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BUSINESS INSIGHTS FOR SOFTWARE DEVELOPERS & PUBLISHERS



Software service margins are healthy and last year they became even healthier
See pages 4-6.

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Pricing and Value Approaches for Embedded Software

Of all the industry's various sectors, embedded software probably gets the least attention and scrutiny. But this is a big market and growing bigger; in 2005, worldwide shipments of embedded OSs and bundled services alone are projected to reach \$1.6 billion. Software is becoming pervasive throughout the "mechanical" infrastructure, with embedded code being found in toys, toilets, toasters, refrigerators, your house and increasingly every other object you survey around you.

The challenge facing companies developing embedded software is how to recoup the rising investment they must make in developing systems that are becoming more complex and sophisticated. Embedded systems are closely aligned in the market and buyer's minds with hardware, and over the last 50 years the market has become used to hardware becoming cheaper while capabilities improve. With these factors in place, companies developing embedded software have often simply eaten development costs via simple cost plus pricing or buried them in their development budgets.

With these factors in mind, we decided to talk to Luke Hohmann of Enthiosys (readers will remember him from our previous articles on "Discovering Customer Needs.") He's spent considerable time recently working with embedded software firms on their pricing and value models and shares some interesting lessons on how companies in this space can price and create value for their products.

Luke, we understand you've recently spent some time working with a firm developing software in the embedded systems arena; can you give us an overview of their situation?

The company we worked with has developed an embedded software product that works in conjunction with a hardware controller board that drives heating systems (an HDAC process). The new system reduces energy costs by 17% as compared to older controllers. This board is an OEM product; it's resold to furnace manufacturers who install these systems in a variety of commercial locations.

The problem facing the firm was how to recoup the company's very significant software development effort in this area and build value around the new product.

We took them through a process that

(continued on page three)

Patently Obvious

When evaluating software for the Codies award I was struck by the number of companies that stated they had patented or were in the process of patenting various processes in their applications. A few days later, I was speaking to a friend who has worked in the industry since the early 80s and is introducing a new hosted E-learning application; one designed to reinforce lessons and procedures learned by attendees during a course or orientation session. He was also patenting his application.

I decided to conduct a quick impromptu poll of 15 companies involved in developing new applications for both the desktop and hosted environments. Of the 15 companies surveyed, nine fit into the enterprise space. All the companies were \$50M and under. The results are below:

Applying for patents	9
Obtained patents	5
No patents, not applying	1

There are several reasons for the increasing interest in patent and intellectual protection (IP) for software. The first and most obvious is that you can do it in the US and Japan, as opposed to places like Europe, which is vigorously debating the issue.

The second is that code is increasingly becoming a commodity. In the industry's early days, the shortage of programmers and the ability to assemble teams of productive coders represented a formidable barrier to entry for many companies, especially international firms. But as the recent wave of outsourcing demonstrates, programming skills are an asset that even third world countries can train, develop, and pool into a formidable economic resource.

The third is Open Source, an accelerator of commoditization. All the major "horizontal" application categories that drove primary industry growth up till the mid-90s have become fairly stable and static and few patents surrounding these business applications exist. As Open Office demonstrates, "stable processes" such as word processing and spreadsheets can be quickly cloned and widely disseminated. (We know Lotus employees from the early 90s who are still smacking themselves for not patenting "smart icons," a feature the company introduced during this period that was quickly copied by every software company.) Microsoft will attempt to battle this trend with all its considerable might, but it's hard to escape the belief that the pricing structure of the Office suite will soon have to change.

The natural response to the forces of commoditization is to verticalize into profitable niches and submarkets. But the value that increasing number of firms look to bring to the market has shifted from clean code, less bugs, more features, and similar benchmarks (though these remain important factors) to mastering a market's business processes, incorporating them into a software product, and protecting that process through patents and every other available form of IP protection.

The press has been heavily critical of this trend, but their viewpoints represent IT buyers and the mainstream media. Commercial software firms are quickly embracing IP protection and we spoke to several people in the industry who pointed out that poor management of a company's IP can escalate to board-level scrutiny and liability.

my firm uses to analyze these situations. It's a six-part model that breaks down a company's approach to quantifying the value of its product, examining its business processes, using the value identified to drive an ROI argument, examining the appropriate licensing process for a product or product line, protecting your intellectual property (IP), deciding what money making "event" (i.e. upgrades, new releases, new modules, etc.) you should consider incorporating into a product's life cycle, and pricing. We call it our "Profit Engine Process."

Let's focus first on the value/ROI issues; it's fairly easy to see how you can develop good value and ROI figures based on the unit's 17% performance, especially given the run-up in energy costs.

You're right, they were able to do this, but as you pointed out, embedded systems companies must constantly battle the perception that software embedded in hardware has low "value."

One way our client dealt with this perception was a packaging strategy. Based on our work with them, they created a tiered product line. This consisted of a series of controllers aimed at small, medium, and large furnace systems. The actual boards were differentiated by the use of color, minor changes to the form factor, and some minor functionality enhancements.

The marketing message built around the controller line was that you bought a "small" board for a small furnace and a "large" board for a large furnace. Pricing was adjusted accordingly, with the large systems boards being assigned "premium" price points with appropriate quantity discounts. The important point is that the basic cost of the boards was the same regardless of the system they were used in; the packaging assigned the product more perceived value.

What type of price margins was the client able to achieve with this approach?

Normally, they would have used their traditional cost-based pricing model; using their internal metrics, they'd have seen perhaps 10% margins on the software portion of their product. Using our approach, they're seeing 20% to 30% margins across the product line.

What about the issues of intellectual property? This is not an area that embedded systems developers spend much time focusing on.

One step they took was to file for a patent on their control algorithms. In addition, their system is designed to allow software upgrades to their firmware; given that, we felt that protection of the firm's licensing rights was important. As a result, the customer developed a software license built into the overall OEM contract; this was not a situation appropriate to a click-through agreement.

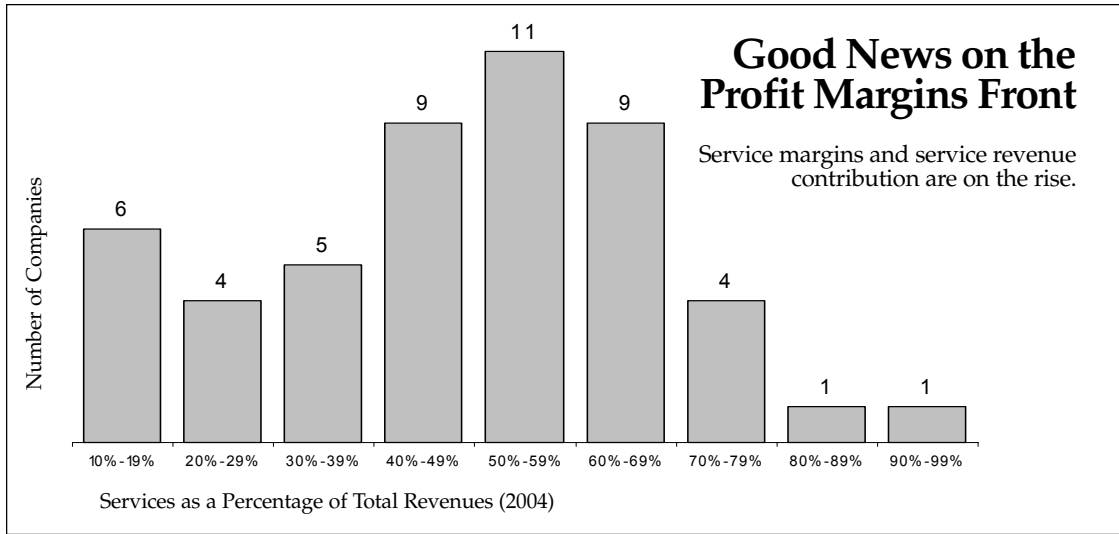
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"In my opinion, any company that fails to build an appropriate patent portfolio around their software products is failing in basic business due diligence; this applies to embedded software companies."

—Luke Hohmann
Enthiosys

"The auto companies made a huge mistake in not protecting their rights in regards to the aftermarket for chips that allow you to swap a piece of firmware and change the performance characteristics of your car."

—Luke Hohmann
Enthiosys



Benchmarks: Services Margins

Our survey indicates that companies may want to reconsider what is their primary business and how that business might be changing from product-centric to services-centric.

Profit margins on services (revenues minus direct costs) for our "Top 50" group of companies this year rose to 60% (median), up from 57% last year and 54% the year before, for the same companies. We tracked the ratio of services to total revenues over the past three years and found that there is a definite rising trend, from 43% in 2002 to 47% in 2003. Last year, services broke the 50% level. The numbers tell us that services are profitable, sustainable, and a significant source of revenue for companies of all sizes. The three-year average for margins on services for our list of companies is 57.1% median, a compound annual growth rate for service margins ranged from 5% to 9.6% during this period (2002-2004).

However, total revenues (products plus services) for this group dropped by 2% during the same period. When we asked IT and support services expert Tom Sweeny, co-founder of ServiceXRG, to comment, he said, "I suspect we'll continue to see rising margins in services, even if revenues trend down, provided that expenses are controlled."

With most profit metrics, bigger companies are usually the winners, but services margins seem to be an exception to this rule. Smaller software companies (<\$150M) had the highest average growth rate for total revenues (9.7%) and service revenues (19.8%) but also had the highest average growth rate for service costs (21.1%). Tom asserts, "Smaller firms often encounter higher cost of services because they typically have to make investments in services infrastructure which larger companies have already established." Most of the medium-sized (\$150M - \$299M) to very large firms (>\$1B) are actually cutting costs, emphasizing the drive for greater efficiency.

Furthermore, the highest average growth rate for services contribution (13.5%) went to the medium-sized companies. This indicates that many software companies in this category are either seeing their new product sales decline while service revenues remain flat or grow or else product sales remain flat or grow and service revenue grows at a faster rate; either way, these companies are finding their revenue mix shifting increasingly toward services.

Total Revenue					
	Small <\$150M	Medium \$150-\$299M	Large \$300M-\$999M	Very Large >\$1B	Total
Total Revenue 2002	\$85,538	\$279,520	\$559,948	\$2,279,875	\$656,030
Total Revenue 2003	\$82,113	\$219,830	\$547,845	\$2,200,629	\$624,148
Total Revenue 2004	\$94,967	\$230,781	\$560,627	\$2,255,076	\$644,050
Avg Total Rev Growth Rate ('02-'04)	9.7%	-6.3%	4.2%	-1.7%	2.7%
CAGR Change ('02-'04)	5.4%	-9.1%	0.1%	-0.5%	-0.9%

Service Revenue					
	Small <\$150M	Medium \$150-\$299M	Large \$300M-\$999M	Very Large >\$1B	Total
Service Revenue 2002	\$34,295	\$109,697	\$232,026	\$1,356,568	\$323,598
Service Revenue 2003	\$37,335	\$92,313	\$230,828	\$1,187,629	\$310,661
Service Revenue 2004	\$42,786	\$106,337	\$259,595	\$1,239,135	\$332,817
Avg Svc Rev Growth Rate ('02-'04)	19.8%	7.3%	12.5%	2.8%	12.1%
CAGR Change ('02-'04)	11.7%	-1.5%	5.8%	-4.4%	1.4%

Service Cost					
	Small <\$150M	Medium \$150-\$299M	Large \$300M-\$999M	Very Large >\$1B	Total
Service Cost 2002	\$15,328	\$52,822	\$96,264	\$614,444	\$144,684
Service Cost 2003	\$15,270	\$42,728	\$85,052	\$499,293	\$127,974
Service Cost 2004	\$18,003	\$44,943	\$89,517	\$478,789	\$126,895
Avg Svc Cost Growth Rate ('02-'04)	21.1%	-1.4%	1.5%	-4.3%	6.3%
CAGR Change ('02-'04)	8.4%	-7.8%	-3.6%	-11.7%	-6.3%

Service Margin					
	Small <\$150M	Medium \$150-\$299M	Large \$300M-\$999M	Very Large >\$1B	Total
Service Margin 2002	52.2%	51.3%	58.5%	53.3%	54.0%
Service Margin 2003	57.2%	53.4%	63.5%	54.8%	57.7%
Service Margin 2004	56.8%	58.4%	64.8%	58.2%	59.7%
Avg Svc Margin Growth Rate ('02-'04)	9.6%	7.5%	5.0%	6.3%	7.2%
CAGR Change ('02-'04)	4.4%	6.7%	5.2%	4.5%	5.1%

Service Contribution					
	Small <\$150M	Medium \$150-\$299M	Large \$300M-\$999M	Very Large >\$1B	Total
Service Contribution 2002	40.5%	39.0%	44.1%	48.9%	42.5%
Service Contribution 2003	46.2%	43.8%	45.2%	45.6%	45.3%
Service Contribution 2004	47.7%	47.7%	48.6%	47.8%	48.0%
Avg Svc Contribution Gr. Rate ('02-'04)	9.8%	13.5%	8.2%	4.6%	9.3%
CAGR Change ('02-'04)	8.5%	10.6%	5.0%	-1.2%	6.2%

Notes: The average growth rate is the average of individual growth rates for each company within a specific size segment. The Compound Annual Growth Rate (CAGR) change is the rate of change from 2002 to 2004 for the average revenue of all individual companies within each size segment.

The Top 50: Profit Margins on Services

	Revenues (000)			Services Margin			Avg. '02-'04
	2002	2003	2004	2002	2003	2004	
Moldflow	\$35,088	\$36,625	\$48,673	92%	94%	80%	89%
McAfee (Network Associates)	\$1,071,660	\$1,043,044	\$936,336	88%	86%	88%	87%
Autodesk	\$947,491	\$824,945	\$951,643	82%	87%	87%	85%
NetManage	\$79,284	\$65,740	\$50,663	80%	82%	85%	82%
Ansys	\$84,836	\$91,011	\$113,535	83%	82%	76%	80%
Quest Software	\$246,523	\$255,582	\$304,288	74%	81%	83%	79%
Citrix Systems	\$591,629	\$527,448	\$588,625	65%	85%	86%	79%
Mercury Interactive	\$361,000	\$400,122	\$506,473	75%	77%	76%	76%
Serena Software	\$98,641	\$95,775	\$105,556	76%	77%	75%	76%
Altiris	\$34,451	\$62,876	\$99,339	74%	72%	68%	71%
NetIQ	\$278,239	\$310,224	\$261,645	67%	72%	73%	71%
Progress Software	\$263,584	\$273,123	\$309,060	66%	68%	74%	69%
Synopsys	\$906,534	\$1,176,983	\$1,092,104	73%	73%	61%	69%
Intuit	\$1,312,228	\$1,650,743	\$1,867,663	60%	67%	72%	67%
Business Objects	\$415,794	\$454,799	\$560,825	62%	66%	69%	66%
Oracle	\$9,673,000	\$9,475,000	\$10,156,000	61%	62%	65%	63%
Cadence Design Systems	\$1,430,440	\$1,287,943	\$1,119,484	57%	63%	67%	62%
RSA Security	\$282,720	\$232,084	\$259,866	53%	65%	68%	62%
Sybase	\$927,923	\$829,861	\$778,062	55%	62%	68%	62%
Advent Software	\$170,215	\$159,436	\$137,159	63%	62%	55%	60%
RealNetworks	\$188,905	\$182,679	\$202,377	63%	60%	58%	60%
Witness Systems	\$62,522	\$67,686	\$108,037	54%	64%	61%	60%
Parametric Technology	\$741,957	\$671,940	\$660,029	60%	56%	62%	59%
Manhattan Associates	\$156,378	\$175,721	\$196,814	57%	58%	58%	57%
Hyperion Solutions	\$492,018	\$510,458	\$622,200	54%	57%	61%	57%
Informatica	\$200,145	\$195,441	\$205,533	47%	59%	65%	57%
BEA Systems	\$975,893	\$934,058	\$1,012,492	52%	57%	61%	57%
Renaissance Learning	\$130,544	\$131,232	\$132,354	54%	55%	55%	55%
Agile Software	\$77,771	\$70,509	\$96,305	57%	54%	52%	54%
Novell	\$1,165,917	\$1,105,496	\$1,134,320	49%	52%	58%	53%
Vignette	\$296,750	\$155,138	\$158,314	45%	53%	59%	52%
Ascential software	\$481,332	\$113,018	\$185,586	60%	38%	57%	52%
Openwave Systems	\$364,832	\$267,955	\$290,791	52%	50%	52%	51%
Saba Software	\$55,648	\$44,416	\$34,471	49%	53%	51%	51%
Borland Software	\$221,771	\$244,579	\$295,236	35%	48%	65%	49%
Kronos	\$342,377	\$397,355	\$450,694	48%	48%	48%	48%
Dendrite International	\$227,362	\$225,756	\$321,107	44%	50%	49%	47%
Red Hat	\$79,503	\$90,275	\$124,737	49%	47%	43%	46%
i2 Technologies	\$875,342	\$908,376	\$494,929	34%	55%	46%	45%
Wind River Systems	\$351,072	\$249,121	\$204,119	46%	41%	47%	45%
Adobe	\$1,229,720	\$1,164,788	\$1,294,749	n/a	36%	49%	43%
Compuware	\$1,740,544	\$1,375,340	\$1,264,647	36%	43%	47%	42%
Interwoven	\$204,633	\$126,832	\$111,512	32%	43%	51%	42%
Siebel Systems	\$2,084,596	\$1,635,307	\$1,354,228	39%	42%	44%	42%
Security First Technologies	\$252,581	\$292,169	\$278,310	39%	44%	40%	41%
Plato Learning	\$74,391	\$82,192	\$141,801	37%	35%	42%	38%
Docent	\$29,011	\$27,792	\$30,238	-1%	40%	51%	30%
MapInfo	\$92,598	\$106,255	\$124,673	7%	33%	38%	26%
Ultimate Software Group	\$59,479	\$55,149	\$60,416	29%	22%	27%	26%
FileNet	\$334,610	\$347,017	\$364,505	13%	-5%	26%	11%
Median				54.1%	57.2%	60.0%	57.1%

“Next issue we follow up our OEM royalties survey with a survey of OEM best practices.”

Notes: Data reflects public companies with sales over \$30 million that report services revenues and costs separately from license or product revenues and costs. “Services” primarily include maintenance and professional services. “Years” may not correspond.

Escrow Provisions in M&A Transactions, Part I of II

By Marshall Warwaruk, Corum Group

While parties to a M&A transaction do not expect to encounter major post-closing liability issues, M&A deals involving privately held sellers tend to contain escrow provisions to address buyer concerns over the seller's financial ability to satisfy indemnification provisions contained in the definitive agreement.

Escrow Coverage: To guard against post-closing financial loss, buyers may place approximately 10% to 15% percent of the total purchase price in escrow accounts managed by third party firms. These funds are generally held for a period of one to two years in interest bearing accounts and released to sellers in annual installments, subject to adjustments/fulfillment of any indemnification obligations and authorized claims.

Generally, there are two types of claims against escrow accounts: (1) financial adjustments to the closing net worth and balance sheet—like an increase in liabilities, costs or accounts payables, or a decrease in receivables (A/R) deemed uncollectible; and (2) loss of value attributed to unknown or undisclosed liabilities resulting from a breach of any of the representations or warranties contained in the purchase agreement—like IP infringement claims, further tax or product liabilities, and potential litigation.

Baskets and Deductibles: Buyers tend to ask for dollar-for-dollar compensation on any post closing loss, however, sellers successfully argue that no reimbursement should take place until post-closing losses reach a certain threshold, which results in the inclusion of basket and deductible provisions. An indemnification basket requires that claims must exceed a specified level before recovery would be available—for example, no reimbursement will incur until total claims and losses exceed \$50,000. Accompanying a basket provision is a deductible, which further stipulates that recovery would be available **only** for damages in excess of the basket amount (i.e., if the basket amount is \$50,000 and losses of \$65,000 are incurred, the seller is only responsible for the amount over \$50,000 (in this case \$15,000)).

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Company/Description	Acquired by	Price/Terms	Revenues	Multiple
OnBoard Software • Technical development and support for the DOD	MTC Technologies (MTCT)	\$34,000,000 Terms: Cash	\$15,000,000	2.27
Sigma Micro Informatique Conseil • Management software for French cancer clinics/hospitals	Varian Med. Systems (VAR)	\$13,000,000 Terms: Cash	\$7,000,000	1.87
Xenicom • Telecom software to manage wireless networks	Andrew Corporation (ANDW)	\$11,500,000 Terms: Cash	\$11,000,000	1.05
Aprisma Mgmt. Technologies • Software manages IT infrastructures/ services	Concord Comm. (CCRD)	\$93,000,000 Terms: Cash	\$43,000,000	2.16

Google Tools and Sites

- **McDar Keyword Analysis Tool** (<http://www.mcdar.net/KeywordTool/keywordtool.asp>): Site ranks your keywords at Google in comparison to other sites.
- **Googlelert** (www.googlelert.com): Service informs you when new sites in a category are indexed by Google.
- **Google Rankings** (http://www.googlerankings.com/ultimate_seo_tool.php): Enter the URL of your website into this free tool to generate a detailed report on keyword density.
- **Google Suggest** (<http://www.google.com/webhp?complete=1&hl=en>): As you type into this search box, Google Suggest guesses what you're typing and offers suggested keywords in real time. (Service is in beta.)
- **Google Watch** (www.google-watch.org): Interesting site that is somewhat critical of Google's power and influence on the web.
- **Google World** (<http://google.indicateur.com>): Site dedicated to all things Google.

FORRESTER RESEARCH analyst Julie Giera on Open Source services: "Open Source won't be about the software at all—it will be about the services. The recognition will dawn on people that this is a services play, not a software play." (Quoted on CNET News.com, 01/10, 2005)

BILL GATES on IP: "Intellectual property is the incentive system for the products of the future." (Quoted on ZDNet, 01/06/2005)

JBOSS CEO Marc Fleury, on patents: "In the case of software, though, I am growing quite convinced that they will ultimately grow to be quite detrimental." (Quoted on Infoworld, 01/19/2005)

JAMES FALLOWS on US policy towards information: "For one, it helps explain why the United States has been so fertile an incubator for tech companies, compared with most of Europe: government-sponsored information has been much cheaper here. (The United States government sells a CD set containing all weather readings taken in the last 50 years for \$4,290; the German government data costs \$1.5 million.)" (Quoted in the New York Times, 01/23/2005)

ANTON GONSALVES on Internet shopping trends: "In November, the latest data available, Nielsen/NetRatings found that 69 percent of retail purchases made online were conducted via a high-speed connection, compared to 31 percent over dial-up, or narrowband, connections.

"Broadband consumers spent on average \$158.21 per person, which was 34 percent more than the \$117.89 average for narrowband users, according to Nielsen. In addition, 26 percent of broadband shoppers end up actually making a purchase, compared with 21 percent for dial-up shoppers." (Quoted on InternetWeek, 01/19/2005)

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