

**WCI271**

**Vista 时代的硬件设备质量认证和  
持续改善**

# 通过本课程,您将了解到---

- Vista时代的徽标及定位
- 徽标测试的好处及流程
- WHQL新测试体系
- 如何通过WHQL提升产品的质量
- 针对于徽标认证计划的相关资源

# Vista 徽标定位及简介

# Windows Vista 平台的生态环境

软件质量



总体需求



高级应用



徽标设备



# Windows Vista 场景

## Consumer



### Memories

- #1 upgrade driver



### TV and Movies

- Rapid device growth, Top Mix Shift opp.



### Gaming

- Strong partner, consumer community



### Music

- High growth opportunity



### Communication

- Top consumer priority, device proliferation



### Productivity

- # 2 software purchased Dual home/work User

## Small Business



### Data Backup and Security

- # 1 IT concern for SB



### Sales and Marketing

- #1 Small Business concern



### Financial Management

- 3 of top 8 software purchased/used in SB



### Collaboration and Mobility

- Mobile fastest growth

## Enterprise/ Mid Market



### Optimize Desktop Infrastructure

- Deployment top adoption blocker



### Find, Use, Share Information

- People Ready



### Enable Mobile Workforce

- Mobile platform adoption



### Security and Compliance

- Top IT concern



# 场景的定义

完善的基于PC的场景是根据客户的购买动机、使用习惯以及应用范围来定义的

- 每一个场景都应该
  - 增加围绕Windows Vista 产品的销售数量
  - 适用于Windows Vista Premium更高规模的要求
  - 驱动产生相关的产品以及服务
  - 清晰的定义，完善的规划并且“可购买”
  - 面向于产品的创新以及新技术采纳
- 利用场景的好处
  - 用户 – 清晰的定义出应用的目标以及所需完成的任务
  - 合作伙伴 – 很好的结合合作伙伴的优势，根据对于用户购买动机的分析，加速产业的创新与新产品增长，利用Vista产生新的卖点以及市场增长点。
  - **Windows** – Vista周边环境及市场以及新技术的增长，使PC产业健康平衡的发展

# Windows Vista 徽标

	系统	设备
Premium	 <p>Windows Vista™</p>	 <p>CERTIFIED FOR Windows Vista™</p>
Basic	 <p>Windows Vista™ BASIC</p>	 <p>Works with Windows Vista™</p>

# Windows Vista 设备徽标

- “Certified for Windows Vista” Premium徽标
  - 对于功能以及性能的更高阶规范
  - 围绕Windows Vista的最佳应用体验设计
  - 与Windows Vista 高级体验相结合
- “Works with Windows Vista” Basic 徽标
  - Windows XP徽标的延续
  - 基于设备的基本兼容性
  - 提供给用户信息：设备可以运行于Vista并能实现达到Vista基本功能





# WHQL 简介

# WHQL 是什末?

- WHOS是Windows硬件在线服务的简称，主要是帮助IHV/OEM开发、支持并且发布更高品质的应用于Windows平台下的产品。
- WHQL是Windows硬件质量实验室的简称，他由DTM测试工具集以及相关的开发工具WDK构成，是微软正式发布的考察硬件以及驱动兼容性的测试体系，是用来获得徽标的方式。
- DTM徽标测试集
  - 硬件设计规范测试
  - 硬件压力测试
  - Windows兼容性测试
  - 硬件协作性测试
- 依据
  - 业界的设计规范标准
  - Windows兼容性要求
  - 大量的文档及示例
  - 新的WDK开发工具
- Windows硬件在线服务主要包括
  - WHQL
  - Winqual.microsoft.com
    - 产品的测试提交
    - Windows错误崩溃报告
    - 驱动发布及分发中心
    - Windows Update
    - Windows Catalog 及 Marketplace全球列表

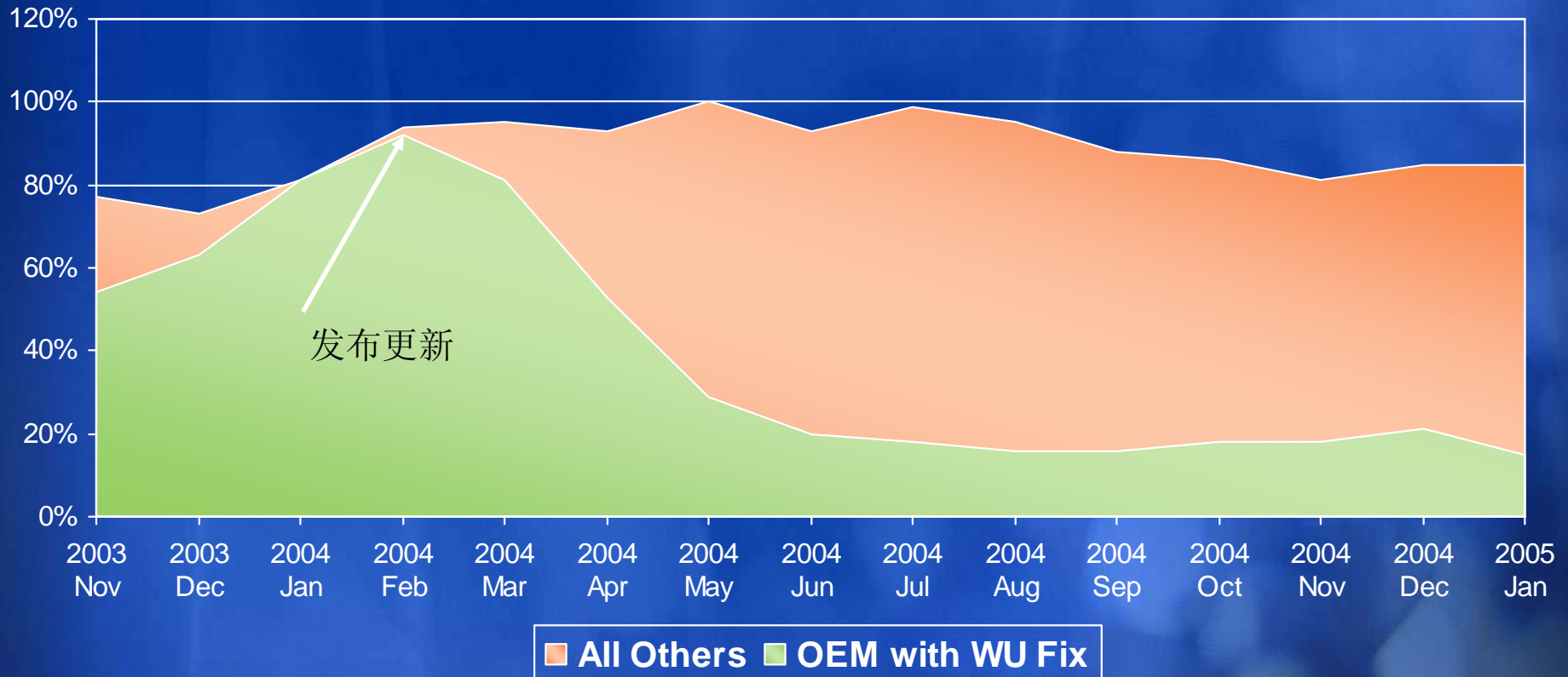
# 对于OEM/IHV的好处

- 微软正式的硬件质量控制测试
- 降低支持的成本
  - Windows Update
  - 驱动质量
  - 在线错误分析报告
- 全球市场品牌推广
  - 徽标计划
  - Windows中集成的Windows Catalog及Marketplace列表
- 新技术特点推广机会
- 适应的Windows平台的最新技术

通过WHQL测试体系维  
持、改善产品质量

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# 完善的产品周期维护机制



- 发布前- WHQL DTM测试
- 发布中- Winqual 测试提交及 Windows Market place网站更新
- 发布后- WER/OCA Windows 错误分析报告/在线崩溃数据分析
- 维护 - Windows Update 及 错误回馈报告



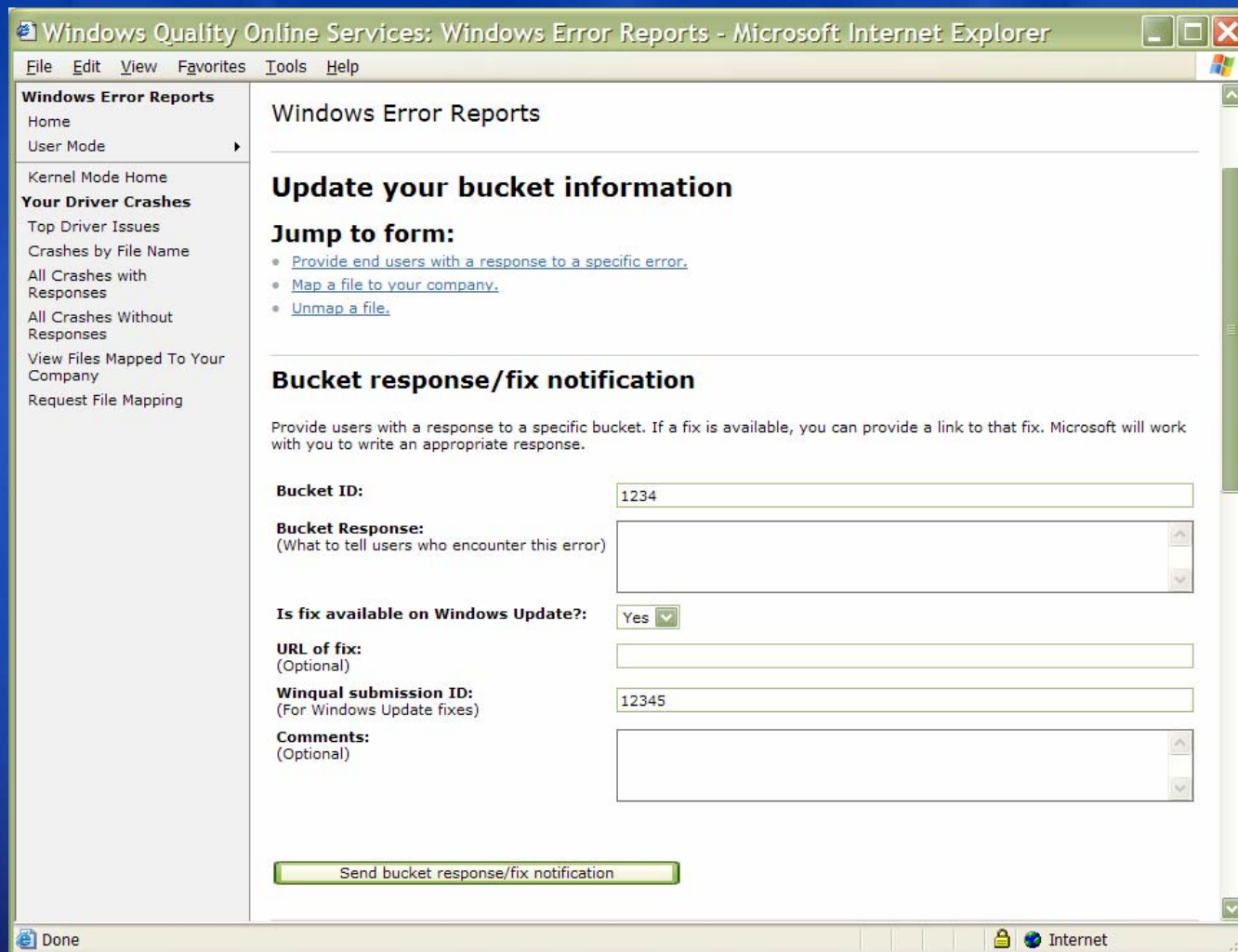
# DQR –驱动质量分级系统

- 直观衡量驱动质量的机制
  - 来自于客户OCA分析数据
  - 数据通过分值直观体现
  - DQR数据1-9
    - 1-3 (红色)表明大量的崩溃事件产生
    - 4-6(黄色)表明中度频率发生
    - 7-9 (绿色)表明设备属于正常运行范围
  - 通过Winqual 网站访问
  - 与高级徽标计划相结合
  - 使用DQR
    - 优化排序您的驱动维护级别
    - 帮助OEM/IHV提升用户体验
    - 更好的结合Windows Update

分值	当前百分比
1	2.43%
2	0.75%
3	1.31%
4	1.08%
5	1.83%
6	1.53%
7	5.35%
8	12.19%
9	73.53%

# Windows错误响应报告

- 通过Winqal网站可以自己根据错误Bucket定制客户回应信息



The screenshot shows a web browser window titled "Windows Quality Online Services: Windows Error Reports - Microsoft Internet Explorer". The browser's address bar and menu bar are visible. The main content area is titled "Windows Error Reports" and contains a section for "Update your bucket information".

**Update your bucket information**

**Jump to form:**

- [Provide end users with a response to a specific error.](#)
- [Map a file to your company.](#)
- [Unmap a file.](#)

**Bucket response/fix notification**

Provide users with a response to a specific bucket. If a fix is available, you can provide a link to that fix. Microsoft will work with you to write an appropriate response.

**Bucket ID:**

**Bucket Response:**  
(What to tell users who encounter this error)

**Is fix available on Windows Update?:**  Yes  No

**URL of fix:**  
(Optional)

**Winqual submission ID:**  
(For Windows Update fixes)

**Comments:**  
(Optional)

# 客户端客户回应机制显示

- 提供给最终客户定制化的分析协助其解决崩溃问题

Microsoft Online Crash Analysis - Response - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Microsoft® Online Crash Analysis

All products | Support | Search | microsoft.com guide

Microsoft

Online Crash Analysis | Corporate Error Reporting | Online Crash Analysis Worldwide

Sign In

## Update Available: Contact Original Equipment Manufacturer (OEM) or Synaptics to obtain the update

**Problem Description**

An unknown error occurred in the **Synaptics Touchpad Driver (SYNTP.SYS)**, created by **Synaptics**. Synaptics TouchPad™ devices are touch-sensitive pads that sense the position of a person's finger on its surface to provide screen navigation, cursor movement, and a platform for interactive input.

The Synaptics device driver is customized to meet the specific requirements of your device manufacturer. To ensure that you get the appropriate device driver for your system, download your Synaptics device driver from your system manufacturer's support website.

**Problem Resolution**

Download the product update specific to your computer manufacturer. If your computer manufacturer is not listed below, you may choose the generic Synaptics Touchpad Driver (SYNTP.SYS). (\*NOTE: Installing a generic driver can result in the loss of customized Synaptics pointing device functionality.)

- ➔ For Synaptics Touchpad™ users with **Dell** computers: [Click here for product updates](#)
- ➔ For Synaptics Touchpad™ users with **IBM** computers: [Click here for product updates](#)
- ➔ For all **other** Synaptics Touchpad™ users: [Click here for product updates](#)

If you have already installed the latest product updates and are still experiencing problems, please contact Synaptics at [Synaptics](#).

[Print This Page](#)

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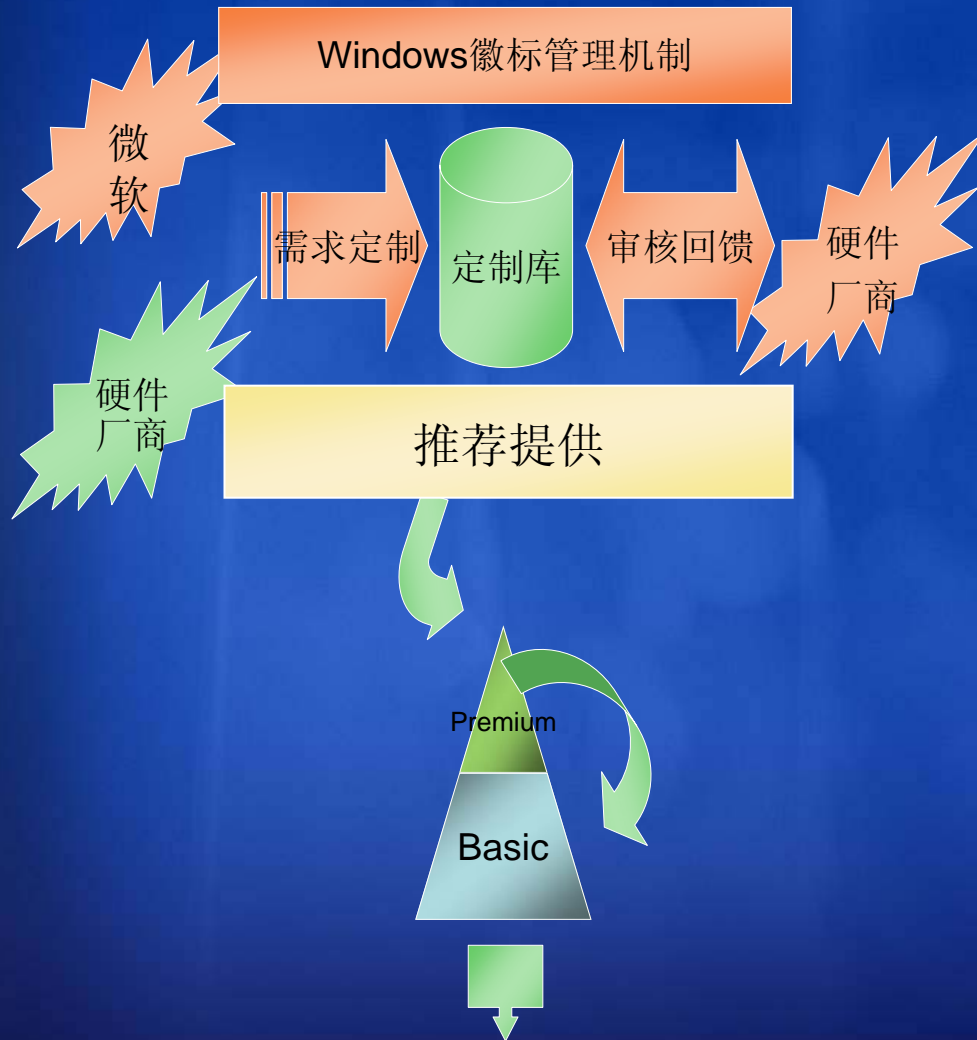
Internet

# Windows Vista时代的新特点

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# 徽标测试标准定义及徽标更新计划



- 每年更新徽标定义标准
  - 每年6月1日新的标准开始实施
  - 更好的结合业界硬件设计的新特点的更新周期
- 提前公布新的标准
  - 每6个月
    - 小范围更新已有的徽标要求（如驱动，意用性及更便捷操作）
  - 每12个月
    - 大部分徽标要求（除新主流架构更新）
  - 每18个月
    - 主要的芯片、架构、新技术更新



# Vista时代的WHQL特点

- 与徽标定义紧密结合
- WDK中更好的工具
- DTM的自动测试
- 测试的结果与勘误表处理以及提交环节集成
- 自动化高度集成带来更快的运转周期
  - 更灵活的签名选择
- 注重驱动的质量，技术的创新、安全以及更好的用户体验

# 徽标申请的工作流程



# WinQual 的新特点

- 用户界面的显著变化
  - 更少的手动测试，简化的步骤
  - 更加符合您的应用习惯
  - 更加直观的测试报告以及签名文档
- 性能
  - 重新制定的安全以及提交机制
  - 更稳定的站点支持
- 自动任务
  - Log通过与DTM的集成完成自动审核
  - 测试签名 – 自动完成
- 新站点现已发布
  - <http://winqual.microsoft.com>

# WHQL 的提交—以前

**Package Created**

**Package creation successful!**  
The submission package #1000868 was created and is ready for signing with your VeriSign Class-3 code-signing ID.

**Path to the package:**  
[C:\Keys](#)  
File Name: jb1000868.cab

**Instructions**

1. [Code-sign the jbxxxxx.cab file](#) with your VeriSign ID.
2. To upload the package now, click **Upload Now** below.  
To upload the package later, go to the View Submissions section of the Windows Quality Online Services. Your submission will have the status of "Waiting for Upload". Click the submission, and then click **Upload this Submission**.
3. Print the address label for the submission to Microsoft (if required).

**Upload Now**

Please print a copy of this page for your records.

**View Billin**

For a complete set of bills, click [View Billing Info](#).

Billing invoices are sent to the address provided in your account information.

Select the proper invoice to view:

**SpiralOrbit**  
1 Microsoft Way  
11111  
Redmond, WA 98073  
USA  
Phone: 111111  
Fax: na  
Stevera@microsoft.com

**Purchase order**  
Provide a purchase order number if you have one.

**Windows Error Reports**

Home  
Kernel Mode  
User Mode

**Driver Distribution Center**

Home

**Submissions**

Create

View & Manage

**V. Fees**

Fees are payable on a quarterly schedule and the Company will be invoiced every three (3) months for each submission received. Invoices will be sent to the address provided to Microsoft during the setup of this account. Testing fees are determined based on the fee schedule listed in the applicable Test Kit and listed in the Billing section of this website.

**VI. Company Technical Contacts**

Company Technical Contacts are as listed in the Submission Contacts Section of this website.

IN WITNESS WHEREOF, the parties have executed this Exhibit A as of the date set forth above.

LICENSEE INFORMATION  
Dated: 9/14/2004  
Company: SpiralOrbit

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15 Pages of Data Entry

# WHQL的提交—现在

Windows Quality Online Services: Logo a Device - Microsoft Internet Explorer

Windows

Logo a Device

Thank You

The current Logo status is now "Complete".

Your product will be inserted into the Windows Catalog on # Announcement Date#.

Announcement Date: MM/DD/YY

Offer this driver to your customers

6 Step Wizard

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# WHQL更新

# 新增的徽标类别

- Vista 系统
  - 分为商业及用户两类市场规范
  - Ultra Mobile（超移动）
    - 重量小于 2.5 磅
    - 屏幕小于7寸
    - 依靠电池供电
  - Ultra portable（超便携）
    - 重量小于4磅
    - 依靠电池供电
- Bus controllers and ports > 安全数控服务端控制器
- Display/monitor 化为为不同的复合测试项目
  - display > monitor > CRT
  - display > monitor > 平板
  - display > monitor > 投影
- display > Windows sideshow
- Game Devices>通用控制器
- Input>MCE 控制器
- Network> Router
- Network>Wireless Router
- Portable Devices >移动手持
- Storage>Hard Drive>Hybird

# 终止的徽标项目

- Storage Block and Server Block Program
- Media Center Program
- Code Coverage Program
- System Using previously logo'd motherboard
  - Cannot resell from MB to Desktop
- Antivirus
- Raid JBOD
- NDIS universal / intermediate
- ATM
- DSL
- Cable Modem
- Wireless Modem
- WAN
- SAN/WinSock Direct

# 系统更新策略

Component	Allowable change	Non-Allowable change
BIOS	<ul style="list-style-type: none"><li>Minor bios changes such as string changes to the bios code, changes to splash screen, or fixes for a timing issue.</li></ul>	<ul style="list-style-type: none"><li>BIOS changes that alter ACPI, Plug and Play, Processor Microcode or power management or that add functionality.</li><li>These types of changes must be submitted as a new system or server submission BIOS changes override the 500 MHz CPU delta.</li></ul>
Processor	<ul style="list-style-type: none"><li>The processor used in the submission must be pin compatible with the processor used in the original logo-qualified system.</li><li>MHz delta is allowable within 500MHz over the tested MHz of the initial submission or any lesser CPU MHz</li></ul>	<ul style="list-style-type: none"><li>Architecture or CPU manufacturer changes</li></ul>
Motherboard	<ul style="list-style-type: none"><li>Motherboard is unchanged or the change is a de-population of components<ul style="list-style-type: none"><li>For example, if the motherboard was originally tested and logo'd with on-board LAN, the LAN component may be removed</li></ul></li></ul>	<ul style="list-style-type: none"><li>Changing Motherboard model, unless it is the same model with de-populated components</li><li>Adding on-board components</li></ul>
Drivers	<ul style="list-style-type: none"><li>Any device/driver combination may be changed for a device/driver combination of the same logo level as long as the hardware is logo'd and the driver is WHQL or Microsoft (in-box) signed</li><li>Signed driver must pass Signed Driver Check test</li></ul>	<ul style="list-style-type: none"><li>Adding non-Microsoft signed drivers</li><li>Adding non-logo'd hardware that has a defined qualification program</li></ul>

# 徽标审计

- 自动化的徽标审计流程
- 扩展到WHQL全球用户
- 降低返还金额产品 \$5K USD
- 提升审计比例及数量
- 部分由第3方测试厂商完成(\*\*\*)
- 审计流程
  - 通知
  - 15 天回应期限
  - 零售市场或者工厂封装完整的硬件
  - 根据市场定义名称审计
  - 通知审计结果
  - 30 天修正期限，否则会取消徽标资格



# WHQL提交的费用

- 单独提交
  - 每个OS系统提交费用 \$250 USD
  - Reseller 提交 \$100 USD
  - Windows 2000 – 免费
- 组合提交产品族策略
  - 同族Windows产品提交不产生额外费用
- 高级徽标涵盖基本会标
  - 不需要重复提交
- 费用直接提交给美国，只能通过支票和电汇的方式进行。如果费用小于750美金，可以使用信用卡支付

# 提交类别及费用

Submission type	Testing fee
Vista Premium	\$250.00
Vista Basic	\$250.00
Windows XP	\$250.00
Windows Server 2003	\$250.00
Cluster Submissions	\$250.00
Devices	\$250.00
Unclassified (1)	\$250.00
EQP Cluster	\$100.00
Reseller program test submissions (2)	\$100.00

**NOTE (1):**包括Windows Vista, XP, Windows 2003

**NOTE (2):** \$100.00 每系统, 不考虑其提交操作系统的版本数量

# 费用举例

## 举例: Windows XP and Windows 2003

A single submission including	Charge
Windows XP Professional x86 Edition	\$250.00
Windows XP Professional x64 Edition	No additional fee
Windows Server 2003, Standard Edition	\$250.00
Total	\$500.00

## 费用举例2- 高级徽标涵盖基本徽标

### EXAMPLE: Vista, Windows XP, Windows Server 2003

A single submission including	Charge
Vista Premium x86	\$250.00
Vista Premium x64	No additional fee
Vista Basic x86	\$250.00
Vista Basic x64	No additional fee
Windows XP Professional	\$250
Windows XP Professional x64 Edition	No additional fee
Windows Server 2003, x86 Enterprise Edition	\$250
Windows Server 2003, x64 Enterprise Edition	No additional fee
Total	\$1000.00

## 费用举例3- Vista商业类和用户类别徽标

### EXAMPLE: Vista System & Device Submissions, Business & Consumer

A single submission including	Charge
Vista System x86 (Business) Premium Vista System x86 (Consumer) Premium	\$250.00
Vista System x64 (Business) Premium Vista System x64 (Consumer) Premium	No additional fee
Vista System x86 (Business) Basic Vista System x86 (Consumer) Basic	\$250.00
Vista System x64 (Business) Basic Vista System x64 (Consumer) Basic	No additional fee
Total	\$500.00



## 举例4-单独提交

**EXAMPLE: Vista Premium & Basic , Business & Consumer, x 86 & x64, Separate System Submissions**

A single submission including	Charge	A single submission including	Charge
Vista System x86 (Business) Premium	\$250.00	Vista System x86 (Business) Basic	\$250.00
<b>Total Charge for All Eight Submissions</b>			<b>\$2000.00</b>
Vista System x86 (Consumer) Premium	\$250.00	Vista System x86 (Consumer) Basic	\$250.00
A single submission including	Charge	A single submission including	Charge
Vista System x64 (Business) Premium	\$250.00	Vista System x64 (Business) Basic	\$250.00
A single submission including	Charge	A single submission including	Charge
Vista System x64 (Consumer) Premium	\$250.00	Vista System x64 (Consumer) Basic	\$250.00

如果单独进行产品类别提交，每类测试都会按**250**美金计算

# Winqual提交

- 7月13-16日，Winqual网站发布新的申请流程，结合DTM测试包。
- DTM RC1 Build 5600 目前已可以用来申请如下产品徽标 Sep.5<sup>th</sup>
  - Windows XP
  - Windows Server 2003
  - Windows Vista
- HCT and DCT 的测试结果仍可以被接受，直到Windows Vista RTM 90天后
- 智能卡读卡器测试
  - 使用新的PS/SC标准测试卡片
  - 使用WDK/DTM会标测试进行结果提交
- Failover cluster 提交仍需要使用HCT 12.1.01 (直到Vista RTM发布)
- Premium Logo涵盖Basic Logo
- 系统Update 提交不能使用
  - 必须使用初始化提交
- 64bit 驱动必须涵盖在设备提交中
  - 32bit 内嵌设备除外
  - 64位系统提交所必需

# 更多的信息

- 网络资源
  - 硬件门户 <http://www.microsoft.com/whdc/>
  - 提交网站 <https://winqual.microsoft.com/>
  - 技术白皮书 <http://www.microsoft.com/whdc/resources/current.mspix>
  - WHQL 中文站点 <http://www.microsoft.com/china/ctc/whql>
  - Digital Signatures for Kernel Modules on x64-based Systems Running Windows Vista <http://www.microsoft.com/whdc/system/platform/64bit/kmsigning.mspix>
  - Authenticode Signing [http://msdn.microsoft.com/workshop/security/authcode/authenticode\\_ovw\\_entry.asp?frame=true](http://msdn.microsoft.com/workshop/security/authcode/authenticode_ovw_entry.asp?frame=true)
- WHQL 中文周报订阅
  - Mail to: [ctcwhql9@microsoft.com](mailto:ctcwhql9@microsoft.com)
- CTC WHQL 中文技术合作申请
  - Mail to: [ctcwhql@microsoft.com](mailto:ctcwhql@microsoft.com)
- WDK DTM 帮助下载
  - <http://download.microsoft.com/download/9/c/5/9c5b2167-8017-4bae-9fde-d599bac8184a/dtm.exe>
- WinQual 流程说明下载
  - [https://winqual.microsoft.com/help/winqual\\_help.pdf](https://winqual.microsoft.com/help/winqual_help.pdf)
- WHQL DTM 测试报告察看器
  - <http://www.microsoft.com/whdc/whql/WHQLdwn.mspix>
- Vista Logo Fest – 中国
  - 十月中旬
  - WHQL 专家现场解决提交及产品测试问题



# WHQL 联络

- WHQL Customer Support Services (CSS)
  - DTM Beta阶段免费的技术支持
    - [dtmsupp@microsoft.com](mailto:dtmsupp@microsoft.com)
  - Windows驱动开发问题支持
    - [ddkspp@microsoft.com](mailto:ddkspp@microsoft.com)
  - HCT 12.1.01 for XP & Server 2003 DFW
    - WHQL online submission support
      - [winqual@microsoft.com](mailto:winqual@microsoft.com)
    - Systems
      - [whqlsys@microsoft.com](mailto:whqlsys@microsoft.com)
    - Devices
      - [whqldt@microsoft.com](mailto:whqldt@microsoft.com)
    - Display
      - [dcttest@microsoft.com](mailto:dcttest@microsoft.com)
    - General Cat.
      - Legal Agreement [whqlegal@microsoft.com](mailto:whqlegal@microsoft.com)
      - Billing issues [whqlbill@microsoft.com](mailto:whqlbill@microsoft.com)
      - Invoices [WHQLinv@microsoft.com](mailto:WHQLinv@microsoft.com)
      - Marketplace [Wincat@microsoft.com](mailto:Wincat@microsoft.com)
      - Server Marketplace [wscat@microsoft.com](mailto:wscat@microsoft.com)





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