

Software M&A and Investments by Semiconductor Firms

Addressing the M&A Needs of Technology and Telecommunications Professionals

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About Us:

The McLean Group is a national investment bank serving middle market businesses. For more information, visit www.mcleanllc.com.

The McLean Group, LLC
7900 Westpark Drive
Suite A320
McLean, VA 22102
703.827.0200
www.mcleanllc.com

Industry Snapshot

EEmbedded software companies routinely pursue acquisitions by semiconductor companies as an exit strategy, as with Intel's 2010 acquisition of McAfee for nearly \$8 billion and 2009 acquisition of Wind River Systems for nearly \$900 million, and Cavium Networks' 2009 acquisition of MontaVista for \$54 million.

The McLean Group is a middle market investment bank with a dedicated technology practice that closely follows the semiconductor and software markets. The McLean Group also offers deep experience in advising middle market technology firms on exit strategy, business valuation and market intelligence matters. Our firm's professionals specifically focus on embedded software and semiconductor markets worldwide, having developed extensive industry expertise working with such firms as Texas Instruments and smaller software companies that subsequently were acquired by chip companies.

This white paper will analyze the world's largest semiconductor companies, the software companies they acquired, and where they made earlier stage private placements in software companies. Intel is by far the most active acquirer and initiator of private investments in software companies. In the past two years, Intel acquired four software companies while investing in 89 companies. During the same period, Qualcomm has been the second most active, acquiring two software companies while investing in 22 others. When it comes to acquisitions and private placements, security, social media and gaming, and graphics toolkits are among today's "hottest" market segments.

Embedded Software



Semiconductors



Acquisition and Investment Summary for Semiconductor Market Leaders

(September 2, 2009 – September 2, 2011)

Company	Revenue	Total Acquisitions	Software Acquisitions	Total Announced Deal Value Software Acquisitions	Software Private Placements	Total Value Announced Investments
Intel	\$40,394	11	4	\$7,696	89	\$955
Samsung Electronics	\$27,834					
Toshiba	\$13,010	1				
Texas Instruments	\$12,944	4			1	
Renesas	\$11,840	1				
STMicroelectronics	\$10,290					
Qualcomm	\$7,200	5	2		22	\$133
BRCM	\$6,506	8	1			
AMD	\$6,355	1	1	\$5	1	
Infineon Technologies	\$6,226					
Sony	\$5,336	1				
Panasonic	\$5,128					
Freescale	\$4,329	1	1			
NXP	\$4,021					
Marvell	\$3,680	2	1			
MediaTek	\$3,595	1			3	\$79
Nvidia	\$3,189	1			1	
Analog Devices	\$2,498	1				
Maxim	\$2,574	5	1			
Xilinx	\$2,311	4	1			
Altera	\$1,954	1				
IDT	\$1,401				1	\$1
ARM Holdings	\$637	1	1			
PMC Sierra	\$635	2				
Microsemi	\$518	8	1			
Cavium	\$207	3	1	\$54		
Mindspeed	\$178	1				
MIPS Technologies	\$71					
CEVA	\$45					
Imagination Technologies	\$22	2	2	\$74	1	\$1

Source: Capital IQ

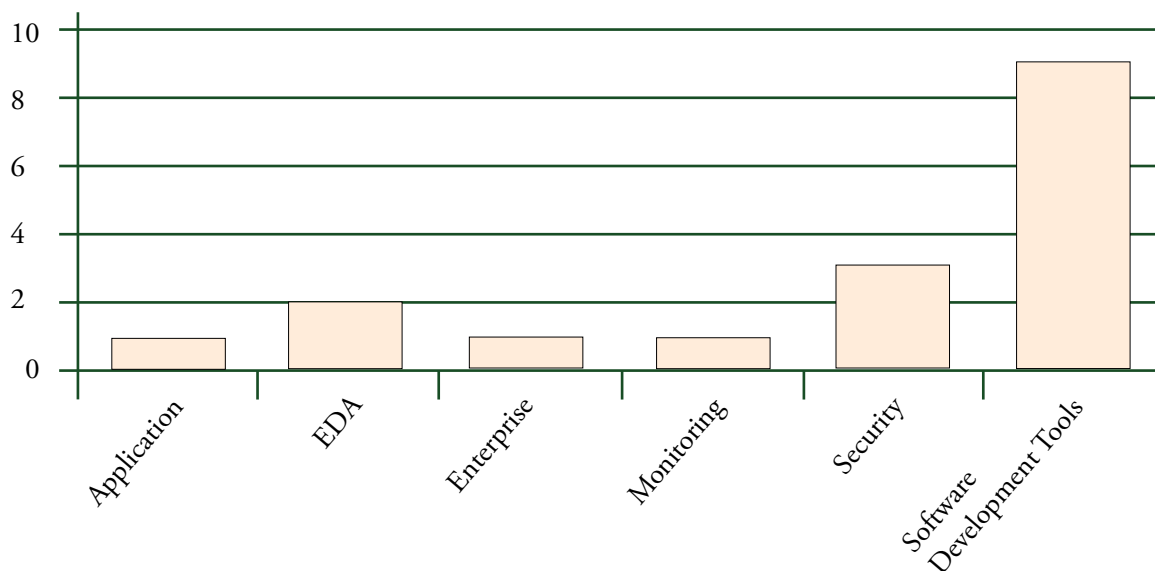
Investments and deal sizes in US \$ Millions.

I. Mergers & Acquisitions Activity: An Overview

During the past two years, acquisitions have involved a significant concentration of software development tool and security companies, most of which addressed graphical user interface, imaging or video software. Security companies were acquired primarily for virus prevention, code security and access control technologies. Many acquisitions were small private deals that did not report transaction terms, while Intel's acquisition of McAfee for nearly \$8 billion dominated the landscape.

Software Acquisitions by Semiconductor Companies

Past two years



Software Acquisitions Summary by Segment

Segment	# Deals	% of Total	Announced Value (\$ MM)	% Announced Value
Application	1	6%	-	-
EDA	2	12%	-	-
Enterprise	1	6%	-	-
Monitoring	1	6%	-	-
Security	3	18%	\$7,696	98%
Software Development Tools	9	53%	\$133	2%
Total	17	100%	\$7,829	100%

Key Trends

Three key trends appear to be driving software acquisitions in the semiconductor space:

1. Security requirements are being pushed down to devices

Security is no longer just for PCs. OEMs and chip vendors are under increasing pressure to provide more comprehensive security tools for any and every smart phone, tablet or Internet-connected device. This trend manifests itself both in large acquisitions (Intel buying anti-virus software vendor McAfee for almost \$8 billion), and smaller acquisitions of firms offering code security and protection or access control software. As embedded devices become smarter and more connected to the Internet, their inherent security risks will increase significantly. OEMs increasingly require chip companies to bundle security technologies with their chipsets: when chip companies do not have such in-house solutions available, acquisitions often follow.

Key Trends (continued)

2. User interfaces for embedded devices remain important

Since Apple announced the first iPhone in January 2007, the entire embedded industry has faced immense pressure to make devices more user-friendly and visually appealing. This has forced chip companies to provide better graphics, user interfaces, demo software, and video displays with their chipsets. In fact, eight of the 17 software M&A transactions involving chip companies in the last two years related to user interfaces, imaging and video.

3. Ongoing consolidation of embedded RTOS and tools companies

The embedded operating system market's ongoing consolidation of hardware and software continues, with chip and hardware companies acquiring leading OS and software tools companies.

Notably, Intel acquired Wind River (VxWorks), and Cavium acquired MontaVista (Linux). Hardware and larger software companies also have acquired several other leading OS companies. For example, Google acquired Android and then Motorola, giving it a full OS + phone software and hardware platform with which to compete with Apple. RIM acquired the QNX embedded OS, presumably to compete against Apple. Mentor Graphics, a semiconductor EDA software vendor, acquired Accelerated Technology (Nucleus). With few independent options remaining available, chip companies or hardware vendors likely will continue acquiring OS and tools companies to facilitate more vertical integration like Apple has done.

Future software acquisitions by semiconductor companies

We expect to see continued acquisition activity by chip companies in mobile and code security software, user experience software, and software application development tools. While social media and gaming are very hot sectors (as evidenced by the investments highlighted below) chip companies traditionally have not acquired companies in these segments. Typically, chip companies have not acquired social media and gaming companies that generally are absorbed by software, Internet, or gaming companies instead. However, it is important to note that M&A and related activities in gaming and social media are driving chip companies' acquisitions of such key enabling technologies as graphics, imaging and video software tool sets. Therefore, mobile gaming and social media will continue to drive acquisitions in the graphics and application development software market.

Select M&A Transactions

Date	Target	Total Transaction Value (\$M USD)	Buyer	Segment	Description
7/25/11	Gesture Tek	-	Qualcomm	Software Development Tools	Gesture Recognition for Entertainment
6/17/11	Obsidian Software	-	ARM Holdings	EDA	Verification and Validation
2/14/11	Kinoma, Inc.	-	Marvell Technology Group	Application	Mobile Media
1/31/11	AutoESL Design Technologies	-	Xilinx	EDA	Synthesis for FPGA and ASIC
1/11/11	Nordic Edge AB	-	Intel Corporation	Security	Identity and Access Management
12/14/10	Caustic Graphics	27.0	Imagination Technologies Group	Software Development Tools	3D Graphics

Select M&A Transactions (continued)

Date	Target	Total Transaction Value (\$M USD)	Buyer	Segment	Description
11/25/10	Sightic Vista	-	Broadcom	Software Development Tools	Image Processing
11/17/10	HelloSoft	47.1	Imagination Technologies Group	Software Development Tools	VoIP, WiFi
9/30/10	Congo Vision Solutions	-	Intel	Monitoring	Advertising
9/29/10	Graphic Remedy	5.0	Advanced Micro Devices	Software Development Tools	3D Graphics
9/21/10	Swell Software	-	Freescale Semiconductor	Software Development Tools	Graphics
9/14/10	Arxan Defense Systems	-	Microsemi	Security	Code and Data Security
9/5/10	Nucleus	-	Intel	Enterprise	Virtualization
9/1/10	Trinity Convergence	-	Maxim	Software Development Tools	VoIP, Video
8/18/10	McAfee	7,696.0	Intel	Security	Virus Control
2/3/10	Mango Technologies	-	QUALCOMM	Software Development Tools	Mobile User Interface
11/6/09	MontaVista Software	54.1	Cavium	Software Development Tools	Embedded Linux Platforms

Source: Capital IQ

Note: Metrics such as Average transaction size, Average EV/Revenue and Average EV/EBITDA are not reported because this data is not publicly available for most transactions. Therefore, the data set size is too small for a meaningful analysis.

II. Investment (Private Placement) Activity

In addition to making direct acquisitions, many chip firms make earlier-stage private placement investments in smaller software companies either directly or through such investment divisions as Intel Capital. These investments enable chip companies to more closely follow the development of important technologies without having to commit the level of investment to acquire them outright. A review of such investments often offers insights into the types of acquisitions likely to arise in the course of the next five years.

Intel Capital dominates the semiconductor industry software company investments, having made 89 investments – worth nearly \$1 billion in total announced value alone – in software companies. Intel Capital has invested more than \$10 billion in more than 1,140 companies since 1991. (Source: <http://www.thinq.co.uk/2011/9/9/intel-pumps-24m-software-specialists/>)

Analysis of Recent Investments

Reviewing chip companies' last 50 software firm private placements, indicates a very high concentration within social media and gaming business segments, which is not surprising given the incredible successes of Facebook, Twitter and LinkedIn. While fewer investments have been made in security firms overall, this segment has experienced the highest average investment: almost \$30 million.

Analysis of Recent Investments (continued)

Totals	Number of Investments	Total Announced Investments (\$M USD)	Average Announced Investment (\$MM)
Advertising	3	\$22	\$7.2
Communications	3	\$21	\$10.3
Enterprise IT	9	\$69	\$9.9
Media and Games	20	\$311	\$19.5
Other	4	\$54	\$13.4
Security	4	\$58	\$29.0
Software Development Tools	7	\$42	\$8.5

Select Private Placement Transactions

Date	Target	Investment Value (\$M USD)	Semiconductor Investor	Segment	Description
9/1/11	Mocana Corporation	-	Intel	Security	Embedded Management and Security
8/17/11	Onward Mobility Solutions Pvt. Ltd.	3.97	Qualcomm	Security	Mobile Device Management - Mobile Security, Data Protection, Remote Monitoring
7/26/11	ThinkNear	1.6	Qualcomm	Advertising	Coupons
6/30/11	Omek Interactive, Ltd.	9.0	Intel	Software Development Tools	Gesture Recognition
6/21/11	We7, Ltd.	-	Qualcomm	Media and Games	Online Music
6/17/11	Virtustream, Inc.	10.05	Intel	Enterprise IT	Virtualization
6/9/11	ViVu, Inc.	-	Advanced Micro Devices, Inc.	Communications	Video Conferencing
6/9/11	AlterGeo	10.0	Intel	Media and Games	Phone Geolocation for Social Networks
6/9/11	ThunderSoft Co., Ltd.	15.43	Qualcomm	Software Development Tools	Mobile OS
6/7/11	JouleX, Inc.	17.24	Intel	Enterprise IT	Energy Management
5/30/11	Rocketick Technologies, Ltd.	-	NVIDIA	Software Development Tools	EDA
5/26/11	Kabam, Inc.	85.0	Intel	Media and Games	Games
5/23/11	PerspecSys, Inc.	8.0	Intel	Enterprise IT	CRM
5/20/11	iStreamPlanet Co.	11.0	Intel	Media and Games	Online Media Delivery
5/13/11	July Systems, Inc.	-	Intel	Enterprise IT	Web and Application Management
5/13/11	CrowdStar, Inc.	23.0	Intel	Media and Games	Games
5/12/11	WSO2, Inc.	6.5	Intel	Enterprise IT	Web and Application Management
5/3/11	Music Mastermind, Inc.	10.8	Intel	Media and Games	Music Sharing
4/27/11	Viddy, Inc.	1.6	Qualcomm	Media and Games	Social Media
4/21/11	eTechAces Marketing and Consulting Pvt. Ltd.	9.01	Intel	Other	Life Insurance
4/12/11	TOA Technologies, Inc.	17.2	Intel	Enterprise IT	Workforce Management

Select Private Placement Transactions (continued)

Date	Target	Investment Value (\$M USD)	Semiconductor Investor	Segment	Description
4/6/11	Kno, Inc.	39.0	Intel	Other	Education Software
3/25/11	iControl Networks, Inc.	54.0	Intel	Security	Home Monitoring
3/25/11	NoktacomMedya Internet HizmetleriSanayiveTicaret, AS	50.0	Intel	Media and Games	Social Media
3/25/11	txteagle, Inc.	8.5	Qualcomm	Communications	Texting Application
3/24/11	Total Immersion, SA	5.39	Intel	Software	Augmented Reality
3/14/11	Altobridge Limited	12.0	Intel	Communications	Satellite Communications
3/1/11	Moderati, Inc.	2.63	Intel	Media and Games	Mobile Content
2/22/11	Digital Chocolate, Inc.	12.0	Intel	Media and Games	Digital Media and Social Games
2/14/11	Borgs, Ltd.	12.5	Intel	Software Development Tools	Mobile Application Development
2/14/11	SecureKey Technologies, Inc.	-	Intel	Security	Internet Security
2/14/11	CloudMade, Ltd.	-	Intel	Software Development Tools	Mobile Mapping Tools
2/14/11	Kaltura, Inc.	20.0	Intel	Media and Games	Open Source Video Platform
2/14/11	VOSS Ltd.	10.0	Intel	Enterprise IT	IP Telephony & UC
1/31/11	JiKe	0.1	Qualcomm	Media and Games	Mobile Applications and Games
1/31/11	Reverie Language Technologies Pvt. Ltd.	0.1		Software Development Tools	Mobile Language Framework
1/31/11	Corrigan, Ltd.	0.1	Qualcomm	Media and Games	Media Tracking and Visual Search
1/31/11	Kiwiple, Inc.	0.1	Qualcomm	Media and Games	Location Based Social Networking
1/31/11	Enterproid, Inc.	0.25	Qualcomm	Enterprise IT	Mobile Application
1/20/11	Kabam, Inc.	30.0	Intel	Media and Games	Social Gaming
1/20/11	Bitway, Co., Ltd.	-	Intel	Media and Games	Digital Content Distribution
1/3/11	[x+1], Inc.	10.0	Intel	Advertising	Online Marketing Web Optimization
12/21/10	V-Sync Cp., Ltd.	-	Intel	Media and Games	Music and Imaging
12/14/10	Omnesys Technologies Pvt. Ltd.	3.62	Intel	Other	Securities Trading Software
12/13/10	Mobixell Networks, Inc.	10.0	Intel	Advertising	Mobile Media and Advertising
12/7/10	Waze, Ltd.	25.0	Qualcomm	Media and Games	Mobile Social Gaming
11/29/10	Vostu, Ltd.	30.0	Intel	Media and Games	Social Gaming
11/17/10	Rock Flow Dynamics, LLC	2.0	Intel	Other	Hydrodynamics Software
11/17/10	De Novo, LLC	-	Intel	Enterprise IT	IT Infrastructure Management
11/16/10	Bugaboos Holdings, Inc.	-	Intel	Media and Games	Social Media

Technology & Telecom Team

Brent Lorenz
Vice President
blorenz@mcleanllc.com

Vippy Bhambra
Director
vbhambra@mcleanllc.com

Kathleen Crow
Managing Director
kcrow@mcleanllc.com

Jason Fernandez
Consultant
jfernandez@mcleanllc.com

Stephen Findlay
Managing Director
sfindlay@mcleanllc.com

Sue Keil
Managing Director
skeil@mcleanllc.com

Stephen Mooney
Managing Director
smooney@mcleanllc.com

Tom Swanson
Managing Director
tswanson@mcleanllc.com

Shari Overstreet
Managing Director
soverstreet@mcleanllc.com

The McLean Group Technology & Telecom Practice

The Washington, DC area incubates a large number of technology companies serving the federal government, telecommunications and Internet industries. Many government agencies and corporations produce a steady stream of entrepreneurs who establish and grow successful middle market businesses in the region.

We have served these regional technology firms among others nationally and worldwide. Whether product- or service-oriented, our research, analysis, valuation and investment banking professionals have experience with a broad array of technology companies. We are well-equipped to help our clients build value and close successful transactions.



About The McLean Group

The McLean Group is a national, middle market investment bank providing mergers & acquisitions (M&A), corporate finance, market intelligence and business valuation services. Headquartered in the Washington, DC metropolitan region's technology and communications corridor, the firm is among the top middle market investment banks in the nation.

- M&A:** The McLean Group uses its considerable expertise in a wide variety of industries to identify the most probable and suitable candidates to complete transactions under optimal terms for its clients.
- Market Intelligence:** By leveraging superior competitive analyses, the firm provides business executives with comprehensive market intelligence reports, which provide the market insight and analytical expertise required to reduce risk and uncertainty in strategic decision making.
- Business Valuation:** As a core competency and complement to its M&A business, The McLean Group provides business valuation services, including intangible asset and financial security valuations for a variety of transactions, financial reporting and tax purposes.