

## Adding up billing system offerings

Raymond Aller, MD

**T**he billing/accounts receivable information systems featured on the following pages run the gamut from modules for a particular vendor's laboratory information system to fully independent billing systems that are interfaced to a variety of LISs.

Most vendors provide systems for their clients' offices, but a few market an outsourced or application service provider model. Some ASP vendors use transaction-based billing mechanisms, while others establish a fixed fee. In a few cases, such as Xifin and Medical Data Processing, companies that are well established as outsourced billing services have begun offering a software module so laboratories can manage more of their own billing processes.

A number of organizations have found LOINC (Logical Observation Identifiers Names and Codes) useful for billing. LOINC is a standard terminology and coding system for identifying laboratory results. The LOINC codes that are reported correlate with the CPT (current procedural terminology) or HCPCS (healthcare common procedure coding system) code billed. LOINC codes can be used to validate that appropriate CPT codes are being used.

Many of the vendors in this year's survey offer clients the capability of storing LOINC codes in their databases, but only two—Sysware and Xifin—say they provide the LOINC dictionary with each new installation. This is a prerequisite to linking the LOINC result codes with billing codes. We hope that more vendors will begin to integrate LOINC codes into their billing systems and, eventually, into algorithms for validating CPT codes.

Showcased on pages 34–42 are 15 billing/accounts receivable systems from as many vendors. The tables are based entirely on information provided by the companies. We urge readers to verify all information about systems they are considering purchasing. Potential clients should talk to users of these systems and ask about the level of support provided by the vendor. Ask the vendor for a complete list of users and contact several of them.

The selection process is less about choosing a particular piece of software than about assessing the character and reliability of the vendor that will be supporting and enhancing that software—and your laboratory—over many years. Ask yourself if this is a company with which you are comfortable entering into a long-term business partnership and upon which you are willing to stake the financial viability of your laboratory. □

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SYSTEM REVIEW SERIES

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Billing/accounts receivable systems

Part 1 of 5	Antek HealthWare Richard Jefferson 228 Business Center Drive Reisterstown, MD 21136 800-359-0911 www.antekhealthware.com	Cerner Corp. Tom Meyer 2800 Rockcreek Parkway Kansas City, MO 64117-2551 816-201-0054 www.cerner.com	Computer Service and Support Inc. James T. O'Neill Jr. 2106 New Rd., Bldg. E-6 Linwood, NJ 08221 609-653-6444 www.csslis.com
See accompanying article			
Name of system	DAQbilling Practice Management System	Profit Enterprise Billing and Accounts Receivable	A/R-2000
First/most recent B/AR* system installation	2001/2002	2000/2001	1980/2002
First lab system installation	1990	1984	1980
No. of contracts for sites operating B/AR system	20	2	66
• No. of contracts signed as of March 1, 2002 (systems not yet operational)	2	28	7
• No. of contracts signed between March 1, 2001–March 1, 2002	20	18	9
No. of sites where system is operational (HL/IL/PP/PO/OL)**	22 (0/5/0/15/2†)	2 (1 IDN/0/0/0/1 specialty inpatient facility)	66 (0/61/5/0/0)
No. of inpatient invoices handled by installed sites annually	20,000–40,000 (ave: 30,000)	—	22,000–1M
No. of outpatient specimens handled by installed sites annually	n/a	—	22,000–1M
Largest No. of hospitals/pathologists serviced by one B/AR system	n/a	6/13	8/500
Percentage of installations that are stand-alone B/AR systems	100%	0	20%
How data is entered into the system	manual entry, tape load from another system, FTP or equivalent file transfer from another system, HL7, ANSI-X12	manual entry, tape load from another system, FTP or equivalent file transfer from another system, HL7, ANSI-X12, others	manual entry, tape load from another system, FTP or equivalent file transfer from another system, HL7, ANSI-X12, ASCII file
Staff to develop/install/support/other***			
• In entire company	9/8/10/8	700/1,655/725/1,090	5/4/4/6
• In B/AR systems division	5/4/5/8	40/26/8/12	—
No. of terminals/workstations in sites operating system (min.–max.)	1–30	7–620+	3–75
Ave. No. of terminals in sites operating system	4	—	25
• Central hardware	Windows-based operating system, Antek HW	IBM, Compaq	IBM RS/6000
• Terminals/workstations	—	PCs	Windows PC, dumb terminals
• Innovative peripherals	digital scanner	imaging, optical storage	—
• Operating system(s)	Windows-based	Windows, Windows NT, AIX, open VMS	AIX
• Programming language(s)	Delphi	Visual C++, Visual Basic	C
• Databases and tools used	Oracle	Oracle RDBMS	LabBase
HIS interfaces	n/a	Cerner	IDX, Medic, Medical Manager, PCN, McKesson, Advanced Data Systems
LIS interfaces	LabDaq	Cerner	CCA-CyberLab, SCC
Features (listed as a percentage of live installations, available but not installed, or not available)			
• Information transfer from lab login	20%	100%	100%
• 1500 claim form generation	100%	100%	100%
• UB-92 claim form generation	not available	100%	—
• Client invoices	100%	50%	100%
• Patient invoices	100%	100%	100%
• Reprints of above on demand	100%	100%	100%
• Electronic data interchange for third-party payers	100%	100%	100%
• Test profile vs. component billing	not available	100%	25%
• Medical-necessity screening for Medicare	not available	available but not installed	100%
• Professional component billing	not available	100%	25%
• Auto delete of nonbillable procedures	not available	100%†	100%
• Technical component only	not available	50%	25%
• Retain demographic data, repeating patients	100%	100%	100%
• Accounts and patient payment posting	100%	100%	100%
• Accounts receivable system	100%	100%	100%
• Discounts	5%	available but not installed	100%
• Automatic balance billing to patients	not available	80%	100%
• Capitation billing plus billable tests	not available	80%	25%
• Utilization reports for managed care	100%	80%	75%
• Services per diem/per discharge	not available	available but not installed	25%
• Global charges for lab tests	100%	100%	100%
• Support unlimited fee schedules	(6 fee schedules)	100%	50%
• Track financial classes	not available	80%	50%
• Allow open-item accounting	100%	100%	100%
• User report writer	not available	100%	75%
• Dunning messages	100%	100%	100%
• Store and retain unprinted comments	100%	100%	100%
B/AR system can file electronic claims with major carriers?	yes	yes	yes
National claims clearinghouses with which system is electronically interfaced	ProxyMed, Antek	Web MD	ProxyMed, Web MD
Type of claim data generation	1500, medical assistance claim forms	UB-92, 1500	1500
Complete ASP solution for B/AR system?	yes	yes	no
Method of charging for ASP service	transaction-based	fixed fee	—
Client software required	requires software be installed on client PC	browser-based	—
ASP information conduit	operates over Internet	requires use of private, dedicated circuit	—
Client contracts supported from data center not operated by client	40	30	—
How data center is operated	by vendor	by vendor	—
Software provides indexed field in each test definition for LOINC code?	no	yes	no
Provide LOINC dictionary for each new installation?	no	no	no
Journaling?/source code?	yes/escrow	yes/escrow	yes/yes
Cost (hardware/software/installation & training/mo. maintenance)			
• Smallest stand-alone B/AR system	— †/\$0.99 per encounter/\$.75k per day/\$0	—	\$4k/\$10k/\$5k/\$.3k
• Largest stand-alone B/AR system	— †/\$0.99 per encounter/\$.75k per day/\$0	—	\$15k/\$75k/\$10k/\$3k
• Smallest B/AR configuration for integrated system	—	—	\$3k/\$10k/\$3k/\$.3k
• Largest B/AR configuration for integrated system	—	—	\$10k/\$40k/\$10k/\$2k
Distinguishing features (supplied by vendor)	<ul style="list-style-type: none"> <li>all claims are electronically submitted to Antek</li> <li>store digital images to eliminate copying of ID, referrals, and EOBs</li> <li>real-time payer-specific claim error checking</li> </ul>	<ul style="list-style-type: none"> <li>true integration of clinical and financial systems across the continuum of care</li> <li>access to all relevant encounter information to the point of origin</li> <li>real-time capture of clinical charges</li> </ul>	<ul style="list-style-type: none"> <li>CSS help desk staff members are cross-trained on lab and billing</li> <li>ProxyMed electronic medical claims link provided with A/R-2000 system license</li> <li>HIPAA and ANSI compliant</li> </ul>
* B/AR=billing/accounts receivable			
** HL=hospital labs, IL=independent labs, PP=pathology practices, PO=physician offices, OL=other locations			
***other=sales, marketing, administration, other company functions			
	† billing services, psychiatric		
	‡ can use existing Windows-based system; \$1k if new PC is required		
		† does not delete but suppresses from statement	

Tabulation does not represent an endorsement by the College of American Pathologists

Survey editor: Raymond Aller, MD

## Billing/accounts receivable systems

<i>Part 2 of 5</i>	Cortex Medical Management Systems Inc. Duane Fitch 2001 Western Ave., Ste. 410 Seattle, WA 98121 206-812-6981 www.cortexmed.com	Diamond Computing James T. Campbell 2345 Fourth St. Tucker, GA 30084 770-496-0286	Hex Laboratory Systems Susan Bollinger 1042B El Camino Real, Ste. 308 Encinitas, CA 92024 800-729-2085 www.hexlab.com
<i>See accompanying article on page 33</i>			
Name of system	Cortex Medical Billing System		Lab/Hex Billing and Cash Management
First/most recent B/AR* system installation First lab system installation	1986/2002 1986	1984/2002 1984	1983/2002 1981
No. of contracts for sites operating B/AR system • No. of contracts signed as of March 1, 2002 (systems not yet operational) • No. of contracts signed between March 1, 2001–March 1, 2002 No. of sites where system is operational (HL/IL/PP/PO/OL)**	15 4 7 15 (1/4/8/0/2†)	18 1 — 18 (6/10/2/0/0)	22 2 5 22 (0/19/1/0/2†)
No. of inpatient invoices handled by installed sites annually No. of outpatient specimens handled by installed sites annually Largest No. of hospitals/pathologists serviced by one B/AR system Percentage of installations that are stand-alone B/AR systems	0 21,000–360,000 (ave: 50,000) 5/15 6%	10,000–200,000 775,000 max. 4/— —	— 10,000–750,000 (ave.: 200,000) —/20 5%
How data is entered into the system	manual entry, FTP or equivalent file transfer from another system, HL7, from Cortex AP system	manual entry, tape load from another system, FTP or equivalent file transfer from another system, HL7, user-defined interface	manual entry, tape load from another system, FTP or equivalent file transfer from another system, HL7, ANSI-X12, modem, NSF
Staff to develop/install/support/other*** • In entire company • In B/AR systems division	5/3/5/10 2/1/3/0	— —	4/5/5/2 —
No. of terminals/workstations in sites operating system (min.–max.) Ave. No. of terminals in sites operating system	5–12 6	6–250 64	1–45 10
• Central hardware • Terminals/workstations • Innovative peripherals  • Operating system(s) • Programming language(s) • Databases and tools used	PC server PC or terminal server —  MS 2000 Visual Basic SQL server	Intel-based servers Wyse, Intel-based PCs —  Unix, Windows NT MUMPS/M —	Dell PowerEdge, any Intel RAID server Intel PCs, Wyse terminals, thin clients voice recognition, document scanning, e-billing and remittance, optical storage SCO Unix, Red Hat Linux Thoroughbred Business Basic Idol IV, 4GL, SQL
HIS interfaces	iMcKesson	Cerner, TDS, Meditech, Sunquest, McKesson	SMS, McKesson, Sunquest, Cerner, Antrim, Experior, Logician, IDX, Medical Manager, Medic, any HL7, proprietary
LIS interfaces	Sunquest, CCA, Cortex	Cerner, Meditech, Sunquest	Lab/Hex, AP Easy
Features (listed as a percentage of live installations, available but not installed, or not available) • Information transfer from lab login • 1500 claim form generation • UB-92 claim form generation • Client invoices • Patient invoices • Reprints of above on demand • Electronic data interchange for third-party payers • Test profile vs. component billing • Medical-necessity screening for Medicare • Professional component billing • Auto delete of nonbillable procedures • Technical component only • Retain demographic data, repeating patients • Accounts and patient payment posting • Accounts receivable system • Discounts • Automatic balance billing to patients • Capitation billing plus billable tests • Utilization reports for managed care • Services per diem/per discharge • Global charges for lab tests • Support unlimited fee schedules • Track financial classes • Allow open-item accounting • User report writer • Dunning messages • Store and retain unprinted comments	80% 100% available but not installed 80% 100% 100% 100% 100% 100% 15% available in July 2002 80% not available 80% 100%	100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 10% 10% 0% 100%	100% 100% 100% 100% 100% 100% 50% 100%
B/AR system can file electronic claims with major carriers? National claims clearinghouses with which system is electronically interfaced Type of claim data generation	yes iMcKesson/Cydata, Web MD, BCBS, Medicare, Medtrac UB-92, 1500	yes — UB-92, 1500	yes ProxyMed UB-82, UB-92, 1500
Complete ASP solution for B/AR system? Method of charging for ASP service Client software required  ASP information conduit Client contracts supported from data center not operated by client How data center is operated	no — —  — — —	no — —  — — —	yes fixed fee or transaction-based browser-based, requires software be installed on client PC, uses dumb terminals operates over Internet — by vendor
Software provides indexed field in each test definition for LOINC code? Provide LOINC dictionary for each new installation?	no —	yes —	yes no
Journaling?/source code? Cost (hardware/software/installation & training/mo. maintenance) • Smallest stand-alone B/AR system • Largest stand-alone B/AR system • Smallest B/AR configuration for integrated system • Largest B/AR configuration for integrated system	yes/escrow \$5k/\$35k/\$7k/\$.63k \$50k/\$150k/\$28/\$2.7k \$1.5k/\$2.5k/\$0/\$.045k \$1.5k/\$2.5k/\$0/\$.045k	yes/yes — — — —	yes/escrow \$5k/\$9.5k/\$5k/\$.2k \$25k/\$65k/\$25k/\$1.25k \$0/\$5k/\$2.5k/\$.1k \$10k/\$35k/\$5k/\$.5k
Distinguishing features (supplied by vendor)  * B/AR=billing/accounts receivable ** HL=hospital labs, IL=independent labs, PP=pathology practices, PO=physician offices, OL=other locations ***other=sales, marketing, administration, other company functions	• integrated with Microsoft/Great Plains/Solomon general ledger, accounts payable, payroll, etc. • report writers include Crystal, Access, Excel, others • detailed records kept on file indefinitely † ER service bureau, Easter Seals Society	• easy to use; menu driven • interface to spreadsheets • accounting reports	• fully integrated with LIS • electronic claims and remittance • medical necessity module  † veterinary, health department

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## Billing/accounts receivable systems

<i>Part 3 of 5</i>	Medical Data Processing Inc. Tracy Davidson 6100 Newport Rd., Ste. 225 Portage, MI 49002 616-381-2743 www.mdp.net	Medical Information Technology Inc. Paul Berthiaume Meditech Circle Westwood, MA 02090 781-821-3000 www.meditech.com	Misys Healthcare Inc. (formerly Sunquest) Odessa Newell 4801 E. Broadway Blvd. Tucson, AZ 85711 800-748-9658 www.misyshealthcare.com
<i>See accompanying article on page 33</i>			
Name of system	Medsys/3000	Billing/Accounts Receivable (B/AR) <sup>†</sup>	Misys Clinical Financial
First/most recent B/AR* system installation First lab system installation	1976/2002 —	1977/2002 1969	1985/2002 1985
No. of contracts for sites operating B/AR system • No. of contracts signed as of March 1, 2002 (systems not yet operational) • No. of contracts signed between March 1, 2001–March 1, 2002 No. of sites where system is operational (HL/IL/PP/PO/OL)**	24 0 3 71 (17/25/9/15/5 <sup>†</sup> )	1,388 9 85 n/a	199 10 11 199 (30/145/24/0/0)
No. of inpatient invoices handled by installed sites annually No. of outpatient specimens handled by installed sites annually Largest No. of hospitals/pathologists serviced by one B/AR system Percentage of installations that are stand-alone B/AR systems	100,000–1M+ (ave.: 550,000) 300,000–3M (ave.: 1.65M) 10+/10+ 100%	— — — 0	— 5,000–3.9M (ave.: 260,000) 8/23 20%
How data is entered into the system	manual entry, tape load from another system, FTP or equivalent file transfer from another system, HL7, ANSI-X12, proprietary formats from other vendors	manual entry, tape load from another system, FTP or equivalent file transfer from another system, HL7, ANSI-X12, others	manual entry, FTP or equivalent file transfer from another system, HL7
Staff to develop/install/support/other*** • In entire company • In B/AR systems division	5/1/4/1 —	— —	339/184/289/181 31/13/21/10
No. of terminals/workstations in sites operating system (min.–max.) Ave. No. of terminals in sites operating system	1–70 20–25	n/a n/a	8–128 35
• Central hardware • Terminals/workstations • Innovative peripherals • Operating system(s) • Programming language(s) • Databases and tools used	HP, others PCs — MPE, Unix Cobol KSAM/ISAM	Dell, EMC, IBM, JJWild Dell, EMC, IBM, JJWild — Windows 95, 98, NT, 2000, ME Magic Magic, SQL server	IBM RS/6000, Compaq Alpha Dell Optiplex or similar — AIX, Unix, VMS M, Caché Caché, Intersystems M/SQL, Intersystems DSM
HIS interfaces	McKesson, SMS, Meditech, Allegra, Misys, Cerner	Cerner, McKesson, others	Cerner, SMS, McKesson
LIS interfaces	McKesson, Meditech, Misys, CCA, Cerner, SCC	Cerner, Sunquest, others	Misys, Cerner, SMS, McKesson, SCC, Triple G, LabGem, LabCorp
Features (listed as a percentage of live installations, available but not installed, or not available) • Information transfer from lab login • 1500 claim form generation • UB-92 claim form generation • Client invoices • Patient invoices • Reprints of above on demand • Electronic data interchange for third-party payers • Test profile vs. component billing • Medical-necessity screening for Medicare • Professional component billing • Auto delete of nonbillable procedures • Technical component only • Retain demographic data, repeating patients • Accounts and patient payment posting • Accounts receivable system • Discounts • Automatic balance billing to patients • Capitation billing plus billable tests • Utilization reports for managed care • Services per diem/per discharge • Global charges for lab tests • Support unlimited fee schedules • Track financial classes • Allow open-item accounting • User report writer • Dunning messages • Store and retain unprinted comments	>75% 100% 25% 90% 100% 50% 100% 90% >80% >70% >60% >40% >70% 100% 100% 100% >90% >98% >90% 100% 100% 100% >40% >75% 100% 100% 100% 100% 100% 80% >98% 100%	100% 100%	100% 100%
B/AR system can file electronic claims with major carriers? National claims clearinghouses with which system is electronically interfaced Type of claim data generation	yes NEIC, Cydata, IMS, Medicare carriers, BCBS, many Medicaid carriers UB-82, UB-92, 1500	yes Premis, NDC, SSI, Companion  UB-82, UB-92, 1500	yes Per Se, Web MD, Cydata  UB-92, 1500, custom billing services
Complete ASP solution for B/AR system? Method of charging for ASP service  Client software required ASP information conduit  Client contracts supported from data center not operated by client How data center is operated	yes fixed fee or transaction-based (individually priced with base minimum) requires software be installed on client PC operates over Internet, can use a private, dedicated circuit 5 by vendor	no — — — — —	no — — — — —
Software provides indexed field in each test definition for LOINC code? Provide LOINC dictionary for each new installation?	yes no	yes no	no no
Journaling?/source code? Cost (hardware/software/installation & training/mo. maintenance) • Smallest stand-alone B/AR system • Largest stand-alone B/AR system • Smallest B/AR configuration for integrated system • Largest B/AR configuration for integrated system	yes/escrow \$20k–\$30k/\$35k/included (except expenses)/\$.7k \$70k/\$80k/included/\$1.5k \$20k–\$25k†/\$35k/included/\$.7k \$60k†/\$80k/included/\$1.5k	yes/yes — — — —	yes/yes — — — —
Distinguishing features (supplied by vendor)  * B/AR=billing/accounts receivable ** HL=hospital labs, IL=independent labs, PP=pathology practices, PO=physician offices, OL=other locations ***other=sales, marketing, administration, other company functions	• automation and flexibility of all modules and software • statistical data collection • compliance and LMRP (medical necessity tools) † radiology clinics and imaging centers ‡ may be less	• integration throughout health care information system • more than three decades of product and technological innovation • 99 percent customer retention rate † answers reflect Meditech's Magic and client/server products combined	• proven high-volume processing • integrated medical necessity and procedure code consolidation tools • automated processes reduce errors and operational costs and improve days sales outstanding (DSOs)

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SYSTEM REVIEW SERIES

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Billing/accounts receivable systems			
Part 4 of 5	Multidata Computer Systems Inc. Michael Slater 330 Seventh Ave. New York, NY 10001 212-967-6700 www.mul.com	SCC Soft Computer Ellie Vahman 34350 U.S. Hwy. 19N Palm Harbor, FL 34684 727-789-0100 www.softcomputer.com	SIA (a Sysmex company) Bill Blair 5210 E. Williams Circle Tucson, AZ 85711 520-790-4624 www.sia-molis.com
See accompanying article on page 33			
Name of system	MultiTech A/R	Soft A/R	Molis Integrated Billing
First/most recent B/AR* system installation	1984/2002	1993/2002	1989/2002
First lab system installation	1983	1985	1989
No. of contracts for sites operating B/AR system	35	25	95
• No. of contracts signed as of March 1, 2002 (systems not yet operational)	—	10	2 (in U.S.)
• No. of contracts signed between March 1, 2001–March 1, 2002	2	13	3 (in U.S.)
No. of sites where system is operational (HL/IL/PP/PO/OL)**	35 (2/33/0/0/0)	25 (20/3/1/0/1†)	142
No. of inpatient invoices handled by installed sites annually	—	n/a	—
No. of outpatient specimens handled by installed sites annually	15,000–2.5M (ave.: 250,000)	1.5M–6.5M (ave.: 4.3M)	—
Largest No. of hospitals/pathologists serviced by one B/AR system	1/n/a	13/7	—
Percentage of installations that are stand-alone B/AR systems	20%	0	0
How data is entered into the system	manual entry, tape load from another system, FTP or equivalent file transfer from another system, HL7	manual entry, tape load from another system, HL7, ANSI-X12, others	manual entry, tape load from another system, FTP or equivalent file transfer from another system, HL7, ANSI-X12, others
Staff to develop/install/support/other***			
• In entire company	4/2/3/2	276/185/147/112	300/200/400/300
• In B/AR systems division	2/1/1.5/1	21/15/15/—	41/36/25/25
No. of terminals/workstations in sites operating system (min.–max.)	4–100+	1–40	5–200
Ave. No. of terminals in sites operating system	15–20	7	—
• Central hardware	Intel Pentium compatible, Compaq Alpha, most Unix Risc	IBM pSeries (RS/6000)	Compaq (Alpha, Intel), IBM (Intel, RS/6000, 3090), HP (Intel 900), Sun
• Terminals/workstations	PC workstation w/WRQ Reflection software, DEC VT series or compatible	PCs, ASCII terminals	Windows-based PCs, VT320 or equivalent
• Innovative peripherals	optional image input/output	optical storage	—
• Operating system(s)	Windows 2000, NT, Compaq/DEC VMS, Unix, Linux	IBM AIX (Unix), MS Windows (client)	NT, NT2000, AIX, HP-UX, TRU64, Alpha, Solaris, Open VMS, others
• Programming language(s)	Caché (M), Visual Basic VI	C++, Visual C++, PL-SQL	Uniface
• Databases and tools used	Caché (M)	Oracle	Oracle, Sybase, Informix, C-Isam
HIS interfaces	SMS, CSM	IDX, Quadramed, SMS, McKesson, TDS, Meditech, others	SMS, SAC, CEPAGE, LaLisa, Sandra, BHIS
LIS interfaces	Cerner, Psyche, SMS, SCC	SCC SoftLab	Molis
Features (listed as a percentage of live installations, available but not installed, or not available)			
• Information transfer from lab login	75%	100%	100%
• 1500 claim form generation	100%	45%	available but not installed in U.S.
• UB-92 claim form generation	10%	5%	available but not installed in U.S.
• Client invoices	100%	75%	100%
• Patient invoices	100%	50%	available but not installed in U.S.
• Reprints of above on demand	100%	50%	100%
• Electronic data interchange for third-party payers	100%	60%	available but not installed in U.S.
• Test profile vs. component billing	100%	100%	100%
• Medical-necessity screening for Medicare	100%	75%	available but not installed in U.S.
• Professional component billing	40%	95%	100%
• Auto delete of nonbillable procedures	100%	100%	100%
• Technical component only	20%	100%	100%
• Retain demographic data, repeating patients	100%	100%	100%
• Accounts and patient payment posting	100%	100%	100%
• Accounts receivable system	100%	100%	100%
• Discounts	100%	85%	100%
• Automatic balance billing to patients	100%	50%	available but not installed in U.S.
• Capitation billing plus billable tests	100%	available but not installed	available but not installed in U.S.
• Utilization reports for managed care	100%	available but not installed	available but not installed in U.S.
• Services per diem/per discharge	n/a	available in late 2002	not available
• Global charges for lab tests	80%	100%	100%
• Support unlimited fee schedules	100%	100%	100%
• Track financial classes	100%	100%	available but not installed in U.S.
• Allow open-item accounting	50%	100%	available but not installed in U.S.
• User report writer	25%	100%	available but not installed in U.S.
• Dunning messages	100%	50%	available but not installed in U.S.
• Store and retain unprinted comments	100%	100%	100%
B/AR system can file electronic claims with major carriers?	yes	yes	yes
National claims clearinghouses with which system is electronically interfaced	Envoy	MedUnite, MCR, NEIC, MVP, Blue Cross, Envoy	NHIC, others
Type of claim data generation	UB-82, UB-92, 1500	UB-92, 1500	1500
Complete ASP solution for B/AR system?	no	no	yes
Method of charging for ASP service	—	—	transaction-based
Client software required	—	—	requires software be installed on client PC
ASP information conduit	—	—	requires use of private, dedicated circuit
Client contracts supported from data center not operated by client	—	—	0
How data center is operated	—	—	by vendor
Software provides indexed field in each test definition for LOINC code?	yes	yes	yes
Provide LOINC dictionary for each new installation?	optional	no	no
Journaling?/source code?	optional/escrow	yes/escrow	—/escrow
Cost (hardware/software/installation & training/mo. maintenance)			
• Smallest stand-alone B/AR system	\$10k/\$15k/included/\$.5k	\$25k/\$30k/\$40k/—	n/a
• Largest stand-alone B/AR system	\$100k/\$150k/included/\$2.25k	\$75k/\$250k/\$150k/—	n/a
• Smallest B/AR configuration for integrated system	\$5k/\$15k/included/\$.5k	\$25k/\$30k/\$40k/—	\$25k/\$150k/included/\$.95k
• Largest B/AR configuration for integrated system	\$50k/\$150k/included/\$2.25k	\$75k/\$250k/\$150k/—	\$300k/\$1.2M/included/\$15k
Distinguishing features (supplied by vendor)	<ul style="list-style-type: none"> <li>extensive functionality for electronic remittance processing with rules-based actions for denials/partial payments</li> <li>automated claims-management tools to help resolve missing/incomplete/medically necessary data</li> <li>system designed for commercial labs</li> </ul>	<ul style="list-style-type: none"> <li>HIS, commercial lab, SNF, ESRD, centralized billing for multi-sites</li> <li>client-defined and editable billing formats without vendor intervention</li> <li>unlimited multi-tiered pricing, carve-outs, billing edits</li> </ul>	
* B/AR=billing/accounts receivable			
** HL=hospital labs, IL=independent labs, PP=pathology practices, PO=physician offices, OL=other locations			
***other=sales, marketing, administration, other company functions			† clinic

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## Billing/accounts receivable systems

<i>Part 5 of 5</i>	Sysware Healthcare Systems Atman Trivedi P.O. Box 2776 Farmington Hills, MI 48333-2776 248-888-7701 http://sysware1.com	Triple G Systems Group Inc. Heather Edmonds Penstone 3100 Steeles Ave. East, Ste. 600 Markham, Ontario, Canada L3R 8T3 905-305-0041 www.tripleg.com	Xifin Inc. Craig Turner 2233 Faraday, Ste. A Carlsbad, CA 92008 760-804-0770 ext. 35 www.xifin.com
<i>See accompanying article on page 33</i>			
Name of system	PowerAR	Ultra-AR	Accounts Receivable Management Services
First/most recent B/AR* system installation First lab system installation	1989/2002 1989	1993/2002 1991	2001/2001 n/a
No. of contracts for sites operating B/AR system • No. of contracts signed as of March 1, 2002 (systems not yet operational) • No. of contracts signed between March 1, 2001–March 1, 2002 No. of sites where system is operational (HL/IL/PP/PO/OL)**	14 2 4 14	10 6 3 10 (7/3/0/0/0)	1 3 4 1 (0/1/0/0/0)
No. of inpatient invoices handled by installed sites annually No. of outpatient specimens handled by installed sites annually Largest No. of hospitals/pathologists serviced by one B/AR system Percentage of installations that are stand-alone B/AR systems	— 300,000–2M (ave.: 800,000) 0/5 0	10,000–100,000 (ave.: 25,000) 25,000–12M (ave.: 2M) 20/25 10%	n/a 3M n/a 100%
How data is entered into the system	manual entry, HL7, ANSI-X12	manual entry, tape load from another system, FTP or equivalent file transfer from another system, HL7, ANSI-X12	manual entry, FTP or equivalent file transfer from another system, HL7, ANSI-X12, proprietary
Staff to develop/install/support/other*** • In entire company • In B/AR systems division	26/4/9/3 6/2/3/0	50/35/16/30 4/2/1/0	31 total —
No. of terminals/workstations in sites operating system (min.–max.) Ave. No. of terminals in sites operating system	4–18 8	10–>1,000 250	ASP (one PC/user) —
• Central hardware  • Terminals/workstations • Innovative peripherals  • Operating system(s) • Programming language(s) • Databases and tools used	Dell PowerEdge 6400  Dell Optiplex automatic document scanning, indexing  Windows NT 2000 C++, Clarion Pervasive SQL	Unix servers, support IBM RS/6000, HP 9000, Sun Windows 98, NT, 2000 voice input, optical storage, bar-code input, image capture and retrieval interface Unix Unify Vision, C Unify Dataserver database, Unify development tool kit	Sun Microsystems, Cisco Systems (lab does not own or manage server hardware) Pentium III PC with Internet access interface to scanning system, data warehouse, COLD storage Sun Microsystems Solaris (Unix), BEA WebLogic Java, Javascript Oracle 8i, Veritas, Verisign, Covalent, Business Objects
HIS interfaces  LIS interfaces	Cerner, Keane, First Coast, Meditech, Phoenix, others none	SMS, McKesson, IDX, Compucare, Meditech  Ultra, Rubicon	n/a  CIS
Features (listed as a percentage of live installations, available but not installed, or not available) • Information transfer from lab login • 1500 claim form generation • UB-92 claim form generation • Client invoices • Patient invoices • Reprints of above on demand • Electronic data interchange for third-party payers • Test profile vs. component billing • Medical-necessity screening for Medicare • Professional component billing • Auto delete of nonbillable procedures • Technical component only • Retain demographic data, repeating patients • Accounts and patient payment posting • Accounts receivable system • Discounts • Automatic balance billing to patients • Capitation billing plus billable tests • Utilization reports for managed care • Services per diem/per discharge • Global charges for lab tests • Support unlimited fee schedules • Track financial classes • Allow open-item accounting • User report writer • Dunning messages • Store and retain unprinted comments	100% 100% 0% 100% 100% 100% 100% 100% 100% 50% 50% 100% 100% 100% 100% 100% 100% 100% 100% 50% 50% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 50%	100% 33% 33% 100% 100% 100% 100% 100% 100% 33% 33% 100% 0% 100% 100% 100% 100% 100% 100% 50% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100% 100%	100% 100% available in May 2002 100% 100% 100% 100% 100% 100% 100% available in June 2002 100%
B/AR system can file electronic claims with major carriers? National claims clearinghouses with which system is electronically interfaced Type of claim data generation	yes — 1500	yes ProxyMed UB-92, 1500	yes ProxyMed, Per Se, Web MD, MedUnite 1500, NY Medicaid
Complete ASP solution for B/AR system? Method of charging for ASP service Client software required ASP information conduit Client contracts supported from data center not operated by client How data center is operated	no — — — — —	no — — — — —	yes transaction-based browser-based operates over Internet 100% by third-party (SBC Communications Inc.)
Software provides indexed field in each test definition for LOINC code? Provide LOINC dictionary for each new installation?	yes yes	yes no	yes yes
Journaling?/source code? Cost (hardware/software/installation & training/mo. maintenance) • Smallest stand-alone B/AR system • Largest stand-alone B/AR system • Smallest B/AR configuration for integrated system • Largest B/AR configuration for integrated system	yes/escrow — — \$5k/\$35k/\$8k/\$.375k \$25k/\$125k/\$25k/\$1.8k	yes/escrow \$25k/\$50k/\$50k/\$.75k >\$1M/>\$1M/>\$1M/18% of software cost per yr. — —	yes/escrow n/a/\$1.25 per accession/\$30k/n/a n/a/\$.75 per accession/\$30k/n/a n/a n/a
Distinguishing features (supplied by vendor)  * B/AR=billing/accounts receivable ** HL=hospital labs, IL=independent labs, PP=pathology practices, PO=physician offices, OL=other locations ***other=sales, marketing, administration, other company functions	• paperless accounts receivables; on-line claims editing, complete paperless claims management • rules-based electronic remittance processing • workflow management with productivity tracking in claims processing	• designed for multiple laboratory, IDN environment • fully integrated modules, single database design • proven in high-volume laboratories	• transaction-based Web services that provide expert outsourcing of the maintenance, management, and ongoing development of billing infrastructure • closed-loop, rules-driven automation that is configurable to lab policies and procedures

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