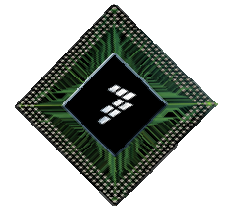


# Software Development on Embedded System – from Silicon Provider Perspective

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嵌入式系统联谊会  
<http://www.esbf.org.cn>



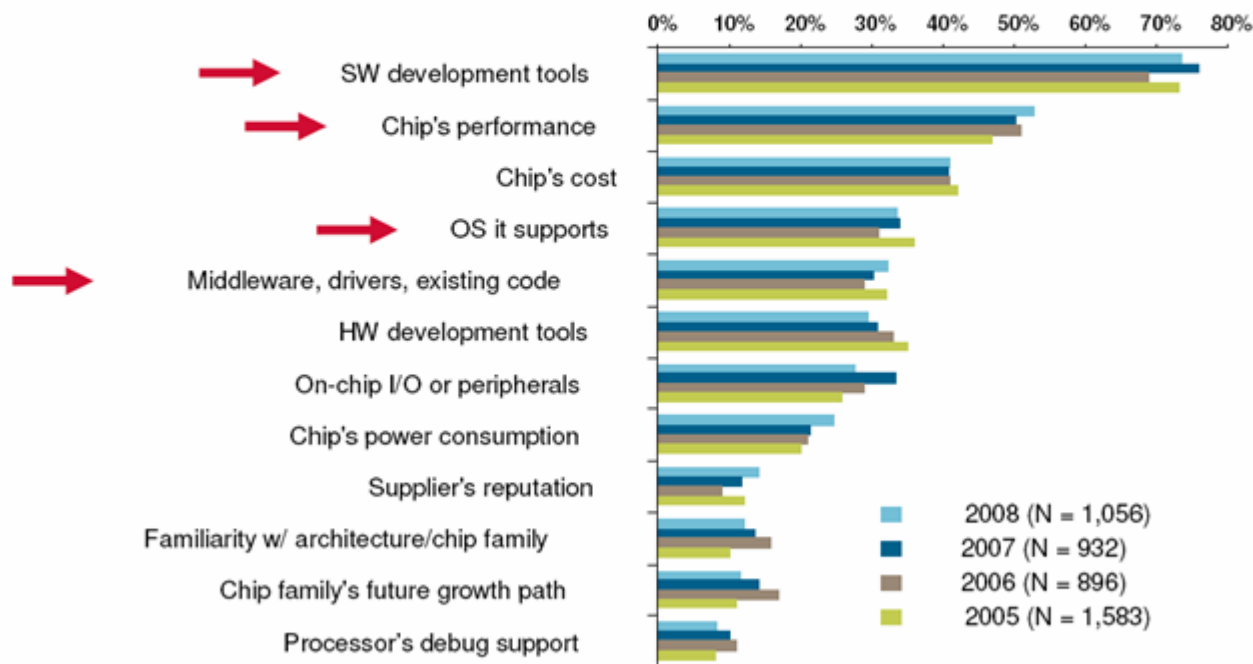
# Agenda

- Software – Marketing requirement & Technical trends
- Freescale strategy on software development
- Linux development based LTIB
- Linux Beijing team introduction
- Q&A

# Why Software- Marketing Requirement

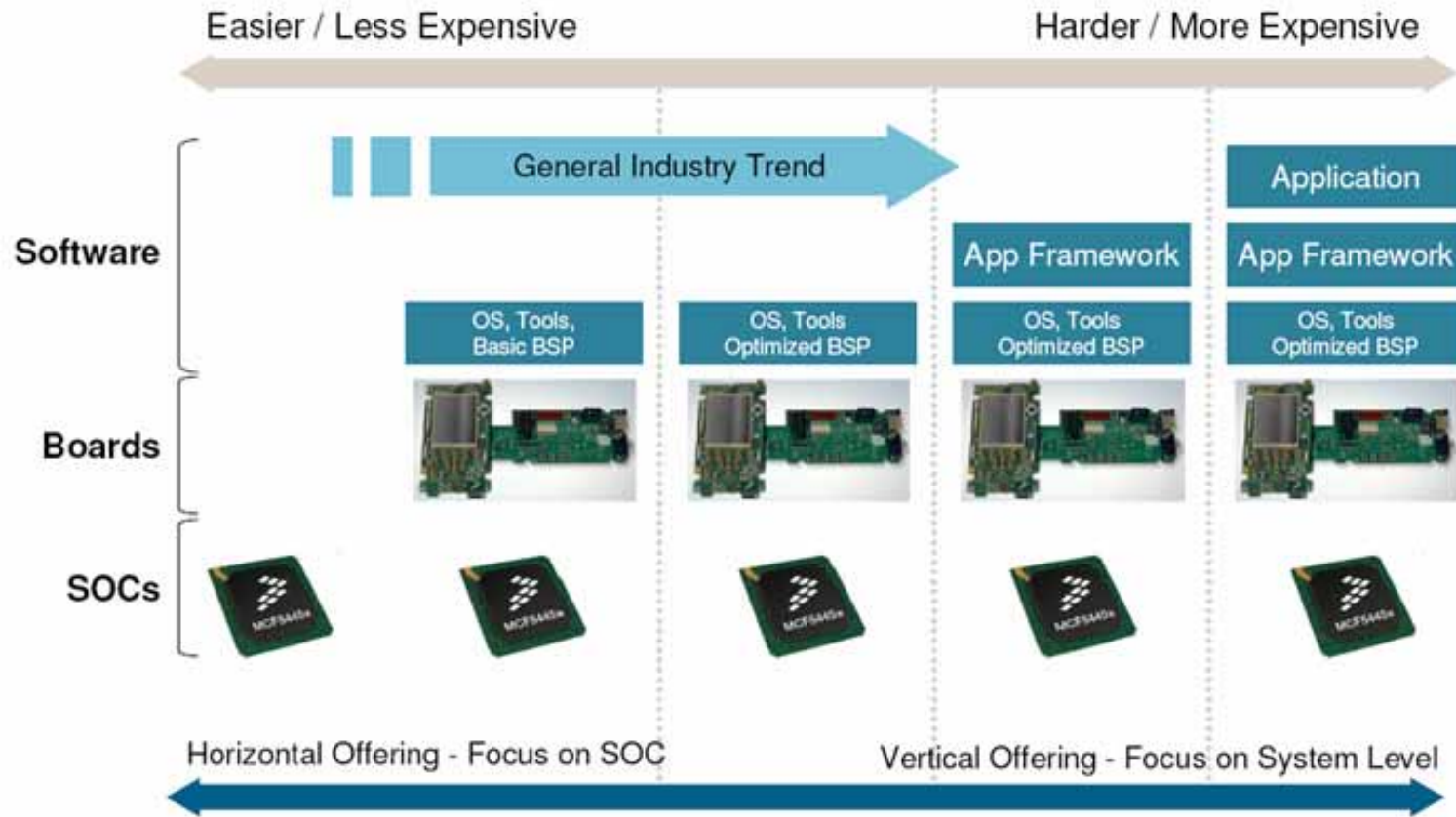
## Market Indicators Software and Enablement Driving Product Selection

The most important factors in choosing a processor



Source: TechInsights Embedded Market Study 2008

# Marketing Trends- Software Solutions



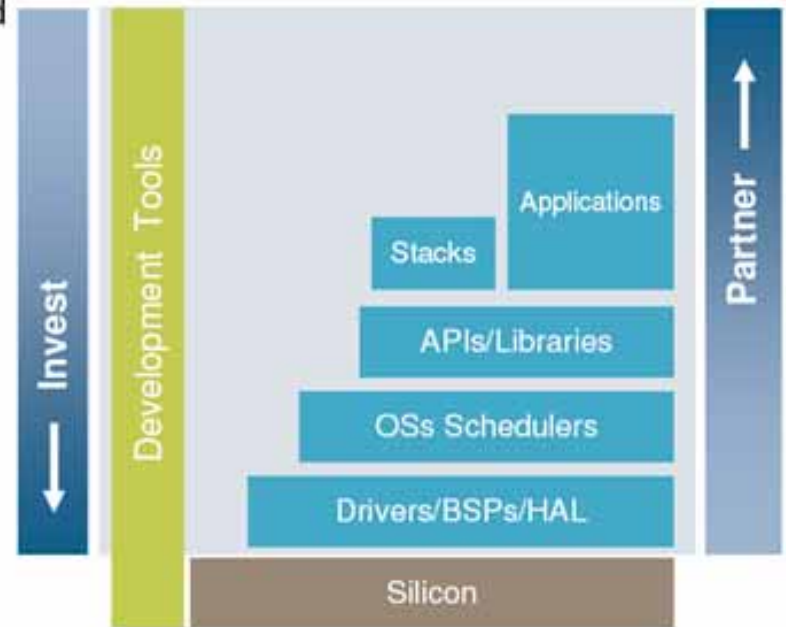
# Software and Enablement – Technical Strategy

## ► Optimized Platforms

- Silicon optimized Software IP across all of our hardware devices and platforms
- Efficient Cores and Peripherals initialization and Device Drivers generation
- Stand alone base tools and run-times Technologies
- Multi-core, Accelerators, DSP support

## ► Vertical Solutions

- Complete solutions in select application spaces
- Built around standard platforms
- Available throughout the ecosystem – Deeper Partnerships
- Application Portability across silicon platforms and product generations



○



# Freescale Semiconductor

The global leader in

***embedded processing solutions***

focused on **automotive, industrial,  
networking and consumer** markets





Company Name	# of Changes	% of Total
None	11,594	13.9%
Unknown	10,803	12.9%
Red Hat	9,351	11.2%
Novell	7,385	8.9%
IBM	6,952	8.3%
Intel	3,388	4.1%
Linux Foundation	2,160	2.6%
Consultant	2,055	2.5%
SGI	1,849	2.0%
MIPS Technologies	1,341	1.6%
Oracle	1,122	1.3%
MontaVista	1,010	1.2%
Google	965	1.1%
Linutronix	817	1.0%
HP	765	0.9%
NetApp	764	0.9%
SWsoft	762	0.9%
Renesas Technology	759	0.9%
<b>Freescale</b>	<b>730</b>	<b>0.9%</b>
Astaro	715	0.9%
Academia	656	0.8%
Cisco	442	0.5%
Simtec	437	0.5%
Linux Networx	434	0.5%
QLogic	398	0.5%
Fujitsu	389	0.5%
Broadcom	385	0.5%
Analog Devices	358	0.4%
Mandriva	329	0.4%
Mellanox	294	0.4%
Snapgear	285	0.3%

Table 4 – Companies working toward the improvement of the kernel

## Linux Kernel Development (April 2008)

### How Fast it is Going, Who is Doing It, What They are Doing, and Who is Sponsoring It

by Greg Kroah-Hartman, SuSE Labs / Novell Inc., [gregkh@novell.com](mailto:gregkh@novell.com)

Jonathan Corbet, LWN.net, [corbet@lwn.net](mailto:corbet@lwn.net)

Amanda McPherson, The Linux Foundation, [amanda@linux-foundation.org](mailto:amanda@linux-foundation.org)

### Who is Sponsoring the Work?

The Linux kernel is a resource which is used by a large variety of companies. Many of those companies never participate in the development of the kernel; they are content with the software as it is and do not feel the need to help drive its development in any particular direction. But, as can be seen in Table 4, an increasing number of companies are working toward the improvement of the kernel.

<http://www.linuxfoundation.org/publications/linuxkerneldevelopment.php>

# Linux BSP Development Based on LTIB

## ▶ What is a BSP?

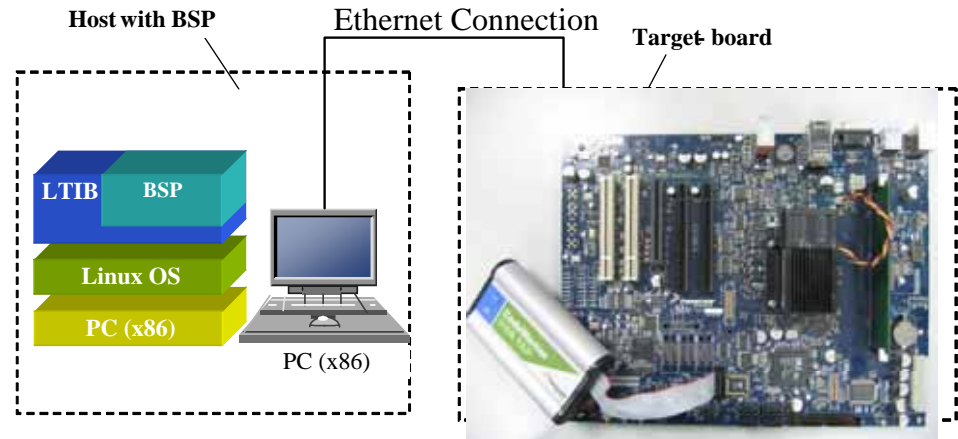
- Board Support Package

## ▶ What does a BSP include?

- Boot loader (U-boot)
- Kernel
- File System
  - Ramdisk
  - NFS
  - Hard disk (Ghost image)
- Applications
- ToolChain

## ▶ Where can you get BSPs?

- External users
  - [http://www.freescale.com/webapp/sps/site/overview.jsp?code=CW\\_BSP](http://www.freescale.com/webapp/sps/site/overview.jsp?code=CW_BSP)



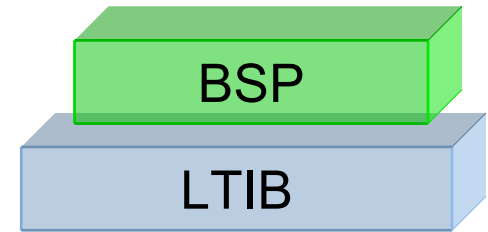


### ▶ What is LTIB ?

- Linux Target Image Builder

### ▶ What does LTIB do?

- LTIB + BSP
- Simple tool that can be used to develop and deploy BSPs (Board Support Packages) for various target platforms. Using this tool a user will be able to develop a GNU/Linux image for their target platform.



### ▶ Where can you get LTIB from?

- External users:
  - [http://www.freescale.com/webapp/sps/site/overview.jsp?code=CW\\_BSP](http://www.freescale.com/webapp/sps/site/overview.jsp?code=CW_BSP)
  - <http://savannah.nongnu.org/projects/ltib/>

