Software: Unlocking the Opportunities On Intel Platforms

Renee J. James
Vice President
General Manager
Software and Solutions Group
The World of Software is Changing

Where Software is Developed
How Software is Developed
End User Experiences and Expectations
Where We Develop Software is Changing
Developer Growth Worldwide

1996

Source: IDC
The Chinese Software Industry
Is projected to become one of the largest worldwide

2011

North America: 4.1M

Western Europe: 2.5M

E. Europe: 1.7M

APAC: 5.4M

Latin America: 1.5M

Source: IDC
The Chinese Software Industry
Is projected to become one of the largest worldwide

15% Annual growth rate in IT spending from 2006 (US$64.6 billion in ’07)
US$ 5 billion of software spending in ’07
2.5 million software developers in 2012 based on the Ministry of Information Industry

IT Spending in PRC

Source: IDC
Intel’s Software Investments In China

- University Programs
- Developer Programs
- Intel Software R&D Centers
Engaging With China’s Software Park Program

- $10M invested in Software Parks
- 3000 local ISVs joined
- 1,100 software engineers trained in classrooms
- 5,000 developers trained online
- 1M ISN page views from China, 115K from the Software Park Program
# Intel Supporting Regional Software Innovation

<table>
<thead>
<tr>
<th>Location</th>
<th>Brands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hangzhou</td>
<td>中控・SUPCON, HUNDSUN, ArcSoft, ENJOYOR, TeaVea</td>
</tr>
<tr>
<td>Nanjing</td>
<td>VIEWGOOD, NARI-RELAYS, BYOSOFT, 世及天</td>
</tr>
<tr>
<td>Shenzhen</td>
<td>江民科技, TongTech, KOUTON</td>
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<tr>
<td>Guangzhou</td>
<td>金证科技, 邮市易, Wisetop</td>
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<tr>
<td>Chengdu</td>
<td>中联, KungHo, SoftLumos</td>
</tr>
<tr>
<td>Chongqing</td>
<td>FarStone, sobey, LiVE'800</td>
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<tr>
<td>Xian</td>
<td>华图科技, CHINA GRAPHICS, SAINING TECHNOLOGY</td>
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Intel Supporting China Higher Education

Faculty Training

Student Programs

Curriculum

Joint Research
Encouraging Software Innovation in China’s Universities

Zhang Yaoxue
Chinese Academy of Engineering, Professor of Tsinghua University, Director General for Higher Education, Ministry of Education
The World of Software is Changing

Rapid Growth of China’s Software Industry
Continued Innovation Through Open Source
New Opportunities: Mobility and Visual Computing
How we develop Software is Changing
Open Source is Mainstream Today

$2B raised since 2000 by open source startups
220k open source projects on SourceForge
69% of WW developers say they use open source modules in their applications (Evans Data)
Open Source Software Gains Momentum

Dell to offer Ubuntu Linux on PCs, Laptops

PC World – May 2007

Gartner says: By 2011, 80% of commercial software will be open source

Sept 2007

"Linux-enabled devices to grow to 203.9 million in 2012"

Source: ABI

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Community Projects Intel is Involved in

**Power Savings**
http://www.lesswatts.org

**Mobility**
http://www.moblin.org/

**Graphics**
http://intellinuxgraphics.org

**Performance**
http://kernel-perf.sourceforge.net

**Operating Systems**
Linux kernel: http://kernel.org
OpenSolaris: http://opensolaris.org

**Virtualization**
Xen: http://xen.xensource.com
UML: http://user-mode-linux.sourceforge.net
KVM: http://sourceforge.net/projects/kvm

**Development Tools**
Intel® TBB:http://threadingbuildingblocks.org
Eclipse: http://www.eclipse.org
GCC: http://gcc.gnu.org
Java: http://harmony.apache.org

**Network and Wireless**
http://intellinuxwireless.org
http://e1000.sourceforge.net

**Manageability**
http://www.openwsman.org
http://www.openamt.org

**Firmware and Platform Integration**
http://www.linuxfirmwarekit.org
http://www.tianocore.org

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Announcing Today:
Intel® Certified Solutions Program

Intel® Certified powered by SpikeSource
Intel® Capital Invests in SpikeSource
Comprehensive Certification Service

- Security, interoperability, and maintainability
- Supports Microsoft and Open Source Software Stacks
- Validates solutions for Intel® processor-based platforms and feature sets

2008 early adopter program
Jointly Foster Remote IT Management Service Platform

Advanced Managed Service Platform model pilot project with CNC, Hei Long Jiang MII, Intel and Tong Fang

Provides fundamental IT services to consumer and small and medium enterprise customers

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End User Experiences and Expectations are Changing

Mobility is expected

Visual computing is desired
Mobile Internet Devices

MIDs Will Deliver the *Full Internet in your Pocket*

- Communication
- Entertainment
- Information

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Moblin.Org
Linux for Intel® based non-PC devices

Projects and Tools
Developer Resources
Community Forums
Optimizations

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Intel’s Mid Cooperation with Asianux

Asianux Mobile Edition -- Midinux
Rich Internet Experience
  Fast browsing
  Innovative UI
  Video and audio
Optimized for Intel’s MID
  Low power
  Performance
  Small memory footprint
  Small disk footprint

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Demonstrating Breadth of Moblin Usage with Asianux

JayKay
Vice President
Asianux

Larry Geng
Vice President
Asianux

Kodama-San
Vice President
Asianux

Mr. Jiadong
Chairman and President
Asianux

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Visual Computing
Making it Real and Personal
Redefining Market Segments

Photorealistic 3D Rendering
High Definition Audio, Video
Interactive User Interface
Computational Modeling

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Demonstrating the Performance Gains With Multi-Threading on Kingsoft Game

Chen Fei Zhou
Vice President of Kingsoft

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Intel Sees The Trend To Visual Computing
And We Have the Technologies to Propel it

An interactive generation who have grown to expect visually compelling interfaces

Moore’s Law driving hyper-realistic games and environments that act real, via CPU driven physics and artificial intelligence

Global proliferation of broadband and powerful connected devices delivering content to users worldwide

Innovative usages: Games, interactive video, user generated visual content – video and game mods, training/learning, simulation, interactive UI, others
Enabling Developers to Better Deliver
Innovative Immersive End-User Experiences

Committed to *raising the bar* in CPU and graphics products and technologies in 2008 and beyond

- Dramatic performance increase in dual- and quad-core processors
- Increased 3D and multimedia performance in both desktop and mobile Intel graphics products
- “Nehalem” CPU architecture offers 8 simultaneous computing threads for increased performance on high-end desktops

**Larrabee: An Intel® Architecture for the future of visual computing**

- Many IA cores
- Throughput architecture
- New vector instruction set
- New vector processing unit / wide SIMD
Intel Software Group
Acquiring Deep Expertise in Visual Computing

Dedicated Resources
Visual computing software division

Project Offset
Cutting edge game engine

Neoptica
Advanced rendering pipelines for multi-core based rendering

Havok
Leader in physics technology for gaming and digital content

Pixomatic IP
Graphics rendering software

Other brand and names are the property of their respective owners
Intel Software Products for Developers
For Visual Computing

Market Segment Leading Tools Today
  Compilers and debuggers
  Performance analyzers
  Threading building blocks
  Libraries

Extending Intel® Software for Larrabee
Ensuring support for industry standard APIs (DirectX* and OpenGL*)

Industry Standard Development Models
Extending Proven Intel® Software Products
The World of Software is Changing

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