

Deloitte & Touche LLP
Suite 4500
700 Fifth Avenue
Seattle, Washington 98104-5044

Tel: (206) 292-1800
Fax: (206) 343-7809
www.us.deloitte.com



INDEPENDENT ACCOUNTANTS' REPORT

We have examined the accompanying management assertion of Microsoft Corporation (Microsoft) regarding the Microsoft product activation process as of October 1, 2001. Microsoft management is responsible for the assertion and appendices 1 and 2. Our responsibility is to express an opinion on the assertion based on our examination.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants and, accordingly, included examining, on a test basis, evidence supporting management's assertion and performing such other procedures as we considered necessary in the circumstances. We believe that our examination provides a reasonable basis for our opinion.

In our opinion, management's assertion referred to above is fairly stated, in all material respects, based on the assessment criteria set forth in the accompanying management assertion dated October 1, 2001.

Deloitte & Touche LLP

Seattle, Washington
October 3, 2001



MICROSOFT PRODUCT ACTIVATION PROCESS MANAGEMENT ASSERTION

Regarding the product activation process within the products listed in appendix 1, as of October 1, 2001, Microsoft management asserts that:

1. No information is transferred across the Internet to Microsoft, unless and until the user elects to activate the product over the Internet.
2. If the user elects to activate the product over the telephone:
 - a. The product activation process does not transmit information across the Internet to Microsoft.
 - b. Other than information that is voluntarily provided by the user for product registration or subscription renewal purposes, only the Installation ID and, for Office and Visio products, the name of the country the product is being activated in, are required to be provided to the Microsoft customer service representative to activate the product.
 - c. No information other than that defined in point 2b above is required by or transmitted to Microsoft in order to activate the product over the telephone.
3. If the user elects to activate the product over the Internet:
 - a. Other than:
 - i. Information that is voluntarily provided by the user for product registration purposes or subscription renewal purposes and
 - ii. Internet protocol information necessary to make the Internet connection,
only the Installation ID, Internet activation request information, and for Office and Visio products, the name of the country the product is being activated in, are required to be transmitted to Microsoft.
 - b. No information other than that defined in point 3a above is required by or transmitted to Microsoft in order to activate the product over the Internet.
 - c. The Microsoft product activation clearinghouse database does not store Internet protocol information identified in 3a.

Product activation process, Installation ID, Internet protocol information, Microsoft product activation clearinghouse database, and Internet activation request information are defined in appendix 2. Management's assertion is based on the following assessment criteria and appendices 1 and 2.

ASSESSMENT CRITERIA

The criteria on which Microsoft's management assertion is based are detailed below in table 1:

	Product functionality	Product development				Ongoing system management	
		Functional requirements specification	Source code	Testing	Change control		
	1: "...No information is transferred across the Internet to Microsoft, unless and until the user elects ..."	1	3	4	5	6	-
Telephone activation	2a: "... does not transmit information across the Internet..."	2	3	4	5	6	-
	2b: "...only the <u>Installation ID</u> and, for Office and Visio products, the name of the country the product is being activated in, are required..."	7	8	9	5	6	10
	2c: "No information other than that defined in point 2b above is required by or transmitted to..."	7	8	9	5	6	10
Internet activation	3a: "...only the Installation ID, Internet activation request information and for Office and Visio products, the name of the country the product is being activated in, are required..."	11	12	13	5	6	14
	3b: "No information other than that defined in points 3a is required by or transmitted to ..."	11	12	13	5	6	14
	3c: "...does not store Internet protocol information..."	15	12	15	5	6	14

Table 1

1. Between the commencement of the product activation process and the user electing to activate the product over the Internet or the telephone, the product activation process does not transmit any information across the Internet to Microsoft.
2. If the user elects to activate the product over the telephone, the product activation process does not attempt to make a connection, or transfer any file or information, across the Internet to Microsoft.

3. The functional requirements specification used to develop the product activation code for each product is documented and approved by management. Within the specification documentation, there is no requirement that the product activation process make any connection to the Internet other than after the user elects to activate the product over the Internet.
4. Within the source code used to develop the product activation process, there is no source code designed to transmit any information across the Internet if the user elects to activate the product over the telephone.
5. Tests are planned and conducted during product development to ensure that the product activation process functions as specified in the functional requirements specification.
6. A change control process exists to ensure that the source code referred to in criteria 4, 9 and 13 was the same source code used to compile the product activation process used in each product listed in appendix 1. The change control process also ensures that no unauthorized or untested changes are made to the clearinghouse database or the final product activation functionality that is delivered in the products listed in appendix 1. Product release procedures ensure that the products listed in appendix 1 are tested for viruses before being shipped to customers.
7. For each of the Windows XP products listed in appendix 1, only the Installation ID is required by the Microsoft customer service representative in order to activate over the telephone. For each of the Office XP and Visio 2002 products listed in appendix 1, only the name of the country the product is being activated in and the Installation ID is required by the Microsoft customer service representative in order to activate the product over the telephone.
8. The functional requirements specification used to develop the product activation source code for each product listed in appendix 1 specifies that the installation ID for telephone activation is generated consistent with its definition in appendix 2. The specification documentation does not require any other information to be provided during telephone activation except for the Installation ID and, in the case of Office XP and Visio 2002 products, the name of the country in which the product is being activated.
9. The source code used to develop the product activation process is written so that the installation ID is the only information presented to the user to recite in the product's user interface when activating across the telephone.
10. Microsoft customer service representatives that receive product activation requests over the telephone are instructed that only the installation ID is required to be supplied by the customer. For the Office and Visio products listed in appendix 1, customer service representatives are also instructed to request the name of the country in which the product is being activated in addition to the installation ID. For the Office products listed in appendix 1 as being available in certain geographical markets on a subscription basis, customer service representatives are also instructed to request credit card information to process a subscription renewal.

11. For product activation or a subsequent reactivation across the Internet, the products listed in appendix 1 transmit the installation ID as defined in appendix 2 to Microsoft. Other than voluntarily provided registration or subscription renewal information, Internet protocol information necessary to make the internet connection as defined in appendix 2, and Internet activation request information as defined in appendix 2, the products do not transmit any additional information across the Internet to Microsoft.
12. The functional requirements specification used to develop the product activation source code for each product specifies that the installation ID and Internet activation request information for Internet activation be generated consistent with their respective definitions in appendix 2. The specification documentation does not require the product activation process to provide any other information to Microsoft during Internet activation nor does it require the storage of Internet protocol information.
13. The source code used to develop the product activation process is such that the installation ID and Internet activation request information is the only information, other than voluntarily provided product registration or subscription renewal information, that the product transmits to the Microsoft clearinghouse database when activating across the Internet.
14. Ongoing monitoring of the clearinghouse database ensures that any errors that may occur in the clearinghouse database during the processing of product activation transactions are identified and, depending on the scale and severity of the errors, considered for investigation and escalation to management.
15. The clearinghouse database does not store nor does the database schema make provision for the storage of Internet protocol information.

END USER ASSUMPTIONS

Management's assertion is based on the assumption that the following conditions are met by the end user. If any of the following conditions are not met they may undermine the validity of management's assertion. These conditions are the responsibility of the end user and are beyond the control of Microsoft.

- The end user's PC is free from viruses.
- No sub component of the Microsoft software product has been amended, tampered with, changed, corrupted or deleted by the end user.

APPENDIX 1

This assertion is made in reference to the following list of products, sold to Retail, Original Equipment Manufacturer (OEM), and Microsoft Developer Network (MSDN) customers of Microsoft:

Microsoft Windows XP

- Windows XP Home Edition
- Windows XP Home Edition Upgrade
- Windows XP Professional
- Windows XP Professional Upgrade

Microsoft Office XP

- Microsoft Office XP applications:
 - Microsoft Word 2002
 - Microsoft Excel 2002
 - Microsoft Outlook® 2002
 - Microsoft PowerPoint® 2002
 - Microsoft Access 2002
- Microsoft Office XP suites:
 - ◆ Microsoft Office XP Standard* which includes:
 - Microsoft Word 2002
 - Microsoft Excel 2002
 - Microsoft Outlook® 2002
 - Microsoft PowerPoint® 2002
 - ◆ Microsoft Office XP Professional which includes:
 - Microsoft Word 2002
 - Microsoft Excel 2002
 - Microsoft Access 2002
 - Microsoft Outlook® 2002
 - Microsoft PowerPoint® 2002
 - ◆ Microsoft Office XP Special Edition which includes:
 - Microsoft Word 2002
 - Microsoft Excel 2002
 - Microsoft Access 2002
 - Microsoft Publisher 2002
 - Microsoft IntelliMouse® Explorer
 - Microsoft Outlook® 2002
 - Microsoft PowerPoint® 2002
 - Microsoft FrontPage® 2002
 - SharePoint™ Team Services from Microsoft
 - ◆ Microsoft Office XP Developer which includes:
 - Microsoft Word 2002
 - Microsoft Excel 2002
 - Microsoft Access 2002
 - Microsoft Publisher 2002
 - Documentation
 - Microsoft Outlook® 2002
 - Microsoft PowerPoint® 2002
 - Microsoft FrontPage® 2002
 - Developer Tools
 - SharePoint™ Team Services from Microsoft
 - ◆ Microsoft Office XP Small Business* which includes:
 - Microsoft Word 2002
 - Microsoft Excel 2002
 - Microsoft Outlook® 2002
 - Microsoft Publisher 2002

* Also offered for sale as a subscription in Australia, Brazil, and New Zealand.

Visio

- Visio 2002 Standard
- Visio 2002 Professional

APPENDIX 2 – DEFINITION OF TERMS USED IN MANAGEMENT’S ASSERTION

“INSTALLATION ID”

There are two components of the Installation ID irrespective of whether activation is completed over the Internet or manually via a telephone. Activating manually via a telephone means interacting by voice with a customer service representative or Integrated Voice Response (IVR) system. Those two components are the product ID and the hardware hash. (A hash is a numeric value derived through a mathematical formula and based upon some other original value). The product ID is unique to the installation of each product and is created from the product key used during installation. Each product key delivered with retail boxed and OEM software is unique, and the product ID it creates is distinct from product IDs created by other product keys. An example of a product ID is 12345-123-1234567-12345. For Windows products, the product ID can be found in the Properties of My Computer. For Office and Visio products, the product ID can be found in Help About.

The hardware hash is a non-unique, eight byte value that is created by running 10 different pieces of information from the PC’s hardware components (see table 2) through a one-way mathematical transformation. Only that information outlined in table 2 is used to create the hash. Additionally, only a portion of the resulting hash value is used in the completed hardware hash such that two or more PCs can create the same hardware hash.

	Component Name	Example Hash Value (# of bits)
1	Display Adapter	00010 (5)
2	SCSI Adapter	00011 (5)
3	IDE Adapter	0011 (4)
4	Network Adapter MAC Address	1001011000 (10)
5	RAM Amount Range (i.e. 0-64mb, 64-128mb, etc)	101 (3)
6	Processor Type	011 (3)
7	Processor Serial Number	000000 (6)
8	Hard Drive Device	1101100 (7)
9	Hard Drive Volume Serial Number	1001000001 (10)
10	CD-ROM / CD-RW / DVD-ROM	0101111 (7)
-	“Dockable”	0 (1)
-	Hardware Hash version (version of algorithm used)	001 (3)

Table 2

The Installation ID differs in composition between telephone activation and Internet activation. For telephone activation, the Installation ID is formatted as a 50 decimal digit value. This 50 decimal digit value is constructed only from the product ID and hardware hash specifically in order to facilitate a user communicating these values over a telephone to a customer service representative in a simple way. Since the communication of this Installation ID occurs in spoken language or through an Integrated Voice Response (IVR) system, over a telephone, software-based error handling and Internet protocol information are unnecessary between the user and the customer service representative. The customer service representative uses an Internet-based tool on the customer service representative’s PC which sends the Installation ID to the clearinghouse database along with necessary Internet activation request information. For Office subscription products only, the telephone Installation ID may take one of four additional forms:

1. 16 decimal digits containing the license identifier and license issue date for renewing a subscription with a credit card or updating subscription registration information.
2. 39 decimal digits containing the hardware hash, the license and license issue date for renewing a subscription with a credit card or updating subscription registration information when the PC's hardware is different from what the subscription was originally activated on.
3. 41 decimal digits containing the license identifier, license issue date, and product ID for a retail-purchased renewal.
4. 64 decimal digits containing the license identifier, license issue date, product ID, and hardware hash for a retail-purchased renewal when the PC's hardware is different from what the subscription was originally activated on.

For Internet activation, the Installation ID is simply sent in its binary format of product ID and hardware hash to Microsoft directly from the user's PC along with the necessary Internet activation request information.

"INTERNET ACTIVATION REQUEST INFORMATION"

Product activation, whether performed by the user across the Internet or on behalf of the user by a customer service representative, is completed electronically with the Microsoft clearinghouse. The Installation ID is sent along with the "Internet activation request information" required to complete activation. The "Internet activation request information" sent as part of activation is as follows:

- The activation technology version number incorporated into each product
- The product being activated
- The system language (for returning custom localized error messages)
- An initiation request identifier
- A license request identifier
- The system date and time (for error checking, not stored at Microsoft)
- Voluntarily provided product registration information, if any
- For Windows products, a PKCS10 certificate request
- A license identifier
- The license issue date
- License receipt acknowledgement

Additionally, the following information is sent in the case of Office subscription products and renewals only:

- Notification on whether the user wants to update their subscription registration information
- Type of license to be renewed in addition to the license itself
- Identification of time to transfer, if any, from one subscription license to another
- Billing address
- Notification on whether the billing address should be saved for a subsequent renewal
- VAT number, if applicable based on geography
- Notification on whether a subscription customer would like to receive a product upgrade if available
- A price request identifier to return the current subscription renewal price
- Credit card information used to purchase the subscription renewal:
 - Credit card type
 - Credit card number
 - Credit card expiration
 - Credit card currency

"INTERNET PROTOCOL INFORMATION"

Internet protocol information is that information that is transferred between two computers in order to establish a connection across the Internet as specified for the Internet Protocol in the Internet Engineering Task Force (IETF) specification RFC 791.

"MICROSOFT PRODUCT ACTIVATION CLEARINGHOUSE DATABASE"

The Microsoft product activation clearinghouse database is the database at Microsoft in which the Installation ID is recorded.

"PRODUCT ACTIVATION PROCESS"

Microsoft product activation is an anti-piracy technology designed to verify that software products have been legitimately licensed. Product activation works by verifying that a software program's product key has not been used on more personal computers than intended by the software's license. The product activation process is defined separately below for Windows XP products and Office XP and Visio 2002 products. In the event that the user is required to re-activate a product ("subsequent reactivation"), for example, when the user reinstalls a product on their PC, the product activation process will be the same as the initial activation process.

WINDOWS XP PRODUCTS

In Windows XP products the product activation process commences when the user sees the screen titled "Let's Activate Windows" (see figure 1) and ends when the user clicks the "OK" button on the screen titled "Thank you" (see figure 2). The activation process may also commence during the product installation process, during what is called the "Full screen out-of-box experience." The user will see a screen similar to figure 1 titled "Ready to activate Windows?" but with only the options to activate over the Internet or skip activation. Additionally, at the end of the "Full Screen out-of-box experience," the user will see a status screen that will display whether or not they successfully activated, among the other tasks that may have been completed as part of the product installation process.

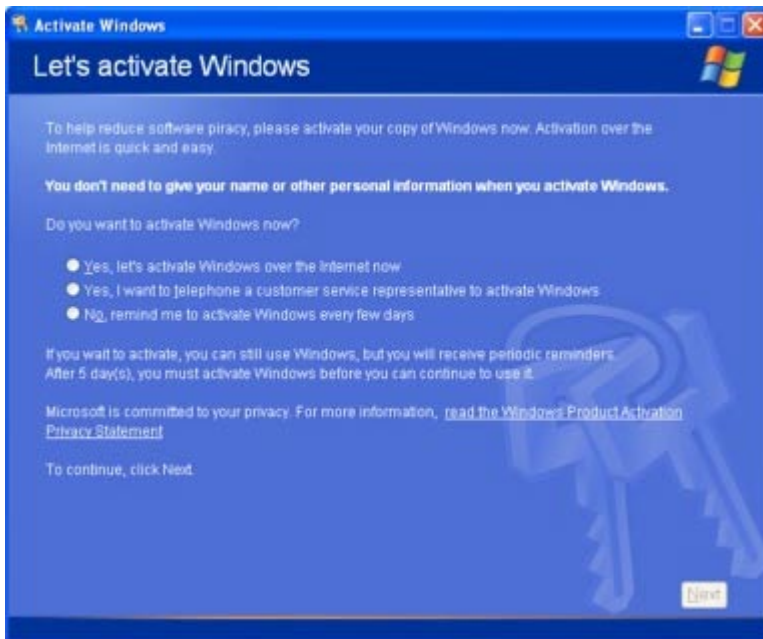


Figure 1

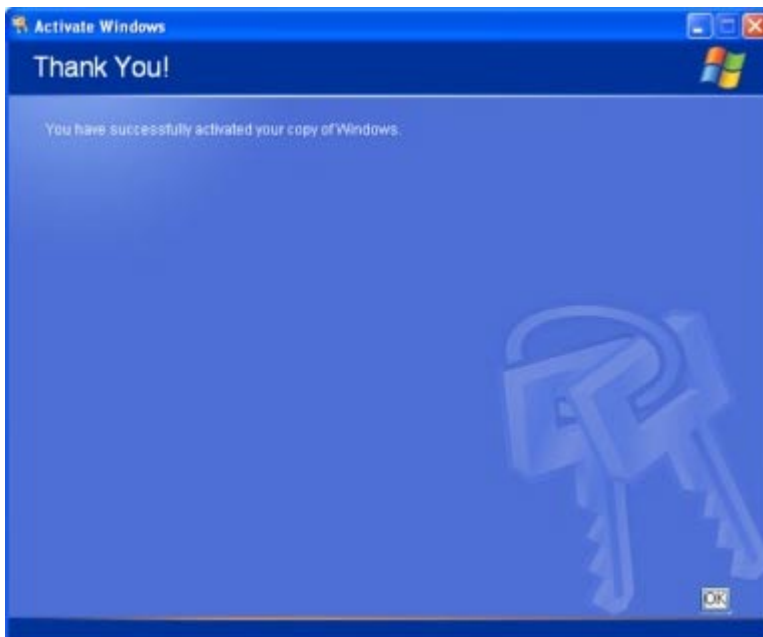


Figure 2

OFFICE XP AND VISIO 2002 PRODUCTS

In Office XP and Visio 2002 products, the product activation process commences when the user sees the screen titled "Welcome to the Microsoft [Office/Visio] Activation Wizard" (see figure 3) and ends when the user clicks the "OK" button on the "Activation Complete" (see figure 4) screen.



Figure 3



Figure 4