

Technical Prerequisites

Yourcegid Retail Y2 2016 Edition



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PR-Yourcegid Retail Y2 2016 - OP-12/04/2017



Technical Prerequisites

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1. Foreword

This document describes the technical prerequisites associated with the Yourcegid Retail Y2 On Premises solution, installed and running on the Customer's site. This solution is released by Cegid.

This document covers the technical issues relating to various servers, telecommunications and networking, workstations and peripheral devices. If these technical prerequisites are satisfied, the correct operating of the Yourcegid Retail Y2 On Premises solution will be ensured. Cegid shall not be held responsible for any issues resulting from the malfunctioning of the application if these prerequisites have not been respected.

In the case of concurrent use of other Cegid applications, the Customer must ensure that all recommendations common to all the offers proposed are effectively met. For customized advice, please contact your sales consultant.

After testing, a customer may decide that a configuration that does not respect these prerequisites, however, meets his needs. If a bug is reported to the Help Desk, the latter will intervene only if the anomaly can be reproduced in that environment meeting the prerequisites.

Remark

Prerequisites for Yourcegid Retail Intelligence, Demand Forecasting and Sourcing Optimization are described in dedicated documentation and are therefore not discussed in this document.

Please notice:

- ✓ The Customer must identify his 32-bit or 64-bit architecture in each of the tables presented in this document (refer to the additional information in the appendices.)
- ✓ The management of backups is supported by the Customer according to the backup tools and methods he uses. During the installation, Cegid will provide all necessary information regarding the data to be backed up and the precautions to be taken during the backup and restore procedures.



Cegid does not support a configuration based on third-party software (operating system, database, etc.), if the latter is not supported by its editor (Microsoft, Oracle...)

The end of support dates for the main third-party software solutions used in the Cegid offer and edited by Microsoft are referenced in the Appendices of the following document under the title: "Microsoft Support Information."



2. Database server

DATABASE SERVER		
Components	Minimum	Recommended
Processor	4 vCPUs Xeon	Based on volumes ⁽¹⁾
Operating system x64-64 bits	W2012	W2012 R2 or W2016
Edition	Standard	Standard, Enterprise or Datacenter
Language	FR or EN	FR or EN
Memory	4 GB	Based on volumes ⁽¹⁾
Hard drive	SAS 10k rpm	Based on volumes ⁽¹⁾
	SQL	Server
Database engine x64-64 bits	SQL 2012 SP2 ⁽²⁾	SQL 2014 SP2 $^{(3)}$ or SQL 2014 SP2 $^{(3)}$
Edition	Standard	Standard or Enterprise
Language	FR or EN ⁽⁴⁾	FR or EN ⁽⁴⁾
Backup	To realize with SQL Server engine tools	To realize with SQL Server engine tools
Collation	CI_AS ⁽⁵⁾	CI_AS ⁽⁵⁾
Collation	Latin (instance and bases)	Latin1_General (instance and bases)
Minimum compatibility level of databases	Aligned with the SQL Server version used	Aligned with the SQL Server version used
Isolation level "READ_COMMITED_SNAPSHOT"	Active	Active
Database option "Service Broker"	Active	Active
	Software	
.Net Framework ⁽⁶⁾	4.5.2	4.6.2

⁽¹⁾ Elements to increase according to analyses carried out (operating system, number of users, and number of used databases...). We recommend dedicating the database engine to the Cegid solution to avoid the following conflicts:

Incompatibility between the different choices for database configurations
 No control of performance linked to the load arising from another application
 Changes in database versions that may occur at different moments
 Heterogeneous maintenance procedures (for example backup procedures)
 (2) Cegid has tested and supports SQL Server 2012 on Windows Server 2012 and Server 2012 R2.

⁽³⁾ Cegid has tested and supports SQL Server 2014 on Windows Server 2012 R2.

Cegid has tested and supports SQL Server 2016 on Windows Server 2016.

⁽⁴⁾ SQL Server must be deployed in the same language as Windows Server

(By exception, SQL Server EN can be deployed in various localized Windows Server versions.)

⁽⁵⁾ CI_AS (Case Insensitive – Accent Sensitive). It must be case insensitive (CI) and accent sensitive (AS).

⁽⁶⁾ Required for Cegid Database Maintenance (CDM). The "Client Profile" version is sufficient, but the "Full" version can be used too.



3. Business Application Server - Internet Information Services

This server is always installed on the Customer's Intranet.

CEGID recommends implementing an SSL certificate for both an **Internet access** and a **private network access**.

This certificate will be deployed on an additional distribution server (see next chapter). Thus, a single certificate will be required, even if other IIS business application servers have to be added later.

Important

Business application server(s) and reporting and scheduled task server(s) in be in the same Active Directory domain (constraint linked to the use of MSMQ queues.

BUSINESS APPLICATION SERVER		
Components	Minimum	Recommended
Processor	4 vCPUs Xeon	Based on volumes ⁽¹⁾
Operating system x64-64 bits	W2012	W2012 R2 or W2016
Memory	4 GB	Based on volumes ⁽¹⁾
	Sof	ftware
IIS (Internet Information Services) ⁽²⁾	8.0	8.5
.Net Framework	4.5.2	4.6.2

⁽¹⁾ Elements to increase according to analyses carried out (operating system, number of users...)

To qualify with your technical presales consultant.

⁽²⁾ The business application servers within a same "server farm" must have the same version.



4. Reporting and scheduled task server

This server is always installed on the Customer's Intranet.

Important

Business application server(s) and reporting and scheduled task server(s) in be in the same Active Directory domain (constraint linked to the use of MSMQ queues.

REPORTING AND/OR SCHEDULED TASK SERVER

Components	Minimum	Recommended
Processor	4 vCPUs Xeon	Based on volumes ⁽¹⁾
Operating system x64-64 bits	W2012	W2012 R2 or W2016
Memory	4 GB	Based on volumes ⁽¹⁾
Hard drive	15 GB ⁽²⁾	Based on volumes ⁽¹⁾
	Software	
.Net Framework	4.5.2	4.6.2

⁽¹⁾ Elements to increase according to analyses carried out (operating system, number of users...) To qualify with your technical presales consultant.

⁽²⁾ Storage capacity available for workspace



5. Application Request Routing "Distribution" Server

Role provided by the server and described in this chapter may also be provided by other solutions available on the market (F5 solutions – <u>www.f5.com</u> – for example.)

An analysis with the help of Cegid is required to validate the server replacement by this type of solution.

This server interleaves between the business application servers and a Cegid application running on a user device. The SSL encryption certificate will be deployed on this server.

An additional server must be deployed within the customer's DMZ in case of Internet access.

The SSL encryption certificate used must come from a certification authority recognized on the market, except in the case any access occurs via the private network, and exclusively on workstations joined in the AD domain: a certificate from the AD domain can be used instead.

One or more fixed public IP addresses are required for publishing this or more servers on the Internet.

DISTRIBUTION SERVER (1)		
Components	Minimum	Recommended
Processor	2 vCPUs Xeon	2 vCPUs Xeon
Operating system x64-64 bits	W2012	W2012 R2 or W2016
Memory	4 GB	4 GB
Network card	1 or 2 ⁽²⁾	1 or 2 ⁽²⁾
	So	ftware
IIS (Internet Information Services) ⁽³⁾	8.0	8.5
ARR (Application Request Routing)	3.0.1952	3.0.1952
.Net Framework	4.5.2	4.6.2
TCP ports	443 ⁽⁴⁾	443 ⁽⁴⁾

⁽¹⁾ The Customer is responsible for securing their DMZ and the resources that are exposed there. Therefore, he must implement any required means to protect the access to the distribution server, especially from potential external attacks. Cegid's services teams may support the customer in implementing some measures (security devices...) to optimize the security level of a solution of that type.

⁽³⁾ The distribution servers within a same "server farm" must have the same version.

⁽⁴⁾ When the SSL protocol is implemented (access from the Internet), the TCP port 443 (non-modifiable port) is used for SSL communications. For more details about certificates, refer to the appendices in this document.

⁽²⁾ A second network card is required once the ARR platform is doubled, for example to respond to scenarios about fault tolerance of this feature.



6. Workstations (Desktops, Laptops, Terminals...)

WINDOWS PCs		
Components	Minimum	Supported
Processor	Intel Core i3	Intel Core i3/i5/i7
Operating system x86-32 bits	Windows 7 SP1	Windows 7 SP1 / 8.1
Operating system x64-64 bits	Windows 7 SP1	Windows 7 SP1 / 8.1 / 10
Edition	Professional	Professional
Memory	2 GB	4 GB ⁽¹⁾
.Net Framework	4.5.2	4.5.2



An "Administrator" access right is required only to install a Cegid application. Minor updates and the later use of the application only require usual standard rights.

⁽¹⁾ Elements to increase according to analyses carried out (operating system, number of local applications...)



7. POS Terminals

POS TERMINALS		
Components	Minimum	Supported
Processor	Intel Core i3	Intel Core i3/i5/i7
Operating system x64-64 bits	Windows 7 SP1	Windows 7 SP1 / 10
Edition	Professional	Pro / POS Ready 7
		or
		Enterprise LTSB 2015 /
		2016
Memory	2 GB	4 GB ⁽¹⁾
Display resolution	1024 x 768	
.Net Framework	4.5.2	4.6.2



An "Administrator" access right is required only to install a Cegid application. Minor updates and the later use of the application only require usual standard rights.

⁽¹⁾ Elements to increase according to analyses carried out (operating system, number of local applications...)



8. Terminals for Yourcegid Retail Cataloging / Clienteling / Shopping

Terminal characteristics

TABLET PC/REGISTER		
Components	Minimum	Recommended
Processor	Intel Core i3	Intel Core i5 ⁽¹⁾
Operating system x64-64 bits	Windows 10	Windows 10
Edition	Enterprise LTSB 2016	Enterprise LTSB 2016
Memory	4 GB	1 GB
Networking	WiFi card	WiFi card or wired network
Monitor	10''	10" or larger
Display resolution	1366*768	1680*1050 or higher



An "Administrator" access right is required only to install a Cegid application. Minor updates and the later use of the application only require usual standard rights.

⁽¹⁾ Elements to increase according to analyses carried out (operating system, number of local applications...)

Certified Receipt Printers

EPSON printers are generally supported and the following are certified:

- The EPSON TMH 6000 IV printer with WiFi or Ethernet modules.)
- The EPSON TM 88 V and VI printers (with WiFi or Ethernet modules.)
- The EPSON P60 II printer (with WiFi module)
- The EPSON TM-m30 printer (with WiFi module)

Printers will operate in mobility mode if you implement a WiFi network and a local network in the store.



9. Peripheral Devices for Yourcegid Retail Mobile POS

Communications

The devices communicate **only** via the WiFi network.

Certified Apple Devices – Yourcegid Retail Mobile POS V4

Devices	
Model	Operating system
iPod TOUCH 5 / 6	OS 8 minimum
iPhone 5 / 5S (5c excluded) iPhone 6 / 6S / 6S Plus / SE iPhone 7 / 7 Plus	OS 8 minimum
iPad Mini 2 / 3 / 4	OS 8 minimum
iPad 4 / Air / Air 2	OS 8 minimum

The following cases can be used with these devices:

- Incoterm iSMP Companion for all devices
- Ingenico iCMP for all devices
- Linea-Pro 5 for iPod 5 and iPhone 5 only
- Honeywell Captuvo SL22 for iPod 5 or SL42 for iPhone 5 only



The Ingenico cases, iSMP and iCMP, require the use of the centralized transaction management solution from Ingenico called AXIS.

The Verifone Payware cases require the use of the centralized transaction management solution called ADYEN.

- Verifone Payware E315 for iPod Touch
- Verifone Payware E355 for all devices



Certified Receipt Printers

These printers are certified:

- The EPSON TMH 6000 IV printer (with Wi-Fi or Ethernet modules.)
- The EPSON TM 88 V printer (with Wi-Fi or Ethernet modules.)
- The EPSON P60 II printer (with WiFi module)
- The EPSON TM-m30 printer (with WiFi module)

Printers will operate if you implement a WiFi network and a local network in the store



10. Peripheral Devices for Yourcegid Retail Mobile Inventory

Communications

Operating: The PDA is used to scan items in "Disconnected mode" (without network access) The device is then connected to the computer hosting the following software applications: "Windows Mobile Device Center", Hub Copy" and "Yourcegid Retail Y2". Data is then transferred from the PDA to the computer where this data will be integrated with Yourcegid Retail Y2.

REQUIRE SOFTWARE	
Components	Remark
Windows Mobile Device Center	A Microsoft Windows component
	configured by CEGID.
Hub Copy	Provided and configured by CEGID.

Certified PDAs

PDAs	
Model	Operating system
Motorola MC 2180	Win CE 6
Motorola MC 3100	Win CE 6
Motorola MC 3190	Win CE 6
Motorola MC 3200	Win CE 6
Honeywell Dolphin 6110	Win CE 6
Datalogic Skorpio X3	Win CE 6



11. Printers & Peripherals

The Cegid applications use the printing infrastructure of the Windows environment. We have to ensure that the print devices do have the certified printing drivers, especially on 64x platforms for an efficient support of the used operating systems (for clients and servers).



Instead of exchanging directly with each device, the POS terminal communicates with a generic multidevice connector called CPOS.

Customers or partners can develop their own drivers to connect their specific devices.

The CPOS connector does not concern:

- Network printers
- Label printers
- Barcode readers
- Inventory terminals



Receipt Printers (except fiscal printer)

There are two operating modes:

- Via a CPOS driver provided by Cegid to communicate with EPSON and compatible printers.
- Via OPOS drivers provided by other vendors (i.e. HP or IBM.)

Customer Display

There are two operating modes:

- Via a CPOS driver provided by Cegid to communicate with EPSON and compatible displays.
- Via OPOS drivers provided by other vendors (i.e. HP or IBM.)

Cash Drawer

There are two operating modes:

- Via a CPOS driver provided by Cegid to communicate with EPSON and compatible cash drawers.
- Via OPOS drivers provided by other vendors (i.e. HP or IBM.)

Barcode Scanner

Bar code readers: all models connected in USB mode or as 'keyboard/SU' interface (Wedge mode) with the "CR/LF" settings applying automatically after the reading of a bar code.

Magnetic Card Reader

HP models: External MSR device in USB mode driven by the OPOS layer (OPOS version 2.62) + the CPOS layer.

MSR device integrated with the HP AP5000 POS terminal driven by the OPOS layer + the CPOS layer.

Document Reader

3M model: "QS 1000" reader driven by the CPOS layer with software components "3M[™] Page Reader SDK" in version 3.1.10 or "AssureIDTM".

Fingerprint reader

U.are.U model: "4000B" device driven by the CPOS layer with the software components "DigitalPersona One Touch for Windows SDK" in version 1.6.1.



U.are.U model: "4500" device driven by the CPOS layer with the software components "DigitalPersona One Touch for Windows SDK" in version 1.6.1.

EFT Drivers

Y2 uses EFT solutions via CPOS drivers.

These solutions are specific to every country and EFT requirements.

Cegid provides CPOS driver templates that can be:

- Used in current condition in some cases
- Adapted in other cases
- Serve as templates to develop others

To validate that a driver already exists for the solution you are using in your scope of use, please contact your sales consultant.

Other Printers

For other types of printers, especially network printers, rewritable and label printers, please contact your sales consultant.



12. Country Packages

The concept of "Country Packages" includes many elements about deployment specifics in different countries including the following information:

- Translation management
- Tax management
- For some countries, specific reports and receipt formats
- For some countries, management of fiscal references
- For some countries, integration of local components such as:
 - Specific functional components
 - Packaged exports
 - o Tax printers or components
- For some countries, software certification

Please refer to documentation dedicated to "Country packages" to get information about the technical requirements about their specific components.



13. Networking

ADSL versus SDSL

For Web Access HTTPS solutions, the store needs only a simple ADSL subscription.

For a great number of connections (local for navigating and e-mailing, and remote on the business application server(s)), the Headquarters should focus on the use of two separate Internet subscriptions, one for Internet navigating and the e-mailing in the Headquarters, and the other dedicated to business connections.

In this case, the use of Internet in the Headquarters does not have a negative impact on cashing operations in the store.

The latency for Internet accesses is a very important concept for the use of the Yourcegid Retail Y2 solution.

Latency superior to 100 ms is considered insufficient for an optimal use of our products.

Average bandwidth stated for the Front-Office

On the average 50 kb/s to 100 kb/s per user. Of course, this average should be modulated by the effective use of the Front-Office product.

For some processes, peaks of 100 kb/s can be stated.

Analyses (dashboards) and inventories (with inventory closure) are the most bandwidth consuming processes in the Front-Office.

Number of concurrent users	Technology	throughput Minimum for download	throughput Minimum for upload	Maximum latency
< 3	ADSL (*)	1 Mb/s	256 Kb/s	
3 to 9	SDSL / T1	1 Mb/s	1 Mb/s	
10 to 19	SDSL / T1	2 Mb/s	2 Mb/s	100 ms
20 to 39	SDSL / T1	4 Mb/s	4 Mb/s	
>= 40	SDSL versus Fiber - Specific analysis			

(*) With the ADSL technology, cuts and slowdowns linked to this technology can be observed.



Average bandwidth stated for the Back-Office

On the average 100 kb/s per user. Of course, this average has to be calibrated according to the functional requirements and the effective use of the Back Office product.

Analyses (cubes, dashboards, statistics...), Inventories (with inventory closure), replenishment calculations, imports/exports, and accounting interfaces are the most bandwidth consuming processes on the Back Office.

Number of concurrent users	Technology	throughput Minimum for download	throughput Minimum for upload	Maximum latency
< 2	ADSL (*)	1 Mb/s	256 Kb/s	
2 to 9	SDSL / T1	1 Mb/s	1 Mb/s	100 ms
10 to 19	SDSL / T1	2 Mb/s	2 Mb/s	
20 to 39	SDSL / T1	4 Mb/s	4 Mb/s	
>= 40	SDSL versus Fiber - Specific analysis			

(*) With the ADSL technology, cuts and slowdowns linked to this technology can be observed.



14. APENDICES



Terminology Details Concerning Processor Architectures

In documents issued by Cegid, the 64-bit term refers to the architecture – or instruction set - named x86-64, often abbreviated as x64.

This architecture is a 64-bit extension of the conventional Intel 32-bit instruction set x86 and has been introduced by AMD, initially as AMD64. It is supported by all EM64T Intel processors (this acronym designates at Intel the support for this instruction set) and also by all the 64-bit AMD processors.

This architecture must not be mistaken for the one known as IA-64, implemented by the Intel processors of the Itanium family, which is a distinct and incompatible 64-bit architecture. IA-64 and the Itanium processors are outside the Cegid 64-bit scope and are not validated.





Cegid's Policy Concerning the Application of Microsoft Patches

To correct malfunctioning and/or to improve the support and the security of its products, Microsoft regularly provides updates to be applied to the solutions concerned.

These updates are, among others:

Service Packs (Windows 7)/Updates (Windows 8):

Set of fixes and changes that apply to a product. These service packs are quite a few (often less than 5 in the whole product lifecycle.) They can be minimums required for installing Microsoft or Cegid solutions, or even third-party applications.

 \rightarrow Cegid tests the service packs/updates in conjunction with the applied solutions and publishes information soon after their release by Microsoft (prerequisite notes identify **explicitly** versions and levels of service packs supported).

Quality Update

Set of software fixes that correct security or robustness issues, releases by Microsoft on a supported version/service pack/update (including Extended support for security patches.) These fixes are generally provided on a monthly basis via Windows and/or Microsoft Update.

Microsoft recommends installing these hotfixes (Categorized as important/critical or recommended.) Although Microsoft tests updates extensively for compatibility with deployed applications, there is a risk of undesired edge effects in a particular environment. Cegid therefore recommends testing the implementation of the Quality Updates on a "pilot environment" representative of the production environment, and then accepting its deployment in concentric circles on the other machines. (Cegid may propose the implementation of various tools provides by Microsoft to meet this issue.)

Specific updates:

Unavailable online, these updates are created to address a particular problem. They are delivered by Microsoft exclusively when dealing with an identified problem.



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Support Information for Microsoft Products

The various products (operating systems, database engines, office products, etc.) mentioned in this document are subject to the support conditions and particularly to the "end of support" conditions from their respective publishers.

A reminder of the standard end of support dates for these products is shown below; more detailed and extensive information is available from the publishers concerned. (It is sometimes possible, beyond the dates of full support of the product to get security patches or some other parches, if you have subscribed a contract for additional chargeable support.)

Microsoft lifecycle <u>http://www.microsoft.com/lifecycle</u>

To benefit from the latest technological developments and from the publisher's support if required, it is important to consider the product lifecycles, as well as a migration towards later platforms supported by the various business solutions.

Microsoft Products (Publisher's Information)					
Marketed product	End of main support (date mm/dd/yyyy)	Remark			
Windows 7 Professional	1/13/2015				
Windows 8.1 Professional	1/9/2018				
Windows 10 Professional	10/13/2020				
Windows Server 2012	1/9/2018				
Windows Server 2012 R2	1/9/2018				
Windows Server 2016	11/01/2022				
SQL Server 2012	7/11/2017	Qualified with WS 2012 & WS 2012 R2			
SQL Server 2014	7/9/2019	Qualified with WS 2012 & WS 2012 R2			
SQL Server 2016	N/A	Qualified with WS 2016			



Support of Cegid Solutions in Virtualized Environments

Various virtualization solutions on the market are designed to reproduce in virtual environments controlled by "hypervisors", infrastructures previously implemented with physical resources (servers, storage, network, etc.)

If considering the installation of an application solution, you can assume that sizing (number of processors, memory, disk space...) and installing (OS, database engines, and application solutions...) are similar in virtualized environments to what happens for a deployment in a physical infrastructure.

Cegid's solutions will work with the most common hypervisors on the market. They are tested, in particular on the latest versions of hypervisors from Microsoft (Hyper V) and VMware.

The licensing module for some Cegid applications will use the physical elements (including the network adapter) of the server where it is installed. We recommend installing the licensing module either on a non-virtualized server or on a virtualized machine ensuring that the MAC address used for the network adapter does not change.

Cegid specifically provides functional and technical support for Cegid applications via various standardized offers.

Specific recommendations for this type of environment:

- Because of the technologies implemented for the virtualization, but also of the consolidation that often leads to pool multiple virtual servers onto fewer physical machines, performance may be less than this proposed natively in a non-virtualized configuration. The assessment of performance therefore, has to be taken into account as a priority for this type of solution. We also recommend checking whether specific rule apply to the licenses from every vendor affected by the solution to deploy in a virtualized environment.
- Not all hardware components are "virtualizable" and sometimes some aspects (advanced graphical features, telecommunications equipment...) are not supported.
- First, it is necessary to ensure that the various elements (operating systems, database engine...) of the solution are supported by their respective publishers in the targeted environment (this is generally the case for the most recent Microsoft products on the most representative hypervisors.)
 - Microsoft' policy for application support in virtual environments can be viewed at the following address: <u>http://windowsservercatalog.com/svvp.aspx?svvppage=svvpwizard.htm.</u>





For communications between an application running on a user's peripheral device and a business application server, or a distribution server, it is possible either to use a non-encrypted HTTP protocol, or to secure the exchange by implementing the relevant encryption via an SSL HTTPS protocol.

Cegid recommends **implementing an SSL certificate** for both an **Internet access** and a **private network access**.

- One simple option consists in using a self-signed certificate (generated on the IIS or ARR server); however, this solution must only be used to realize a template limited to Windows workstations. This solution does not take into account all the features of the Cegid solution:
 - Only Cegid applications of type Smart Client with an available connection period are supported.
 - In terms of security, it is easy to generate this type of certificate, but there is no guarantee that a Cegid application will connect to "its server".
 - As with a recent browser accessing a site for which neither its origin, nor the validity of the certificate can be guaranteed, the user must confirm each time he connects that he agrees to access a server equipped with this type of certificate.
- To improve confidence and productivity for users, the recommended solution, in this context, is to deploy on the servers a certificate issued by a recognized certificate authority; type and cost of the certificate will depend mainly on:
 - The issuing authority and the confidence it inspires on the market.
 - The peripheral devices and browsers you want to be supported.
 - The lifetime of the certificate from 1 year to 4-5 years.
 - The type of certificate and the controls the authority operates before issuing the certificate (certificates called "EV" or "Extended Validation" will reassure the users of a site by coloring the address bar in green. To issue such certificates, a large number of controls are performed on the applicant.)

<u>Warning:</u>

When using Yourcegid Retail Y2 Mobile POS, make sure that the certificate really does support client operating systems for mobile devices.

The device being used must also have an up-to-date list of certification authorities and intermediate certification authorities (available via the updating mechanism of the operating system.)

Cegid offers a support service for implementing SSL certificates, given the complexity of such an implementation.