Browser context.	/pidoc	
Application browser context.	/home	
Forcing the browser language.	0 : to not force [or 1 to force the language to the JVM language]	
Use HTTPS to access the server	No (unless existing server already set in this way).	

<sup>8</sup> This email does not necessarily exist because no response is expected from your users to this email.

<sup>9</sup> The sequence "% s" allows documents to automatically adapt themselves to the language submitted by the browser (English or French in all other languages).

Parameter	Default value	Your value
English Repository Name <sup>10</sup>	piDOC documents repository	
French Repository Name	Référentiel documentaire piDOC	
Maximum lock duration of documents (in days)	15	
Validity of passwords in days.	0 (no limit)	

Again, the number of parameters may seem important, but if you create a dedicated infrastructure, only two are required.

**Important note:**

If you plan to eventually create later, yourself, several document repositories, the name you give to the database and to the browsing context should reflect the field of this repository.

**Control of performance:**

- Logon with the token "admin" created by the installer;
- Account creation of a security officer from the account "admin";
- Creating a user account;
- Logon with the new security officer's token;
- Creating a functional theme with a sub-theme;
- Logon with the user account's token;
- Creating a root folder and subfolder;
- Add to the subfolder a document protected with the functional sub-theme;
- Removing the document and subfolder;
- Add to the root folder of a research which finds the document from a FTS query then from a SQL query;
- Reallocation of the document found in the root folder.

This procedure executes a global and nominal test of the application. The customer can retrieve the tokens and check the existence of:

- The functional theme,
- The root folder,
- The document.

<sup>10</sup> This is the name displayed in the banner of Web pages.

## Upgrading of an operational piDOC system.

In this configuration, the JRE 1.8 is present on the application server machine. The PostgreSQL database and the Tomcat server are also installed and operational.

This upgrading applies only on the piDOC web application and not on the database or the application server.

The service consists of:

- Doing an inventory of the system to upgrade: its configuration will be the configuration of the upgraded system (after corrections if any).
- Deploy and configure the new version of the web application on the infrastructure listed above.

You have to send us the connections parameters, and an administrator account with its password.

### *Control of performance:*

- Stop and start of the web application from the Tomcat Manager (if it is available) or from console commands;
- Logon from a token of yours.

In the eventuality of a database schema upgrading, a test scenario could be provided. You could run it before accepting the service delivery.