

Telecommunications Software

November 2, 2009

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Wedbush Communications Signals: November Monthly

IN FOCUS – The Heavy User Problem – The Need to Meter

In this issue of the Wedbush Communications Signals we focus on The Heavy User Problem – The Need to Meter. Multiple media reports recently have focused on marquee devices such as the iPhone and how they have contributed to the veritable deluge of mobile data traffic. We believe these issues have brought to the fore a pertinent issue. We believe that as unpalatable this may seem, it is time for operators to adopt a more rational approach to pricing based on usage. While we understand the appeal of all-you-can-eat plans, and the backlash that can be expected, we believe that metering as a means to mitigate network congestion issues merits serious consideration ... (see inside for more)

In This Issue

IN FOCUS – The Heavy User Problem – The Need to Meter	1-2
NEWS CLIPS	3
CAPITAL MARKETS ACTIVITY	4
COMPARATIVE VALUATION	5-6
SHARE PRICE PERFORMANCE	7
SHORT INTEREST RATIO	8
EVENTS CALENDAR	9

Recent Notes

Ultimec (ULCM – NEUTRAL): Audited Financials Slightly Ahead of Schedule and Highlight Tough Environment but Solid Balance Sheet; Maintain NEUTRAL Rating and \$3 PT, 10/30/2009

Telecommunications Software Q3 Earnings Preview: We Are Positive on TNS and Syniverse, Slightly Positive on Neutral Tandem and Synchronoss, and Neutral on Smith Micro and Amdocs, 10/30/2009

TeleCommunication Systems (TSYS - OUTPERFORM): Making a Habit of the Beat and Raise, Stellar Q3 Confirms Our Positive Preview; Reiterate OUTPERFORM Rating and \$11 PT, 10/30/2009

Openwave Systems (OPWV - OUTPERFORM): Upside Q1 Revenue and Solid Bookings Offset by a Slight EPS Miss due to Revenue Mix; Reiterate OUTPERFORM and \$4 PT, 10/30/2009

AsialInfo Holdings (ASIA - OUTPERFORM): Momentum Continues as AsialInfo Easily Beats Q3 EPS and Provides a Positive Outlook; Reiterate OUTPERFORM and \$28 PT, 10/29/2009

NeuStar (NSR - OUTPERFORM): NeuStar is Shining: Q3 Results In-Line, but Raising Estimates on Solid Guidance; Reiterate OUTPERFORM and Raising PT to \$28, 10/28/2009

CSG Systems (CSGS - UNDERPERFORM): In Line Q3 and Encouraging Guidance, But Material Customer Risks Remain; Maintain UNDERPERFORM and Raising PT to \$14, 10/28/2009

Trimble Navigation (TRMB - NEUTRAL): Not Yet Clicking on All Cylinders: Stabilization in Engineering & Construction Offset by Softness in Field Solutions; Maintain NEUTRAL Rating and \$21 Price Target, 10/28/2009

Convergys (CVG - UNDERPERFORM): Remain Cautious as Growth Is Elusive and IM/HRM Concerns Persist; Maintain UNDERPERFORM Rating and \$9.50 PT, 10/28/2009

Garmin (GRMN - UNDERPERFORM): Expect an OK Q3 with Likely FX Benefit and NA Exposure Helping, Q4 Visibility Poor and Expectations Maybe Too Positive; Maintain UNDERPERFORM and \$28 PT, 10/28/2009

Syniverse (SVR - OUTPERFORM): Raising Estimates on Closing of Accretive VeriSign Messaging Acquisition; Reiterate OUTPERFORM Rating and \$24 PT, 10/26/2009

Telecommunications Software Q3 Earnings Preview: We are Positive on AsialInfo, Openwave, and TeleCommunication Systems; Slightly Positive on NeuStar; Neutral on Trimble; and Cautious on Convergys and CSG, 10/23/2009

TNS (TNS - OUTPERFORM): Positive on Refinancing, Accretive by ~\$0.34 to Annual EPS; Remains a BEST IDEA Even Without Refinancing; Reiterate OUTPERFORM Rating and \$36 PT, 10/21/2009

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IN FOCUS – The Heavy User Problem – The Need to Meter (continued from front cover)

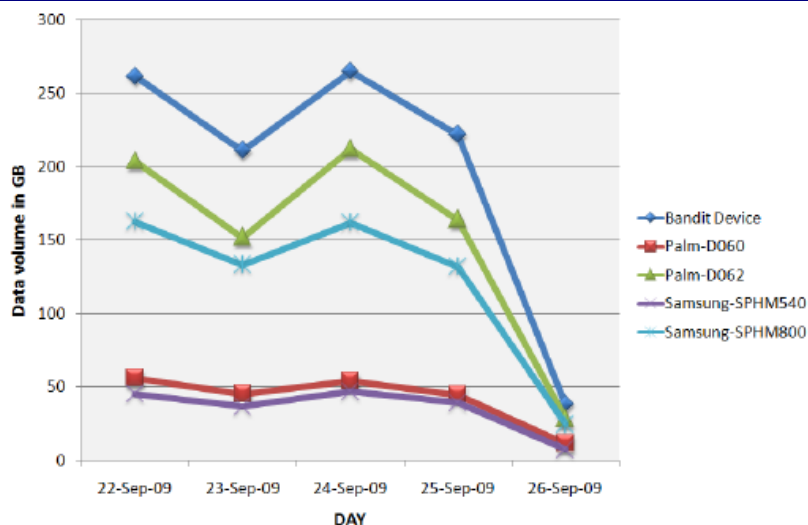
Selected Device Types Contributing to Network Congestion. Wireless Communications Association (WCAI) has estimated that mobile data applications require 1-5 Mbps in bandwidth compared to 6-12 Kbps for a voice call. Furthermore, according to a Cisco study, a typical smartphone user generates 30x the traffic of a basic feature phone, while a connected laptop/netbook generates 15x the traffic of a smartphone (450x a feature phone). However, not all smartphones are created equal when it comes to generating traffic. AT&T’s CEO Ralph de la Vega recently indicated at a CTIA Keynote that AT&T has seen a 5,000% increase in data traffic over the last five years and that the top 3% of its smartphone users are responsible for as much as 40% percent of smartphone data traffic, which we believe are mostly iPhone users. At Sprint, the Palm Pre can handle multiple concurrent data sessions. At T-Mobile, the G1 smartphone is estimated to consume 50x the data of an average voice user. Openwave Systems did a study over a five-day period in September 2009 at a large North American operator. The company estimates certain devices generate 1.25x-1.5x more traffic than smartphones and 5.5x more traffic than feature phones. See Figure 1 for a comparison of data volume by device type during the five-day period. While the estimates of the scale factors appear to vary, it is clear that there is an emerging class of devices variously labeled “broadband hogs”, “wireless hummers”, or “bandit devices”, and it is likely that we are going to see more users on these devices. However, we believe that even within the heavy usage devices, there are likely certain applications, such as YouTube, and users that are driving the majority traffic. We believe that while remedial measures such as spectrum re-allocation and accelerated licensing of cell towers merit consideration, these are longer-term approaches. We also believe that 4G rollouts of WiMax in 2009 and LTE by Verizon in 2010 and AT&T in 2011 will only worsen the situation as a fatter data pipe will likely drive up more consumption.

Genesis of the Data Tsunami. This free rider problem associated with mobile data commenced with the notion that the incremental data bit being transported was essentially free; well it looks like we are at the limits of our transport capacity. We would like to draw on comments made by Qualcomm’s CEO Dr. Paul Jacobs at the Fall CTIA event where he said “During the Internet bubble there was all kind of funding for dark fiber, and I think people thought carrying those bits was free. But it’s not. It’s expensive and I think the regulators may not realize how expensive it could get”.

Expect worsening as video streaming increases. Currently, wireless traffic is bursty as patterns are driven around events and since text and picture messaging account for a significant proportion of traffic. Planning for capacity can be done around anticipated events such as New Year’s Eve. Unanticipated events such as the passing of Michael Jackson and Farah Fawcett on 06/25/2009 created new peak SMS usage days but can also be managed, as text message latency is not as vexatious as other content. However, video is going to increasingly account for a significant proportion of traffic. Cisco estimates video will account for ~64% of global mobile data traffic by 2013, growing at a 150% CAGR between 2008-2013. Latency issues are more noticeable with video and will cause user frustration and discontent. We believe a near term solution could be to take a cue from congestion pricing on highways and apply a rational pricing model that would enable users to select pricing based on actual usage.

Best plays in our space. In our Telecom Software space Openwave’s new Integra product helps operators manage, analyze, shape, prioritize, and compress mobile data. With an installed based of ~75 mobile operators for its legacy gateway products and likely <20 customers so far committed to Integra upgrades, we believe the vast opportunity is untapped. Comverse also has a data management product similar to Openwave’s and Ulticom indicated it is developing functionality in its signaling products to aide mobile operators. Lastly, Amdocs provides some technology to address this issue.

Figure 1: Data Volume by Device Model



Source: Openwave and Wedbush Securities

NEWS CLIPS

Mobile Internet Usage Up 34% YoY per Nielsen Study

A Nielsen report indicated that mobile web users in the U.S. grew 34% YoY to 57 million users in July 2009 from 43 million users. Increased usage among teenagers up 45%, and seniors up 67% were the biggest drivers.

AT&T enables VoIP and VZW to partner with Google

On 10/06/2009, AT&T announced that it would enable VoIP applications on the iPhone over its wireless network and not just Wi-Fi. Also, Verizon Wireless and Google announced a partnership that would co-develop Android devices and support apps from both partners as well as third-party developers. We expect these announcements to facilitate Skype to run on AT&T's network, and Google voice on VZW's network. We believe that as subscribers on all-you-can-eat data plans will likely use the phone to make VoIP calls, this will lead to a material increase in data traffic further compounding congestion concerns.

Mobile Data Storage – Cloud Concerns

Sidekick users lost their personal data in a server failure on 10/05/2009. Phone address books, photographs and other personal data were not stored on the device but on servers operated by Microsoft. T-Mobile is offering customers a free month of data service and \$100. Microsoft on 10/20/2009 stated that it has made available a recovery tool that will help restore contacts, in what was termed the first phase of the restoration process. Salvaging data is clearly taking some time; faith in cloud-based storage will also be restored in good time.

EU Roaming Rates Cap Likely to Be Upheld

A 2007 EU regulation mandating caps on roaming rates effective 2009; was recommended to be upheld by a legal adviser to the European Court of Justice. We note that the price caps for mobile roaming calls which were at €0.46 (price per minute, excluding VAT) for calls made and €0.22 for calls received, went down to €0.43 for calls made and €0.19 for calls received as of 07/01/2009, this will further go down to €0.39 and €0.15 on 07/01/2010 and €0.35 and €0.11 on 07/01/2011. The caps also impacted text messaging by roaming customers. Sending a text message would cost €0.11 and receiving a text message would be free. We expect that these roaming rate caps will help increase CDR (call detail record) volumes likely benefiting Syniverse and private operator Mach.

Mixup Reveals Interesting Google Voice Stats

BusinessWeek reviewed an un-redacted letter from Google to the FCC before it got replaced with the redacted version. The letter revealed that GoogleVoice has 1.4 million users, 570K of whom use the service seven days a week. Google Voice listed partners in the letter including Syniverse for text messaging, NeuStar for porting and carrier lookup, iBasis for connecting outbound international calls, and others. The letter was in response to charges that the service was blocking calls to certain "high-cost" numbers. The revised version sans the interesting detail is available at: <http://www.fcc.gov/wcb/archives/googleletter.pdf>

Verizon Telecom and Verizon Business Combined

In a move to further reduce costs Verizon announced a reorganization combining its two fixed line units Verizon Telecom (retail consumers) and Verizon Business into Verizon Wireline. As of 09/30/2009, Verizon had 19 million residential and 14 million business switched access lines.

China Wireless Subscribers and Telecom Capex Show Strong Growth per MIIT

China's MIIT (Ministry of Industry and Information Technology) reported that in Q3 wireless subscribers grew to 720 million up 15.4% YoY. During the same period fixed line subscribers declined -8.3% YoY to 324 million. Lastly, and most impressively, Telecom industry capex grew 36.9% YoY to \$12 billion.

iPhone Officially Goes on Sale in China

The iPhone went on sale in China across 285 cities on October 30th at China's second largest wireless carrier China Unicom. The carrier had 143 million GSM subscribers as of 09/30/2009. While the prices are relatively higher at \$730 for a 8GB, \$860 for a 16GB, and \$1,020 for a 32GB device without a contract, China Unicom is widely expected to receive a boost from the iPhone likely doubling its monthly net adds run rate to 1.8 million in November.

Finland Broadband Rights

The government of Finland plans to enact a law stipulating that access to a 1 Mbps broadband connection is a fundamental right for citizens effective July 2010. Previously the government had announced access to a 100 Mbps connection by 2015 as a fundamental requirement.

Google introduces free Turn-by-Turn Navigation App

Google announced the availability of a free turn-by-turn navigation app for Android 2.0. Apart from turn-by-turn voice guidance this new feature offers 3D views, and automatic rerouting. More importantly it also offers up-to-date maps and business listings, text and voice search, traffic view, search along current route, street and satellite views. This announcement raises the stakes for PND manufacturers and other paid smartphone navigation providers.

TerreStar Networks' GENUS Smartphone

TerreStar and AT&T Mobility announced GENUS a Satellite/Cellular smartphone that will use AT&T's wireless network and TerreStar's all IP satellite network as a backup providing wireless connectivity across the U.S. and offshore coastal waters.

CTIA Semi-Annual Wireless Industry Survey for 1H09

The survey revealed that 276 million subscribers sent 740 billion text messages up 92% YoY and used 1.1 trillion minutes. There were 246 million data capable devices, of which 40 million were smartphones and 10 million were wireless-enabled notebooks or aircards.

CAPITAL MARKETS ACTIVITY

Capital Raises

- **MPower Mobile**, mobile commerce and payments provider, is raising \$5 million, 10/28/2009
- **Giftango**, virtual gifting platform provider, raised \$1.4 million, 10/28/2009
- **StatusNet**, Canadian micro-blogging firm, raised \$0.9 million, 10/28/2009
- **Vdopia**, video ad-network provider, raised \$4 million, 10/28/2009
- **Netpulse**, digital ad and content network provider, raised \$3.1 million, 10/27/2009
- **Bump Technologies**, mobile app developer, raised an estimated \$3 million, 10/25/2009
- **Ad.ly**, an ad network that focuses on Twitter, raised \$0.5 million, 10/20/2009
- **Box.net**, online file sharing and storage provider, raised \$7.1 million, 10/15/2009
- **Giiv**, mobile gifting firm, raised \$2.8 million, 10/14/2009

Public Offerings

- **TeleNav (TNAV)**, completed SEC filings indicating a plan to raise \$75 million in an IPO, timing remains TBD, 10/30/2009

M&A

- **Equinix**, the data center provider announced plans to acquire Switch & Data Facilities for \$689 million, 10/30/2009
- **comScore**, the web measurement provider announced plans to acquire web analytics provider Certifica for an undisclosed amount, 10/29/2009
- **Adeye**, mobile and social media marketing agency acquired Motorola backed user generated content company Storyz for an undisclosed amount, 10/29/2009
- **Sprint Nextel**, announced plans to acquire affiliate iPCS for \$426 million, 10/19/2009
- **Virgin Mobile**, announced plans to acquire Tele 2 Mobile France for \$84 million, 10/16/2009
- **Ipercast**, France based content delivery company, acquired mobile video provider 3G Factory for an undisclosed amount, 10/15/2009
- **Cisco**, announced plans to acquire Starent Networks for \$2.9 billion, 10/13/2009

COMPARATIVE VALUATION
Figure 2: Telecom Software – Comparative Valuation

Ticker	Rating	Price 10/30/09	Market Cap	Ent Value	2009-2012 EPS Growth	P/E		PEG		P/FCF		EV/Sales		EV/EBITDA		
						2009	2010	2009	2010	2009	2010	2009	2010	2009	2010	
Communications Software																
Billing & OSS																
Amdocs	DOX	N	\$25.20	\$5,129	\$4,150	6%	12.3x	11.8x	2.0x	1.9x	13.6x	11.0x	1.5x	1.5x	6.0x	6.0x
Asialfno	ASIA	OP	\$22.06	\$1,029	\$844	21%	22.7x	19.8x	1.1x	1.0x	30.8x	18.3x	3.6x	2.8x	18.0x	14.8x
Convergys	CVG	UP	\$10.85	\$1,333	\$1,601	-1%	8.5x	9.1x	NM	NM	9.1x	13.5x	0.6x	0.6x	5.1x	5.2x
CSG Systems	CSGS	UP	\$16.34	\$563	\$561	4%	7.6x	8.0x	1.8x	1.9x	8.1x	8.9x	1.1x	1.1x	5.3x	5.0x
Billing & OSS Unweighted Average				\$2,013	\$1,789	8%	12.8x	12.2x	1.7x	1.6x	15.4x	12.9x	1.7x	1.5x	8.6x	7.7x
Wireless Software																
Converse Tech ¹	CMVT.PK	OP	\$8.40	\$1,766	\$1,533	14%	25.9x	17.7x	1.8x	1.2x	26.5x	17.9x	1.0x	1.0x	10.3x	8.1x
Nuance Comm	NUAN	N	\$13.11	\$3,686	\$4,164	12%	12.6x	11.2x	1.1x	1.1x	15.1x	11.6x	3.8x	3.5x	11.0x	9.5x
Openwave	OPWV	OP	\$2.27	\$189	\$67	42%	NM	27.3x	NM	0.7x	NM	11.8x	0.4x	0.3x	6.4x	3.4x
Smith Micro	SMSI	N	\$9.08	\$299	\$255	13%	12.6x	11.3x	1.0x	0.9x	17.3x	11.6x	2.3x	2.0x	7.8x	6.6x
Trimble Navigation	TRMB	N	\$20.97	\$2,576	\$2,506	17%	19.9x	16.0x	1.2x	1.0x	17.8x	14.3x	2.2x	2.1x	12.7x	10.3x
Ulticom ¹	ULCM.PK	N	\$2.63	\$115	\$30	47%	N/A	35.8x	NM	0.8x	24.4x	31.2x	0.7x	0.7x	NM	7.2x
Wireless Software Unweighted Average²				\$1,439	\$1,426	24%	17.7x	19.9x	0.7x	0.8x	19.2x	13.5x	1.7x	1.6x	9.6x	7.5x
Outsourcing																
NeuStar	NSR	OP	\$23.10	\$1,746	\$1,494	16%	14.9x	12.6x	0.9x	0.8x	13.0x	12.1x	3.1x	2.8x	7.4x	6.2x
Neutral Tandem	TNDM	OP	\$21.09	\$716	\$575	20%	15.5x	12.6x	0.8x	0.6x	19.0x	14.0x	3.4x	2.8x	6.8x	5.5x
Synchronoss	SNCR	N	\$11.41	\$358	\$285	19%	21.6x	17.9x	1.2x	1.0x	35.2x	17.7x	2.3x	2.0x	9.8x	7.7x
Syniverse	SVR	OP	\$17.13	\$1,165	\$1,489	14%	10.1x	8.4x	0.7x	0.6x	12.9x	10.3x	3.0x	2.2x	7.4x	5.8x
TCS	TSYS	OP	\$8.94	\$473	\$422	16%	19.3x	16.3x	1.2x	1.0x	10.9x	13.0x	1.5x	1.2x	8.6x	7.6x
TNS	TNS	OP	\$28.26	\$721	\$1,066	17%	13.2x	10.6x	0.8x	0.6x	11.2x	8.6x	2.2x	1.8x	9.4x	7.3x
Outsourcing Unweighted Average				\$863	\$889	17%	15.8x	13.0x	0.9x	0.8x	17.0x	12.6x	2.6x	2.1x	8.2x	6.7x
Overall Unweighted Average				\$1,366	\$1,315	17%	15.5x	15.4x	0.9x	0.9x	17.7x	14.1x	2.1x	1.8x	8.5x	7.1x

¹Fiscal Year. ²Excludes Ulticom in P/FCF

Source: Wedbush Securities

Figure 3: Wireless Equipment – Comparative Valuation

(\$M, except share price)		Price 10/30/2009	Market Cap	3Yr EPS Growth	Ent Value	EV/EBITDA		EV/Sales		P/FCF TTM	P/E		PEG		
Ticker	Rating					2009	2010	2009	2010		2009	2010	2009	2010	2009
Mid and Large Capitalization															
Ericsson ADR	ERIC	OP	\$ 10.40	\$ 31,321	10%	\$ 33,474	9.0	7.7	1.1	1.1	22.2	18.3	14.0	1.8	1.4
Garmin	GRMN	UP	\$ 30.26	\$ 6,078	2%	\$ 4,573	6.7	6.9	1.7	1.7	8.2	12.3	12.2	7.6	7.6
Motorola	MOT	N/R	\$ 8.57	\$ 19,671	8%	\$ 17,195	20.2	8.3	0.8	0.7	NM	NA	29.0	NM	3.6
Nokia ADR	NOK	N/R	\$ 12.61	\$ 47,224	10%	\$ 43,432	6.7	6.0	0.7	0.7	NM	14.8	12.1	1.5	1.2
Research in Motion	RIMM	N/R	\$ 58.73	\$ 33,418	20%	\$ 31,753	8.8	7.8	2.2	1.8	NM	14.9	12.5	0.7	0.6
Trimble Navigation	TRMB	N	\$ 20.97	\$ 2,576	17%	\$ 2,506	12.7	10.3	2.2	2.1	16.1	19.9	16.0	1.2	1.0
Unweighted Average				\$ 27,542	10%	\$ 26,086	10.3	7.3	1.3	1.2	15.2	15.1	16.0	2.9	2.9
Median				\$ 31,321	10%	\$ 31,753	8.8	7.7	1.1	1.1	15.2	14.9	12.5	1.7	1.4
Small Capitalization															
Commscope	CTV	N/R	\$ 27.02	\$ 2,529	15%	\$ 3,482	6.8	6.0	1.1	1.1	8.9	13.7	11.2	0.9	0.7
Comtech Telecom	CMTL	N/R	\$ 32.12	\$ 904	25%	\$ 619	8.0	4.1	1.1	0.7	12.4	27.6	12.4	1.1	0.5
Ituran Location Ltd	ITRN	N/R	\$ 12.36	\$ 271	10%	\$ 232	6.7	6.1	2.0	1.8	NM	16.2	14.2	1.6	1.4
LoJack	LOJN	N/R	\$ 4.22	\$ 76	10%	\$ 40	-2.7	4.1	0.3	0.3	105.4	NA	22.6	NM	NM
Novatel Wireless	NVTL	N/R	\$ 8.92	\$ 273	20%	\$ 148	NM	2.7	0.4	0.4	23.5	NM	22.8	NM	NM
Palm	PALM	N/R	\$ 11.61	\$ 1,860	15%	\$ 2,041	NM	NM	2.5	0.9	NM	NM	40.4	NM	NM
Sierra Wireless	SWIR	N/R	\$ 9.01	\$ 280	12%	\$ 151	NM	NM	NM	NM	4.8	NA	NM	NM	NM
Unweighted Average				\$ 885	15%	\$ 959	4.7	4.6	1.2	0.9	31.0	19.2	20.6	1.2	0.9
Median				\$ 280	15%	\$ 232	6.8	4.1	1.1	0.8	12.4	16.2	18.4	1.1	0.7
Unweighted Average				\$ 11,992	13%	\$ 11,428	7.8	6.0	1.3	1.0	26.5	16.8	18.5	2.2	2.1
Median				\$ 2,194	11%	\$ 2,761	6.8	6.0	1.1	0.9	12.4	14.9	14.0	1.5	1.3

Source: Wedbush Securities

Figure 4: Telecom Services, Cable/Satellite, Handsets, Towers – Comparative Valuation

Ticker	Rating	Price 10/30/09	Market Cap	Ent Value	2009-2011 EPS Growth	P/E		PEG		P/FCF Current	EV/Sales		EV/EBITDA		
						2009	2010	2009	2010		2009	2010	2009	2010	
Telecom Services															
AT&T	T	N/R	\$25.67	\$154,757	\$224,129	8%	12.2x	11.5x	1.6x	1.5x	40.6x	1.8x	1.8x	5.4x	5.2x
Verizon	VZ	N/R	\$29.59	\$85,332	\$149,421	4%	12.0x	11.8x	2.9x	2.8x	-	1.4x	1.4x	4.2x	4.1x
Sprint	S	N/R	\$2.96	\$8,886	\$25,285	-34%	NM	NM	NM	NM	5.9x	0.8x	0.8x	3.9x	4.0x
Qwest	Q	N/R	\$3.59	\$6,275	\$18,602	-12%	9.2x	11.6x	NM	NM	10.5x	1.5x	1.6x	4.3x	4.5x
nTelos	NTLS	N/R	\$15.10	\$675	\$1,215	1%	10.0x	9.9x	10.1x	10.0x	38.8x	2.2x	2.1x	5.3x	5.0x
TDS	TDS	N/R	\$29.62	\$3,354	\$4,326	-9%	14.7x	17.2x	NM	NM	-	0.9x	0.9x	3.6x	3.7x
Alaska Comm	ALSK	N/R	\$7.78	\$353	\$882	19%	45.8x	31.1x	2.4x	1.7x	-	2.3x	2.3x	6.9x	6.9x
General Comm	GNCMA	N/R	\$6.15	\$337	\$1,140	69%	47.3x	22.0x	0.7x	0.3x	-	1.9x	1.8x	5.8x	5.6x
Shenandoah Tel	SHEN	N/R	\$16.69	\$403	\$420	6%	15.6x	14.4x	2.6x	2.4x	-	2.6x	2.5x	5.3x	4.9x
Metro PCS	PCS	N/R	\$6.23	\$2,292	\$5,030	54%	16.0x	9.2x	0.3x	0.2x	-	1.5x	1.3x	5.6x	4.5x
Leap	LEAP	N/R	\$13.22	\$1,082	\$3,513	NM	NM	NM	NM	NM	-	1.4x	1.2x	7.6x	5.3x
IPCS	IPCS	N/R	\$23.87	\$401	\$801	19%	18.2x	14.8x	1.0x	0.8x	-	1.4x	1.4x	7.3x	6.5x
US Cellular	USM	N/R	\$36.61	\$3,305	\$4,036	-13%	12.8x	15.4x	NM	NM	-	1.0x	1.0x	4.2x	4.4x
Virgin Mobile	VM	N/R	\$4.00	\$280	\$280	53%	10.8x	9.7x	0.2x	0.1x	-	0.2x	0.2x	2.1x	2.2x
Clearwire	CLWR	N/R	\$6.26	\$1,085	\$1,725	13%	NM	NM	NM	NM	-	6.5x	3.4x	NM	NM
tw telecom	TWTC	N/R	\$12.60	\$1,925	\$2,837	84%	84.0x	43.4x	1.0x	0.5x	6.4x	2.3x	2.2x	6.7x	6.2x
Paetec	PAET	N/R	\$3.24	\$497	\$1,294	-78%	NM	NM	NM	NM	15.7x	0.8x	0.8x	5.4x	5.3x
Cbeyond	CBEY	N/R	\$13.35	\$400	\$372	NM	NM	148.3x	NM	NM	-	0.9x	0.7x	7.7x	5.9x
Level Three	LVLT	N/R	\$1.18	\$1,961	\$7,677	-11%	NM	NM	NM	NM	-	2.0x	2.1x	8.8x	8.7x
Unweighted Average - Total				\$14,400	\$23,841	10%	23.7x	26.3x	2.4x	2.6x	19.7x	1.8x	1.5x	5.6x	5.2x

Ticker	Rating	Price 10/30/09	Market Cap	Ent Value	2009-2011 EPS Growth	P/E		PEG		P/FCF Current	EV/Sales		EV/EBITDA		
						2009	2010	2009	2010		2009	2010	2009	2010	
Cable/Satellite															
Comcast	CMCSA	N/R	\$14.50	\$43,076	\$39,087	8%	12.9x	12.2x	1.6x	1.5x	12.6x	1.1x	1.1x	2.8x	2.7x
Time Warner Cable	TWC	N/R	\$39.44	\$14,408	\$13,880	17%	13.1x	11.2x	0.8x	0.6x	8.1x	0.8x	0.8x	2.2x	2.1x
Cablevision	CVC	N/R	\$22.96	\$6,901	\$18,259	NM	23.7x	15.7x	NM	NM	18.7x	2.4x	2.3x	7.4x	7.1x
Mediacom	MCCC	N/R	\$4.78	\$555	\$3,856	6%	9.4x	6.5x	1.6x	1.1x	-	2.7x	2.5x	NM	6.8x
DIRECTV	DTV	N/R	\$26.30	\$25,546	\$23,274	39%	18.8x	12.1x	0.5x	0.3x	15.2x	1.1x	1.0x	4.4x	3.7x
Dish Network	DISH	N/R	\$17.40	\$7,922	\$7,809	11%	9.8x	8.3x	0.9x	0.8x	7.5x	0.7x	0.7x	2.8x	2.7x
EchoStar	SATS	N/R	\$18.16	\$690	\$948	NM	17.0x	37.8x	NM	NM	-	0.5x	0.5x	NM	3.6x
Hughes Comm	HUGH	N/R	\$23.32	\$526	\$938	NM	(10.5x)	13.5x	NM	NM	-	0.9x	0.8x	7.8x	3.7x
Sirius	SIRI	N/R	\$0.59	\$2,258	\$5,032	NM	(6.5x)	(29.3x)	NM	NM	-	2.0x	1.9x	12.2x	10.3x
Unweighted Average - Total				\$11,320	\$12,565	16%	9.7x	9.8x	0.6x	0.6x	12.4x	1.3x	1.3x	5.6x	4.8x

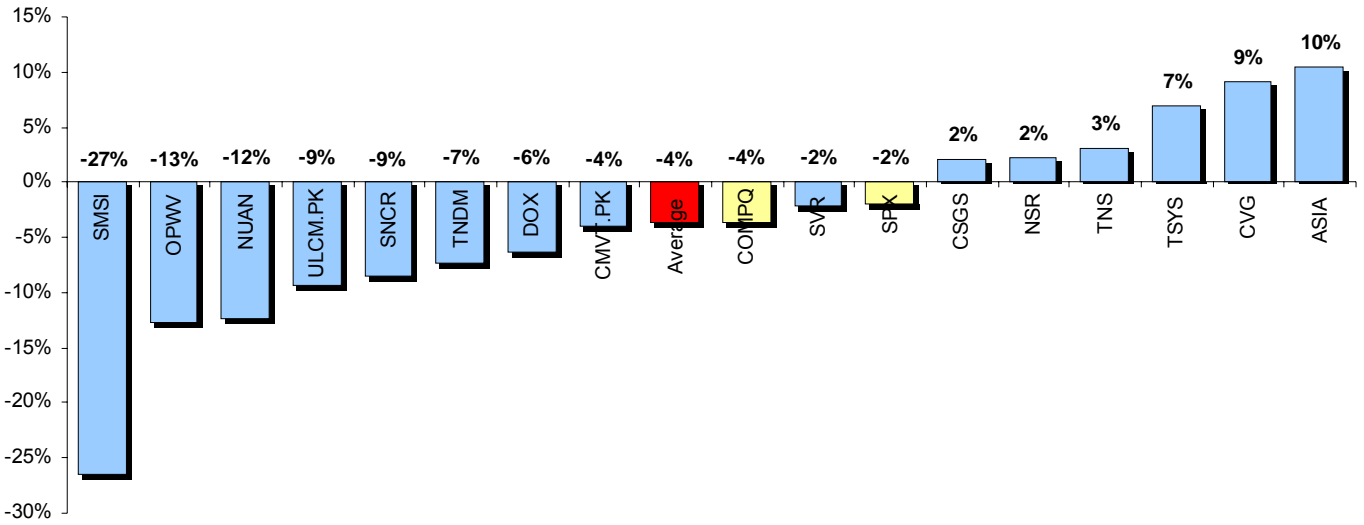
Ticker	Rating	Price 10/30/09	Market Cap	Ent Value	2009-2011 EPS Growth	P/E		PEG		P/FCF Current	EV/Sales		EV/EBITDA		
						2009	2010	2009	2010		2009	2010	2009	2010	
Handsets															
Apple	AAPL	N/R	\$188.50	\$175,894	\$170,289	14%	24.4x	20.2x	1.7x	1.4x	19.7x	3.8x	3.3x	15.8x	13.2x
Research In Motior	RIMM	N/R	\$58.73	\$34,914	\$33,831	11%	14.1x	12.1x	1.3x	1.2x	-	2.3x	1.9x	9.2x	7.7x
Palm	PALM	N/R	\$11.61	\$2,148	\$2,431	NM	NM	27.6x	NM	NM	-	1.5x	1.0x	(163.6x)	14.5x
Nokia	NOK	N/R	\$12.61	\$49,321	\$49,796	26%	14.8x	12.1x	0.6x	0.5x	274.0x	0.9x	0.8x	7.7x	6.9x
Motorola	MOT	N/R	\$8.57	\$20,061	\$21,119	NM	NM	30.6x	NM	NM	-	0.9x	0.9x	22.6x	9.9x
Unweighted Average - Total				\$56,468	\$55,493	17%	17.8x	20.5x	1.2x	1.0x	146.9x	1.9x	1.6x	(21.6x)	10.5x

Ticker	Rating	Price 10/30/09	Market Cap	Ent Value	2009-2011 EPS Growth	P/E		PEG		P/FCF Current	EV/Sales		EV/EBITDA		
						2009	2010	2009	2010		2009	2010	2009	2010	
Towers															
American Tower	AMT	N/R	\$36.82	\$15,091	\$14,767	30%	59.4x	42.8x	2.0x	1.5x	28.5x	8.7x	8.0x	13.2x	11.8x
Crown Castle	CCI	N/R	\$30.22	\$9,036	\$8,701	NM	NM	335.8x	NM	NM	213.1x	5.2x	4.9x	8.8x	8.1x
SBA Comm	SBAC	N/R	\$28.21	\$3,427	\$5,643	NM	NM	NM	NM	24.9x	10.2x	9.3x	16.7x	15.0x	
Unweighted Average - Total				\$9,185	\$9,704	30%	59.4x	189.3x	2.0x	6.4x	88.8x	8.0x	7.4x	12.9x	11.6x

Source: First Call and Wedbush Securities

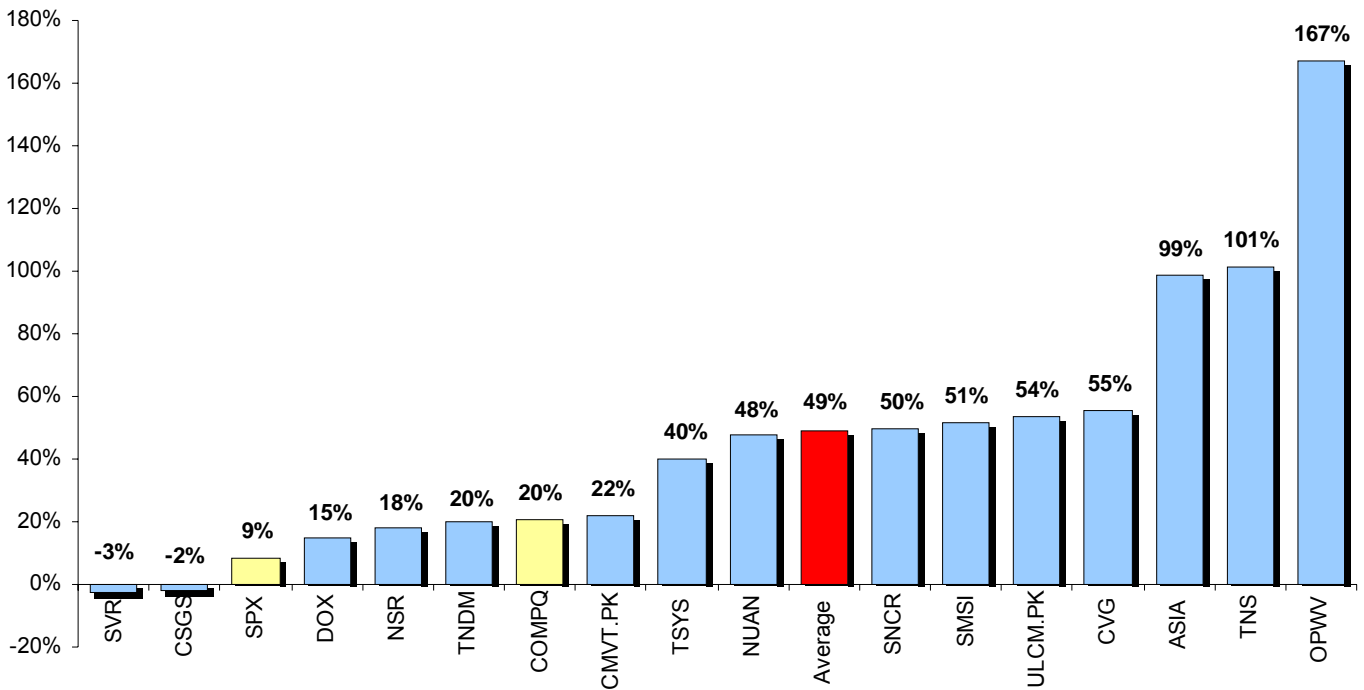
SHARE PRICE PERFORMANCE

Figure 5: Share Price Performance (October 2009)



Source: Wedbush Securities

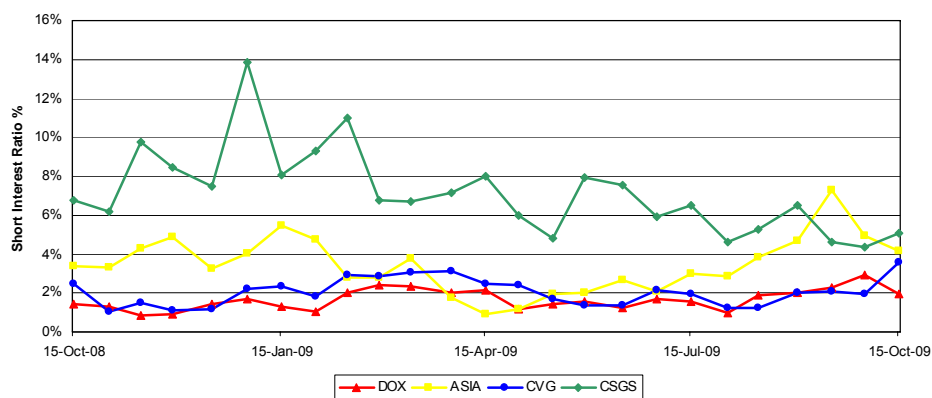
Figure 6: Share Price Performance (LTM)



Source: Wedbush Securities

SHORT INTEREST RATIO

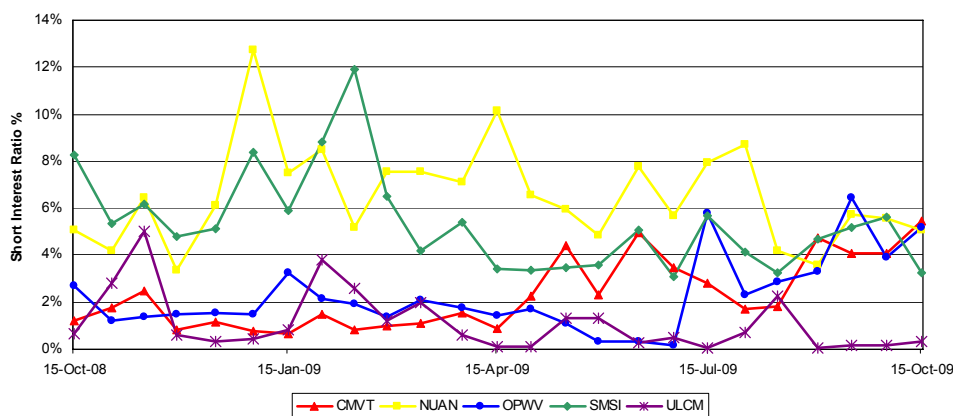
Figure 7: Short Interest Ratio – Billing & OSS



Billing & OSS	%	Δ
DOX	1.94%	-0.97%
ASIA	4.14%	-0.82%
CVG	3.60%	1.67%
CSGS	5.06%	0.71%

Source: Bloomberg LP, Wedbush Securities

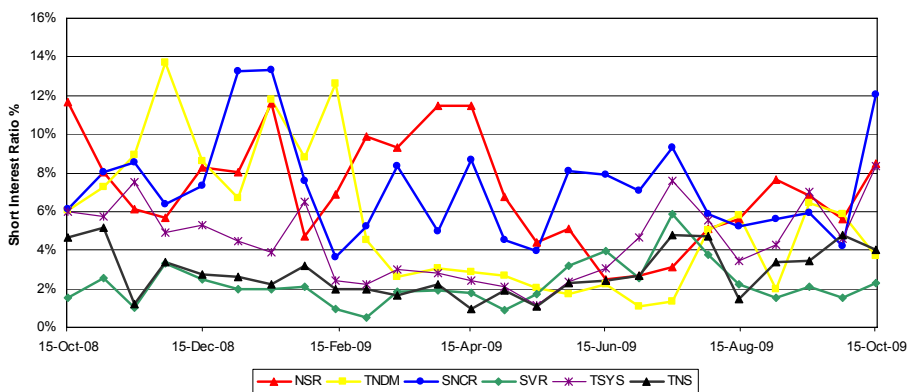
Figure 8: Short Interest Ratio – Wireless Software



Wireless Software	%	Δ
CMVT	5.43%	1.33%
NUAN	5.05%	-0.49%
OPWV	5.18%	1.26%
SMSI	3.24%	-2.37%
ULCM	0.35%	0.21%

Source: Bloomberg LP, Wedbush Securities

Figure 9: Short Interest Ratio – Outsourcing



Outsourcing	%	Δ
NSR	8.49%	2.91%
TNDM	3.70%	-2.20%
SNCR	12.04%	7.86%
SVR	2.31%	0.81%
TSYS	8.36%	3.80%
TNS	3.99%	-0.76%

Source: Bloomberg LP, Wedbush Securities

EVENTS CALENDAR

November 2 nd	Dept of Commerce: September Construction Spending
November 2 nd	SNCR Q3 Earnings
November 2 nd	SVR Q3 Earnings
November 2 nd	TNS Q3 Earnings
November 4 th	TNDM Q3 Earnings
November 4 th	GRMN Q3 Earnings
November 4 th	DOX Q4 Earnings
November 4 th	SMSI Q3 Earnings
November 4 th – 5 th	LTE Americas 2009, Dallas
November 4 th – 5 th	FPL Americas Electronic Trading Conference, New York
November 5 th	VRSN Q3 Earnings
November 5 th	PCCA Emerging Mobile Platforms, Portland
November 10 th	VOD Q2 Earnings
November 10 th – 12 th	3G CDMA Americas Regional Conference, San Diego
November 11 th – 12 th	AfricaCom 2010, Capetown, South Africa
November 12 th	QCOM Analyst Day, New York
November 12 th	CVG Analyst Day, New York
November 16 th – 20 th	Interop 2009, New York
November 17 th	The 140 Characters Conference, London
November 18 th	AIA - Billings Index
November 18 th – 19 th	GSMA Mobile Asia Conference, Hong Kong
November 19 th	VRSN Analyst Day, New York
November 19 th	Under the Radar, Mountain View
November 23 rd	Nuance Q4 Earnings
December 1 st	Dept of Commerce: October Construction Spending
December 1 st – 2 nd	Navigation & Location 2009, San Jose
December 1 st – 2 nd	SNCR/Wedbush NDR, Boston and San Francisco
December 2 nd – 3 rd	WiMAX Forum Congress Americas 2009, Fort Lauderdale
January 7 th – 10 th	International CES, Las Vegas
February 15 th -18 th	Mobile World Congress, Barcelona, Spain
March 23 rd – 25 th	International CTIA Wireless, Las Vegas

Covered Public Companies Mentioned in this Report (intraday 11/02/09)

Company	Ticker	Rating	Current Price	Price Target
AMDOCS	DOX	NEUTRAL	\$24.78	\$27
ASIA INFO	ASIA	OUTPERFORM	\$22.84	\$28
CISCO	CSCO	OUTPERFORM	\$23.04	\$28
COMVERSE TECH	CMVT.PK	OUTPERFORM	\$8.40	\$11
CONVERGYS	CVG	UNDERPERFORM	\$10.89	\$9.50
CSG SYSTEMS	CSGS	UNDERPERFORM	\$16.30	\$14
GARMIN	GRMN	UNDERFORM	\$30.88	\$28
NEUSTAR	NSR	NEUTRAL	\$23.04	\$28
NEUTRAL TANDEM	TNDM	OUTPERFORM	\$20.90	\$36
NUANCE	NUAN	OUTPERFORM	\$13.51	\$17
OPENWAVE	OPWV	OUTPERFORM	\$2.13	\$4
SMITH MICRO	SMSI	NEUTRAL	\$9.06	\$12
STARENT NETWORKS	STAR	NEUTRAL	\$33.77	\$35
SYNCHRONOSS	SNCR	NEUTRAL	\$11.81	\$13
SYNIVERSE	SVR	OUTPERFORM	\$17.40	\$24
TELECOM SYSTEMS	TSYS	OUTPERFORM	\$9.15	\$11
TNS	TNS	OUTPERFORM	\$28.70	\$36
TRIMBLE NAVIGATION	TRMB	NEUTRAL	\$21.31	\$21
ULTICOM	ULCM.PK	NEUTRAL	\$2.63	\$3

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OUTPERFORM – Expect the total return of the stock to outperform relative to the median total return of the analyst's (or the analyst's team) coverage universe over the next 6-12 months.

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