

May 2001

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CROSSTalk is a monthly publication analyzing relevant investment issues and tracking performance metrics for the OSS industry, giving particular attention to the Billing Customer Care, Network Service Management Software and Service Aware Network Elements sectors.

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Market Watch

GKMI Rises in April

The GKMI increased 14.5% in April compared to a 15.0% increase in the NASDAQ. Year-over-year, the GKMI has fallen 38.1% compared to a decrease of 45.2% in the NASDAQ. The Network Service Management (NSM), Billing Customer Care (BCC) and Service Aware Network Elements (SANE) indices increased 17.7%, 12.9% and 32.3%, respectively, in April. Year-over-year, the NSM, BCC and SANE indices declined 50.7%, 28.5% and 59.2%, respectively. Four companies in the NSM index increased during the month: VRTL, MUSE, TTIL and EVOL were up 40.6%, 31.0%, 30.6% and 15.9%, respectively. Additionally, seven of the nine companies in the BCC Index increased during the month; seven companies in the SANE Index rose during the month. The top three percentage movers in April were PKTR (+172.8%), ACEC (+79.8%) and TKLC (+73.3%).

24 New Contracts and 7 New Products Announced in April

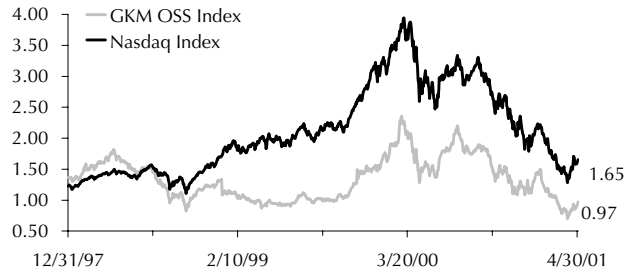
There were 24 new contracts (6-NSM, 13-BCC, 5-SANE) and seven new products (2-NSM, 2-BCC, 3-SANE) announced in April. The BCC group announced more than 50% of the contracts, with PRSF and CVG commanding the lead with four and three new contracts, respectively. The number of products announced spread evenly across the three groups. Additionally, we observed five initiating-coverage reports with BUY ratings and one with a HOLD rating; there were 13 downgrades and five upgrades in the month.

Private Investments in OSS Maintains Momentum

Although overall venture capital investments across industries declined by a wide margin in the first quarter (a 47% decline, according to Venture Wire), private investment in OSS appears to be maintaining momentum. Twenty-plus OSS private investments with total investments of \$300+ million were announced through the end of April. Notable companies receiving private money included Apogee Networks, Trendium, Brix Networks, System Management ARTs (SMARTs), Eftia, Dorado Software and XAACT Technologies. We believe that private money will continue to flow into innovative, well-targeted OSS companies.

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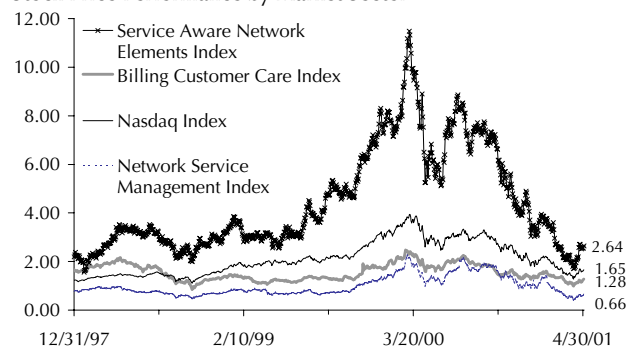
GKM OSS Index Performance



Note: GKM OSS indices originate on 1/1/97.

Source: Gerard Klauer Mattison and ILX Systems.

Stock Price Performance by Market Sector



Note: GKM OSS indices originate on 1/1/97.

Source: Gerard Klauer Mattison and ILX Systems.

Calendar of Upcoming Events

Date	Event
June 3-7	SuperComm (Atlanta, GA)
June 26-28	TeleStrategies Billing World (Orlando, FL)
Aug 13-16	OSScon (San Jose, CA)

Summary of Key Metrics for the GKM OSS Index*

Month	Contracts Announced	Products Announced	Earnings Surprises Up/Down/Met	Operating Income Growth	Revenue Growth	Coverage Initiated Buy/Sell/Hold	Up/Downgrade
April 2000	34	4	13/1/3	65	30	4/0/0	2/1
May 2000	35	21	2/0/0	N.M.	179	7/1/0	1/1
June 2000	16	11	0/0/0	N.A.	N.A.	4/0/0	0/2
July 2000	29	9	10/0/5	67	41	0/0/1	1/8
August 2000	18	5	3/1/1	N.M.	45	0/0/0	½
September 2000	32	4	0/1/0	N.M.	76	4/0/0	0/3
October 2000	31	0	7/2/5	24	23	6/0/0	3/6
November 2000	26	3	2/0/1	82	98	4/0/0	0/6
December 2000	22	4	0/2/0	N.M.	(60)	1/0/1	1/2
January 2001	28	11	9/3/4	(85)	10	4/0/0	2/22
February 2001	28	17	5/2/1	(36)	(11)	5/0/0	2/17
March 2001	30	17	0/0/0	N.M.	N.M.	8/0/3	0/10
April 2001	24	7	8/3/10	(13)	12	6/0/1	5/13

Note: All measures apply only to companies represented in the GKM OSS Index.

Contracts Announced: Total number of contracts announced.

Products Announced: Total number of new products announced.

Earnings Surprises: Total number of earnings surprises versus First Call consensus (i.e., Up, Down and Met).

Operating Income Growth: Year-over-year growth of aggregate reported quarterly operating income.

Revenue Growth: Year-over-year growth of aggregate reported quarterly revenues.

Coverage Initiated: Total number of new ratings (i.e., buy, sell and hold) as reported on First Call.

Upgrade/Downgrade: Total number of ratings changed (i.e., upgrade or downgrade) as reported on First Call.

N.M. – Not meaningful. N.A. – Not applicable.

Source: Gerard Klauer Mattison estimates, corporate reports and First Call.

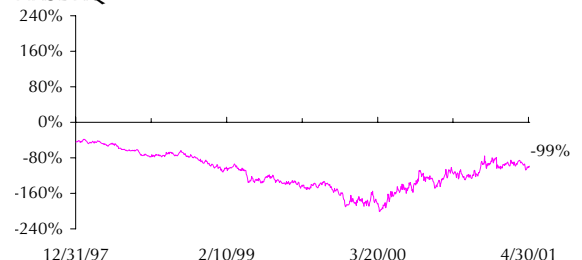
*The non-weighted GKM OSS Index is comprised of three OSS sectors: (1)

Network Service Management: Concord (CCRD), DSET (DSET), Evolving Systems (EVOL), InfoVista (IVTA), Micromuset (MUSE), TCSI+ (TCSI), TTI Telecom (TTIL) and Vertel (VRTL); (2) Billing Customer Care: ACE*COMM (ACEC), Amdocs Limited (DOX), Convergys (CVG), CSG Systems (CSGS), Daleen Technologies (DALN), DST Systems (DST), Lightbridge (LTBG), MetaSolv (MSLV) and Portal Software† (PRSF); and (3) Service Aware Network Elements: Agilent (A), ADC† (ADCT), Catapult (CATT), Netscout (NTCT), Packeteer† (PKTR), Redback† (RBAK), Tekelec (TKLC), Turnstone (TSTN) and Visual Networks (VNWK).

Network Service Management Close-Up NSM/NASDAQ Spread Widens

Year-over-year, the NSM Index has fallen 50.7% compared to the NASDAQ's 45.2% drop. The NSM Index rose 17.7% in April, while the NASDAQ increased 14.5%. The spread between the NSM and the NASDAQ indices widened to (99) percentage points in April from (87) percentage points in March. Enterprises and service providers have raised the bar for payback and speed of implementation of NSM products. We expect outperformance from companies that can demonstrate that their products produce customer payback periods of less than one year and that require low levels of integration.

Network Service Management Index Spread[^] versus NASDAQ



[^]The difference between the GKM Network Service Management and NASDAQ indices.

Note: GKM OSS indices originate on 1/1/97.

Source: Gerard Klauer Mattison and ILX Systems.

April's Performance - Network Service Management

(\$ millions, except per-share data)

Symbol	Price 4/30/01	Mkt Cap	TTM Rev*^^	P/E^^	EV/TTM Rev	Mthly Stk Pr. % Chg.	Yr-Yr. Stk Pr. % Chg.
CCRD	\$6.98	\$118	\$93	N.M.	0.6	(14.7)%	(75.1)%
DSET	1.05	12	47	N.M.	0.2	(18.0)%	(94.3)%
EVOL	3.55	48	55	N.M.	0.7	15.9%	(58.2)%
IVTA	8.86	169	18	N.M.	9.2	(15.6)%	N.A.
MUSE†	49.50	3,924	183	93.4	20.5	31.0%	0.9%
TCSI†	1.11	26	19	N.M.	N.M.	(8.9)%	(55.6)%
TTIL	16.65	189	40	14.9	3.6	30.6%	(38.0)%
VRTL	1.87	53	16	N.M.	2.5	40.6%	(88.8)%
NSM Index:			54.1x		4.6x	17.7%	(50.7)%
GKM Index:			40.2x		3.9x	14.5%	(38.1)%
NASDAQ:						15.0%	(45.2)%

*TTM – Trailing 12 months. ^^Price/Calendar 2001 consensus EPS estimates from First Call.

†Gerard Klauer Mattison & Co., Inc. is a market maker in the security of this company and may have a long or short position. N.M. – Not meaningful.

Source: Gerard Klauer Mattison, FactSet, Bloomberg, First Call, corporate reports and ILX Systems.

Selected Earnings Estimates


Micromuse+ (NASDAQ: MUSE) (Sep Year End)			
EPS	FY00A	FY01E	FY02E
Q1	\$0.04	\$0.10A	\$0.15
Q2	0.04	0.12A	0.16
Q3	0.05	0.13	0.17
Q4	0.07	0.14	0.19
Year	\$0.20	\$0.48	\$0.67

Source: GKM Estimates.

Publicly Traded NSM Companies - News

Aprisma introduced SPECTRUM Application Manager...**Concord Communications** announced IDC has named it the market share leader in Network Service Level Management software...**DSET** announced Network Telephone is using DSET's ezLocal gateway to order lines for customers from BellSouth...**InfoVista** and Et-
noteam announced a strategic software distribution agreement. Zama Networks has chosen InfoVista's service level management solution to visualize the performance and status of its production network environment. InfoVista announced that it has been selected as the IT infrastructure monitoring and management provider of choice for BroadRiver Communications. **LINMOR** announced the appointment of two key industry executives to aggressively market its network performance management software to service providers across North America...**Micromuse** announced that Talkline GmbH has implemented the Netcool suite as its core network operations software component. Micromuse has joined the Brocade Fabric Access Partner Program. Brocade will work with Micromuse to enable Brocade-based Storage Area Networks (SANs) to be monitored and managed through Micromuse's Netcool standards-based network management products...**Orchestream** Holdings announced the completion of the CrossKeys acquisition and approval for NASDAQ listings. Orchestream also won a deal with Telstra for activating IP-VPN. Viawest boosted network reliability with **Riversoft's** network management technology and iAsiaWorks selected Riversoft network management software to provide reliable Internet services in the Asian market.

Privately Held NSM Companies - News

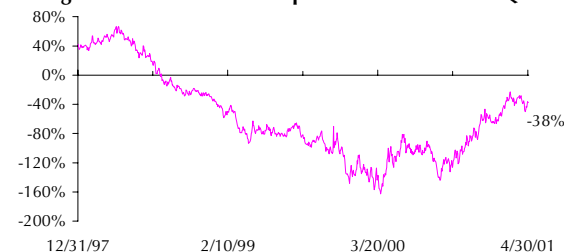
Ai Metrix announced the latest release of their NeuralStar framework...**Brix Networks** announced that Level 3 Communications and e^deltacom (a division of ITC^DeltaCom) have selected the company's service level agreement monitoring and measurement solutions. Brix also secured \$22 million in its third round of venture capital financing, increasing the amount raised to \$47 million since the company's founding in July 1999...**Coherent Networks** announced North American availability of EVA, a call simulator for validating and stress-testing analog, ISDN and VoIP interfaces on telecom switches and PBXs...**Nokia Networks** selected **Cramer Systems** as a software provider for Nokia NetAct solution...**Dirig Software** announced the successful launch of its latest management product for application server component management, officially named Fenway...**Granite Systems** announced the evolution of its global expansion initiative at the company's European User Group conference in Nice, France...Motorola's Global Telecom Solution Sector (GTSS) and Granite Systems have collaborated on a joint project to enhance Granite's Xpercom and Motorola's OMC-R and OMC-G products to support management of 2G, 2.5G and 3G networks...**Jacobs Rimell** appointed Stephen Allott, former President and CFO of Micromuse, as non-executive chairman...**Visionael** and EngineX Networks announced an alliance to provide a highly integrated network inventory management solution for public network service providers. 

Billing Customer Care Close-Up

BCC Index Rises in April

The BCC Index increased 12.9% in April. The spread between the BCC and the NASDAQ widened to (38) percentage points from (31) percentage points last month. Year-over-year, the BCC Index fell 28.5% versus a decrease of 45.2% in the NASDAQ. We anticipate continued outperformance by companies with high exposure to incumbent providers.

Billing Customer Care Index Spread^ versus NASDAQ



^The difference between the GKM Billing Customer Care and NASDAQ indices.

Note: GKM OSS indices originate on 1/1/97.

Source: Gerard Klauer Mattison and ILX Systems.

April's Performance - Billing Customer Care

(\$ millions, except per-share data)

Symbol	Price 4/30/01	Mkt Cap	TTM Rev*^^	P/E^^	EV/ TTM Rev	Mthly Stk Pr. % Chg.	Yr-Yr. Stk Pr. % Chg.
ACEC	\$1.91	\$18	\$32	N.M.	0.4	79.8%	(75.9)%
CSGS	58.21	3,055	421	28.7	7.3	41.3%	26.2%
CVG	36.50	5,599	2,227	26.6	2.6	1.2%	(17.0)%
DALN	0.89	19	44	N.M.	(0.1)	(18.6)%	(93.2)%
DOX	58.90	13,035	1,225	44.6	10.3	23.0%	(13.0)%
DST	49.12	6,135	1,362	29.4	4.5	1.9%	32.4%
LTBG	13.37	234	122	13.6	1.7	16.9%	(36.3)%
MSLV	8.77	315	145	15.4	1.2	(37.9)%	(74.3)%
PRSF†	8.80	1,403	268	62.9	4.5	4.3%	(80.8)%
BCC Index:				31.6x	3.6x	12.9%	(28.5)%
GKM Index:				40.2x	3.9x	14.5%	(38.1)%
NASDAQ:						15.0%	(45.2)%

*TTM - Trailing 12 months. ^^Price/Calendar 2001 consensus EPS estimates from First Call.

†Gerard Klauer Mattison & Co., Inc. is a market maker in the security of this company and may have a long or short position.

N.M. - Not meaningful. N.A. - Not available; company was not publicly traded one year ago.

Source: Gerard Klauer Mattison, FactSet, Bloomberg, First Call, corporate reports and ILX Systems.

Selected Earnings Estimates

Convergys (NYSE: CVG) (Dec Year End)			
EPS	FY00A	FY01E	FY02E
Q1	\$0.28	\$0.34A	\$0.44
Q2	0.29	0.33	0.45
Q3	0.32	0.38	0.47
Q4	<u>0.34</u>	<u>0.42</u>	<u>0.49</u>
Year	\$1.23	\$1.45	\$1.84

Source: First Call Estimates.

Portal Software+ (NASDAQ: PRSF) (Jan Year End)			
EPS	FY01A	FY02E	FY03E
Q1	\$0.02	\$(0.20)	\$(0.04)
Q2	0.03	(0.12)	(0.02)
Q3	0.04	(0.08)	(0.01)
Q4	<u>0.04</u>	<u>(0.05)</u>	<u>0.01</u>
Year	\$0.13	\$(0.39)	\$(0.06)

Source: First Call Estimates.

Publicly Traded BCC Companies - News

ACE*COMM announced a marketing and technology partnership with Geneva Technology and the implementation of a strategic alliance with Info Directions...**CSG Systems** and Athene Software announced a partnership to provide communication service providers with enhanced customer relationship management tools...**Convergys** announced that Xfera, an operator in Spain dedicated to the launch and management of new UMTS technology, has chosen its Geneva software to rate and bill its third generation (3G) mobile services. Convergys also signed a two-year billing service contract with Vodacom World Online South Africa and a five-year contract with RCN to license ICOMS, a convergent voice, video and data billing and customer care solution for cable and broadband service providers. Geneva Technology (wholly owned subsidiary of Convergys) won the Queens Award for Innovation 2001 and the World Billing Award for a second year in succession ...**Daleen Technologies** has entered into definitive agreements with existing and new investors for the private placement of \$27.5 million of convertible preferred stock and warrants...**Amdocs** signed a five-year outsourcing agreement with Bell-South and announced that Libertel-Vodafone has chosen the Amdocs platform for GPRS...**MetaSolv Software** announced that Radianz and Bell Intrigra are implementing the MetaSolv Solution to enhance existing operations support systems...**Portal Software** announced that China Mobile Communications, iINNER-HOST (leading Microsoft Application Infrastructure Provider), Exodus Communicatons, Toshiba Information and Industrial Systems and Service, Hubei Telecom (China Telecom's subsidiary) and Norwegian-based TTYL have selected Infranet, Portal's customer management and billing platform. Portal Software also signed a co-marketing and co-development agreement with Hewlett-Packard that will extend its customer management and billing capabilities to the prepaid voice market.

Privately Held BCC Companies - News

WaveSmith Networks entered into a strategic alliance with **AP Engines**...Sitara Networks and Apogee Networks partnered to develop enterprise and service provider solutions...**Astracon** was selected as a finalist in the 3rd annual "Silicon Valley High Tech Tour" competition. RequestDSL has chosen **Cygent** as the platform for its comprehensive customer service solution...**Eftia** expanded into the European market through the opening of a new office in London...Digital Fuel and **MetraTech** joined in a billing partnership...**NARUS** announced a deal with BT Ignite Content Hosting. Broadnet chose NARUS technology to differentiate services. NARUS launched new solutions focusing on communications service provider profitability at London's Billing Systems 2001. Vodafone selected **Netonomy's** e-Care and e-Commerce infrastructure. Netonomy announced it secured \$15 million in its third

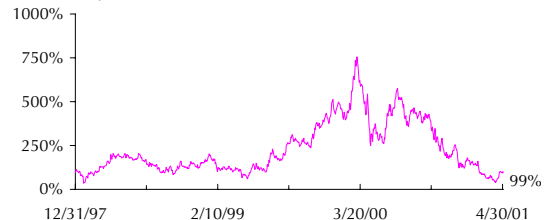
round of financing led by Groupe Arnault's Internet arm, Europatweb...**Sigma Systems** deployed solutions for provisioning of cable telephony services at Cox Communications...Broadview Networks has implemented **Syndesis'** NetProvision solution. Bell Canada selected Syndesis to enhance service fulfillment capabilities...**TeleKnowledge's** Total-e was named Product of the Year by *Communications ASP Magazine*. P-Cube and TeleKnowledge aligned to deliver advanced next-generation network services...**XACCT** announced integration packs for Amdocs' Ensemble and IAF Horizon customer care and billing platforms. Teleglobe selected XACCT's software platform. XACCT Technologies announced that Dell Ventures has made a strategic investment in XACCT Technologies, bringing cumulative financing to-date from all investors to more than US \$82 million. ♥

Service Aware Networks Elements Close-Up

SANE Index Increases 32.3% in April Led by Packeteer

The SANE Index increased 32.3% in April. Year-over-year, the SANE Index has fallen 59.2%. The spread between the SANE Index and the NASDAQ widened to 99 percentage points from 56 percentage points in March. We believe the trend toward OSS-enabled network elements will continue, along with migrations toward real-time processing in operations management and service creation.

Service Aware Network Elements Index Spread[^] versus NASDAQ



[^]The difference between the GKM Service Aware Network Elements and the Nasdaq.

Note: GKM OSS indices originate on 1/1/97.

Source: Gerard Klauer Mattison and ILX Systems.

April's Performance - Service Aware Network Elements

(\$ millions, except per-share data)

Symbol	Price 4/30/01	Mkt Cap	TTM Rev ^{^^}	P/E ^{^^}	EV/ TTM Rev	Mthly Stk Pr. % Chg.	Yr-Yr. Stk Pr. % Chg.
A	\$39.01	\$17,711	\$10,773	23.6	1.6	26.9%	(56.0)%
ADCT†	7.51	5,803	3,548	250.3	1.3	(11.6)%	(75.3)%
CATT	28.30	365	32	38.8	9.8	11.0%	240.5%
NTCT	8.25	240	108	26.6	1.6	61.0%	(45.0)%
PKTR†	8.27	238	45	N.M.	4.1	172.8%	(63.2)%
RBAK†	19.04	2,527	335	N.M.	7.8	45.6%	(76.0)%
TKLC	31.20	1,831	340	35.9	5.3	73.3%	(10.9)%
TSTN	7.00	409	133	N.M.	1.1	(7.1)%	(87.3)%
VNWK	3.60	112	76	N.M.	0.9	1.1%	(90.8)%
SANE Index:			34.8x	3.9x	32.3%	(59.2)%	
GKM Index:			40.2x	3.9x	14.5%	(38.1)%	
NASDAQ:					15.0%	(45.2)%	

*TTM - Trailing 12 months. ^^Price/Calendar 2001 consensus EPS estimates from First Call.

†Gerard Klauer Mattison & Co., Inc. is a market maker in the security of this company and may have a long or short position. N.M. - Not meaningful.

Source: Gerard Klauer Mattison, FactSet, Bloomberg, First Call, corporate reports and ILX Systems.

Selected Earnings Estimates

Agilent Technologies (NYSE: A) (Oct Year End)			
EPS	FY00A	FY01E	FY02E
Q1	\$0.30	\$0.51A	\$0.41E
Q2	0.35	0.27	0.48
Q3	0.39	0.25	0.54
Q4	<u>0.73</u>	<u>0.33</u>	<u>0.64</u>
Year	\$1.76	\$1.36	\$1.90

Source: First Call Estimates.

Publicly Traded SANE Companies - News

Agilent Technologies announced it is supplying the navigation sensor for new optical scroller mice that Hewlett-Packard will include with select models of its HP Pavilion home PCs. Agilent Technologies introduced the industry's first line interface to support 10 Gigabit/s Ethernet (10 GbE) WAN serial testing, and the first dual-interface enabling testing of both OC-192c POS and 10 GbE equipment and services on the same hardware module...Datek Online is using **NetScout's** real-time monitoring and capacity planning for applications solutions...Network Service and Technologies has chosen **Packeteer's** PacketShaper products as the basis of a network analysis service designed to facilitate increased efficiency of enterprise and service-provider networks...**Visual Networks** announced that Visual IP InSight software will be used to manage Sprint's broadband fixed wireless network. Visual Networks also announced that The Depository Trust & Clearing Corporation (DTCC) recently expanded the in-

Packeteer+ (NASDAQ: PKTR) (Dec Year End)			
EPS	FY00A	FY01E	FY02E
Q1	\$(0.04)	\$(0.10)A	\$0.02
Q2	(0.01)	(0.01)	0.04
Q3	0.01	0.00	0.05
Q4	0.02	0.01	0.06
Year	\$(0.02)	\$(0.09)	\$0.17


Source: GKM Estimates.

Companies mentioned in this report priced as of the May 17, 2001 close:

ACE*COMM (ACEC-1.74)
 Acterna (ACTR-10.40)
 ADC+ (ADCT-9.60)
 Agilent (A-38.72)
 Amdocs Limited (DOX-63.00)
 BellSouth (BLS-41.50)
 British Telecom (BTY-76.91)
 Brocade+ (BRCD-45.35)
 Cabletron (CS-18.80)
 China Telecom (CHL-25.12)
 Cisco Systems+ (CSCO-19.86; **BUY**)
 Compaq (CPQ-16.34; **NEUTRAL**)
 Concord Communications (CCRD-7.50)
 Convergys (CVG-41.33)
 Cox Communications (COX-43.87)
 CSG Systems (CSGS-60.09)
 Daleen Tech. (DALN-1.01)
 Dell Computer+ (DELL-25.87; **NEUTRAL**)
 DSET (DSET-1.04)
 Evolving Systems (EVOL-3.40)
 Exodus Communications+ (EXDS - 8.31; **NEUTRAL**)
 Hewlett-Packard (HWP-30.90)
 InfoVista (IVTA-7.52)
 IBM (IBM-115.07)
 Intel+ (INTC-28.58; **BUY**)
 Level3 Communications+ (LVLT-14.23)
 Lightbridge (LTBG-12.87)
 LINMOR (LIR.TO- 0.320)
 Lucent (LU-9.81; **NEUTRAL**)
 MetaSolv (MSLV-10.10)
 Micromuse+ (MUSE-42.76; **BUY**)
 Microsoft+ (MSFT-68.17)
 Motorola (MOT-15.56; **NEUTRAL**)
 NetScout (NTCT-9.48)
 Nokia (NOK-32.96; **NEUTRAL**)
 Orchestream (OCHS-18.05)
 Packeteer+ (PKTR-7.95; **NEUTRAL**)
 Portal Software+ (PRSF-5.97)
 RCN (RCNC-5.65)
 Redback Networks+ (RBAK-16.88)
 Reliant Energy (REI-46.28; **NEUTRAL**)
 Sprint (FON-20.71)
 TCSI+ (TCSI-1.11; **NEUTRAL**)
 Tekelec (TKLC-32.79)
 Telstra (TLS-17.45)
 Time Warner Telecom+ (TWTC-48.25; **NEUTRAL**)
 TTI Telecom International (TTIL-18.15)
 Turnstone Systems (TSTN-7.20)
 Verizon (VZ-53.73)
 Vertel (VRTL-1.70)
 Visual Networks (VNWK-4.78)
 Vodafone (VOD-28.71)

stallation of the Visual UpTime WAN service management system to include new locations in Canada...British Telecom has selected **Acterna** as its preferred supplier of optical testers. Acterna announced a multi-million-dollar agreement with TyCom. Acterna announced that Bell ExpressVu has chosen Acterna's Digital Broadcast Monitoring System (DTS-400) for continuous real-time supervision of its MPEG-2/DVB satellite network.

Privately Held SANE Companies - News

Iowa Utilities Board and North Carolina Utilities Commission selected **Telcordia Technologies** for number pooling trial...**Clear** closed a \$20 million round of equity financing led by William Blair Capital Partners VII of Chicago. **ANTARA.net** expanded the features and functionality of FlameThrower Version 2.0...**Dorado Software** will deliver integrated network personalization solution for IP communications...**Kabira Technologies** announced that the new Kabira Adapter Factory automatically generates adapters connecting the Kabira ObjectSwitch Server with applications or network equipment via XML, Java and CORBA interfaces... **Minicom** introduced Phantom Specter...**SS8 Networks** and NetNumber partnered to enable carriers worldwide to rapidly and affordably introduce next-generation services over SIP and H.323 Networks...**GN NetTest** and Empirix will provide comprehensive VoIP Testing Solutions. 

Research Snapshot: Initiated Coverage of Micromuse – BUY

On May 2nd, we initiated coverage of Micromuse, the leading provider of “out-of-the-box” fault management solutions for service providers and large enterprises, with a **BUY** rating at a price of \$51.11. Our 12-month price target is \$60. Its Netcool suite of products hits customer hot buttons—simplified networks, quick installation and payback— and actually works. Micromuse was founded in 1989 as a network management solutions reseller in the UK. Micromuse went public in February 1998 and is headquartered in San Francisco. The company has 15 offices covering nine countries and sales reps in eight other countries. Micromuse has more than 175 distribution partners, with customers in 45 countries.

Netcool Suite On The Mark

Netcool automates problem identification, isolation and resolution in network operations for telecom and data service providers and for enterprises that consider their networks as mission critical. Netcool’s strength lies in its simplicity and ability to solve business problems and to reduce operational costs. It is easy to install in customer networks, as evidenced by installations calculated in days and weeks, instead of weeks and months. The payback on MUSE systems can be less than six months. Its direct competitors include Hewlett-Packard, Agilent, Compaq and RiverSoft. We expect fault management and overall service assurance to become more important in the running of tomorrow’s networks and businesses and view MUSE at the core of running these networks. We expect Micromuse to continue to gain share in the expanding network and service management market.

Demand Continues To Be Brisk

Networks are increasingly heterogeneous and need to be managed. Our discussions with customers, partners and resellers lead us to believe that operations support systems (OSS) sales will continue to be brisk even if network equipment sales continue their sluggish pace. We believe networks are increasingly heterogeneous (multi-vendor), and customers are striving toward standardization and simplification to keep their software manageable—which is precisely the function of MUSE’s Netcool products. While we do not believe that macroeconomic trends or troubles at alternative carriers (e.g., CLECs) should be ignored, we expect Micromuse customers to continue to deploy Netcool in their efforts to cut operating expenses, use service-level management to distinguish themselves from their competitors and increase network utilization, which can reduce over-all network equipment expenditures.

Private Company Focus: Cramer Systems

Crossing the Pond: Automated Provisioning and Network Inventory


Cramer Systems is headquartered in Bath, England and has offices in Washington, D.C. and Denver. It is a leading supplier of provisioning software for the telecom industry. The company employs a three-tier vision of network and service provisioning in its efforts to help drive next-generation OSS solutions. Formed in 1996, Cramer has over 200 employees and is on a rapid growth path. The company is currently leveraging its success in Europe and broadening its reach into North America and Southeast Asia. Cramer delivers its products through its own direct sales force, embedded in systems from major equipment vendors and through solutions from the leading telecom systems integrators. The company recently raised second round funding of \$25 million in November 2000. Its investors include Broadview Capital Partners and Kennet Capital.

Dimension: Automating Provisioning

Cramer's Dimension product portfolio addresses a central part of the provisioning problem solving, an issue that is becoming increasingly critical to telcos, i.e., the time and cost of matching supply (network capacity) and demand (service orders). As telcos seek to reduce operational costs and capital expenditure, Dimension provides the capabilities required to automate and improve the consistency of the provisioning process.

Cramer's architecture includes a service and network inventory platform, incorporating a fully validated capacity model for multi-layered, multi-technology networks. Around this core, additional products provide capabilities to automate and streamline service provisioning. DSL solutions using Cramer's Dimension have been delivered in less than 100 days. A full range of carrier services is supported, from leased lines to carrier-class IP and DSL. Mobile operators use Dimension to speed their network provisioning as they roll out next-generation data networks to integrate with their existing GSM infrastructure.

More than 20 operators, from incumbents to new entrants, spanning the fixed and cellular markets, have embraced Cramer Dimension and the three-tier approach. Cramer has established strategic, long-term relationships with many of its customers. Its customers include BT Cellnet, KPN Mobile, Belgacom, Cegetel, diAx, Telfort, among others. The company has also had success in partnering with other technology vendors. Nokia recently selected Cramer Systems as a software provider for the Nokia NetAct solution.

We believe the need for automated and improved provisioning and inventory management will continue to be critical factors in the increasingly complex and heterogeneous networks. Service offerings are growing in complexity and scalability is becoming more challenging. We expect vendor and network consolidation to also contribute to drive increased demand. We believe Cramer Systems has been successful in the international arena in its efforts to help customers hasten provisioning time and network resource management through its Dimension product set. We look forward to seeing the impact that Cramer Systems will have in North America and Southeast Asia as it broadens its reach. 

**Cramer Systems'
Product Positioning**

BML			
SML			
NML			
EML			
NEL			
	F&P	P/SA	BCC

BML: Business Management Layer.
 SML: Service Management Layer.
 NML: Network Management Layer.
 EML: Element Management Layer.
 NEL: Network Element Layer.
 F&P: Fault and Performance.
 P/SA: Provisioning and Service Activation.
 BCC: Billing and Customer Care.

Source: Gerard Klauer Mattison and corporate reports.

† Gerard Klauer Mattison & Co., Inc. is a market maker in the security of this company and may have a long or short position.

ADDITIONAL INFORMATION ON SECURITIES MENTIONED HEREIN IS AVAILABLE UPON REQUEST

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