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Technology Institute

PwC Global 100 Software Leaders

Converging forces are building that could re-shape the entire industry

100 Global Software Leaders

pwc

About

Global 100 Software Leaders

The interviews

In addition to its quantitative findings, this report also includes insights from interviews with 28 software executives. We thank all of them for their contributions:

Adobe
Mark Garrett
CFO

Advanced Computer Software
Vin Murria
CEO

AsiaInfo-Linkage
Andy Tiller
Vice President, Corporate Product Marketing

AVEVA
Les Elby
Vice President, Business Strategy

BMC Software
Ken Berryman
Senior Vice President, Strategy and Corporate Development

Cegid
Patrick Bertrand
CEO

CollabNet
Jim Ensell
Chief Marketing and Strategy Officer

Dassault Systèmes
Bernard Charlès
CEO

EasyVista
Jamal Labed
Co-founder and CEO

Hitachi, Ltd., Information & Telecommunications Systems Company
Munehiro Hashimoto
Division President, IT Platform Business Management Division

Infosys
Basab Pradhan
Senior Vice President and Head of Global Sales

Jive Software
Tony Zingale
Chairman and CEO

K.K. Ashisuto
Tatsuo Otsuka
President

Kewill Systems
Evan Puzey
Chief Marketing Officer

NetSuite
Jim McGeever
COO

Neusoft
Dr. Liu Jiren
Chairman and CEO

Newgen Software
Diwakar Nigam
Managing Director

OnMobile Global
Mouli Raman
Managing Director

Ramco Systems
Virender Aggarwal
CEO

Red Hat
Jim Whitehurst
President and CEO

SAP
Jonathan Becher
Chief Marketing Officer

SAS
Jim Davis
Senior Vice President and Chief Marketing Officer

Shanghai Boke Information Technology
Shen Guokang
President

Splunk
Godfrey Sullivan
Chairman and CEO

Talend
Bertrand Diard
Co-founder and CEO

Tally Solutions
Bharat Goenka
Co-founder and Managing Director

Trend Micro
Mahendra Negi
COO/CFO

TSIA
J.B. Wood
President and CEO

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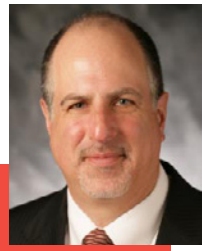
Welcome



Mark McCaffrey
Global Software Leader

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The global software industry is now in the midst of an evolutionary change as several forces in the market are converging, triggering deep and permanent shifts in the basic structure of the business.

First, vendors are beginning to feel the effects of the software-as-a-service (SaaS) technology on their business models and markets. How vendors respond will be crucial to the future health and even viability of their companies.

Second, the explosion in the number of mobile devices, the ubiquity of broadband connectivity and the consumerisation of IT are shifting the balance of power in enterprise software purchasing from the software vendor to the individual user.

These trends are forcing software companies to change nearly everything—from the way they develop products to how they price, sell, deliver and service them. And many companies are caught in a conundrum: While they must quickly adapt to this new world, they still earn most of their revenue from the old model—traditional enterprise software licensing.

Meanwhile, the software market continues to broaden—in terms of both geography and types of competitors. As vendors expand around the world, they are running into regional competitors more attuned to local needs as well as emerging competitors from other industries that are starting to launch their own software products in the form of online applications.

Additionally, the competition for key skills and experience has become a global war for talent. Large vendors are expanding to regions beyond their typical recruitment grounds in search of top-flight engineers, programmers, and executives. Companies are using their checkbooks and stock market valuations to acquire companies for their technology as well as their talented people.

This edition of the Global 100 Software Leaders Report, which we launched in 2010, continues PwC's tradition of monitoring and analysing the leading companies and trends in the industry. This year, we've added unique statistics on the number of large companies participating in the SaaS market as well as the proportion of revenue they derive from this form of cloud computing. The data highlight how this delivery model is starting to become a key part of the foundation of the software business. Even more dramatic than the numbers, however, are the comments of more than two dozen leading software industry executives from around the globe. We thank these executives for their time and willingness to share their insights on what is happening and how these trends are changing their strategies as well as the day-to-day operation of their companies.

We hope this report gives you a deeper understanding of the underlying forces that are influencing the future of the software industry, and that you use this knowledge to your advantage. Please contact me or the other practice leaders in this report if you have questions or would like to discuss how we can help your organisation during this tumultuous era.

Acknowledgements
Software industry associations

The software industry is a key source of innovation today for nearly all aspects of business and even society. From low-cost mobile apps to sophisticated enterprise programs to data analytics, software adds value, enhances productivity and even improves the quality of life for billions of people around the world.

Even more opportunities—as well as challenges—appear today. As the new SaaS consumption model gains in popularity at the expense of the traditional licensing model, vendors must transform their organisations. A major by-product of SaaS adoption is that software companies' financial results will align more closely than before with the value their customers derive from the software. This next-generation, 'outcome-driven' operating model will be game changing. Few on-premise software companies today know how or whether their customers are deriving real business value from their technology. Far fewer actually have the ability to engage with their customers to increase that value. Those companies that have this ability will also have the potential to achieve higher growth by more effectively satisfying customer demand.

Solid analysis and insight into these trends, including the information in this report, are valuable in guiding software vendors, industry associations, governments and enterprises through these transitions. The Technology Services Industry Association (TSIA) and the French Association of Software Publishers and Internet Solutions (AFDEL) are pleased to support PwC in providing a strong tool to analyse IT transformation all over the world.

J.B. Wood
President and CEO
TSIA
US

The Technology Services Industry Association (TSIA) is the world's leading organisation dedicated to advancing the business of technology services. Technology services organisations large and small look to TSIA for world-class business frameworks, best practices based on real-world results, detailed performance benchmarking, exceptional peer networking opportunities and high-profile certification and awards programs. TSIA corporate members represent the world's top technology companies as well as scores of innovative small and mid-size businesses in four major markets: enterprise IT & telecom, consumer technology, healthcare & healthcare IT, and industrial equipment & technology.

Jamal Labed
President
AFDEL
France

The French Association of Software Publishers and Internet Solutions, AFDEL, aims to bring together software and Internet companies as a community and to be the spokesperson for the digital industry in France. AFDEL currently has more than 330 members (representing approximately €3.5 billion in revenue) throughout France. Members include major international groups, SMEs and start-ups. To learn more please visit http://www.afdel.fr/.

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Introduction

> *"The vision that financial investors and clients have of the software industry is not accurate anymore. The industry is changing."*
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The state of the software industry appears relatively calm. On the surface, that is. The well-known trends—cloud, software-as-a-service (SaaS), mobile devices and consumerisation of IT—are making their own individual waves for software vendors. Dive beneath the surface, however, and you will find a strong undertow created by the combination of all these forces, pulling the industry in new directions. It's a multiplier effect that is redefining how software vendors develop, market, sell, distribute and support their products.

These changes may seem evolutionary, as suggested by the SaaS data in this year's PwC Global 100 Software Leaders (Pages 10-11). SaaS only represents an estimated 4.9 percent of their total software revenues in 2011. But for many vendors, the small percentage belies the amount of current sales discussions that centre on the cloud. Either way, whether any single software vendor chooses to embrace these changes quickly, slowly, partially, wholly or not at all, these trends will reshape the industry for everyone. The prudent software vendors are already trying to plan the tricky transition that clearly lies ahead, and specifically are:

- focusing more sharply than ever on what customers, especially individual users in enterprises, want;
- collaborating with customers and partners more than ever;
- rethinking various aspects of their business models, including delivery methods, pricing strategies and sales compensation options; and
- increasing the differentiation in the quality and scope of services they offer.

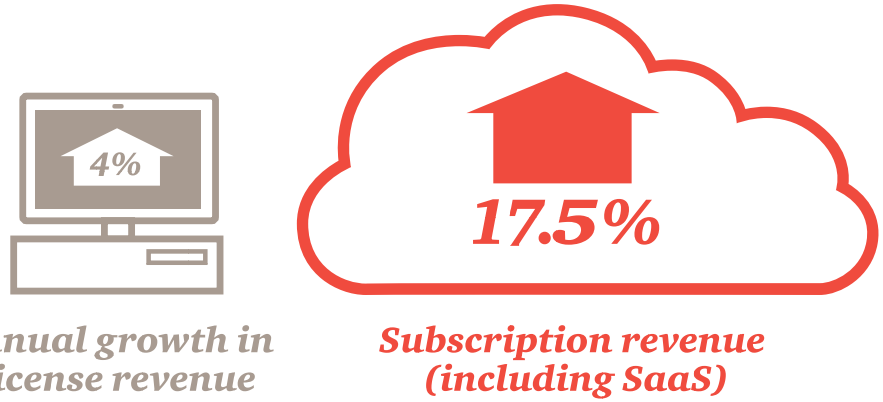
"The vision that financial investors and clients have of the software industry is not accurate anymore. The industry is changing," says Bernard Charlès, CEO of Dassault Systèmes, No. 16 on the Global 100, and one of more than two dozen software industry executives interviewed. "It no longer makes sense to refer to the 'software industry' as a stand-alone industry while new market categories are emerging. 'Experience' is one of them, and a strategic one in today's 'experience economy'. That is why Dassault Systèmes' 3DEXPERIENCE platform combines applications, content and communities to create more value for the consumer."

As we all know, cloud computing enables a new business model—the selling of software as a service, either by subscription or as a true pay-as-you-go usage model. Add the explosion of mobile devices, the ubiquity of wireless networks and the consumerisation of IT, and you get further innovation—and confusion—in business models. These forces are causing deep structural changes, fundamentally altering how companies do business. What exactly are software vendors selling? How much should it cost? And to whom should they be selling it?

The answers aren't entirely clear yet. But the major components of the reshaped industry are likely to include:

- low-cost, ubiquitous mobile apps powered by heavy-duty software and hardware at the data centre either within the enterprise or in a public cloud;
- a plethora of delivery methods from traditional licensing to SaaS, subscriptions and even 'freemiums' offered to encourage sales;
- a growing ecosystem of services and functions, including PaaS, IaaS and XaaS like data-analytics as a service; and
- an entirely new raison d'être: to deliver the customer outcomes, not just technology.

IDC projects subscription revenue (including SaaS) to grow at a 17.5% compounded annual rate, reaching 24% of total software revenue by 2016.



As we compiled the Global 100, there were definite signs in the data, and even more clearly in the interviews, that these forces are already changing the software industry. Specifically:

- Because the cloud enables greater access to customer data and the ability to directly connect—even intervene—in customer use, it may be changing the very definition of the value proposition tech companies must offer; many in the industry are wondering what new capabilities will be required to succeed in this new environment.
- Although the traditional license model will be around for years to come, it is slowly losing its dominance to SaaS and subscription models. Most large, traditional software vendors are moving toward SaaS, albeit gradually, and will be faced with significant challenges as they make the transition.
- The individual customer is becoming king. Enterprise IT is not going away, but power and influence have shifted from the corporate entity, which used to dictate what technology to buy and when, to the individual user. That monumental shift makes strengthening engagement and establishing an enduring relationship with end users essential to software vendor survival.
- For the foreseeable future, there will be a spectrum of business models, ranging from the traditional licensed software to pure SaaS to hybrid approaches that come with their own dilemmas. The challenge for software vendors is to figure out how to make one of these business models work, or risk losing customers.
- Pricing is proving to be the biggest conundrum in this evolution. Vendors are already struggling to explain and justify the difference in value between a low-cost mobile app and a full-strength, licensed enterprise software package.

In this report, we explore all these issues in light of our compilation of software revenues and related data for calendar year 2011, the most recent set of complete financials available. In all, we report software revenues for 294 vendors worldwide, including the top 100 globally, the top 100 in two geographically defined markets—North America (Pages 16-17), and Europe/Middle East/Africa (EMEA) (Pages 24-25)—and one market defined by maturity, Emerging Markets (China, India, Brazil and others) (Pages 30-31). Some vendors appear on more than one list. (See Methodology, page 37)

Unlike the previous PwC Global 100 Software Leaders report, published in 2010, we are now able to report estimated revenues from SaaS, which indicate how and where the above trends are starting to roil the waters of the traditional software market. Finally, through interviews with software executives around the world, including from companies on our lists and some not on them, we dive deeply into an examination of these trends and their likely impacts on the software industry.

The software industry recorded almost US$325 billion in license, subscription, maintenance and other revenues in 2011, due to relatively strong growth rates despite the weak global economies. According to IDC estimates, subscription revenue jumped almost 23 percent in 2011, whilst overall maintenance and services revenues grew almost 8 percent. This growth reflects the software industry's continuing contribution to overall productivity and societal innovation, which in turn help grow the overall global economy as well as improve the lives of billions of people.

Figure 1: Top 10 SaaS revenues amongst the Global 100

Company	Country HQ	2011 SaaS revenue (US$M)	2011 software revenue (US$M)	SaaS revenue as % of software revenue
Salesforce.com	US	$1,848	$2,008.7	92.0%
Intuit	US	$950	$2,456.5	38.7%
Cisco	US	$831	$1,796.9	46.3%
Microsoft	US	$788	$57,668.4	1.4%
Symantec	US	$572	$6,330.3	9.0%
Google Inc.	US	$462	$575.6	80.3%
Oracle	US	$446	$26,175.9	1.7%
Adobe	US	$410	$4,154.1	9.9%
Blackboard	US	$396	$411.7	96.2%
DATEV	Germany	$395	$974.2	40.5%
Total		**$7,098**	**$102,552.16**	**6.9%**

Global 100 Software Leaders

Rank	Company	Country HQ	2011 software revenue (US$M)	SaaS revenue (US$M)	2011 total revenue (US$M)	Software revenue as % of total	SaaS revenue as % of software revenue*
1	Microsoft	US	$57,668.40	$788	$72,052.00	80%	1.4%
2	IBM	US	$28,187.75	$265	$106,916.00	26%	0.9%
3	Oracle	US	$26,175.89	$446	$47,659.33	55%	1.7%
4	SAP	Germany	$15,498.14	$220	$19,794.98	78%	1.4%
5	Ericsson**	Sweden	$8,034.67	–	$34,933.33	23%	0.0%
6	Symantec	US	$6,330.31	$572	$6,722.00	94%	9.0%
7	HP	US	$5,316.26	$228	$125,734.33	4%	4.3%
8	EMC (excluding Vmware)	US	$4,884.92	$90	$20,007.50	24%	1.8%
9	CA Technologies	US	$4,375.31	$66	$4,754.00	92%	1.5%
10	Adobe	US	$4,154.07	$410	$4,223.70	98%	9.9%
11	VMware	US	$3,485.83	$50	$3,767.00	93%	1.4%
12	Fujitsu	Japan	$3,063.66	$300	$54,893.00	6%	9.8%
13	SAS	US	$2,524.87	$56	$2,725.00	93%	2.2%
14	Intuit	US	$2,456.47	$950	$4,007.00	61%	38.7%
15	Siemens	Germany	$2,369.74	–	$102,250.44	2%	0.0%
16	Dassault Systèmes	France	$2,235.61	–	$2,479.94	90%	0.0%
17	Autodesk	US	$2,120.03	$70	$2,194.03	97%	3.3%
18	Salesforce.com	US	$2,008.69	$1,848	$2,208.25	91%	92.0%
19	BMC Software	US	$1,961.70	$10	$2,169.50	90%	0.5%
20	Hitachi	Japan	$1,918.92	$15	$115,754.00	2%	0.8%
21	Infor	US	$1,889.60	$20	$2,131.36	89%	1.1%
22	Sage	UK	$1,871.63	$29	$2,138.91	88%	1.5%
23	Cisco	US	$1,796.85	$831	$44,471.00	4%	46.3%
24	Intel	US	$1,704.52	$80	$53,999.00	3%	4.7%
25	Citrix	US	$1,644.71	$374	$2,206.50	75%	22.7%
26	NEC	Japan	$1,614.97	$45	$38,046.34	4%	2.8%
27	SunGard	US	$1,471.45	$45	$4,499.00	33%	3.1%
28	Synopsys	US	$1,459.72	$40	$1,576.14	93%	2.7%
29	McKesson	US	$1,357.87	$5	$3,326.00	41%	0.4%
30	Apple	US	$1,355.39	$10	$127,841.00	1%	0.7%
31	NetApp	US	$1,289.92	–	$5,925.00	22%	0.0%
32	Trend Micro	Japan	$1,208.69	$50	$1,516.70	80%	4.1%
33	ESRI	US	$1,138.72	$25	$1,439.00	79%	2.2%
34	Hexagon	Sweden	$1,103.50	–	$3,016.95	37%	0.0%
35	Cadence Design Systems	US	$1,002.15	$15	$1,149.84	87%	1.5%
36	Teradata	US	$982.59	$50	$2,362.00	42%	5.1%
37	DATEV	Germany	$974.17	$395	$1,016.44	96%	40.5%
38	Software AG	Germany	$948.11	–	$1,527.60	62%	0.0%
39	PTC	US	$943.99	–	$1,220.10	77%	0.0%
40	Red Hat	US	$934.80	$25	$1,100.00	85%	2.7%
41	OpenText	Canada	$923.60	$17	$1,157.90	80%	1.8%
42	Mentor Graphics	US	$905.84	–	$1,010.29	90%	0.0%
43	Attachmate	US	$904.71	–	$970.64	93%	0.0%
44	Avaya	US	$884.37	$15	$5,547.00	16%	1.7%
45	Nuance Communications	US	$849.65	$5	$1,375.56	62%	0.6%
46	Wolters Kluwer	Netherlands	$839.70	$16	$4,665.01	18%	1.9%
47	Quest Software**	US	$800.71	$10	$857.00	93%	1.2%
48	Compuware	US	$780.90	$95	$993.00	79%	12.2%
49	TIBCO	US	$717.68	$3	$932.00	77%	0.4%
50	Cerner	US	$701.34	$176	$2,203.15	32%	25.1%

Data compiled by the Global Software Business Strategies Group at IDC.

* 0.0% indicates SaaS revenue of less than 0.5% of software revenue
** Sourced from Ericsson's 2011 Annual Report rather than IDC
** Acquired after 2011

Rank	Company	Country HQ	2011 software revenue (US$M)	SaaS revenue (US$M)	2011 total revenue (US$M)	Software revenue as % of total	SaaS revenue as % of software revenue*
51	Wincor Nixdorf	Germany	$682.89	–	$3,237.97	21%	0.0%
52	Ansys	US	$671.36	$1	$691.45	97%	0.1%
53	Informatica	US	$667.73	$7	$784.00	85%	1.0%
54	Siemens Enterprise Communications	Germany	$639.64	–	$2,920.85	22%	0.0%
55	TOTVS	Brazil	$631.95	$14	$741.00	85%	2.2%
56	Intergraph**	US	$622.80	–	$1,037.80	60%	0.0%
57	Kaspersky Lab	Russia	$613.04	–	$615.43	100%	0.0%
58	Google	US	$575.62	$462	$37,905.00	2%	80.3%
59	Fidelity National	US	$574.66	–	$5,751.30	10%	0.0%
60	SWIFT	Belgium	$568.49	–	$738.56	77%	0.0%
61	Hitachi Data Systems	US	$564.40	–	$687.11	82%	0.0%
62	Fiserv	US	$542.06	$60	$4,337.00	12%	11.1%
63	Kronos	US	$538.00	$5	$823.00	65%	0.9%
64	ADP	US	$523.94	$205	$10,349.90	5%	39.1%
65	FICO (formerly Fair Isaac)	US	$517.37	–	$634.10	82%	0.0%
66	Bentley Systems	US	$514.08	$64	$523.00	98%	12.5%
67	Micros Systems	US	$503.99	$6	$1,052.89	48%	1.2%
68	Verint Systems	US	$496.40	$54	$782.65	63%	10.9%
69	Meditech	US	$487.55	–	$545.22	89%	0.0%
70	Progress Software	US	$482.70	$40	$482.70	100%	8.3%
71	Acision	UK	$474.11	$10	$711.17	67%	2.1%
72	Misys	UK	$473.51	$98	$575.41	82%	20.7%
73	Constellation Software	Canada	$468.92	–	$571.65	82%	0.0%
74	Genesys Telecommunications Laboratories	US	$456.77	$10	$565.56	81%	2.2%
75	NICE Systems	Israel	$452.48	–	$793.83	57%	0.0%
76	Pitney Bowes Software	US	$448.74	$39	$5,277.97	9%	8.7%
77	Unit4	Netherlands	$418.20	$25	$632.43	66%	6.0%
78	Agfa HealthCare	Belgium	$415.00	$7	$1,637.06	25%	1.7%
79	Micro Focus	UK	$412.03	–	$434.80	95%	0.0%
80	Blackboard	US	$411.68	$396	$513.69	80%	96.2%
81	GXS	US	$411.21	$350	$479.89	86%	85.1%
82	MicroStrategy	US	$401.34	$35	$562.00	71%	8.7%
83	JDA Software Group	US	$396.70	$10	$671.75	59%	2.5%
84	Invensys	UK	$387.50	–	$4,070.67	10%	0.0%
85	Aspect Software	US	$384.75	$7	$525.36	73%	1.8%
86	Northgate Information Solutions	UK	$375.90	$20	$1,118.72	34%	5.3%
87	Visma	Norway	$374.51	$10	$916.52	41%	2.7%
88	Amdocs	Israel	$371.88	$20	$3,177.73	12%	5.4%
89	Cegedim	France	$371.39	$190	$1,267.79	29%	51.2%
90	Ariba**	US	$366.44	$259	$479.08	76%	70.7%
91	Fidessa	UK	$366.13	$50	$446.19	82%	13.7%
92	Sophos	UK	$366.01	$61	$390.00	94%	16.7%
93	Neusoft	China	$365.16	$18	$912.90	40%	5.0%
94	Unisys	US	$360.20	$167	$3,854.00	9%	46.4%
95	Concur Technologies	US	$358.51	$274	$369.64	97%	76.4%
96	CommVault	US	$351.53	$125	$384.00	92%	35.6%
97	CompuGROUP Holding	Germany	$340.98	$40	$551.57	62%	11.8%
98	Epicor	US	$340.48	$27	$477.54	71%	7.9%
99	InterSystems	US	$339.22	–	$385.00	88%	0.0%
100	ACI Worldwide	US	$338.18	–	$465.00	73%	0.0%
	Total		**$242,991.25**	**$11,927**	**$1,163,326**	**21%**	**4.9%**

Data compiled by the Global Software Business Strategies Group at IDC.

* 0.0% indicates SaaS revenue of less than 0.5% of software revenue
** Acquired after 2011

Emphasis on the 'consumer' in consumerisation of IT

Although it isn't new, the deep implications of consumerisation of IT are only now starting to hit home for software vendors. While enterprises have been adjusting to a flood of smartphones and tablets, as well as the increasing use of consumer-grade cloud services like Dropbox, the rules of the enterprise software sales game are changing. In an age of easy-to-use cloud services and low-cost apps, software vendors have realised the CIO is no longer the only customer to satisfy; they must engage the actual user if they want to keep enterprise sales.

"Customer loyalty is going to become more and more important," says Jim Whitehurst, president and CEO of Red Hat, No. 40 on the Global 100. "Our biggest risk is people saying, 'we're going to stop paying you.' "

Cloud, SaaS and other subscription models make it easier for customers to switch vendors, notes Jim Ensell, chief marketing and strategy officer at CollabNet, developer of cloud-based development tools and platforms. "A subscription business model places significant focus on renewals. That means there is a big, big onus on us to really focus on service levels to make sure we have happy users," Ensell says.

More than ever, customer loyalty can mean the difference between profit and loss. "We lose money in the first couple of years after signing up a new customer, so retention is crucial," says Jim McGeever, COO of NetSuite, a SaaS vendor, and No. 91 on the North America 100. "That fundamentally changes the relationship. We have a vested interest in maintaining a high level of usage and giving them high value from the product."

All of this makes software sales more like a mobile phone service plan than a traditional enterprise software sale, but in many cases without the two-year contract. "The market is changing from B2B to end-user-centric and this requires us to understand the consumers better and align all our activities like product development and marketing towards them. This will be a bigger shift for us," says Mouli Raman, managing director of India-based OnMobile Global, No. 21 on the Emerging Markets 100. That not only makes churn rate an important factor, it also makes marketing much more important, a fact spending priorities are starting to reflect. "Like many marketers, we have invested heavily in technology over the last two years," says Jonathan Becher, chief marketing officer at SAP, No. 4 on the Global 100. "Our investments around insights from Big Data, streamlining marketing, and customer experience mean that we've nearly tripled our technology investment in that time frame."

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> Jonathan Becher
> *SAP*

> *"Our Creative Cloud offering will become a platform for our partners to offer services to our customers."*
>
> Mark Garrett
> *Adobe*

> *"We take social media very seriously. We do not view social media just as a channel to broadcast information."*
>
> Jim Davis
> *SAS*

Will we start to see more television commercials for Adobe or NetSuite during major sporting events? Perhaps. Software companies are already directly engaging customers in many ways. They are using social media to interact with consumers and analytics to understand how people use their products, to quickly improve features and functions. NetSuite has built a following of more than 220,000 on Twitter in just 18 months, according to McGeever. "I don't think any successful business, especially a technology business, can exist without embracing social media," he says.

Adds Jim Davis, senior vice president and chief marketing officer of SAS, No. 13 on the Global 100, "We take social media very seriously. We do not view social media just as a channel to broadcast information. Rather, we believe that it is important to participate in discussions and become a good listener. Understanding sentiment is critical. We use complementary marketing approaches to address those sentiments."

In fact, creating an ecosystem around software, a community that involves users, other service providers and new sales channels, is a crucial component of this engagement. In 2012, Adobe, No. 10 on the Global 100, started a US$50 a month subscription service, called Creative Cloud. In this way, the company is shifting to a subscription model with cloud-based services and forging a closer bond with customers. The idea is to build a community of creative professionals that over time also attracts other service providers. CFO Mark Garrett expects Adobe's subscription revenue will grow faster than its perpetual license revenue. That growth will largely depend on the success of building this community. "Our Creative Cloud offering will become a platform for our partners to offer services to our customers."

More vendors are also adopting the online content and apps store model to sell directly to consumers. Due to the overwhelming success of apps stores and online content, users now expect apps for US$9.99, US$2.99 or even free. This is another major implication of the consumerisation of IT, and it is shaking the very foundation of the enterprise software industry. "There is an expectation amongst customers that cost should fall significantly," says Red Hat's Whitehurst. "The enterprise is getting compared to Google in terms of what technology should cost."

In short, customer perception of the value of software has changed dramatically. Vendors must develop strategies to counter the expectation that software should be free. It may be an uphill battle.

The young and the restless move to the cloud

- By 2016, nearly one of every US$6 spent on packaged software, including operating systems and applications, and nearly one of every US$5 spent on applications will be consumed via the cloud.
- By the end of 2012, an estimated 82 percent of new software companies were in the business of creating, selling and provisioning SaaS rather than offering a packaged product.
- By 2016, about 25 percent of new business software purchases will be service-enabled (SaaS) software and this type of delivery will constitute about 14.9 percent of all software spending and 18 percent of all applications spending.
- SaaS is expected to contribute more than 40 percent of the incremental growth in the software market between 2012 and 2016.

Source: "Worldwide SaaS and Cloud Software 2012-16 Forecast and 2011 Vendor Shares."

"Sometimes we have these strange conversations, comparing the capabilities of handheld device apps versus the capabilities of enterprise apps," says NetSuite's' McGeever. "For us, the value comparison is between on-premise versus SaaS."

In Japan, companies use free apps as advertisements to attract customers, says Tatsuo Otsuka, president of the Japanese software distributor K.K. Ashisuto. "The goal is to achieve a large number of downloads so the software company becomes attractive as an acquisition by larger companies."

What happens to the price of the software after the acquisition? It's great to have a huge number of customers, but they aren't worth much if they aren't buying anything.

Many enterprise software vendors are trying a variation of the loss-leader approach. For example, offer free mobile apps that give users a taste of the functionality, but require an enterprise license to get the whole package.

BMC Software, No. 19 on the Global 100, agrees this approach is one way to make powerful and useful applications, which still need to be maintained by IT, directly available to end users. "We see a lot of potential in delivering services across mobile devices," says Ken Berryman, senior vice president of strategy and corporate development at BMC. "But those services require a connection to a back-end database or system."

An example is depositing a check by taking a photo of it with a mobile phone. The back-end processing was already in place, then some IT person had a bright idea: "Everybody has mobile phones with the same resolution as or higher than the typical ATM that they use for deposits, so why don't we just extend that?" Berryman says.

Creative thinking and a willingness to experiment are clearly the way forward for software vendors wrestling with the various implications and changing user expectations caused by the consumerisation of IT. In his recent book, *Consumption Economics: The New Rules of Tech,* J.B. Wood, president and CEO of the Technology Services Industry Association (TSIA), sums up how the industry will react to the new realities:

"The net result of the cloud is that software companies' financial results now align much more closely with that of their customers: 'No use, no pay'. And we are not far from 'no value, no pay'. This will be game changing because few on-premise software companies even know how successful their average customer is at deriving real business value from their technology, and far fewer actually have the ability to engage post 'go-live' to ensure those results. We are still trying to figure out what that next generation 'outcome driven' operating model looks like."

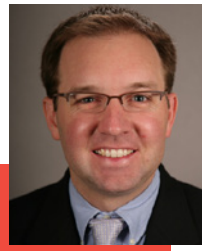
"The goal is to achieve a large number of downloads so the software company becomes attractive as an acquisition by larger companies."

Tatsuo Otsuka
K.K. Ashisuto

"We see a lot of potential in delivering services across mobile devices, but those services require a connection to a back-end database or system."

Ken Berryman
BMC Software

North America 100



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US-based companies continue to lead in terms of revenue on both the global and North American lists of software vendors. In fact, the list of top 10 North American companies closely mirrors the global top 10, with the exception of SAP and Ericsson, which are numbers 4 and 5 on the Global list.

The US position in the global software industry is unlikely to change for quite some time. However, we can already see how the trends outlined in this report may shake up the list and leaders. Salesforce.com, which practically invented the SaaS model and which went public less than 10 years ago, was the 13th largest software provider in North America in 2011. We will continue to see the rise of new players in the North American software sector and those organisations will demonstrate business models and value propositions that are significantly different from those of more traditional software companies.

These powerful newcomers, as well as companies from emerging markets, will increasingly challenge the dominance of the large North American vendors. Unencumbered by legacy infrastructures and business models, these new entrants will be able to embrace new technologies (some of which, ironically, were developed by large established players) and be far more agile in responding to market trends and evolving customer demands and expectations. While established vendors have scale-enabled advantages, deep pockets and a long-standing base of customers, many are struggling to adapt to the new trends and technologies as they serve their existing base, from which they still derive the lion's share of their revenue.

To prevail in the face of these challenges, the traditional North American vendors have two primary avenues for growth:

1. Successfully shift their business models to incorporate SaaS, social enterprise, IT consumerisation and data analytics (and the structural changes these entail). They must be innovative in revamping their organisations and processes, including sales, marketing, distribution, pricing, service and support.
2. Continue to expand globally. There, too, companies that can innovate, in particular by tailoring their software offerings to specific vertical markets and/or geographic regions, will excel.

In fact, PwC is working with many large North American vendors to help them transform their business models to accommodate the new realities of the SaaS environment. We have provided a software pricing framework as well as key tactical templates for crucial processes such as the entire 'quote to cash' cycle. We have already helped many companies change everything from how they initially engage with customers through after-sale service and support.

Indeed, the entire industry is engaging in a dramatic cycle of innovation, not just in products but in business models and business processes. These forms of innovation, in the long run, will keep the entire industry healthy.

Please contact me or the other practice leaders in this report if you have questions or would like to discuss how we can help your organisation realise the opportunities made available by this period of significant change.

North America 100

Rank	Company	Country HQ	2011 software revenue (CAP US$M)	2011 total revenue (CAP US$M)	Software revenue as % of total
1	Microsoft	US	$57,668.40	$72,052.00	80%
2	IBM	US	$28,187.75	$106,916.00	26%
3	Oracle	US	$26,175.89	$47,659.33	55%
4	Symantec	US	$6,330.31	$6,722.00	94%
5	HP	US	$5,316.26	$125,734.33	4%
6	EMC (excluding Vmware)	US	$4,884.92	$20,007.50	24%
7	CA Technologies	US	$4,375.31	$4,754.00	92%
8	Adobe	US	$4,154.07	$4,223.70	98%
9	VMware	US	$3,485.83	$3,767.00	93%
10	SAS	US	$2,524.87	$2,725.00	93%
11	Intuit	US	$2,456.47	$4,007.00	61%
12	Autodesk	US	$2,120.03	$2,194.03	97%
13	Salesforce.com	US	$2,008.69	$2,208.25	91%
14	BMC Software	US	$1,961.70	$2,169.50	90%
15	Infor	US	$1,889.60	$2,131.36	89%
16	Cisco	US	$1,796.85	$44,471.00	4%
17	Intel	US	$1,704.52	$53,999.00	3%
18	Citrix	US	$1,644.71	$2,206.50	75%
19	SunGard	US	$1,471.45	$4,499.00	33%
20	Synopsys	US	$1,459.72	$1,576.14	93%
21	McKesson	US	$1,357.87	$3,326.00	41%
22	Apple	US	$1,355.39	$127,841.00	1%
23	NetApp	US	$1,289.92	$5,925.00	22%
24	ESRI	US	$1,138.72	$1,439.00	79%
25	Cadence Design Systems	US	$1,002.15	$1,149.84	87%
26	Teradata	US	$982.59	$2,362.00	42%
27	PTC	US	$943.99	$1,220.10	77%
28	Red Hat	US	$934.80	$1,100.00	85%
29	OpenText	Canada	$923.60	$1,157.90	80%
30	Mentor Graphics	US	$905.84	$1,010.29	90%
31	Attachmate	US	$904.71	$970.64	93%
32	Avaya	US	$884.37	$5,547.00	16%
33	Nuance Communications	US	$849.65	$1,375.56	62%
34	Quest Software*	US	$800.71	$857.00	93%
35	Compuware	US	$780.90	$993.00	79%
36	TIBCO	US	$717.68	$932.00	77%
37	Cerner	US	$701.34	$2,203.15	32%
38	Ansys	US	$671.36	$691.45	97%
39	Informatica	US	$667.73	$784.00	85%
40	Intergraph*	US	$622.80	$1,037.80	60%
41	Google	US	$575.62	$37,905.00	2%
42	Fidelity National	US	$574.66	$5,751.30	10%
43	Hitachi Data Systems	US	$564.40	$687.11	82%
44	Fiserv	US	$542.06	$4,337.00	12%
45	Kronos	US	$538.00	$823.00	65%
46	ADP	US	$523.94	$10,349.90	5%
47	FICO (formerly Fair Isaac)	US	$517.37	$634.10	82%
48	Bentley Systems	US	$514.08	$523.00	98%
49	Micros Systems	US	$503.99	$1,052.89	48%
50	Verint Systems	US	$496.40	$782.65	63%

Data compiled by the Global Software Business Strategies Group at IDC.

* Acquired after 2011

Rank	Company	Country HQ	2011 software revenue (CAP US$M)	2011 total revenue (CAP US$M)	Software revenue as % of total
51	Meditech	US	$487.55	$545.22	89%
52	Progress Software	US	$482.70	$482.70	100%
53	Constellation Software	Canada	$468.92	$571.65	82%
54	Genesys Telecommunications Laboratories	US	$456.77	$565.56	81%
55	Pitney Bowes Software	US	$448.74	$5,277.97	9%
56	Blackboard	US	$411.68	$513.69	80%
57	GXS	US	$411.21	$479.89	86%
58	MicroStrategy	US	$401.34	$562.00	71%
59	JDA Software Group	US	$396.70	$671.75	59%
60	Aspect Software	US	$384.75	$525.36	73%
61	Ariba*	US	$366.44	$479.08	76%
62	Unisys	US	$360.20	$3,854.00	9%
63	Concur Technologies	US	$358.51	$369.64	97%
64	CommVault	US	$351.53	$384.00	92%
65	Epicor	US	$340.48	$477.54	71%
66	InterSystems	US	$339.22	$385.00	88%
67	ACI Worldwide	US	$338.18	$465.00	73%
68	SafeNet	US	$321.16	$559.19	57%
69	Workday	US	$320.00	$320.00	100%
70	Research In Motion	Canada	$317.70	$19,346.00	2%
71	Convergys	US	$307.20	$2,262.10	14%
72	Advent Software	US	$298.02	$326.26	91%
73	ASG Software	US	$263.85	$273.24	97%
74	Information Builders	US	$262.94	$313.40	84%
75	Deltek	US	$261.95	$340.59	77%

Rank	Company	Country HQ	2011 software revenue (CAP US$M)	2011 total revenue (CAP US$M)	Software revenue as % of total
76	Blackbaud	US	$261.00	$371.25	70%
77	Pegasystems	US	$255.92	$416.68	61%
78	Websense	US	$254.79	$364.20	70%
79	Taleo*	US	$249.19	$308.90	81%
80	SuccessFactors*	US	$247.61	$328.95	75%
81	Axway	US	$226.40	$301.82	75%
82	Jack Henry & Associates	US	$220.24	$993.64	22%
83	Ultimate Software	US	$216.00	$269.20	80%
84	Brooks Automation	US	$215.37	$630.00	34%
85	SS&C Technologies	US	$213.32	$372.89	57%
86	Amazon.com	US	$213.20	$48,077.00	0%
87	Kenexa*	US	$204.23	$282.93	72%
88	IntraLinks	US	$202.26	$213.50	95%
89	Serena	US	$200.62	$220.00	91%
90	Thomson Reuters	US	$197.16	$13,810.00	1%
91	NetSuite	US	$192.06	$236.33	81%
92	SolarWinds	US	$187.55	$198.36	95%
93	RightNow Technologies*	US	$185.93	$225.61	82%
94	Hyland Software	US	$185.60	$214.98	86%
95	Dell	US	$179.56	$62,288.00	0%
96	Vision Solutions	US	$176.98	$186.47	95%
97	Interactive Intelligence	US	$176.67	$209.53	84%
98	LANDesk Software	US	$176.37	$226.70	78%
99	Aspen Technology	US	$174.83	$223.03	78%
100	Versata	US	$171.88	$339.51	51%
		Total	**$199,746.49**	**$910,451.61**	**22%**

Data compiled by the Global Software Business Strategies Group at IDC.

* Acquired after 2011

As SaaS accelerates, so do dilemmas

The shift in enterprise software sales from license to services is amongst the most significant upheavals the industry has seen. Regardless of how quickly, or slowly, companies make the transition to SaaS, the evolution is extremely stressful, creating a number of dilemmas for the vendor. It can't be overstated how moving to services is highly disruptive to the fundamental business models of mature software companies. A migration to SaaS is likely to affect profitability, internal organisation, management, budgets and customer relationships.

Because enterprise customers increasingly pursue hybrid IT models, most large software vendors are likely to offer licensing and some kind of subscription model for some time to come. "If the customer wants a traditional license and wants to run it themselves on premise, then absolutely we're happy to do it that way," BMC's Berryman says. "And if customers want it as a service, we can offer it that way as well."

Enterprise customers appear to want both. Most large enterprises, still concerned about security and compliance issues, are reluctant to move to the public cloud. They prefer to host applications themselves. It may be software as a service, but it will be served from their data centre, not the vendor's. At the same time, enterprises are slowly changing how they buy software. In a **2012 IDC study**, almost 50 percent of the 800 North American organisations surveyed said they now look to the cloud first when they need new or replacement software.

"I would say 90 percent of the customers are looking to move to SaaS, but at least 75 percent of the dollars will remain in self-hosting for the next few years," Red Hat's Whitehurst says. In 2011, Red Hat derived 2.7 percent (US$25 million) of its software revenue from SaaS.

From the vendor's perspective, maintaining both traditional licensing and SaaS is likely to be a burden. By straddling different business models simultaneously, companies incur the costs and complexities of both. For example, maintaining both requires some agility in pricing and sales compensation.

In addition, vendors are in the awkward position of trying to justify to customers why some software is free and some is available as a service, while still other software requires an expensive license. "The market is changing and customers are asking why software is not a service the way hardware is a service," says Munehiro Hashimoto, division president, Hitachi, Ltd., Information & Telecommunications Systems Company, IT Platform Business Management Division, of Hitachi, No. 20 on the Global 100. "Customers don't want to buy licenses. They just want the services, purchased on a utility basis."

It's not only the long-established software companies that are making a transition. Companies that started as SaaS vendors are evolving too. Most of them have sold primarily to small and mid-sized businesses (SMBs), or departments

> ***"Customers don't want to buy licenses. They just want the services, purchased on a utility basis."***
>
> Munehiro Hashimoto
> *Hitachi, Ltd., Information & Telecommunications Systems Company*

within larger companies, rather than directly to the enterprise. As their business grows, they are starting to target large enterprises and searching for strategies by which to best serve these customers. Do they establish direct sales for enterprise accounts? Will the time come when the IT departments of most large companies are receptive to hosted solutions?

CollabNet started in the cloud, but found over time that many large enterprises preferred an on-premise deployment model due to perceived security and compliance risks, Ensell says. “We only had a subscription model, but we have had to make a lot of changes to our product delivery approach since then. Now we have the same subscription model pricing for both on-premise and cloud hosting.”

For many years, CollabNet focused its sales efforts exclusively on enterprise customers. Sales were made by an experienced field sales force where deals were relatively large, were minimally one-year subscriptions and could take months to close. The acquisition of another cloud development company with a high velocity on-line trial and inside sales model that targeted SMB’s and small workgroups brought radical change and huge upside potential to the organisation, Ensell says. Specifically, the company had to handle no-touch to low-touch customer purchases, some free offerings to encourage adoption, shorter sales cycles, monthly versus annual subscriptions and navigating channel conflicts between this new channel and the more established enterprise sales organisation. “We are putting a lot of focus on how we grow these web-based, high velocity sales into more and more large scale enterprise opportunities. Providing an offering that seeds the workgroup in a high velocity way and scales to the enterprise over time represents tremendous growth potential for us.”

SaaS-based business models have yet to demonstrate the level of profitability of the traditional perpetual license model.

The mix of models, particularly the shift to SaaS, also impacts profit margins. One senior executive noted that the industry’s profitability is likely to decrease because SaaS has lower margins and because any services offered on top are likely to have lower margins than traditional licensed software.

In fact, recent studies of the profitability of mature license models and emerging SaaS models by PwC find best-in-class

SaaS models only generate one-fourth the profitability of best-in-class license models.

K.K. Ashisuto's Otsuka believes this profitability dilemma could resolve itself because the increased number of customers with SaaS offsets the lower margins. "Low-cost apps mean that the vendors are attracting a lot more customers and users, so it probably comes out roughly even," he says.

Adobe's Garrett notes two key advantages of the subscription model—stable revenue streams and increased revenue from broadening the user base and keeping the user base current. "The most exciting thing is we've got the opportunity to take a US$4.5-billion company and shift the business model in a way that will drive faster growth both on the topline and the bottom line, with much, much more predictable revenue."

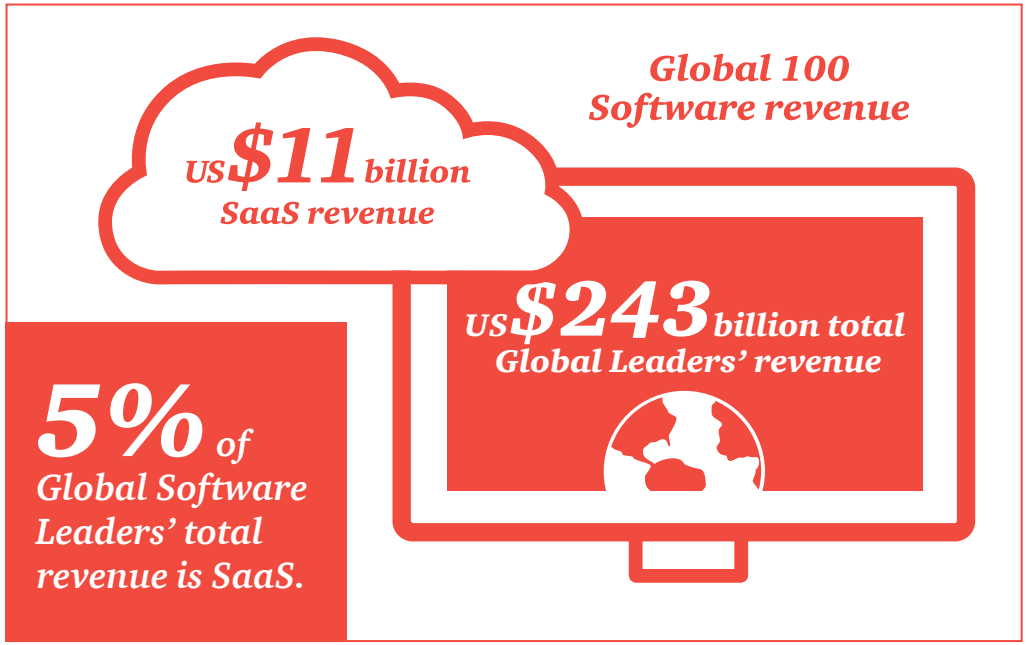
Most large software companies are just beginning to wrestle with these issues; many have not started yet. They still get most software revenue from traditional licensing to enterprise IT.

According to IDC, the 10 largest software companies grew perpetual license revenue an average of 14 percent from 2010 to 2011. However, IDC found that perpetual license revenue has been shrinking as a proportion of total software revenue since 2004.

IDC expects 4 percent compound annual growth in license revenue for 2012-2016. In contrast, IDC projects subscription revenue (including SaaS and other subscription models) to grow at a 17.5-percent rate during the same period, reaching 24 percent of total software revenue by 2016.

It remains to be seen if the industry meets that projection. In 2011, SaaS revenue only accounted for an estimated 4.9 percent (more than US$11.9 billion) of the total US$243.0 billion in revenues of the Global 100 (Pages 10-11). The top four—Microsoft, IBM, Oracle and SAP—each derived less than 2 percent of 2011 software revenue from SaaS. Amongst the top 10, only two—Symantec (No. 6) and Adobe (No. 10)—approached 10 percent. In all, 33 companies on the Global 100 each derived less than 1 percent of their 2011 software revenue from SaaS; 65 derived less than 5 percent.

Godfrey Sullivan, chairman and CEO of Splunk, a US-based company that provides cloud-based and on-premise software to help companies analyse their Big Data,



> *"We are working with our customers on SaaS and mobile-based products to better serve their evolving workflows."*
>
> *Les Elby*
> *Vice President of*
> *Business Strategy, AVEVA*
> *No. 47, EMEA 100*

> *"SaaS is benefitting us. It is a great option for our clients who prefer Opex to Capex. It helps us offer better demos and reduces our sales cycles."*
>
> Diwakar Nigam
> *Managing Director of*
> *Newgen Software*
> *No. 62, Emerging Markets 100*

"We've taken our cloud offering global. In addition to signing new customers, we are also seeing a healthy trend of our on-premise customers moving to cloud."

Virender Aggarwal
CEO, Ramco Systems
No. 64, Emerging Markets 100

"As mobility is growing really fast, cloud becomes the back office of mobility. It is key for competitiveness."

Patrick Bertrand
CEO, Cegid, No. 39, EMEA 100

doesn't expect SaaS revenue to reach huge proportions anytime soon, except perhaps in one or two segments—CRM and HR for example. "To think that the industry will somehow transform itself to a 50 percent mix of SaaS in the next three years is probably reaching. But, maybe 20 percent could happen."

A closer look at the Global 100 does suggest the shift that is occurring. Several companies in the top 25 derive substantial revenue from SaaS. Salesforce (No. 18), which essentially invented the model, had the most with an estimated US$1.8 billion, or 92 percent of its software revenue. Several others now also earn a large percentage of their software revenue via SaaS, including Intuit (No. 14), with an estimated US$950 million, nearly 39 percent, and Cisco (No. 23), with an estimated US$830 million, more than 46 percent.

SaaS revenue accounted for at least 40 percent of software revenue for 10 companies on the Global 100 (Figure 2: Top 10 SaaS vendors as % of revenue amongst Global 100).

Even some vendors whose SaaS revenue is a tiny portion of their total revenue reap large amounts in real terms from the model. (See Figure 1: Top 10 SaaS revenues amongst the Global 100, in Introduction on page 9)

Figure 2: Top 10 SaaS vendors as % of revenue amongst Global 100

Company	Country HQ	SaaS revenue as % of software revenue	2011 SaaS revenue (US$M)	2011 software revenue (US$M)
Blackboard	US	96.2%	$396.00	$411.68
Salesforce.com	US	92.0%	$1,848.00	$2,008.69
GXS	US	85.1%	$350.00	$411.21
Google	US	80.3%	$462.00	$575.62
Concur Technologies	US	76.4%	$274.00	$358.51
Ariba	US	70.7%	$259.00	$366.44
Cegedim	France	51.2%	$190.00	$371.39
Unisys	US	46.4%	$167.00	$360.20
Cisco	US	46.3%	$831.00	$1,796.85
DATEV	Germany	40.5%	$395.00	$974.17
Total		**68%**	**$5,172.00**	**$7,634.76**

The impact of the shifting revenue mix cannot be overstated. "Most publicly-held software company CEOs face a very real conflict," says TSIA's Wood. "Customers are demanding a new model, while the financial community can't let go of the old one."

The transition involves two big changes Wall Street does not like, he explains. First, revenue will no longer be booked in the big pay-up-front license deals we have come to know, rather in smaller monthly subscriptions fees. The second change is the cost of supporting the new capabilities that are required to consistently drive the high consuming customer. "Add those two together and you have a transition period that is not attractive," Wood says. "But what is not appropriately valued is how the 'old model' company looks on the other side of the transition. They will be higher growth and more in line with customer demand."

It remains to be seen if companies will suffer lower stock valuations as they proceed through this transition, but Wood says they should not, pointing out that the top SaaS-based companies have higher multiples because of the model than software companies with the traditional model. "Why should the stock price tank while management does the right long-term thing for both the customer and, ultimately, the shareholder?" he adds.

EMEA 100

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More than many other sectors, the software industry is constantly under pressure to change, innovate, grow, develop emerging technologies and transform their business models. At the same time, software is becoming ever more pervasive, involved in every aspect of not only businesses and enterprises, but also everyday life. Hence the competition for traditional EMEA software vendors increasingly comes from other sectors, including industrial products, telecommunications, engineering and aerospace/defence that are all acquiring software vendors and providing more and more software functionality at each level of their product offering.

Even if European software vendors do not operate in a vibrant economic area, Europe represents a growing, fast moving and innovative market totaling approximately 30 percent of the worldwide software spending. Unsurprisingly, sector concentration is the dominant characteristic of the EMEA ranking, with SAP alone representing 30 percent of the EMEA 100's overall revenues, and the top 10 accounting for 67 percent of that total.

Geographically, three local markets in Western Europe—Germany, France and the UK—continue to host most of the software vendors in EMEA, representing 64 percent of the revenue and 51 of the top 100 companies in the region. Other areas heavily represented include Scandinavia, Benelux and Eastern Europe.

Yet only a handful of players have reached critical mass, and just a few—SAP, Ericsson, Siemens and Dassault Systèmes, for example—are recognised as global brands. But 27 are listed in the global ranking, which is not insignificant. And many European software vendors, while still small in size, have become de facto global companies with the bulk of their revenue generated outside their home country.

The software industry in Europe has to overcome at least three challenges not faced by its US counterpart:

First, circumstances differ vastly from country to country, making it more difficult to roll out a solution to the entire market. Software that is relevant to one market may not be compliant with the laws or practices of another European country. As well as needing to adapt the product to the country, small vendors hoping to expand abroad find it much harder to establish an efficient and manageable distribution network;

Second, access to stable long-term capital is more complex in Europe, and this is one of the biggest stumbling blocks to broader emergence of major players in the region;

Finally, companies in the sector would benefit from legislation that would promote small businesses as well as reducing complexities and promoting regulatory harmonisation in Europe.

The emergence of new players with critical mass, therefore, remains a priority, leveraging the key strengths of the region that should act as catalysts for the software industry: a talented pool of educated engineers, deep pockets of diversity that promote creativity, favourable R&D tax credits in certain countries, the quality of infrastructures and a vibrant community of innovative start ups. As you look to see how your company can take advantage of these market strengths, please contact me or the other practice leaders in this report if you have questions or would like to discuss how we can help your organisation.

EMEA 100

Rank	Company	Country HQ	2011 software revenue (US$M)	2011 total revenue (US$M)	Software revenue as % of total
1	SAP	Germany	$15,498.14	$19,794.98	78%
2	Ericsson[↔]	Sweden	$8,034.67	$34,933.33	23%
3	Siemens	Germany	$2,369.74	$102,250.44	2%
4	Dassault Systèmes	France	$2,235.61	$2,479.94	90%
5	Sage	UK	$1,871.63	$2,138.91	88%
6	Hexagon	Sweden	$1,103.50	$3,016.95	37%
7	DATEV	Germany	$974.17	$1,016.44	96%
8	Software AG	Germany	$948.11	$1,527.60	62%
9	Wolters Kluwer	Netherlands	$839.70	$4,665.01	18%
10	Wincor Nixdorf	Germany	$682.89	$3,237.97	21%
11	Siemens Enterprise Communications	Germany	$639.64	$2,920.85	22%
12	Kaspersky Lab	Russia	$613.04	$615.43	100%
13	SWIFT	Belgium	$568.49	$738.56	77%
14	Acision	UK	$474.11	$711.17	67%
15	Misys	UK	$473.51	$575.41	82%
16	NICE Systems	Israel	$452.48	$793.83	57%
17	Unit4	Netherlands	$418.20	$632.43	66%
18	AGFA HealthCare	Belgium	$415.00	$1,637.06	25%
19	Micro Focus	UK	$412.03	$434.80	95%
20	Invensys	UK	$387.50	$4,070.67	10%
21	Northgate Information Solutions	UK	$375.90	$1,118.72	34%
22	Visma	Norway	$374.51	$916.52	41%
23	Amdocs	Israel	$371.88	$3,177.73	12%
24	Cegedim	France	$371.39	$1,267.79	29%
25	Fidessa	UK	$366.13	$446.19	82%

Rank	Company	Country HQ	2011 software revenue (US$M)	2011 total revenue (US$M)	Software revenue as % of total
26	Sophos	UK	$366.01	$390.00	94%
27	CompuGROUP Holding	Germany	$340.98	$551.57	62%
28	Check Point Software Technologies	Israel	$327.37	$1,246.99	26%
29	Temenos	Switzerland	$313.21	$473.47	66%
30	1C	Russia	$297.02	$360.05	82%
31	QlikTech	Sweden	$293.53	$320.62	92%
32	ABB	Switzerland	$293.10	$37,990.00	1%
33	Zucchetti	Italy	$291.44	$356.06	82%
34	Alcatel-Lucent	France	$288.72	$19,884.00	1%
35	Murex	France	$265.38	$442.30	60%
36	Exact	Netherlands	$249.22	$299.87	83%
37	Sopra Group	France	$230.74	$1,460.78	16%
38	Kofax	UK	$224.00	$257.04	87%
39	Cegid Group	France	$220.70	$366.91	60%
40	Nemetschek	Germany	$216.60	$228.10	95%
41	AVG Technologies	Czech Republic	$211.90	$272.40	78%
42	IFS	Sweden	$206.55	$396.60	52%
43	Avaloq	Switzerland	$202.92	$405.84	50%
44	F-Secure	Finland	$197.94	$203.11	97%
45	ESET	Slovakia	$197.56	$207.44	95%
46	Torex*	UK	$197.11	$217.24	91%
47	AVEVA Group	UK	$191.68	$314.13	61%
48	SimCorp	Denmark	$183.36	$270.35	68%
49	Panda Security	Spain	$167.02	$180.39	93%
50	Experian	Ireland	$161.69	$4,487.00	4%

Data compiled by the Global Software Business Strategies Group at IDC.

[↔] Sourced from Ericsson's 2011 Annual Report rather than from IDC
* Acquired after 2011

Rank	Company	Country HQ	2011 software revenue (US$M)	2011 total revenue (US$M)	Software revenue as % of total
51	IRIS Software	UK	$158.26	$196.18	81%
52	Centric	Netherlands	$156.59	$735.91	21%
53	Swisslog	Switzerland	$147.81	$647.99	23%
54	Bull SAS	France	$147.54	$1,809.53	8%
55	GAD	Germany	$147.31	$573.04	26%
56	Avanquest Software	France	$133.85	$140.90	95%
57	Civica	UK	$133.79	$292.92	46%
58	Total Specific Solutions	Netherlands	$130.02	$273.56	48%
59	Anite	UK	$126.82	$196.40	65%
60	Telvent*	France	$121.51	$1,157.21	11%
61	SDL International	UK	$118.00	$367.15	32%
62	Asseco Group	Poland	$116.43	$1,672.13	7%
63	Bit Defender	Romania	$107.16	$115.05	93%
64	Orc Software	Sweden	$106.28	$142.12	75%
65	Aditro	Sweden	$104.82	$294.87	36%
66	Basware	Finland	$102.27	$149.87	68%
67	Advanced Computer Software	UK	$100.38	$157.44	64%
68	GFI Informatique	France	$99.01	$859.70	12%
69	ESI Group	France	$95.69	$131.02	73%
70	Linedata Services	France	$95.49	$190.98	50%
71	Gemalto	Netherlands	$95.01	$2,803.18	3%
72	Vizrt	Norway	$94.85	$125.30	76%
73	ERI Bancaire	Switzerland	$94.40	$110.99	85%
74	Seeburger	Germany	$87.11	$113.24	77%
75	Lumesse	UK	$84.90	$106.12	80%
76	Digia	Finland	$84.77	$169.55	50%
77	Opera Software	Norway	$77.00	$159.95	48%
78	Comarch	Poland	$76.69	$264.86	29%
79	Lectra	France	$76.58	$286.38	27%
80	Comptel	Finland	$74.97	$106.82	70%
81	Reply	Italy	$73.95	$612.40	12%
82	ISAGRI	France	$72.33	$169.69	43%
83	ReadSoft	Sweden	$68.69	$102.08	67%
84	UC4 Software	Austria	$68.22	$76.00	90%
85	Avast Software	Czech Rep.	$68.07	$73.21	93%
86	Kewill Systems	UK	$66.85	$87.22	77%
87	COR&FJA	Germany	$66.18	$188.05	35%
88	ISIS Papyrus	Austria	$64.47	$85.96	75%
89	Personal & Informatik	Germany	$63.78	$98.20	65%
90	Gruppo Engineering	Italy	$61.20	$1,078.90	6%
91	Emailvision	France	$61.16	$90.00	68%
92	Generix Group	France	$58.14	$89.38	65%
93	Delcam	UK	$56.69	$67.18	84%
94	PSI	Germany	$56.37	$235.75	24%
95	HR Access	France	$56.24	$106.49	53%
96	Alterian	UK	$54.42	$55.15	99%
97	Norman ASA	Norway	$53.94	$62.03	87%
98	AFAS ERP Software	Netherlands	$52.67	$78.22	67%
99	Berger-Levrault	France	$51.46	$132.13	39%
100	Sitecore	Denmark	$50.00	$63.71	78%
		Total	**$51,927.87**	**$284,603.08**	**18%**

Data compiled by the Global Software Business Strategies Group at IDC.

* Acquired after 2011

Using data analytics externally and internally

Whatever its challenges, SaaS delivers something valuable that licenses cannot do as easily. The metered usage patterns typical of SaaS enables instant feedback from users, giving vendors an opportunity to gather and analyse reams of data about how their products are used or not used, data they can apply to improving existing products, providing better tech support and developing new products and features.

"Big Data is starting to revolutionise the software industry," says Bertrand Diard, co-founder and CEO of Talend, a French company that develops various Big Data solutions, which it sells on a subscription basis.

Big Data is not just for software companies of course, but increasingly permeates almost every industry. Data analytics potentially makes every company a software company when it embeds the necessary technology into its products to make them part of the Internet of Things. Nike puts sensors in its shoes to collect data to help you improve your performance. GE and Airbus equip their jet engines with sensors and software that allows them to gather and transmit data to increase safety and efficiency. Depending on how they choose to charge for these services, they could find themselves in the subscription software business. We won't be surprised to see a Nike or GE or some other non-traditional 'software' company join the Global 100 list in the future.

In this context, Dassault's Charlès says digitisation does not only mean that a company converts all paper documents to digital files. "Businesses tend to realise that digitising means understanding business processes and behaviours, representing and sharing the enterprise model to foster social innovation."

"All industries are impacted," Diard says. For example, French electricity distributor EDF has upgraded to smart meters. And, "BMW's new car has more than 800 IP addresses," he says.

Then there are companies that already have a ton of data about their customers. "Companies like telecoms and banks will choose to take advantage of their corporate Big Data in a variety of ways," says Splunk's Sullivan. "Some of that will be through custom-build projects that you could say are either complimentary or competitive to what we do, but I don't think we'll see those companies launch a competitive offering. Instead, I suspect we will see more custom builds that would pose an alternative to using our software."

But the biggest immediate impact of analytics may be how software companies use analytics internally, to create and enhance their connection with customers and to improve the efficiency and effectiveness of their own operations.

Infosys, No. 27 on the Emerging Markets 100 (Pages 30-31), used analytics to make sure it was deploying sales efforts most profitably. It analysed lifetime revenues of clients and discovered that sales had drifted from a focus on the largest enterprises to some mid-sized businesses. The analysis also highlighted how many resources these smaller accounts typically consumed. In the mid-sized accounts, "we'd do a project or two and then they went away," says Basab Pradhan, senior vice president and head of global sales and a member of the executive council at Infosys. "They were clearly unsustainable accounts," so the company tweaked its

"Companies like telecoms and banks will choose to take advantage of their corporate Big Data in a variety of ways."

Godfrey Sullivan
Splunk

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Talend

> *"The cloud allows us to participate in the value creation through software."*
>
> Basab Pradhan
> *Infosys*

compensation system to incentivise the opening or expanding of business with Global 2000 accounts, he says.

Becher used data to fine tune SAP's strategy for its SAPPHIRE NOW conferences, which draw 500,000 attendees worldwide each year. Becher, who joined SAP in 2007, wondered to what extent the enormous attendance at such events translated into sales, so he analysed the data. As attendees opt in, SAP collects information on what they do while there. What sessions do they attend? How long do they stay? Rather than gauging the success just by the numbers of attendees, Becher correlated certain conference data with sales data. The goal was to determine whether and how conference attendance accelerated the closing of a sale. The analysis indeed highlighted some patterns.

For example, attendance by certain types of customers at certain sessions accelerated certain types of sales. "So that has changed our definition of success," Becher says.

At least some companies—often those with a service provider background or that provide a platform as a service—are incorporating analytics and other capabilities as part of their SaaS. Infosys sees this as a growth area. "We believe that the cloud breaks down the barrier between a software company and a services company," Pradhan says. "The cloud allows us to participate in the value creation through software."

Infosys has a transaction-processing platform for financial services companies. "On top of that we might offer reconciliation services, which takes care of the exception processing so the customer doesn't have to do that in house," Pradhan says. Or perhaps the customer doesn't have the technical capability, which is often the case in the competitive field of data analytics. One Infosys product for retailers, for example, takes data on purchasing patterns and uses an algorithm to make recommendations to consumers, just like Amazon and Netflix. "We're paid by value that we create for the online store and it's completely in the cloud."

Data analytics could open up whole new business opportunities for non-traditional software industry players, too. The Big Data and analytics interest of banks, telecommunications carriers, clothing companies and others once tangential to the software industry raises a big question about data ownership. Could an athletic footwear company aggregate sensor data from its customers' feet and resell it or even use it to do predictive analytics that it could then resell? These are questions the industry has only begun to ask, let alone answer.

Consolidation

Mergers and acquisitions in the software industry continued in 2012, but there was nothing in the range of Microsoft's US$9-billion purchase of Skype in 2011. Most of the 2012 acquisitions involved the purchase of 'tuck-ins,' in which large players acquire small ones to fill voids in emerging technologies. The acquisition of Nicira by VMware, No. 11 on the Global 100, and Cisco's recent string of acquisitions can be viewed as tuck-ins to get into the software-defined network business.

"To stay ahead, leaders will need to buy innovation," says Jamal Labed, co-founder and CEO of EasyVista, a France-based company that develops and sells cloud-based IT management solutions on the SaaS model.

With large vendors sitting on mountains of cash, it's easier and faster to buy start-ups than to try to develop new technology from scratch. "Corporate balance sheets are full of cash, so companies will need to decide whether to use the money for dividends or to do something with it, like acquisitions," says Vin Murria, CEO of Advanced Computer Software, No. 67 on the EMEA 100 (Pages 24-25). Acquisitions are not only an R&D strategy, but also a good way to build a SaaS ecosystem and to acquire top talent. In fact, as the traditional vendors shift to SaaS, they aren't likely to cannibalise their own customers. Most of their SaaS revenue is likely to come from the customers they get through acquisition.

For their part, small companies are eager to find big buyers in order to grow. "Achieving scale is key to the software industry," says Evan Puzey, chief marketing officer at Kewill Systems, No. 86 on the EMEA 100. "Getting it through organic growth over the last few years, for most companies, has been difficult, particularly in Europe and the US. So, many are looking at M&A to provide additional growth."

Several acquisitions over the last 12 to 18 months illustrate how established software players are buying their way into the cloud and SaaS business. SAP bought SuccessFactors for US$3.3 billion and Ariba for US$4.4 billion, which are cloud plays in human resources and procurement, respectively—two areas where SaaS has gained the widest acceptance. Oracle bought Taleo, another HR SaaS provider, for US$1.8 billion. And Microsoft paid US$1.2 billion for social enterprise platform Yammer.

(Ariba, No. 90 on the Global 100; Taleo, No. 79 on the North America 100; and SuccessFactors, No. 80 on the North America 100, are amongst the companies in our rankings that were acquired after 2011, the year on which the lists are based.)

Acquiring SaaS-based companies might be a viable strategy for established software vendors to enter SaaS, but it does not solve the SaaS business model dilemmas. Once SaaS capabilities are acquired, "then what?" TSIA's Wood asks. "Buy and keep separate? Buy and integrate into the core? Buy and let the acquisition eat the core? These are the options and there is not yet a proven winning model. At some point, it has to reach the core."

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Emerging Markets 100

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Not surprisingly, China and India feature heavily in the Emerging Markets 100, although what is interesting is the contribution from emerging tech centres of innovation such as Israel, Russia, Brazil and parts of Eastern Europe. These represent 'hotbeds' of creativity with growing ecosystems of VC funding and other support that will help drive success in these new markets.

Despite representing a relatively low proportion of the Global 100, emerging territory companies continue to grow quickly. In many cases, they are developing leading-edge technologies that are embracing cloud and digital technologies, allowing them to leapfrog the technology development by larger established players in bigger markets. As broadband and mobile infrastructure improves in many of these emerging markets, this will further enable growth in new delivery models, including SaaS and other subscription-based models. This level of innovation will continue to drive rapid growth as more companies from emerging markets seek to achieve success globally.

Larger established players in the US and Europe will also increasingly seek out 'up-and-coming' software companies in emerging markets as acquisition targets. It allows them to acquire new and innovative technologies and business models, to gain access to key talent and, importantly, to gain greater direct access to fast growing markets. On the flip side, these emerging companies will become increasingly confident of their ability to compete with established players. They will become more adept at partnering with others and addressing global market opportunities, making them less likely to consider a sale.

Of course, challenges continue in many of these markets. Rampant piracy, for example, hinders industry development in certain markets, although interestingly the adoption of SaaS and service-based business models based on cloud technologies should reduce the piracy risk that plagues traditional software licensing models. On a positive note, with both the private and public sectors aware of these challenges, we are seeing continual improvement from both a regulatory and industry standpoint.

In fact, governments in emerging markets continue to focus on building infrastructure and supporting innovation as a way to secure future growth. In addition, they are looking to groom talent directly out of schools and universities. To date, this has had mixed success, as there continues to be a talent 'brain drain' to Silicon Valley and other more established innovation hubs. Still, with such a large and young population to draw from, the tide will gradually turn.

Without a doubt the emerging markets are poised to play an increasingly pivotal role in the global software industry. A focus on innovation, a growing talent pool and governmental support are just a few of this market segment's advantages. As you look to see how your company can participate in this growth, please contact me or the other practice leaders in this report if you have questions or would like to discuss how we can help your organisation.

Emerging Markets 100

Rank	Company	Country HQ	2011 software revenue (US$M)	2011 total revenue (US$M)	Software revenue as % of total
1	TOTVS	Brazil	$631.73	$741.00	85%
2	Kaspersky Lab	Russia	$613.04	$615.43	100%
3	NICE Systems	Israel	$452.48	$793.83	57%
4	Amdocs	Israel	$371.88	$3,177.73	12%
5	Neusoft	China	$365.16	$912.90	40%
6	UFIDA (name change to Yonyou in 2012)	China	$331.10	$651.90	51%
7	Check Point Software Technologies	Israel	$327.37	$1,246.99	26%
8	1C	Russia	$297.02	$360.05	82%
9	AVG Technologies (formerly Grisoft)	Czech Republic	$211.90	$272.40	78%
10	ESET	Slovakia	$197.56	$197.56	100%
11	NARI Development Technology	China	$184.93	$739.70	25%
12	Teamsun	China	$177.60	$807.00	22%
13	Kingdee	China	$174.30	$321.00	54%
14	Geodesic	India	$164.97	$206.47	80%
15	Kingsoft	China	$161.20	$162.00	100%
16	CDC Corp.	China/Hong Kong	$154.78	$329.63	47%
17	Baosight	China	$149.80	$499.30	30%
18	Hundsun	China	$129.50	$166.40	78%
19	Inspur	China	$120.30	$300.76	40%
20	Mastersaf*	Brazil	$118.00	$140.00	84%
21	OnMobile	India	$116.59	$123.11	95%
22	Asseco Group	Poland	$116.43	$1,681.36	7%
23	Glodon	China	$113.70	$118.00	96%
24	Bit Defender	Romania	$107.16	$115.05	93%
25	CS&S	China	$100.50	$373.00	27%

Rank	Company	Country HQ	2011 software revenue (US$M)	2011 total revenue (US$M)	Software revenue as % of total
26	Subex	India	$89.87	$103.29	87%
27	Infosys	India	$81.55	$6,041.00	1%
28	Linx	Brazil	$81.32	$95.67	85%
29	TCS	India	$80.35	$9,798.18	1%
30	Comarch	Poland	$76.69	$264.86	29%
31	Shiji Networks	China	$68.64	$114.40	60%
32	AVAST Software	Czech Republic	$68.07	$73.21	93%
33	AsiaInfo-Linkage	China	$63.90	$463.80	14%
34	Shanghai Boke Information Technology	China	$57.50	$91.30	63%
35	FT India	India	$57.02	$82.05	70%
36	TmaxSoft	Korea	$47.69	$54.52	87%
37	Duzon Bizon	Korea	$45.95	$98.01	47%
38	DSC	Taiwan	$44.61	$148.56	30%
39	Tally Solutions	India	$39.91	$44.47	90%
40	Senior Sistemas	Brazil	$39.63	$45.97	86%
41	Boco Inter-Telecom	China	$38.64	$193.20	20%
42	Dr.Web	Russia	$38.32	$38.61	99%
43	Ahnlab	Korea	$37.59	$93.00	40%
44	Cranes Software	India	$36.80	$56.79	65%
45	Bematech	Brazil	$33.93	$39.36	86%
46	DigiwinSoft	China	$33.20	$75.50	44%
47	QM	China	$32.60	$219.90	15%
48	Systex	Taiwan	$32.42	$319.39	10%
49	NewGrand	China	$31.95	$63.90	50%
50	Newsky Technology	China	$31.65	$39.56	80%

Data compiled by the Global Software Business Strategies Group at IDC.

* Acquired after 2011

Rank	Company	Country HQ	2011 software revenue (US$M)	2011 total revenue (US$M)	Software revenue as % of total
51	ABBYY	Russia	$31.02	$33.75	92%
52	Beijing Hollybridge System Integration	China	$30.40	$48.30	63%
53	Huawei	China	$29.30	$32,396.00	0.1%
54	CVIC SE	China	$28.50	$190.00	15%
55	JIT	China	$25.80	$51.60	50%
56	PowerSI	China	$24.90	$35.60	70%
57	Rising	China	$24.30	$32.40	75%
58	Superdata Software Holdings	China	$24.20	$30.30	80%
59	Silverlake Axis	Malaysia	$23.05	$100.10	23%
60	3i Infotech	India	$21.84	$418.94	5%
61	eAbax	China	$21.60	$36.00	60%
62	Newgen Software Technologies	India	$21.55	$25.78	84%
63	ISU Ubcare	Korea	$21.43	$50.24	43%
64	Ramco Systems	India	$20.81	$49.35	42%
65	Persistent	India	$20.37	$201.67	10%
66	Galactica	Russia	$19.54	$45.03	43%
67	Aranda Software	Colombia	$18.86	$22.55	84%
68	Positive Technologies	Russia	$16.50	$25.10	66%
69	Altibase	Korea	$15.31	$15.31	100%
70	LOGO Business Solutions	Turkey	$15.12	$17.45	87%
71	KLG Systel	India	$14.61	$20.78	70%
72	Polaris Software Lab	India	$13.90	$341.35	4%
73	Neogrid	Brazil	$13.15	$15.31	86%
74	SIVECO	Romania	$13.00	$58.78	22%
75	Aspel	Mexico	$12.58	$14.57	86%

Rank	Company	Country HQ	2011 software revenue (US$M)	2011 total revenue (US$M)	Software revenue as % of total
76	iVirtua Solutions	Brazil	$12.18	$14.80	82%
77	Eshbel	Israel	$11.53	$14.82	78%
78	Hashavshevet	Israel	$11.14	$23.57	47%
79	INCA Internet	Korea	$10.85	$13.42	81%
80	Igloo Security	Korea	$9.80	$32.67	30%
81	SoftCamp	Korea	$9.61	$10.83	89%
82	Softforum	Korea	$9.61	$21.14	45%
83	Initech	Korea	$8.97	$30.37	30%
84	TotalSoft	Romania	$8.77	$27.89	31%
85	Educomp Solutions	India	$8.59	$13.18	65%
86	Benner Solutions	Brazil	$8.56	$9.98	86%
87	Red Flag	China	$8.00	$8.90	90%
88	Computacion en Accion	Argentina	$7.86	$9.32	84%
89	Teledata Technology Solutions	India	$7.83	$12.82	61%
90	Sistemas Bejerman	Argentina	$7.52	$8.88	85%
91	Bitam	Mexico	$7.05	$8.17	86%
92	Applied Computer Services (Hasib)	Saudi Arabia	$7.04	$12.78	55%
93	EXEM	Korea	$6.97	$9.19	76%
94	Penta Security Systems	Korea	$6.84	$14.42	47%
95	Brainzsquare	Korea	$6.67	$7.12	94%
96	Younglimwon Softlab	Korea	$6.62	$14.54	46%
97	Hauri	Korea	$6.58	$9.16	72%
98	Execplan	Brazil	$6.11	$7.10	86%
99	nKia	Korea	$5.75	$9.58	60%
100	Likom	Turkey	$5.30	$6.33	84%
		Total	**$7,906.21**	**$68,338.33**	**12%**

Data compiled by the Global Software Business Strategies Group at IDC.

* Acquired after 2011


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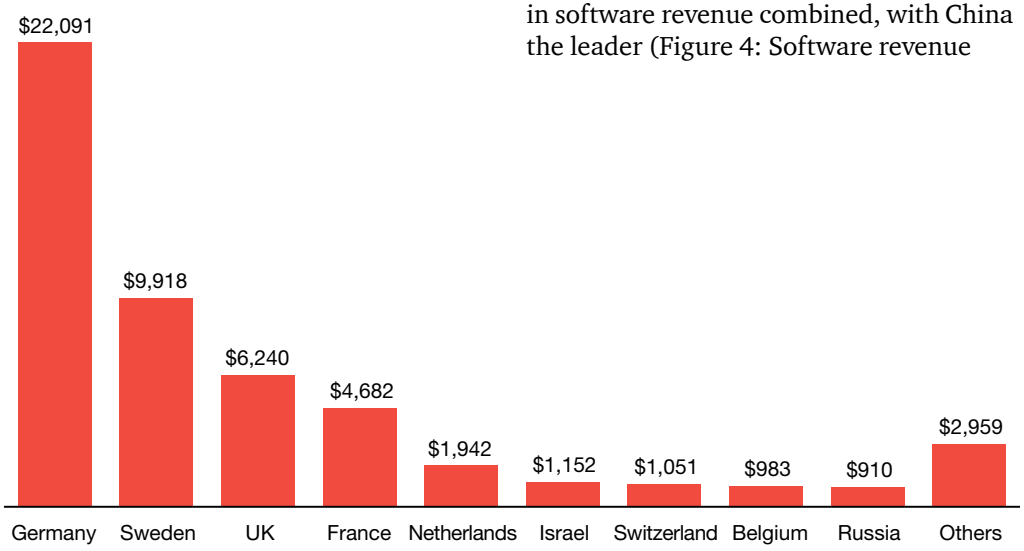
Globalisation

Figure 3: Software revenue for EMEA 100
By country in US$M



Globalisation is certainly nothing new. Nevertheless, competition from emerging markets could be sneaking up on some of the more established software companies. They might look over their shoulder occasionally if they aren't already doing so.

Although North American vendors dominate the Global 100, the EMEA 100 had more than US$50 billion combined, with Germany the leader (Figure 3: Software revenue for EMEA 100). The Emerging Markets 100 had US$7.9 billion in software revenue combined, with China the leader (Figure 4: Software revenue for Emerging Markets 100). That's a considerable portion of software revenue going to companies based outside North America. It is also worth noting that five companies on the Emerging Markets 100 are in the Global 100 (Figure 5: Emerging markets vendors on the Global 100.) What's more, although all the revenue from companies headquartered in North America counts as North American, an increasing share of it comes from international sales.

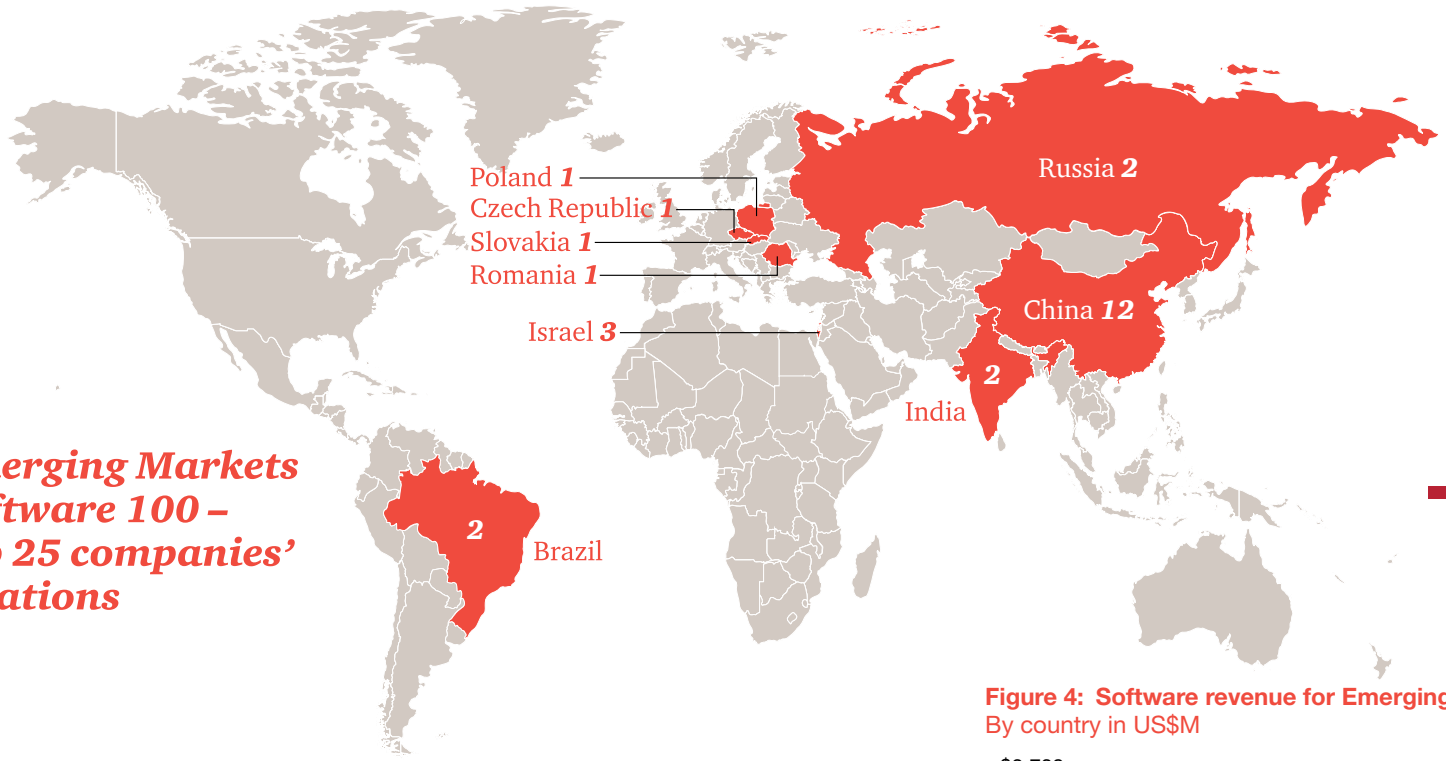
Some established North American and European vendors are clearly paying attention. Becher says the number of competitors SAP monitors has quadrupled in the last four years, and many of them come from emerging regions.

For example, Shanghai Boke Information Technology, No. 34 on the Emerging Markets 100, is a competitor in China. Shen Guokang, president of the company, says that many Chinese state-owned enterprises use Bokesoft products because they are customised for the idiosyncrasies of the Chinese government. Large multinationals like SAP naturally are at a disadvantage at that level.

However, this granularity of customisation could work against a local company that aspires to sell beyond its home market. In contrast, a global player like SAP has the advantage of being well-equipped to help its clients globalise.

When it comes to globalisation, most software companies continue to focus on internal issues, not external competition. One of the most common globalisation challenges cited by vendors is maintaining what might be called 'cultural balance.' That's not just a veiled reference to a North American bias, in which US-based multinationals find it hard to adjust to foreign cultures. Companies everywhere struggle with moving beyond their particular cultural boundaries.

The predominant Indian employee base at Infosys can sometimes cause challenges when moving into new markets, Pradhan concedes. "We're very comfortable in the United States, but as we expand further into continental Europe we're realising that we have to do business differently." Certain countries simply require Infosys to adapt more to their culture, which

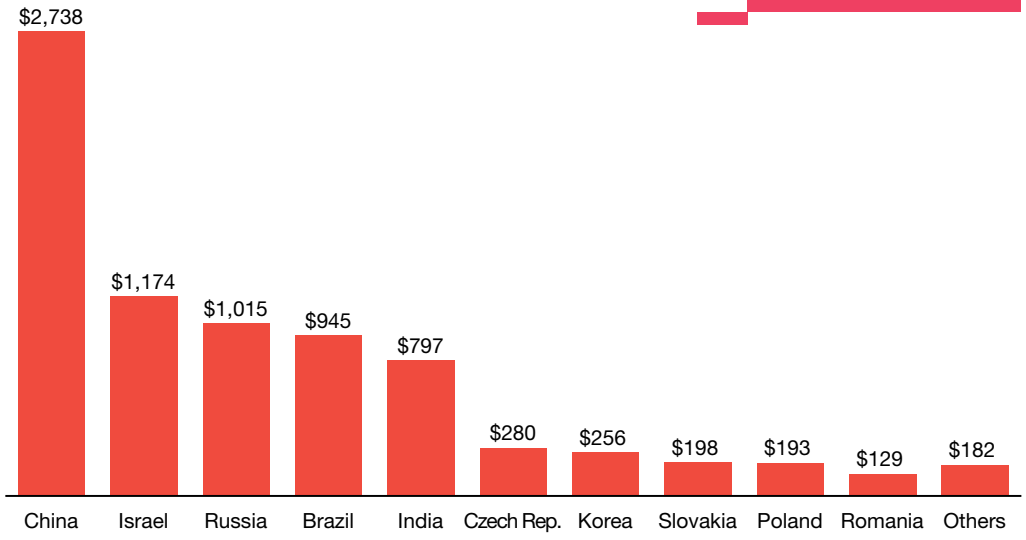


Emerging Markets Software 100 – top 25 companies' locations

> *"We are now addressing the significant challenge of building a team that can actually deliver to customers and support customers in the new markets."*
>
> Andy Tiller
> *AsiaInfo-Linkage*

> *"We have seen significant [regional] differences in how information is shared."*
>
> Tony Zingale
> *Jive Software*

Figure 4: Software revenue for Emerging Markets 100
By country in US$M



means Infosys needs to establish a regional office staffed with consultants that are bi-cultural: for example, comfortable in Germany and effective at working with software developers in India. It's a delicate balance of honoring its heritage and the advantages of being a global company, whilst maintaining respect for and even celebrating regional differences.

This issue is more than a matter of the comfort-level of employees and customers. As AsiaInfo-Linkage Inc., No. 33 on the Emerging Markets 100, expands beyond its home market of China, the trick will be to balance cultural differences and the company's cost structure, says Andy Tiller, vice president of corporate product marketing. "We are now addressing the significant challenge of building a team that can actually deliver to customers and support customers in the new markets," he says. "One of our big strengths is our very low-cost base for delivering projects. If we can deliver a project with 80 percent of our staff in China and 20 percent in Europe, then it's hard to beat us on cost. But if we had to have 80 percent of the staff in Europe and 20 percent in China for a project, then the whole thing is completely reversed."

"Our three top global challenges are increasing the managerial bandwidth at the pace the company has to grow, the right entry strategy for emerging markets and alignment to each market's socio-economic objectives."

Bharat Goenka,
Co-founder and managing director, Tally Solutions
No. 39, Emerging Markets 100

"Globalisation in the software industry is definitely accelerating. Cloud computing, consumerisation and other trends are driving globalisation. Applications will become global."

Mahendra Negi
COO/CFO, Trend Micro
No. 32, Global 100

The local connections Chinese companies naturally have is a vast competitive advantage over companies from the West, but it can make it difficult to move into global markets, Tiller adds. "It's very difficult for Western companies to penetrate the IT market in China. Equally, we have a challenge coming into Western markets. The first challenge is to make AsiaInfo known and trusted. The second thing is to create the ability to deliver cost effectively in far-away markets. Almost all of our key technical staff are Chinese, so we are now building a team that can actually deliver to customers and support customers in the new markets."

Another emerging markets challenge to Western software vendors is the continuing issue of rampant piracy, which impedes the effort to monetise software sales through traditional license models, according to TSIA. SaaS and other merging subscription models might help by giving a better opportunity to monetise efforts in these countries and should promote more rapid progress for the software sector in emerging countries in the future.

The cultural complexities could grow as software includes more social networking features. The whole concept of social networking can differ markedly from one region to another. Europeans, for example, are more sensitive to privacy issues than others.

Figure 5: Emerging Markets 100 vendors also on the Global 100 list

Rank	Company	Country HQ	2011 software revenue in US$M
55	TOTVS	Brazil	$631.73
57	Kaspersky Lab	Russia	$613.04
75	NICE Systems	Israel	$452.48
88	Amdocs	Israel	$371.88
93	Neusoft	China	$365.16

"In working with many large companies in various cultures across the world, we have seen significant differences in how information is shared and connections are made," says Tony Zingale, chairman and CEO of US-based Jive Software, a leader in social business platforms. "But even in these diverse businesses, there is a consistent need in every organisation to share, collaborate and increase productivity and communication amongst knowledge workers—which is most effectively achieved through the use of robust social technologies."

The search for talent, another perennial issue, has become a global competition. Increasingly, US companies that used to hire mainly in Silicon Valley are looking not only beyond California, but also beyond the United States. Two years ago, NetSuite opened its first development office outside Silicon Valley, in the Czech Republic. The driving force was not lower costs, says McGeever, but a need for top talent.

The recent explosion in innovation has increased the hiring problem. In addition to established software companies, a slew of start-ups compete for top software developers, and can often make offers that young stars find hard to refuse. "You get a lot of people who say, 'I'm willing to take the risk and maybe make fifty million dollars at a start up,'" says Red Hat's Whitehurst. "There's no way a mature software company can source everyone they want in Silicon Valley because there's no way you're going to keep them all." Red Hat has development centres on five continents. "We've got to get the talent wherever it is. There is a global war for talent."

Conclusion

As cloud, SaaS, mobility and consumerisation of IT continue to impact the industry, perhaps the biggest danger for software companies is to miss the forest for the trees. The convergence of these factors goes to the root of the industry's operations and its very existence. The convergence is changing its customer base, sales and profitability models, ecosystems and distribution methods.

As the interviews in this article suggest, established software companies built on the traditional licensed on-premise model are just starting to grapple with the various challenges that this transformation will require if they are to thrive in the new environment. Amongst the key elements they must consider are:

- pricing models;
- the impact on profitability and shareholders;
- sustaining the loyalty of customers, which more than ever means the end user within the enterprise;
- sales compensation practices;
- research and development; and
- even such things as the tax implications of the cloud.

Although the SaaS revenue mix is not likely to approach even half of any software segment soon, it is likely that most new revenue will be generated via SaaS or some other subscription model. Vendors that believe they can simply rely on the license model might find they have an annuity-like revenue flow that will last a long time, but will also shrink over time.

The implications are pretty clear. Prudent vendors will want to tackle these issues sooner rather than later.

"The new round of competition in the software industry is about business model innovation," says Dr. Liu Jiren, chairman and CEO of Neusoft Corp., at No. 93 the one Chinese company on the Global 100. "We are trying to build a sustainable business model to provide sustainable value for our customers, making software and service an integral part of social transformation and people's daily lives."

It is a tall order. Ultimately, the software industry is morphing into an entirely new business that is no longer a stand-alone industry. What then should we call it? An ecosystem? A community? Some entirely new term? Whatever it's called, the software industry will look very different from what we see today.

"The new round of competition in the software industry is about business model innovation."

Dr. Liu Jiren
Neusoft

Methodology

The PwC Global 100 Software Leaders lists are based on corporate financial statements (GAAP-based where applicable), other public sources and estimates for privately held companies, as compiled for PwC by the Global Software Business Strategies Group at IDC.

Due to variances in fiscal years, the results were 'calendarised' for 2011, the most recent year for which complete data was available. Some companies on the lists have since been acquired, but they remain on the lists if they were still independent at the end of 2011. These companies are indicated with an asterisk (*) in the tables.

Currencies were converted to US dollars using the average historical inter-bank rate for 2011 as the rate of exchange. The historical rates used can be found at **www.oanda.com.**

Each table reports the company's total revenue and revenue from software. Software revenue includes fees from licenses, maintenance, subscriptions and other software revenues, including software as a service(SaaS). Software revenue excludes custom software or service revenue derived from training, consulting and systems integration. Further, software revenues are based on enterprise software that is deployed on compute servers and with clients. The definition of software is subject to interpretation, and the application and usage of software continues to grow as the number and types of devices that run software expand. Therefore, boundaries have been drawn on what was counted and reported as software revenue. As a result, there are categories of software purposely excluded from the enterprise software estimates, including but not limited to software that is deployed on gaming consoles, software deployed with networking equipment and software deployed on chips embedded in automobiles (as another example of software to which one could potentially attribute value). Total revenue includes software plus hardware, nonrecurring IT service fees, business process services, etc.

Consumer gaming companies—Electronic Arts, Activision Blizzard and Nintendo, for example—are not included in this study.

On the Global 100 list, SaaS revenue refers to all revenue derived from the SaaS delivery model, a utility computing environment in which unrelated customers share a common application and infrastructure managed by an independent software vendor or a third-party service provider that typically owns the code or intellectual property. The model provides access to and consumption of software and application functionality built specifically for network delivery and accessed by users over the Internet.

SaaS revenues do not include software deployed internally by the customer or any packaged software for which a license fee and a maintenance fee are paid. The myriad 'as a service' (APPaaS, PaaS, IaaS) offerings—including business application services, databases, software development tools, high-level storage services (backup and archiving), testing as a service, and security as a service—are all included in the category of SaaS. A few hardware-oriented elements of IT cloud services are not included in the SaaS figures: bulk storage solutions, network services and cloud servers.

For more on these definitions see: **IDC's Worldwide IT Cloud Services Taxonomy, 2012**

In the lists, the Country HQ column refers to the operating headquarters in the country where the main corporate decisions are made. This may differ from jurisdictions listed for tax or financial reasons in corporate documents.

Besides the Global 100 Software Leaders list, this report includes three other 'top' lists, two defined by geography and one defined by market maturity:

- ***North America*** – US and Canada
- ***Europe, Middle East and Africa (EMEA)*** – 128 countries comprising those regions
- ***Emerging markets*** – Countries in the Americas, Central and Eastern Europe, Africa, Asia and the Middle East with an emerging software development industry. IDC started with the 21 countries on the MSCI Emerging Markets Index, and added to it based on its own understanding of these markets. For more on the MSCI list, see: **www.msci.com/products/indices/country_and_regional/em/**

Given the geographic overlap between the EMEA and the emerging markets, there clearly are some companies that appear on both lists—from Israel and Russia, for example.

In addition to this quantitative research, PwC interviewed more than 25 executives of software companies in the US, Europe and Asia. (See list of interviews on page 2).

Of further interest

For more information about PwC research on software industry operational challenges and best practices, please visit the following web pages:

The future of software pricing excellence: A series of four articles
www.pwc.com/softwarepricing

Experience radar 2013: Lessons from the US enterprise software industry
http://www.pwc.com/us/en/advisory/customer-impact/publications/lessons-from-the-u.s.-enterprise-software-industry.jhtml

Tax policy on cloud software revenues
http://www.pwc.com/us/en/state-local-tax/publications/pwc-taxing-cloud.jhtml

VAT and the cloud: Understanding your VAT obligation
http://www.pwc.com/us/en/tax-services-multinationals/newsletters/vat/vat-cloud.jhtml

Quote to cash cycle
http://www.pwc.com/gx/en/technology/publications/technology-industry-at-the-crossroads-transforming-quote-to-cash-operations.jhtml

PwC can help

PwC can help you meet the challenges of a changing software industry. Please contact any of our software industry partners listed below to learn more about our experience and insights.

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