

International Consulting LLC

Phone: 503.625.3669 Fax: 503.217.1325

E-Mail: [willem@intlconsultingllc.com](mailto:willem@intlconsultingllc.com)

Web: [www.intlconsultingllc.com](http://www.intlconsultingllc.com)

# GB 18030 White Paper

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Author: Willem Stoeller

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# Management Summary

Due to the increasing demand for software products in the People's Republic of China, along with the government requirement that such software products be compliant with GB 18030-2005, many US software companies are concerned about how to make their applications compliant with this relatively new standard. In fact many operating systems and major applications are already GB18030-2005 compliant, including formal certification.

As described below, there are two key steps in becoming GB18030-2005 compliant. First, the software product itself must be compliant, and the work required to become compliant is largely dependent on the level of Unicode support in each application. Second, according to the Chinese government guidelines, it is required that the software products go through a GB18030-2005 certification test process and obtain an official certificate.



Since January 2001, the China Electronics Standardization Institute (CESI) has been authorized by China's Ministry of Information Industries to be the sole test center for the adoption and enforcement of national information standards, including the GB18030-2005 certification and issuance of the GB18030-2005 Certificate and Mark to both foreign and domestic software applicants (See

<http://www.en.cesi.cn/default.htm>).

The actual certification process (after internal testing) by CESI will take several months and the CESI fees are roughly USD 5,000 – USD 7,500 for a mid-size three-tier enterprise application. The total certification costs including internal testing by a Beijing based partner, coordination with CESI and the actual certification costs range from USD 30,000 to USD 50,000 for a mid-size three-tier enterprise application. The actual costs depend on the degree of compliance of the product, the installation effort and the number of test cases required.

In order to meet client demand, International Consulting LLC, in coordination with their Chinese partners, created a process and a supporting infrastructure to prepare software applications for the CESI certification process and to support CESI during the actual certification. The information in this whitepaper reflects the experience gleaned during a number of successful certification efforts for prominent US software companies.





## Business Drivers

### Market Entry

The Chinese government requires both domestic and foreign software companies to meet the GB 18030-2005 standard in order to market their software in China. Obtaining the official GB 18030 certificate will enable the software companies to legally sell their products in Mainland China. With China's accession into WTO, the Chinese government uses "certification" as a tool to encourage standardization.

### Customer Recognition/Market Penetration

When a software product passes the GB 18030 test, CESI will announce and publicize the product and its manufacturer's info to its more than 500 affiliated IT ministries, industry associations, subsidiaries, member enterprises and offices at provincial, municipal and county levels, all of which are potential buyers either through the government purchase program or industry association recommendation.

### IP protection

Once granted the GB 18030 certificate, as stipulated in the contract, the Chinese government will back the software maker's legal rights and protection in the China market against piracy, illegal distribution, usage, and other infringements of rights (There are no documented cases on how this protection is provided).

### Relations with Government

By cooperating with the Chinese government on meeting the GB 18030 test requirements, foreign software companies in particular can establish a good relationship with the Chinese information industry authorities such as CESI, and achieve better understanding of the Chinese market and user requirements

### Public Relations

Due to general lack of trust in the quality of both consumer and industrial products, the Chinese public and industries demand that the government issue all kinds of "official certificates" to approve the products' entry into market; and perceives any product certified by the government as an assurance of superior brand, quality and credibility

### Government purchase program

Any government purchase program explicitly requires GB 18030 compliance evidenced by a GB 18030 certificate issued by CESI. Large Chinese companies require GB 18030 compliance evidenced by a GB 18030 certificate issued by CESI as part of their procurement process.



# Compliance with GB 18030

On March 17, 2000 the Chinese government issued regulations mandating that all software sold in the PRC after January 1, 2001 would have to comply with the new multi-byte GB18030-2005 standard. This standard is only for Simplified Chinese, not for Traditional Chinese, which has its own character set (Big5 or Unicode).

There are two key steps in becoming GB18030-2005 compliant. First, the software product itself must be compliant, and the work required to become compliant is largely dependent on the level of Unicode support in each application. Second, according to the Chinese government guidelines, it is required that the software products go through a GB18030-2005 certification test process and obtain an official certificate.

As mentioned before, only a part of GB 18030-2005 is mandatory (all 28,427 characters included in the GB 18030-2000 standard). Support for the six regional scripts is not yet mandatory. Support for the proper rendering of regional scripts involves significant effort due to bi-directionality, writing directions and complex shaping.

A number of characters in GB 18030 require “full” Unicode support or “support beyond the BMP”. This means that software can no longer treat characters as 16 bit fixed width entities (UCS-2). Therefore the software must either process the data in a variable width format (such as UTF-8 or UTF-16), which are the most common choices, or move to a larger fixed width format (such as UCS-4 or UTF-32). Microsoft made the change from UCS-2 to UTF-16 with Windows 2000. Failure to handle the four-byte region of the legacy encoding is a common compliance pitfall.

## Best practice to make your software GB 18030-2005 compliant

The following are best practices based on experience with GB 18030:

- Insure that the production OS you will be using for the product in itself is already GB 18030 certified.
- Insure that your software can handle arbitrary Unicode code points (BMP and beyond)
  - Handling of arbitrary GB 18030-2005 characters internally
  - Trans-coding: For text and data export/import, GB 18030’s native one-, two-, and four-byte encoding must be completely supported
  - The mapping from GB 18030’s native encoding to Unicode is known and well understood and the OS (or ICU) should provide conversion algorithms.
- Unicode CJK Extensions B and C are not yet mandatory, but some customers may require these to be supported
- Extension A is mandatory, so it should be a primary focus
- Use the GB 18030 compliant fonts of the OS
- Use the GB 18030 compliant APIs of the OS or proven libraries such as ICU (<http://site.icu-project.org/>)
- Fix or document deficiencies, the CESI will appreciate it and it will make the formal certification process much smoother. In some cases the certification will be granted on the condition that the documented deficiencies will be corrected in the next release.



# Certification Process

## Overview

The following chart lists the essential steps and tasks required to meet the GB18030 compliance requirements and obtain the GB certificate. In terms of the product release life cycle, these tasks should ideally be scheduled and completed prior to the release of the product. The first step “Conduct Internal Testing” is the most important and time consuming.



1. Contract a Chinese Certification Partner (preferably located in Beijing). Plan and have the Chinese Certification Partner create and execute a set of test cases to demonstrate internally that the software will pass the formal certification test
2. Have the Chinese Certification Partner submit the product for formal certification by CESI. If tasks 4 and 5 are executed properly than this task should be a formality.
3. Have the Chinese Certification Partner work closely with CESI during the formal certification to address any issues.
4. CESI will formally announce the test results and issue the certification and Mark.
5. Once the product is certified, you should have the product inspected by the certification center every 12 months. The yearly evaluations on certified products mainly focus mainly on: updates and upgrades of product versions, , usage of certificates and marks of certification, and customer satisfaction.



## Step-By-Step Approach for GB18030 Compliance Certification

### Conduct Internal Testing

As the first step of the GB 18030 certification process, the internal testing step is the most important and time consuming, and lays the foundation for the entire GB 18030 test process, including developing the test cases, obtaining agreement on the test process from CESI, debugging and updating the software to ensure GB compliance, etc.



1. Plan for the GB 18030-2005 certification
  - 1.1. Communicate the GB 18030 certification process
  - 1.2. Develop the business case for the GB 18030 certification
  - 1.3. Plan approach, resources, timeline and budget for the certification process
2. Contract a Chinese Certification Partner (preferably located in Beijing) that:
  - 2.1. Has experience installing and testing complex, multi-tier enterprise software
  - 2.2. Has experience with the GB 18030 certification process
  - 2.3. Has an existing relationship with people at the CESI
  - 2.4. Can provide a bilingual project manager for communication locally in Chinese and communication with your organization in German or English (Critical to the success of the project)
3. Assist the Chinese Certification Partner with the installation of the product and provide product training (Critical to the success of the project). This is best done on site in China, but could also be accomplished through a remote on-line session. Your Chinese Certification Partner in turn will assist the CESI with the installation of your software.
4. Provide a set of test case to the Chinese Certification partner that cover all UI interactions.
5. The partner will evaluate the software, develop (from the set provided under 4) GB18030 Test Cases , and execute these test cases against the CESI requirements
6. Track testing results in a test report, log defects in a client bug database, regress bugs and verify the fixes in the updated software
7. After the first test cycle, it is time to contact CESI in order to provide them with early input and to obtain an agreement on the test cases to be used for the formal certification.
8. Based on input from the CESI, finalize the GB18030 test cases, internal testing and application paperwork for official submission.

### Risk Assessment

#### Risk factors

- GB18030 compliance testing has never been executed at COMPANY XYZ.
- COMPANY XYZ has done only limited localization testing for Simplified Chinese for these applications.
- Reliance on timely action from COMPANY XYZ development team to create builds and repair defects.
- Exact testing scope is to be determined by CESI upon review of applications.
- Exact fees charged by CESI to be determined by CESI upon review of applications.

#### Factors that reduce risk

Implementation should be based on a GB18030 certified platform (or ICU libraries).

At inception, the risk to this project is average compared to other globalization projects. The following strategies reduce overall project risk:

- Performing pre-certification testing up front reduces the possibility of critical defects remaining undiscovered until late in the project where schedule impact is greatest.
- Use of a Chinese Certification Partner with prior GB18030 certification experience.



- Use of a Chinese Certification Partner with a strong relationship with CESI employees.
- Use of a bilingual project manager to avoid incomplete/incorrect communication

**Intellectual Property and related risks**

In order to protect COMPANY XYZ’s Intellectual Property rights and other risks the Chinese Certification Partner must agree to adhere to the following:

- To be bound by their Non Disclosure Agreement and Professional Services Agreement that they sign with COMPANY XYZ.
- They will not use, distribute or access the COMPANY XYZ source code.
- They will comply with all foreign, local, and municipal laws.

Also see sample authorization letter in Attachments.

**Sample budget**

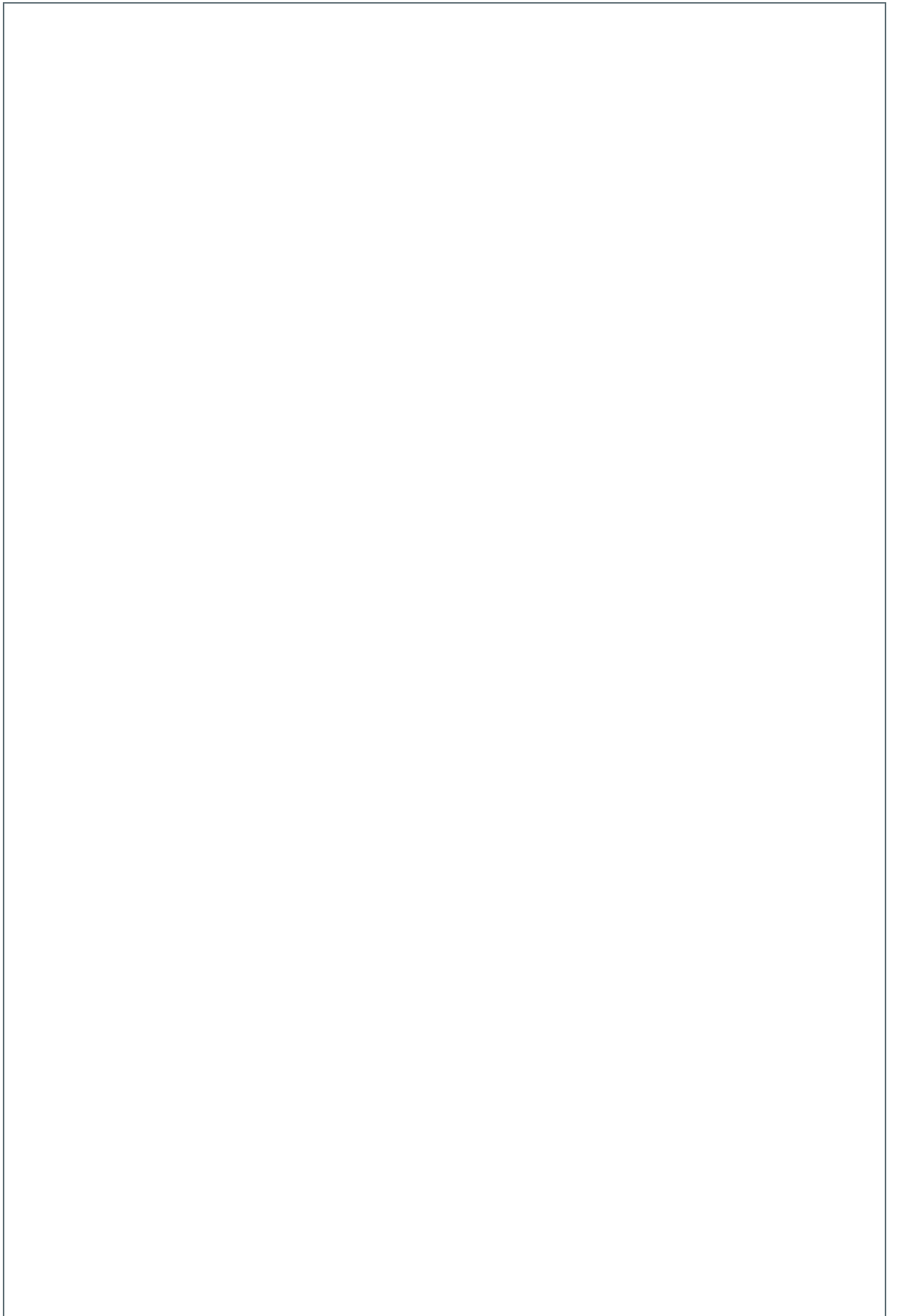
**Setup of Test Environment and Consulting with CESI:**

<i>Set up</i>	<i>Unit</i>	<i>Rate</i>	<i>Hours</i>	<i>Totals</i>
<i>Project Planning</i>	Hour	TBD	32	-
<i>Hardware / software Setup</i>	Hour	TBD	40	
<i>Get familiar with the product</i>	Hour	TBD	40	
<i>Consulting with CESI</i>	Hour	TBD	25	
<i>Translation of CESI Test Agreement</i>	Word	TBD	2500	
<b>Total</b>				-

**Testing of software:**

<i>Testing</i>	<i>Unit</i>	<i>Rate</i>	<i>Hours</i>	<i>Totals</i>
<i>Initial Evaluation</i>				
<i>Training provided by COMPANY XYZ</i>	Hour	TBD	24	-
<i>Early software evaluation for GB18030</i>	Hour	TBD	24	-
<i>Preliminary Test data Creation</i>				
<i>Engineering</i>	Hour	TBD	16	-
<i>Provide necessary translation for testing</i>	Hour	TBD	8	-
<i>Testing Case Co-Development</i>				
<i>Test Case development</i>	Hour	TBD	48	-
<i>QA</i>	Hour	TBD	24	-





**Testing of software continued:**

<i>Testing</i>	<i>Unit</i>	<i>Rate</i>	<i>Hours</i>	<i>Totals</i>
<i>Test Case Execution</i>				
<i>Engineering (incl. test case modification, feedback)</i>	Hour	TBD	24	-
<i>QA</i>	Hour	TBD	56	-
<i>Informal Pre-Certification with CESI</i>				
<i>Liaison</i>	Hour	TBD	10	-
<i>QA</i>	Hour	TBD	24	-
<i>Official Certification with CESI</i>				
<i>Liaison</i>	Hour	TBD	24	-
<i>Hardware / software Setup</i>	Hour	TBD	16	-
<i>QA</i>	Hour	TBD	24	-
<i>Miscellaneous</i>				
<i>Translation of Test cases into Chinese</i>	Word	TBD	20,000	-
<i>CESI Test Fee</i>				TBD
<i>Subtotal per component</i>				-
<i>Local project management</i>	Percentage	5%		-
<i>Total</i>				-



### **Submit GB18030 Certification Application with CESI**

During this process, according to CESI procedure, the applicant company or its agent (The Chinese Certification Partner) should submit and/or sign the following list of items (All in Chinese) for official GB 18030-2005 certification:

- Application Letter (by the Applicant Company or Its Agent)
- Official Certification Application (by the Applicant Company or Its Agent)
- Certification Agreement and Fee (Party A: the Applicant Company or Its Agent Party B: CESI)
- Product CD, including Product Information
- Customized GB18030 Test Cases created by the Chinese Certification Partner (Hence the importance to obtain agreement on those test cases beforehand to insure smooth certification)
- Software Company Overview
- Bill of Materials for Test
- Agreement on the Usage of the GB Certification (Party A: the Applicant Company or Its Agent, Party B: CESI)

Since all paperwork is in Chinese, it is recommended to authorize the the Chinese Certification Partner to handle all paper work on COMPANY XYZ' behalf.

### **Work with CESI during Official Certification**

During this step, the applicant company or its agent (The Chinese Certification Partner) should work closely with CESI and provide any additional information or answers to possible software issues, test case issues, etc., in order for CESI to achieve the desired results of GB18030 compliance and official approval of certification.

### **CESI Announces Result of GB18030 Test**

During this step, CESI will conduct an internal meeting to make a pass or fail decision based on the test results; it will announce the decision as well as the date of certificate issuance to the applicant company or its agent. The test results are no longer graded; it is a simple pass or fail. The pass can be conditional upon requested software modifications.

### **Post-Certification Monitoring**

As required by the certification process, in order to maintain continued good status with GB certification, CESI requires that the software company or its agent reports any major revision, patch release, or dot releases of the certified software on an annual basis with CESI, or any other updates that might affect GB 18030 enablement, or any issues related to the usage of the GB certificate.



# Administrative Process

The most important administrative process is the selection and contracting of a Chinese Certification partner in combination with authorizing this partner to act on COMPANY XYZ' behalf with the CESI.

To start out, identify two to three possible candidates for the role of the Chinese Certification Partner. All candidates should meet the following criteria:

- Has experience installing and testing complex, multi-tier enterprise software
- Has experience with the GB 18030 certification process
- Has an existing and solid relationship with people at the CESI
- Can provide a bilingual project manager for communication locally in Chinese and communication with your organization in German or English (Critical to the success of the project)

Have all candidates sign a Non Disclosure Agreement (preferably handle that through an Asia based COMPANY XYZ legal department), provide them with software documentation and a sample of UI test cases and answer any follow up questions.

Request each candidate to prepare a draft proposal and select candidate based on proposal and preferably some references.

Request that the selected candidate signs a Professional Services Agreement with COMPANY XYZ (preferably handle that through an Asia based COMPANY XYZ legal department).

Now the candidate is ready to finalize their proposal. In order to do this they will need to get some product training and access to the software (remotely would be acceptable). See Attachments for a sample final proposal (since this is from 2005, ignore the rates and pricing).

After obtaining agreement on the final proposal, have the Chinese Certification Partner sign an Authorization letter (see Attachments for a sample).



# Attachments

## Sample authorization letter

[TO BE SENT ON *COMPANY'S* LETTERHEAD]

Date

To:

*Chinese certification partner*

Dear Mr. X,

This letter will authorize *Chinese certification partner* to negotiate, discuss and in any other way communicate with CESI (CHINA Electronics Standardization Institute) only in those areas relative to the GB18030 Certification of *Company's* software products A, B and C. No other authorization is hereby granted.

By the existence of this instrument we hereby authorize *Chinese certification partner* to apply on behalf of *Company* for the GB18030 certification process of the products A, b and C, and to act in ways deemed strictly necessary so as to accomplish the GB18030 certification process, which is being undertaken.

This authorization for *Chinese certification partner* to apply on behalf of *Company* for the GB18030 certification process of the products A, B and C in exactly 3 years from the date of signature.

### Terms

- *Chinese certification partner* agrees to be strictly bound by their Non Disclosure Agreement that they signed with *Company* dated 11 February 2004.
- *Chinese certification partner* agrees that they will not use, distribute or access the *Company* source code, and will not allow any other person or entity to do so.
- *Chinese certification partner* agrees that it will comply with all foreign, local, and municipal laws and in particular with the International Anti-Bribery and Fair Competition Act of 1998, and the Foreign Corrupt Practices Act, and that no payments of any kind shall be made to any Government official.
- *Chinese certification partner* agrees to indemnify *Company*, its assignees, and licensees, and hold each of them harmless from and against any and all claims, demands, losses, damages, liabilities, costs, and expenses, including legal fees, arising out of or by reason of any breach or alleged breach by *Chinese certification partner* of any of the representations, warranties, or agreements made under this letter of authorization, or any actions undertaken by *Chinese certification partner* pursuant to its terms.
- To the extent permitted by law and except as expressly provided to the contrary in this Letter of authorization, all warranties whether express, implied, statutory or otherwise, relating in any way to the subject matter of this Letter of Authorization or to this Letter of Authorization generally, are excluded.
- Where legislation implies in this Letter of Authorization any condition or warranty and that legislation avoids or prohibits provisions in a contract excluding or modifying the application of or the exercise of or liability under such term, such term shall be deemed to be included in this Letter of authorization. However, the liability of *Chinese certification partner* for any breach of such term shall be limited, at the option of *Chinese certification partner*, to any one or more of the following:



- If the breach related to goods: the replacement of the goods or the supply of equivalent goods; the repair of such goods; the payment of the cost of replacing the goods or of acquiring equivalent goods; or the payment of the cost of having the goods repaired; and
- If the breach relates to services the supplying of the services again; or the payment of the cost of having the services supplied again.
- To the extent permitted by law and except as expressly provided to the contrary in this Letter of authorization, neither *Chinese certification partner* or *Company* shall not be under any liability (contractual, tortuous or otherwise) to the other party in respect of any loss or damage (including, without limitation, consequential loss or damage) howsoever caused, which may be suffered or incurred or which may arise directly or indirectly in respect to the supply of goods or services pursuant to this Letter of authorization or the act, failure or omission of the other party.
- 

*Company*

*Company Address*

Thank you.

Sincerely,

Name

Signature

Title



## Sample Proposal from Chinese Certification Partner

This proposal has most names replaced for confidentiality reasons. In this situation the Chinese partner was subcontracting to an LSP, while the LSP functioned as the main contractor. Since the proposal dates from 2005, prices and rates might not be relevant.

# Statement of Work for *LSP.com* GB18030 Certification Testing

Submitted by  
*Chinese Certification Partner Inc.*

Version	1.0	December 18, 2003
Version	2.0	January 16, 2003
Version	3.0	April 25, 2004
Version	4.0	May 25, 2004
Version	4.5	May 27, 2004



This Statement of Work is based on the reference materials, the acceptance test cases provided by as well as all previous communications with *LSP.com*.

## 1. Project Objectives

The main objective of this consulting project is for *Chinese Certification Partner Inc.* to obtain the GB18030 certification on behalf of *LSP.com* for a particular enterprise product suite of supply chain management software developed by *Software Publisher*, one of *LSP's* clients.

To achieve this objective, *LSP* suggested a three step process as following:

- Identify high level risk areas for application to be certified and have *LSP* test for those high level risks on the internationalized but not yet translated version of the application
- Pre-certification of the localized application (contracted out to a Chinese organization, namely *Chinese Certification Partner Inc.*)
- Actual certification by Chinese government (interfacing done by same Chinese organization, namely *Chinese Certification Partner Inc.*)

Understanding of the above goal and general requirement was confirmed by both sides during subsequent email and phone calls.

A secondary objective of this Statement Of work is the development of a set of GB18030 test cases that can be used as a basis by *LSP* and/or *Software Publisher* to do pre-certification testing on other, future projects. These test cases will contain both English and Chinese instructions.

## 2. Project Assumptions

The following assumptions were noted for the GB18030 project-

### 2.1 Project Scope:

It was agreed in April 2004, the testing scope will include the following four *Software Publisher* components: namely, *Application A*, *Application B*, *Application c* and *ABC Foundation*. The latter component will be tested during pre-certification, but not certified as a standalone component (since it is certified indirectly through the certification of the other three components). Acceptance test cases for the first three components as well as reference materials were handed off to *Chinese Certification Partner* on April 15, 2004.

### 2.2 Timeline Estimates:

- ✓ Initial Project Proposal: December 18, 2003 (first draft)
- ✓ Hand off of reference materials and acceptance test case: April 15, 2004
- ✓ Submission of Statement of work to *LSP*: April 25, 2004
- Project Set Up (including preparation, contract, set up): est. until June'04
- Hand off of stable Software (passed acceptance tests at *Software Publisher*): early July, 2004
- Official start of GB18030 Test: est. July'04
- Pre-certification complete: est. September'04
- Official certification submission: est. September 15, 2004
- Office certification complete: est. October 15, 2004

Please see more detailed time line and deliverables summary in Appendix 1.

### 2.3 Test Case Co-Development

Consultant mentioned on Jan 7, 2004 that for *LSP*, it is important that *Software engineer* be involved in the test case development process in order to gain expertise and understanding of GB requirements for the future. *Chinese Certification Partner* confirmed the understanding of co-development of test cases and mentioned that test cases will be developed in English and Chinese in parallel.



*Software engineer* will be traveling to China in late June time frame for test case co-development and setup of test environment with the *Chinese Certification Partner* GB team.

#### **2.4 CESI Requirement and Its GB Testing Method**

CESI (China Electronics Standardization Institute) is the GB18030 certification authority under the supervision of China's National Commission of Information Industry Standardization. It is responsible for setting up and ensuring compliance of GB18030 standards for all software products sold in China. It has a software testing lab with more than a dozen testers, and one director. According to CESI procedure published on its website (<http://www.cesi.ac.cn>), due to volume of applications, it can take at least three weeks for it to approve a test application.

CESI' main testing method is to test whether the applicant software can handle all of 10 predefined encoded text files properly. For server applications, they indicated that customized test cases maybe needed for the testing. CESI also indicated that they are looking into Linux implications for GB18030.

As of April 20, 2004, per request of Consultant, *Chinese Certification Partner* has confirmed with CESI that in section VI of the CESI GB18030 Testing Agreement only "Chinese coding" should apply to *Software Publisher*: namely-

· GB2312-80 (no need)

· GB13000.1-1993 (no need)

· GB18030-2000 (should be the only encoding that needs to be certified for 1. Integrity of characters and words; 2. Correctness of system.)

However, CESI said since they haven't seen the product, this may not be the final requirement. Function and performance testing types as prescribed on the agreement maybe additional requirements

### **3. Services Provided by *Chinese Certification Partner***

*Chinese Certification Partner* Consulting Inc. is a business consulting firm based in Beijing, China with strong focus on telecommunications and software industries. The main reasons for choosing *Chinese Certification Partner* include:

- *Chinese Certification Partner* has a proven consulting track record in China's information industry and boasts extensive connections with high level industry officials, experts and partners, including CESI, the Chinese authority in charge of GB18030 certification
- *Chinese Certification Partner* has proven software development expertise (i.e. it developed an on-line payment software system and PDA portal for China Mobile, the largest mobile phone company in China and one of the largest in the world) and has experienced in-house and contract software testing staff
- Gary ZZZ, *Chinese Certification Partner's* technical consultant and formerly Senior Application Engineer with Software publisher XYZ's Beijing Office, has directly worked with CESI officials and has experience successfully obtaining GB18030 certification for Adobe's products. Will YY, an internationalization consultant with *Chinese Certification Partner*, is familiar with software internationalization and localization issues.
- *Bi-lingual Project Manager* has reached agreement with *Chinese Certification Partner's* management to provide her consulting, project management, and interpretation expertise to *LSP* for this project through *Chinese Certification Partner* Consulting Inc. She will work closely with Gary ZZZ and Will YY and the *Chinese Certification Partner* testing team, to help *LSP* achieve the goal of GB18030 certification with CESI.



The main services that will be performed by *Chinese Certification Partner* are project planning and management, including interface with CESI, GB18030 Testing, including test case co-development and execution, and any necessary translation for bilingual test materials. This section describes the activities that comprise each service.

### **1) Consulting Service-**

GB18030 certification consulting service and execution, including providing professional advice to *LSP* on GB18030 process, procedure, and requirements from both technical and administrative perspectives, as well as executing the process to meet GB18030 certification requirements for *LSP's* software.

### **2) Testing Service-**

Led by Will YY and Gary ZZ, *Chinese Certification Partner* will provide testing service during initial assessment, pre-certification and actual certification stages, including the following:

- (1) Produce the GB 18030 Test Plan containing the following sections:
  - Approach, including staffing, hardware, software and test data
  - Milestones and Deliverables
- (2) Co-Develop GB18030 Test Cases
  - Evaluate the acceptance test cases
  - Co-Develop the GB18030 test cases based on the Acceptance test cases
- (3) Executive the test cases
  - Track results in test report
  - Log defects in client bug database
  - Regress bugs and verify fixes
- (4) Informal pre-certification and official certification with CESI
  - Feedback with CESI on testing method and procedure
  - Walk through test execution with CESI

### **3) Project Planning and Project Management Service-**

A Bilingual Project Manager will act as focal point of contact between Chinese parties and *LSP*, oversee project communications, human resource management, project schedule, status and cost management, interfacing and negotiating with CESI, interfacing with *LSP* on change management and contract issues.

Project Manager will produce detailed project plan including the following sections:

- ✓ Project objectives in terms of completion dates, budgets, and quality requirements
- ✓ Assumptions and constraints
- ✓ Change management plan
- ✓ Baseline work break down structure
- ✓ Schedule
- ✓ Resource plan
- ✓ Cost estimates
- ✓ Risk Analysis
- ✓ Project Communication plan

## **4. Process of Certification**

Based on agreement with *LSP* and CESI, *Chinese Certification Partner* proposes the following process and steps for obtaining the GB18030 certification:

### **4.1 Project Set Up and Preparation**

As *Software Publisher's* software including core platform is not fully internationalized yet, and



it is still going through changes; Stable code is expected in early July time frame, and that's when the pre-certification testing can start. Before that, GB team should focus on preparation, evaluation of software, test case development, contract, and other testing activities.

Deliverables from *LSP*:

- ✓ NDA for *Chinese Certification Partner* (Done)
- ✓ Bid package (including sample test files, reference materials, CD images, etc.) (Done)
- ✓ Professional service agreement (Done)

Deliverables from *Chinese Certification Partner*:

- ✓ Project Plan (June)
- ✓ Signed copies of NDA (Done)
- ✓ Statement of work (Done)
- ✓ Signed copies of professional service agreement
- ✓ Project quote (Done)

#### **4.2 Assessment**

During this phase, *Chinese Certification Partner* will set up the test environment and conduct preliminary evaluation of the software against GB 18030 requirements and send preliminary testing report to *LSP*. During this stage, *Chinese Certification Partner* will try to engage the CESI testers for assistance with clarification of testing requirements in the actual environment of the running application and with the development of customized test cases with GB18030 in mind. *Chinese Certification Partner* will keep regular touch-base with *Software engineer* for any technical issues.

Deliverables from *Chinese Certification Partner*

- ✓ Preliminary testing report
- ✓ Draft of testing requirements and customized test cases
- ✓ Weekly status report with cost tracking

#### **4.3 Pre-Certification**

During this phase, based on results from earlier assessment, feedback from CESI, and customized test cases, *Chinese Certification Partner* will conduct pre-certification of the software and engage CESI for input and pre-approval of the process. *Chinese Certification Partner* will keep regular touch-base with *Software engineer* for any technical issues.

Deliverables from *Chinese Certification Partner*

- ✓ Pre-certification results test report
- ✓ Weekly status report with cost tracking

#### **4.4 Submission**

Assuming that the pre-certification results are acknowledged by CESI as acceptable, *Chinese Certification Partner* will proceed to submit the core software for official certification.

Deliverables from *Chinese Certification Partner*

- ✓ Completed submission procedure, paperwork, administrative steps
- ✓ Weekly status report with cost tracking

#### **4.5 Official Certification**



Upon request from CESI, *Chinese Certification Partner* will assist CESI in setting up the software in the CESI lab and assist the CESI testers in going through the customized test cases for desired results of GB18030 compliance and official approval of certification.

Deliverables from *Chinese Certification Partner*

- ✓ Completed submission procedure, paperwork, administrative steps
- ✓ Weekly status report with cost tracking

## 5. Change Management

It is up to *LSP* to decide on and communicate any scope changes to *Bi-lingual Project Manager*, who will implement the changes in the certification process accordingly.

## 6. Chinese Certification Partner Contacts for Project Communication

Key Contacts	Title	Contact
<i>Bi-lingual Project Manager</i>	Project Manager, Liaison	China: Address:  Home Phone: Cell Phone: Email:
Will YY	Test Lead/Technical Architect	Cell Phone: Email: <a href="mailto:whe@Chinese Certification Partner.com.cn">whe@Chinese Certification Partner.com.cn</a>
Gary ZZ	Technical Consultant	Cell Phone: 1370 105 3527 Email: <a href="mailto:gzhu@Chinese Certification Partner.com.cn">gzhu@Chinese Certification Partner.com.cn</a> , or

## 7. Project Cost Estimates and Contract

### 7.1 CESI Certification fee and payment method

Depending on the size and complexity of the software, CESI charges a certain fee for the GB18030 certification. For example for the Photoshop 7 certification, CESI charged Adobe 20,000 yuan or about \$2,500 dollars.

Due to fear of US dollar weakening, instead of receiving fee payment in foreign currency, CESI would like to receive fee payment in local currency Renminbi (or RMB), through *Chinese Certification Partner* Beijing office. Therefore, *Bi-lingual Project Manager* has included the fee in the overall *Chinese Certification Partner* project quote. *Bi-lingual Project Manager* will negotiate and confirm with CESI about the exact fee amount once they have a chance to see the software. It could range from \$1,000 to \$5,000 per component.

### 7.2 Chinese Certification Partner service hourly rate:

Due to the short-term nature of this consulting project, *Chinese Certification Partner* proposes the following pricing:

- Consulting service rate (\*\*Note: this specifically refers to negotiation and interaction with CESI, which is based on relationship maintenance): \$100/hour
- Project Management rate (work done by *Bi-lingual Project Manager*): \$65/hour
- *Chinese Certification Partner* day to day project coordination: 5% of project cost
- Test Case development rate: \$45/hour
- QE testing rate: \$30/hour



### 7.3 Est. time for testing per component:

As *Chinese Certification Partner* has not seen the software and is not familiar with the four applications to be certified yet, it is hereby estimating the total testing time based on per component equally as following:

- Set up: 2 person-days (16 hours)
- Initial Evaluation: 2 person-days (16 hours)
- Preliminary Test Data Creation: 1.5 person-days (12 hours)
- Test Case Co-Development: 4 person-days (32 hours)
- Test Case Execution (including feedback, modification): 2 person-days (16 hours)
- Informal Pre-Certification with CESI: 1.5 person-days (12 hours)
- Official Certification with CESI: 2 person-days (12 hours)

**Average Total Testing Hours per component: 15 person-days (120 hours)**

#### Breakdown of Average Testing Tasks and Cost Estimates per component:

Set up	unit	rate	hours
Project Planning	hour	65	4
Hardware/software Setup	hour	30	8
Get familiar with the product	hour	30	4
<b>Testing</b>			
<b>Initial Evaluation</b>			
Training with Consultant	hour	30	8
Early software evaluation for GB18030	hour	45	8
<b>Preliminary Test data Creation</b>			
Engineering	hour	45	8
Provide necessary translation for testing	hour	30	4
<b>Testing Case Co-Development</b>			
Test Case development	hour	45	24
QE	hour	30	8
<b>Testing Case Execution</b>			
Engineering (incl. test case modification, feedback)	hour	45	8
QE	hour	30	8
<b>Informal Pre-Certification with CESI</b>			
liaison	hour	65	4
QE	hour	30	8
<b>Official Certification with CESI</b>			
liaison	hour	65	4
Hardware/software Setup	hour	30	4
QE	hour	30	8
<b>Average Testing Hours sub-total per component</b>			<b>120</b>

**Est. test time for complete certification on all four components:  $4 \times 15 = 60$  man-days (480 hours)**

It should be noted that the total est. testing hours for the first component could be up to 50% more than the remaining component as it is assumed that it may take longer to set up and prepare, while the remaining components with improved efficiency and experience may



take less hours to setup and perform preliminary testing; this is reflected in the quote. So total number of testing/development hours range from 480 to 540.

#### **7.4 Quote for GB18030 Testing/Consulting Project for LSP (see appendix 2)**

#### **7.5 Payment terms**

<b>Item</b>	<b>Total</b>	<b>Payment Due</b>
Down Payment	30% of project cost	At Execution of STATEMENT OF WORK
Mid-Point Payment	40% of project cost	30 days after project schedule mid-point
Final Payment	30% of project cost	30 days after obtaining CESI certificate for all components

### **8. Known Issues, Actions Items, and Risks**

- ✓ CESI is yet to confirm whether the CESI lab meets the necessary hardware and software requirements for testing the *Software Publisher*gistic suite, and whether they require any testing assistance during official certification process (*Bi-lingual Project Manager*)
- ✓ CESI would not confirm the amount of the certification fee since it hasn't seen the software and this process will take more negotiation; CESI has asked for payment in RMB through *Chinese Certification Partner* for fear of US dollar fluctuation. (*Bi-lingual Project Manager*)
- ✓ Although *Chinese Certification Partner* got confirmation from CESI that only section VI of agreement applies to server product since it doesn't have a feature as word processor; CESI doesn't want to guarantee this because they haven't seen the software (*Bi-lingual Project Manager*)
- ✓ Both parties need to be aware of uncertainties that estimate may need to be re-evaluated and adjusted after UI freeze of the *SOFTWARE PUBLISHER* product upon which it will be available for *Chinese Certification Partner* to further evaluate;
- ✓ Although according to *LSP*, the *SOFTWARE PUBLISHER* product is completely I18Ned, it has never been tested in the Chinese market. *SOFTWARE PUBLISHER's* website also does not elaborate the readiness of its products for Multi-byte languages, particularly 4-byte character set like GB18030. Therefore if severe bugs on I18N are discovered during certification process, they may affect the certification process. (Will YY)
- ✓ If certification-testing process is blocked due to core code issues, it might delay the project and incur additional cost. (*Bi-lingual Project Manager*)
- ✓ The current quote allows for 3 quote updates during the life of the project. (*Bi-lingual Project Manager*)
- ✓ *Chinese Certification Partner* will be responsible for all software and hardware required for the test environment of the four *Software Publisher* components (*Bi-lingual Project Manager* to verify).
- ✓ *Chinese Certification Partner* will check if it is sufficient to test with a single client and single server combination given that the software is entirely Java based and that the different operating environments are very similar in regards to internationalization support (*Bi-lingual Project Manager* to verify).

### **8. Intellectual property and other risks**

In order to protect *Software Publisher* Intellectual Property rights and other risks *Chinese Certification Partner* agrees to adhere to the following:

- ✓ *Chinese Certification Partner* agrees to be bound by their Non Disclosure Agreement and Professional Services Agreement that they signed with *LSP*.
- ✓ *Chinese Certification Partner* agrees to be bound by their Non Disclosure Agreement that they signed with *Software Publisher*.



- ✓ *Chinese Certification Partner* agrees that they will not use, distribute or access the *Software Publisher* source code.
- ✓ *Chinese Certification Partner* agrees that it will comply with all foreign, local, and municipal laws.
- ✓ *Chinese Certification Partner* agrees that they are a subcontractor to *LSP* and are bound by the terms and conditions of the *LSP-Software Publisher* Consulting Agreement.

## **Appendix**

1. Summary of GB18030 certification related deliverables
2. **Quote for GB18030 Testing/Consulting Project for *LSP***
3. **Environment for GB18030 Testing**



Appendix 1. Summary of GB18030 certification related deliverables

**Summary of GB18030 certification related deliverables:**

Project Phase	Schedule	Deliverables	Status
Phase 1:  Bidding, Set Up and Preparation	21-Mar-04	Signed NDA	Done
	17-Jan-04	Project Plan	Done
	25-Apr-04	Statement of Work, i.e. project quote and schedule	Done
Phase 2:	May	Signed Professional Service Agreement And SOW with <i>LSP</i>	
	June	Draft of testing requirements and Customized test cases	
Phase 3:	July 9th	Pre-certification Monitor and Collaborate	
	August	Completed submission for Monitor and Collaborate	Acceptance test completion for Collaborate
Phase 4:	September	Pre-certification Market Manager	
	October	Completed submission for Market Manager	Acceptance test completion for Collaborate

Expected duration CESI certification 3-6 weeks

**Appendix 2. Quote for GB18030 Testing/Consulting Project for *LSP***

Set up	Unit	Rate	Hours	Totals
Project Planning	Hour	\$65	32	\$2,080
Hardware/software Setup	Hour	\$30	40	\$1,200
Get familiar with the product	Hour	\$30	40	\$1,200
Consulting with CESI	Hour	\$100	24	\$2,400
Translation of CESI Test Agreement	Word	\$0.15	1924	\$289
<b>Subtotal</b>				<b>\$7,169</b>

Note: One time setup costs |



<b>Testing Applications A &amp; B</b>				
<b>Initial Evaluation</b>				
Training with Consultant	Hour	\$30	24	\$720
Early software evaluation for GB18030	Hour	\$45	24	\$1,080
<b>Preliminary Test data Creation</b>				
Engineering	Hour	\$45	16	\$720
Provide necessary translation for testing	Hour	\$30	8	\$240
<b>Testing Case Co-Development</b>				
Test Case development	Hour	\$45	48	\$2,160
QA	Hour	\$30	16	\$480
<b>Testing Case Execution</b>				
Engineering (incl. test case modification, feedback)	Hour	\$45	16	\$720
QA	Hour	\$30	50	\$1,500
<b>Informal Pre-Certification with CESI</b>				
Liaison	Hour	\$65	10	\$650
QA	Hour	\$30	16	\$480
<b>Official Certification with CESI</b>				
Liaison	Hour	\$65	16	\$1,040
Hardware/software Setup	Hour	\$30	16	\$480
QA	Hour	\$30	24	\$720
<b>Miscellaneous</b>				
Translation of Test cases into Chinese	Word	\$0.15	16000	\$2,400
<b>CESI Test Fee</b>				<b>\$4,000</b>
Subtotal per component				\$17,390
Local project management	Percentage	5%		\$870
<b>Subtotal</b>				<b>\$18,260</b>
<b>Testing: Application C</b>				
<b>Initial Evaluation</b>				
Training with Consultant	Hour	\$30	8	\$240



Early software evaluation for GB18030	Hour	\$45	8	\$360
<b>Preliminary Test data Creation</b>				
Engineering	Hour	\$45	8	\$360
Provide necessary translation for testing	Hour	\$30	4	\$120
<b>Testing Case Co-Development</b>				
Test Case development	Hour	\$45	24	\$1,080
QA	Hour	\$30	8	\$240
<b>Testing Case Execution</b>				
Engineering (incl. test case modification, feedback)	Hour	\$45	8	\$360
QA	Hour	\$30	24	\$720
<b>Informal Pre-Certification with CESI</b>				
Liaison	Hour	\$65	4	\$260
QA	Hour	\$30	8	\$240
<b>Official Certification with CESI</b>				
Liaison	Hour	\$65	4	\$260
Hardware/software Setup	Hour	\$30	4	\$120
QA	Hour	\$30	8	\$240
<b>Miscellaneous</b>				
Translation of Test cases into Chinese	Word	\$0.15	8000	\$1,200
CESI Test Fee				\$2,500
Subtotal per component				\$8,300
Local project management	Percentage	5%		\$415
<b>Subtotal</b>				<b>\$8,715</b>

Components	Cost
Setup	7,169
Monitor and Collaborate	18,260
Market Manager	8,300
Grand Total	<b>\$ 33,728</b>

### Appendix 3: Environment Requirement

#### Environment

<b>Server Operating System</b>	Windows 2000 Server SP4* Windows 2000 Advanced Server SP4
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<b>Client Operating System</b>	Windows 2000 Professional SP3* and SP4
	Windows XP SP1
<b>Database</b>	Oracle 9.2.0.4
<b>Application Server</b>	Weblogic 8.1 SP2
<b>Browser</b>	IE 6.0 SP1

**Notes:**

1. Whether we can further reduce the requirement to single server and single client? (*Bi-lingual Project Manager*)
2. *Chinese Certification Partner* is looking to acquire all the required software. (*Bi-lingual Project Manager* to confirm)



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## GB 18030标准符合性认证问与答

### 1. 什么是GB 18030?

答：GB18030-2005《信息技术 中文编码字符集》是我国自主研发的以汉字为主并包含多种我国少数民族文字（如藏、蒙古、傣、彝、朝鲜、维吾尔文等）的超大型中文编码字符集强制性标准，其中收入汉字70000余个。

### 2. 什么是编码字符集?

答：字符（Character）是各国包括文字、图形符号、标点符号、数字符号在内的文字与符号的总称。字符集是多个字符的集合，其种类较多，每种字符集包含的字符个数各不相同。

计算机要准确处理各种字符集文字，就需要对字符进行编码，规定每个“字符”分别用一个字节还是多个字节进行存储。编码字符是指字符及其编码的表示。编码字符集即是编码字符的集合。

例如：汉字“啊”在GB18030-2005中的编码是0xB0A1，其中，“啊”为字符，0xB0A1为该字符的编码表示。

### 3. GB 18030的适用范围?

答：GB 18030标准第1条规定：“本标准适用于图形字符信息的处理、交换、存储、传输、显现、输入和输出。”简单地说，GB18030可用于一切处理中文（包括汉字和少数民族文字）信息，特别是汉字信息的信息处理产品。



GB18030-2005标准可应用于中文处理的软件类产品，如操作系统、数据库、中间件、办公软件、财务软件、CAD软件、表处理软件、教育软件、字型字库等。

GB18030-2005标准还可应用于具有处理汉字功能的硬件产品，如打印机、移动电话、PDA产品等。

#### 4. GB 18030标准收录汉字的数量和范围？

答：GB 18030-2005收录中、日、韩（CJK）统一汉字70195个，还包括部

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首、部件等约200多个，主要来自《新华字典》、《汉语大字典》、《汉语大词典》、《辞源》、《辞海》、《康熙字典》、《现代汉语通用字表》、《简化字总表》等我国常

见辞书和有关汉字使用的规范性文件。

GB 18030-2005收录的汉字几乎完全覆盖了当前我国在日常生活的各个领域以及公安、金融、国土、交通、出版等专业领域的信息化用汉字。

#### 5. GB 18030的2000版和2005版的区别和联系？

答：2000年发布的GB18030-2000，全名是《信息技术 汉字编码字符集 基本集的扩充》。GB18030-2000仅规定了常用非汉字符号和27533个汉字（包括部首、部件等）的编码。**GB18030-2000**是全文强制性标准，市场上销售的产品必须符合。

2005年发布的GB18030-2005在GB18030-2000的基础上增加了42711个汉字和多种我国少数民族文字的编码，增加的这些内容是推荐性的。原GB18030-2000中的内容是强制性的，市场上销售的产品必须符合。故**GB18030-2005**为部分强制性标准，自发布之日起代替GB18030-2000。

#### 6. GB 18030与GB 2312的关系？

答：GB 2312-1980《信息交换用汉字编码字符集》收录了6763个汉字，GB 18030-2005收录了GB 2312规定的全部字符。在系统实现上，采用GB 18030可完全兼容GB 2312。凡不强制要求采用GB 18030的汉字信息处理产品可采用GB 2312。

#### 7. GB 18030与GB 13000的关系？

答：GB 13000《信息技术 通用多八位编码字符集（UCS）》等同采用国际标准ISO/IEC 10646，ISO/IEC 10646对全世界文字统一编码。

GB 18030采用的编码体系与GB 13000不同。GB 18030可以完全兼容GB 2312和GBK，而GB 13000则不能。

GB 18030规定的字符及其编码可与GB 13000一一对应，通过映射表（公开），字符的编码可在两者之间自由转换。

GB 13000《信息技术 通用多八位编码字符集（UCS）》对应的国际标准为

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ISO/IEC 10646，在字汇上与GB 18030一致，技术上各有所长，主要用于国际间的信息交换。

目前，我国大部分计算机系统仍然采用GB 2312编码体系。GB 18030与GB 2312一脉相承，不存在兼容问题，较好解决了旧系统向新系统的转换，改造成本小，而GB 13000的全面实现尚需时日，无法满足广大用户的迫切需求。因此，采用GB 18030是我国目前最好的选择。为解决GB 18030与GB 13000的兼容问题，制定了代码映射表，使得两个编码体系可以自由转换。



## 8. 关于Unicode规范

答：Unicode规范是以美国公司为主的Unicode集团（Unicode Consortium）制定的编码字符集规范，在编码层面上与ISO/IEC 10646（GB 13000）等同，但对其实现方式做了更为详细的规定。

Unicode规范不是国际标准，也不是美国国家标准。Unicode规范的制定不受我国制约，我国在制定国家标准的时候也不引用Unicode规范。

## 9. 产品达到哪些要求才算符合GB 18030?

答：同时达到以下两个要求的产品，为符合GB 18030-2005强制部分的产品：

（1）产品可以正确输入、输出、处理GB 18030-2005强制部分规定的全部汉字字符；

（2）产品可以正确识别GB 18030-2005强制性部分规定的全部汉字字符对应的编码。

## 10. GB 18030的标准如何得到?

答：直接向中国电子技术标准化研究所标准出版发行中心购买。

方式：（1）函购：010-84029217，门市：010-84029065

（2）登陆<http://www.sj.cesi.cn/>

## 11. 什么是标准符合性认证?

答：标准符合性认证是以标准为依据，对产品的特定性能进行认证，以确定产品是否达到标准要求，并持续保证产品与标准一致性的活动。第三方机构运用

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认证证书和认证标志的形式证明产品与标准的符合性。

## 12. 为什么要开展GB 18030标准符合性认证?

答：开展GB 18030标准符合性认证的法律依据如下：

《中华人民共和国标准化法》：“第十四条 强制性标准，必须执行。不符合强制性标准的产品，禁止生产、销售和进口。”

《中华人民共和国国家通用语言文字法》：“第十五条 信息处理和信息技术产品中使用的国家通用语言文字应当符合国家的规范和标准。”

## 13. 如何识别已通过GB 18030标准符合性认证的产品?

答：已经获得GB18030标准符合性认证的产品，在其包装、产品本体、显示界面、产品铭牌、说明书、宣传材料等处使用认证标志。标志如下图。

## 14. 开展GB 18030标准符合性认证的认证机构

答：“中国电子技术标准化研究所（CESI）认证中心”由政府相关主管部门授权对中文信息处理产品开展GB18030标准符合性认证。

## 15. GB 18030标准符合性认证的流程

答：申请人可以向中国电子技术标准化研究所（CESI）认证中心提出申请，认证过程如下：

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更多详情欢迎访问<http://www.cc.cesi.cn>

## 16. 如何申请GB 18030标准符合性认证?

答：文件资料的准备、样品的准备：

（1）登录[http://www.cc.cesi.cn/cprz\\_show.asp?parentid=461&pid=60](http://www.cc.cesi.cn/cprz_show.asp?parentid=461&pid=60)下载申请文件包，填写表格。同时可通过网站了解产品认证的相关文件。最后按照文件



中的e-mail地址： [culi@cesi.ac.cn](mailto:culi@cesi.ac.cn)，将填写完整的申请文件传回。

(2) 致电认证中心：010-84029281/010-84029170向工作人员索要申请文件。

**17. 获证企业如何使用认证标志？**

答：获证企业在向认证中心提交设计图样进行备案并办理标志使用相关手续后，可在获证产品的包装、产品本体、显示界面、产品铭牌、说明书、宣传材料等处使用认证标志。

**18. 如何确保获证产品持续符合GB 18030标准？**

答：企业从产品获证后，每12个月应接受认证中心对产品进行的监督。确认获证产品是否与标准保持一致。对获证产品的调查内容主要包括：产品版本的更新升级情况、产品运行环境要求情况、用户接口情况、认证证书/认证标志的

使用情况以及客户满意方面的情况。

