

Beyond all the bells and whistles of linking software

Raymond D. Aller, MD

There are still kinks in the links. Despite being well established as a category of medical software, systems that link physician offices and laboratories continue to encounter problems.

Physician office-lab link, or POLL, software can offer a high level of functionality, allowing physicians and their staff to order laboratory assays, collect and label laboratory specimens, route specimens to the lab, inquire about test information, receive lab results, print lab reports, order supplies, receive training, and perform other tasks. Inherent in such sophisticated software, however, are numerous challenges.

Government regulations pose one challenge by forbidding laboratories from subsidizing or compensating their clients—physicians. However, if you provide physicians with workstations that connect only to your lab, and the Internet connection can be used only for handling laboratory specimens and results, then it is legal for the laboratory to purchase them. Because the regulations will be nearly impossible to enforce, the safest approach is to have

physicians purchase the PCs and pay for Internet connectivity. Nevertheless, competition in the marketplace may cause laboratories to purchase the hardware.

Another challenge involves dealing with physician office PCs, which can have an unpredictable and alterable configuration. Systems that depend on a client-server configuration, in which there is a fair amount of software on the physician's system,

are particularly likely to run into problems. It is, therefore, preferable to use as standard of a browser as possible and avoid relying on special plug-ins, dynamically linked libraries, or DLLs, and other special features. In some situations, however, the advantages of a thick-client system may be compelling—for example, the user interface in a well-defined client application may be more effective than in a Web-based application.

A laboratory will also fare better by choosing a software package that will be efficient even at very slow connection speeds—that is, 28k or slower. My first POLL product ran at 1.2k, which is two percent of the speed of a 56k modem, and it worked great.

On pages 30–50 are 23 POLL systems from 22 vendors. One useful way to categorize such systems is to distinguish those vendors that have connected only to their own LIS, or perhaps to one more, from those who have connected to a variety of LIS hosts. LIS/POLL vendors that connect only to their own systems may have more effectively integrated the functionality of their LIS with their POLL soft-

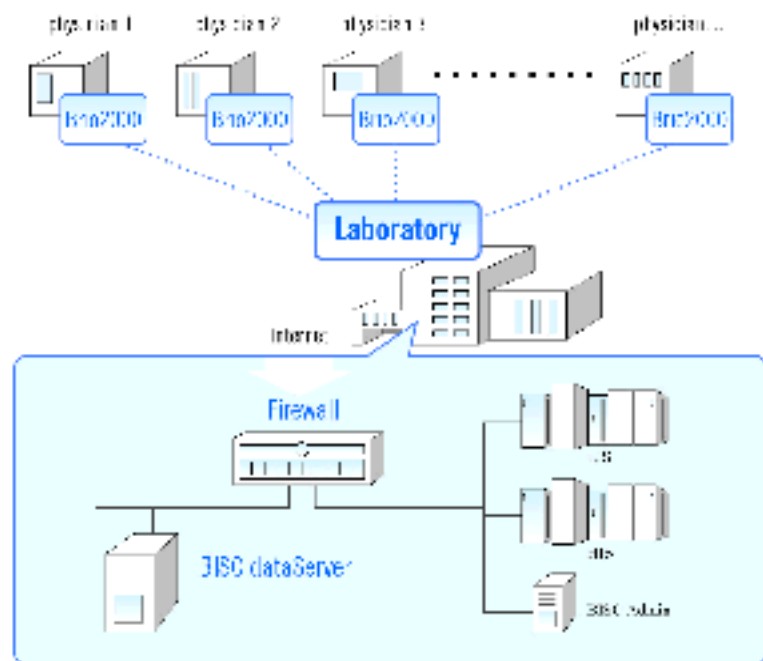
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The POLL marketplace as documented in CAP TODAY

CAP TODAY has been closely following the physician office-lab link software marketplace for the past 10 years. The table below lists the number of vendors that have participated in CAP TODAY's POLL software surveys, the number of vendors that survived from one survey to the next, and the total number of host laboratories claimed by the vendors in each survey, which has fluctuated markedly through the years.

Year of survey	No. of vendors in POLL survey (No. that also appeared in previous survey)	No. of host labs listed in survey
1994	10 —	157
1997	12 (4)	228
1999	15 (8)	302
2000	15 (12)	141
2001	12 (8)	138
2002	17 (10)	288
2003	20 (15)	366

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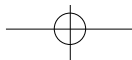
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Linking software

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ware. On the flipside, these vendors' POLL software products may have such poor functionality that the vendors must offer it at a deep discount to persuade their existing sites to use it. Over the years, some LIS vendors have offered a series of POLL products, never gaining much footing. Consequently, a laboratory in the market for such software should consider the reliability of its own LIS vendor before deciding which route to take.

One should always check the pedigree of vendors and their systems before making a purchase. When a prominent vendor of Internet-based POLL software was acquired by a well-known hospital information systems vendor, the HIS vendor promised to continue supporting and promoting the POLL product. A year later, however, the vendor dropped the product line, cancelled contracts, and refused to continue installation or support.

In addition to information systems vendors, commercial laboratories are players in the POLL marketplace. When considering whether to contract with a commercial lab, potential customers need to ask whether they must continue to be a reference lab customer of that commercial lab to continue using the software. Commercial laboratories don't have the market presence of the independents.

Another, smaller, group are vendors of clinical/physician practice information systems. Potential customers must determine how well such vendors focus on the laboratory ordering/reporting features versus other aspects of their clinical information system.

Finally, there are independent developers that focus primarily on POLL software. These vendors tend to concentrate on building systems rich in features. One way to evaluate to what degree such a product can be integrated with a given LIS software platform is to talk to users who have recently chosen an independent POLL product over their LIS vendor's POLL software, as well as users who have made the opposite choice.

Regardless of what type of vendor a laboratory chooses, securing connections to the physician office practice management system, or POPMS, is helpful. POPMS can directly transfer demographic information needed by the lab, avoiding the need for re-entry, and directly capture billing information required by the lab. With an optimal interface, updates to billing information can be automatically transferred to the POLL. Furthermore, it is possible to transfer lab results back into the physician's electronic health record. The connection to the POPMS may be implemented with a custom-developed interface or an adaptive interface using screen animation or print-stream parsing, or both, or using direct database queries.

The company listings on the following pages focus on the general characteristics of POLL software vendors and their products as well as a variety of functions. Yet the most important offering

How LOINC comes into play

An effort is underway among national accrediting and quality improvement agencies to require that all laboratories supplying results to physician offices transmit those results with a LOINC code. Whether or not this will happen remains to be seen, but the long-term trend is clear—when transmitting data to another organization or department, whether it be another laboratory, a clinic, or the health system electronic medical record, identify the results with a standard code.

Laboratories are gradually recognizing the benefits of LOINC, or Logical Observation Identifiers Names and Codes. The coding system can send results to the physician office electronic health record without creating a translation table. Users don't have to start from scratch every time they receive results from a new central laboratory. LOINC can also bring together reports/results from different laboratories, including the office lab. And it helps facilities comply with the legal mandate for the reporting of diseases to public health agencies. —Raymond Aller, MD

that any software vendor can provide is top-notch customer support. Talk to users of a variety of POLL software products and determine which vendor will be most likely to meet your service needs. The information you glean from users of POLL products should help you to choose a link with a minimum of kinks. □

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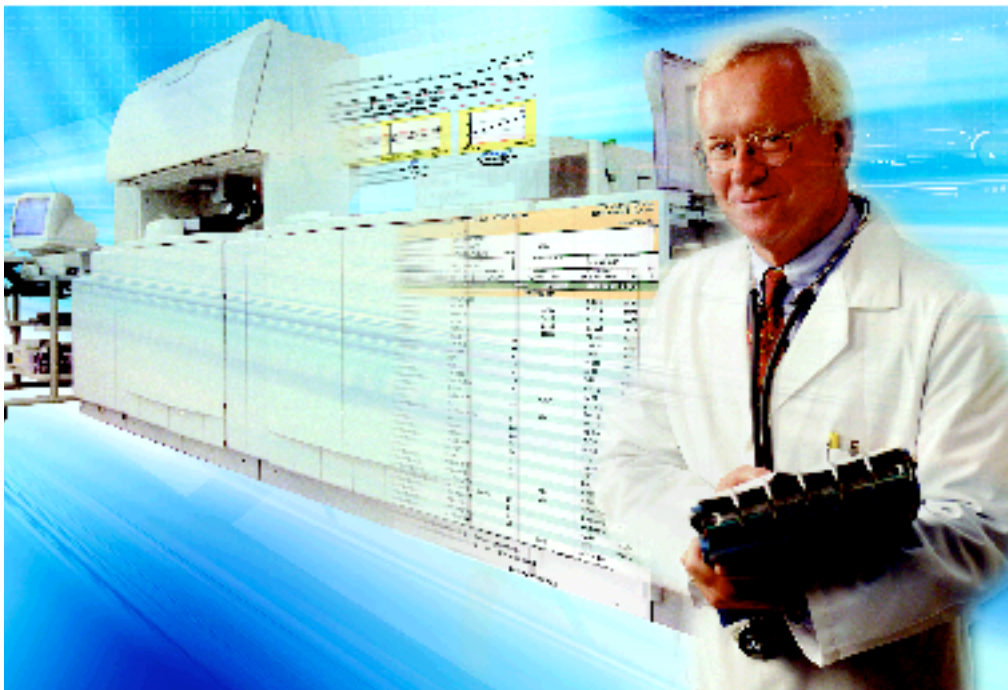
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Why online order entry plays second fiddle to electronic results reporting

Karen L. Wagner

In the marriage of online order entry and electronic results reporting, online order entry tends to be the weaker partner. But why the imbalance in this union?

For one thing, software vendors explain, online order entry is a much more technologically complicated proposition than electronic results reporting, so developing the technology takes time.

"There are some components of an order system that are just by nature fairly sophisticated and require more access to multiple databases," says Mike Reardon, director of sales for Zix Corp., formerly MyDocOnline. He cites insurance verification and Medicare compliance as examples.

Online order entry requires that users be able to access large quantities of information to complete an order, which makes for a slow process, adds Donald Butler, PhD, president of Brunston Integrated Systems Corp. "Not only should the user be presented with the approximately 1,000 tests a lab may offer, but the user should be able to see specimen requirements, CPT codes, and, ultimately, ICD-9 codes," he says.

Furthermore, integrating disparate computer systems is costly. An online order-entry system has to be integrated with the laboratory informa-

tion system, host billing system used by the LIS, practice management system used by the provider, and possibly even an electronic medical records system, says Curt Johnson, vice president of sales and marketing for Orchard Software Corp. "This scenario calls for potentially seven different HL7 interfaces in order to integrate all systems successfully and have the data flow to each as required," Johnson says. While this is possible, he adds, it's expensive.

Others say the systems still aren't user-friendly because they're not sufficiently "smart" or easy to use. "By smart," says Robert Atlas, president and CEO of Atlas Medical Software, "I mean an intuitive system that prompts the user through the ordering process as well as intelligently managing the coordination of resources to reduce errors, offload the user, and minimize keystrokes. By easy, I mean a system that is logical and easy to follow, designed from the ground up to make the end-user more effective at their job."

Says Cory Fishkin, president and COO of CareEvolve.com, "Most applications are designed by information technologists, not users or specialists in graphical user interfaces."

James Reilly, vice president of sales for eTeleNext, adds that the industry hasn't incorporated the needs of all

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Physician office-laboratory links software

<p>Part 1 of 12</p> <p><i>See accompanying article on page 26</i></p>	<p>1Atlas Medical Software Paul Park ppark@atlasmedical.com 26679 W. Agoura Rd., Ste. 200 Calabasas, CA 91302 818-340-7080 www.atlasmedical.com</p>	<p>Automated Document Services Alan Fricke al@flashlinkprinters.com 22431-B160 Antonio Parkway, Ste. 430 Rancho Santa Margarita, CA 92688 800-700-9481 www.flashlinkprinters.com</p>
Name of POLL software/system	Atlas LabWorks	Flash Report
First/most recent installation of software or system	1995/June 2004	2001/July 2004
No. of host or central labs using software clinically	40	16
• No. of host labs that electronically transfer orders from PO* to LIS	39	0
No. of satellite locations installed	3,500	200
No. of host lab contracts signed to date in 2004	8	8
No. of contracts signed since 6-1-03/No. that went live since 6-1-03	18/15	12/12
Staff to develop-install & support-other** in entire firm/in POLL software division	30-24-26/20-20-22	3 total
Average time to install, build files, train office staff in a typical PO	2 hours	30 minutes
Major commercial labs that use POLL package	Spectrum Health, Sunrise, Spectra, MDS	ARUP Laboratories, Biopath Clinical Laboratories, others
LIS, HIS, and other interfaces	Misys, Cerner, Meditech, Tamtron, Triple G, McKesson, others	Misys, Meditech, Cerner, Triple G, McKesson, CCA
Software modifications or modules required on host LIS to interface?	yes (HL7 results and interfaces—FTP or socket)	no
POPMS*** used to transfer patient demographics or billing info. to POLL system	Medical Manager, SMLE, VitalWorks, Meditech, Clinscan, Vision, Reynolds and Reynolds, Medisoft, others	Medical Manager
How demographics or billing information is transferred from POPMS at PO or clinic to POLL system	one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed, other transfer modes	one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed
External software tools or vendors used to transfer data from POPMS to POLL system	Atlas interface engine, Persys, Hilgraeve, others	—
Test directory stored on PO system?	yes	no
How results are returned to PO	block of text, PDF, individually segmented fields	block of text
Data interface standards supported	HL7, XML, custom when required	HL7, XML, custom when required
System supports LOINC for identifying lab result database elements?	yes	yes (for thin client version)
System architecture or functionality	thick client, PC, whether or not connected to lab host, standard Web browsers	thick client, PC, whether or not connected to lab host (for some functions), standard Web browsers, others
Patient order and result database maintained on local PC?	all functionality exists for thick client	yes
• Functions not available if network link is down	—	—
Online connections between PO and central or host system	no online connection, dial-up modem to private phone No., leased line, VPN, public Internet connection, others	dial-up modem to private phone No., VPN, public Internet connection
Complete ASP solution for POLL software?/Method of charging for ASP service	yes/variety of pricing models	yes/fixed monthly fee (subscription)
Features (listed as a percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	100%	available but not installed
- Advanced beneficiary notice printed if medical necessity criteria not met	100%	available but not installed
- Local medical review policies can be viewed	100%	available but not installed
- Automatic routing of an order to different labs according to payer rules	100%	available but not installed
- Printing of lab's requisitions	100%	available but not installed
- Printing of requisitions for other lab providers	100%	available but not installed
- Duplicate order checking	100%	available but not installed
- Physician office-specific panels	30%	available but not installed
• Electronic order entry (from PO to host)	100%	available but not installed
- Transfer of patient demographics or insurance	100%	available but not installed
- Automatic handling of scheduled or standing orders	100%	available but not installed
- Automatic routing of orders to hospital or commercial labs depending on payer rules	100%	available but not installed
• Bar-code collection label printing	100%	available but not installed
• Two-dimensional bar code on printed requisition	available but not installed (PDF 417)	available but not installed
• Software adapted for use in phlebotomy or collection stations	10%	available but not installed
• Result receipt		
- Stored as a block of text	100%	100%
- All items (result, reference range, units) stored as individual data elements	100%	—
- Automatic parsing of report pages to extract results	5%	—
- Inquiry mode that allows PO to check status of specimens with host	100%	—
• Reporting		
- In exact format received from host lab	100%	100%
- Cumulative	10%	available
- Integration of host and PO lab results	2%	100%
- Display of new results for patient and/or clinic	100%	100%
- Remote access available to on-call physicians	100%	100%
- Unattended printing of reports	90%	100%
- Display current report with historical data on same screen	100%	100%
- Graph historical results with current results for trend analysis	100%	100%
• Physician can electronically sign reports to confirm review	100%	not available
• Physician can compose and send secure electronic messages to patients	not available	20%
• User-defined rule-based system and alerts in PO module	15%	100%
• Electronic transfer of data to another PO	—	100%
- E-mail/encrypted e-mail	15%/15%	not available/available but not installed
- Web reference or pointer to Web site	40%	100%
- Fax	15%	not available
• PO orders supplies from host lab	20%	not available
• Specimen pickup or courier requests to host lab	100%	not available
• Financial		
- Billing, collections, accounts receivable	not available	not available
- Electronic claims transfer/interfaces to billing systems	not available/10%	not available/5%
• Electronic medical record interface	10%	not available
• Interfaces to PO lab instruments	1%	15%
• Entry of PO lab results with edit checks	available but not installed	100%
System priced on a cost-per-transaction basis?	optional†	no
One-time/initial charges	—†	\$.3k (one time/site for results only)†
Monthly/subscription fees	—†	—
Basis for increasing fees as POs are added	—†	based on other algorithm (\$.3k/site for results; no charge for orders)
Situations where fees increase with additional services	—	if order entry is added to result transmission (or vice versa)
Distinguishing features (supplied by vendor)	<ul style="list-style-type: none"> • over nine years of experience driving 1 million orders and results electronically to labs monthly • flexible deployment options • proven interface to EMRs, PMSs, HISs, and LISs 	<ul style="list-style-type: none"> • uses traditional auto-dial with complete search and history capability for results • ASP or lab-hosted application for ordering
<small>*PO=physician's office **other=sales, marketing, administration, other company functions ***POPMS=physician office practice management systems</small>	<small>† capital, monthly, transactional models available</small>	<small>† \$30k—unlimited use for ordering module</small>

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Survey editor: Raymond Aller, MD

Physician office-laboratory links software

<p>Part 2 of 12</p> <p><i>See accompanying article on page 26</i></p>	<p>Axolotl Corp. Nicole Spencer nspencer@axolotl.com 800 El Camino Real West, Ste. 150 Mountain View, CA 94040 530-269-1806 www.axolotl.com</p>	<p>Brunston Integrated Systems Corp. sales@brunston.com 3835-R Thousand Oaks Blvd., #221 Westlake Village, CA 91362 805-494-1341 www.brunston.com</p>
Name of POLL software/system	Elysium	Brio2000 Link
First/most recent installation of software or system	1998/2004	1994/June 2004
No. of host or central labs using software clinically	20	5
• No. of host labs that electronically transfer orders from PO* to LIS	7	2
No. of satellite locations installed	4,000+	74
No. of host lab contracts signed to date in 2004	n/a	1
No. of contracts signed since 6-1-03/No. that went live since 6-1-03	n/a	—
Staff to develop-install & support-other** in entire firm/in POLL software division	12-13-n/a/4-6-n/a	—
Average time to install, build files, train office staff in a typical PO	1.5 hours	3 hours
Major commercial labs that use POLL package	Unilab, Quest, LabCorp, LabOne, MDS, PACLab	MOS/HCA (use interface), American Health Associates
LIS, HIS, and other interfaces	Siemens, McKesson, Cerner, Misys, others	Meditech, Antrim, Cerner, CCA, CSS, Misys, McKesson
Software modifications or modules required on host LIS to interface?	no	—
POPMS*** used to transfer patient demographics or billing info. to POLL system	Medical Manager, Athena Health, Epic	Medical Manager, Misys, Lytec, others
How demographics or billing information is transferred from POPMS at PO or clinic to POLL system	daily update of demographics, more frequent automatic update of all demographics that have changed, POLL provides patient ID to POPMS and POPMS replies in real-time	more frequent automatic update of all demographics that have changed
External software tools or vendors used to transfer data from POPMS to POLL system	HL7, Axolotl software	Persys Technology
Test directory stored on PO system?	no	yes
How results are returned to PO	individually segmented fields	block of text, individually segmented fields
Data interface standards supported	HL7	HL7, XML, custom when required
System supports LOINC for identifying lab result database elements?	yes	no
System architecture or functionality	standard Web browsers	thick client, PC, whether or not connected to lab host
Patient order and result database maintained on local PC?	no	yes
• Functions <i>not</i> available if network link is down	—	none
Online connections between PO and central or host system	dial-up modem to private phone No., leased line, VPN, public Internet connection	dial-up modem to private phone No. or leased line (both for results reporting), VPN, public Internet connection (DSL/cable modem required)
Complete ASP solution for POLL software?/Method of charging for ASP service	yes/fixed monthly fee (subscription)	no/—
Features (listed as a percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	installed	100%
- Advanced beneficiary notice printed if medical necessity criteria not met	installed	100%
- Local medical review policies can be viewed	installed	100%
- Automatic routing of an order to different labs according to payer rules	installed	100%
- Printing of lab's requisitions	installed	100%
- Printing of requisitions for other lab providers	installed	100%
- Duplicate order checking	installed	100%
- Physician office-specific panels	installed	100%
• Electronic order entry (from PO to host)	installed	—
- Transfer of patient demographics or insurance	installed	100%
- Automatic handling of scheduled or standing orders	not available	100%
- Automatic routing of orders to hospital or commercial labs depending on payer rules	not available	100%
• Bar-code collection label printing	available but not installed	100%
• Two-dimensional bar code on printed requisition	available but not installed	100% (PDF 417)
• Software adapted for use in phlebotomy or collection stations	available but not installed	—
• Result receipt		
- Stored as a block of text	not available	100%
- All items (result, reference range, units) stored as individual data elements	installed	100%
- Automatic parsing of report pages to extract results	not available	100%
- Inquiry mode that allows PO to check status of specimens with host	not available	100%
• Reporting		
- In exact format received from host lab	not available	100%
- Cumulative	installed	100%
- Integration of host and PO lab results	installed	—
- Display of new results for patient and/or clinic	installed	100%
- Remote access available to on-call physicians	installed	—
- Unattended printing of reports	installed	100%
- Display current report with historical data on same screen	installed	—
- Graph historical results with current results for trend analysis	installed	100%
• Physician can electronically sign reports to confirm review	installed	—
• Physician can compose and send secure electronic messages to patients	available but not installed	—
• User-defined rule-based system and alerts in PO module	installed	—
• Electronic transfer of data to another PO	installed	—
- E-mail/encrypted e-mail	not available/installed	—
- Web reference or pointer to Web site	not available	100%
- Fax	installed	—
• PO orders supplies from host lab	available but not installed	10%
• Specimen pickup or courier requests to host lab	not available	—
• Financial		
- Billing, collections, accounts receivable	available but not installed	—
- Electronic claims transfer/interfaces to billing systems	available but not installed	—
• Electronic medical record interface	installed	—
• Interfaces to PO lab instruments	not available	—
• Entry of PO lab results with edit checks	installed	—
System priced on a cost-per-transaction basis?	no	no
One-time/initial charges	—	—
Monthly/subscription fees	—	—
Basis for increasing fees as POs are added	based on No. of physicians of record	no increase—flat fee per host lab
Situations where fees increase with additional services	n/a	no increase
Distinguishing features (supplied by vendor)	<ul style="list-style-type: none"> • national standards • browser based • interface specialists can connect POLL to any system 	<ul style="list-style-type: none"> • install and launch from Web browser but full thick client application runs • physician always runs latest version from company's servers
<p>*PO=physician's office **other=sales, marketing, administration, other company functions ***POPMS=physician office practice management systems</p>		

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

Physician office-laboratory links software

Part 3 of 12	CareEvolve.com Brian T. Jones bjones@careevolve.com 481 Edward Ross Drive Elmwood Park, NJ 07407 888-322-5222 www.careevolve.com	Cerner Corp. Angela Betts abetts@cerner.com 2800 Rockcreek Parkway Kansas City, MO 64117 816-201-2771 www.cerner.com
<i>See accompanying article on page 26</i>		
Name of POLL software/system	CareEvolve	Cerner Millennium ePathLink
First/most recent installation of software or system	1999/June 2004	1999/June 2004
No. of host or central labs using software clinically	35	11
• No. of host labs that electronically transfer orders from PO* to LIS	10	75%
No. of satellite locations installed	1,500+	—
No. of host lab contracts signed to date in 2004	4	22
No. of contracts signed since 6-1-03/No. that went live since 6-1-03	8/5	33/22
Staff to develop-install & support-other** in entire firm/in POLL software division	12-110+-500+†/3-7-5	800+-2,700+-1,300+/5+-6+-1+
Average time to install, build files, train office staff in a typical PO	30 minutes	15 hours
Major commercial labs that use POLL package	Bio-Reference Laboratories, SED Medical Laboratories, Christus Healthcare System, Geisinger Healthcare System, others	—
LIS, HIS, and other interfaces	Misys, Cerner, McKesson, Meditech, Siemens, others	Cerner Millennium PathNet, others
Software modifications or modules required on host LIS to interface?	yes (standard HL7 import/export)	no
POPMS*** used to transfer patient demographics or billing info. to POLL system	Medical Manager, Misys, others	major vendors' systems
How demographics or billing information is transferred from POPMS at PO or clinic to POLL system	one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed, other transfer modes	daily update of demographics, POLL provides patient ID to POPMS and POPMS replies in real-time
External software tools or vendors used to transfer data from POPMS to POLL system	Halfpenny Technologies, Hilgraeve, Persys	Cerner open interface engine, other vendors
Test directory stored on PO system?	yes	yes
How results are returned to PO	block of text, PDF, individually segmented fields	block of text, individually segmented fields
Data interface standards supported	ASTM 1238, HL7, ANSI X12, XML, custom when required	HL7
System supports LOINC for identifying lab result database elements?	yes	no
System architecture or functionality	thick client, PC, while not connected to lab host, standard Web browsers	standard Web browsers
Patient order and result database maintained on local PC?	no (thin client), yes (thick client)	no
• Functions not available if network link is down	—	—
Online connections between PO and central or host system	VPN, public Internet connection	dial-up modem to private phone No., public Internet connection
Complete ASP solution for POLL software?/Method of charging for ASP service	yes/per physician, per month	yes/—
Features (listed as a percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	80%	25%
- Advanced beneficiary notice printed if medical necessity criteria not met	80%	25%
- Local medical review policies can be viewed	80%	not available
- Automatic routing of an order to different labs according to payer rules	80%	not available
- Printing of lab's requisitions	80%	100%
- Printing of requisitions for other lab providers	80%	not available
- Duplicate order checking	80%	75%
- Physician office-specific panels	80%	100%
• Electronic order entry (from PO to host)	40%	50%
- Transfer of patient demographics or insurance	80%	50%
- Automatic handling of scheduled or standing orders	installed	available in 2005
- Automatic routing of orders to hospital or commercial labs depending on payer rules	25%	not available
• Bar-code collection label printing	80%	100%
• Two-dimensional bar code on printed requisition	40% (PDF 417)	not available
• Software adapted for use in phlebotomy or collection stations	80%	installed
• Result receipt		
- Stored as a block of text	10%	30%
- All items (result, reference range, units) stored as individual data elements	90%	70%
- Automatic parsing of report pages to extract results	available but not installed	not available
- Inquiry mode that allows PO to check status of specimens with host	25%	100%
• Reporting		
- In exact format received from host lab	100%	100%
- Cumulative	100%	installed
- Integration of host and PO lab results	100%	not available
- Display of new results for patient and/or clinic	100%	available in 2005
- Remote access available to on-call physicians	100%	100%
- Unattended printing of reports	25%	—
- Display current report with historical data on same screen	not available	available in 2005
- Graph historical results with current results for trend analysis	100%	available in 2005
• Physician can electronically sign reports to confirm review	100%	not available
• Physician can compose and send secure electronic messages to patients	available but not installed	available in 2005
• User-defined rule-based system and alerts in PO module	100%	not available
• Electronic transfer of data to another PO	available third quarter 2004	not available
- E-mail/encrypted e-mail	not available/available third quarter 2004	available in 2005
- Web reference or pointer to Web site	available third quarter 2004	not available
- Fax	available third quarter 2004	not available
• PO orders supplies from host lab	available by year-end	not available
• Specimen pickup or courier requests to host lab	available by year-end	not available
• Financial		
- Billing, collections, accounts receivable	not available	installed
- Electronic claims transfer/interfaces to billing systems	available but not installed	not available/installed
• Electronic medical record interface	5%	100%
• Interfaces to PO lab instruments	not available	2%
• Entry of PO lab results with edit checks	available by year-end	not available
System priced on a cost-per-transaction basis?	no	—
One-time/initial charges	\$75k-\$120k	—
Monthly/subscription fees	\$2k-\$7k	—
Basis for increasing fees as POs are added	based on No. of physicians of record	—
Situations where fees increase with additional services	if order entry is added to result transmission (or vice versa)	—
Distinguishing features (supplied by vendor)	<ul style="list-style-type: none"> • ease of use • global results search—physicians may query their patient database • physician custom alerts 	<ul style="list-style-type: none"> • comprehensive totally integrated single system • more than 24 years in the LIS industry • continued innovations in LIS
<small>*PO=physician's office **other=sales, marketing, administration, other company functions ***POPMS=physician office practice management systems</small>	<small>† No. of staff is for CareEvolve.com's parent company, Bio-Reference Laboratories</small>	

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Physician office-laboratory links software

Part 4 of 12

See accompanying article on page 26

eTeleNext Inc.
James Reilly sales@etelenext.com
33585 Del Obispo St., Ste. C167
Dana Point, CA 92629
949-636-0060 www.etelenext.com

4Medica
Alex Guralnik alexg@4medica.com
100 Corporate Pointe, Ste. 200
Los Angeles, CA 90230
310-348-4100 ext. 211 www.4medica.com

Name of POLL software/system	eTeleNext†	Retriever
First/most recent installation of software or system	1998/June 2004	1998/July 2004
No. of host or central labs using software clinically	20	50+
• No. of host labs that electronically transfer orders from PO* to LIS	14	40+
No. of satellite locations installed	300+	15,000+ providers, 6,500+ offices
No. of host lab contracts signed to date in 2004	3	10+
No. of contracts signed since 6-1-03/No. that went live since 6-1-03	5/3	20+/12+
Staff to develop-install & support-other** in entire firm/in POLL software division	5-5-5/—	42 total/21-11-10
Average time to install, build files, train office staff in a typical PO	1 hour	1 hour
Major commercial labs that use POLL package	—†	Quest, LabCorp, LabOne
LIS, HIS, and other interfaces	Cortex, GE Medical, Misys, Meditech, Cerner	Misys, Cerner, McKesson, Tamtron, Psyche, CoPath, Cortex, others
Software modifications or modules required on host LIS to interface?	no	no
POPMS*** used to transfer patient demographics or billing info. to POLL system	Medical Manager	Medical Manager, Misys, Perfect Practice, Millbrook, Lytec, others
How demographics or billing information is transferred from POPMS at PO or clinic to POLL system	one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed	one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed, other transfer modes
External software tools or vendors used to transfer data from POPMS to POLL system	—	—
Test directory stored on PO system?	no	—
How results are returned to PO	block of text, PDF, individually segmented fields	block of text, PDF, individually segmented fields
Data interface standards supported	HL7, XML, custom when required	ASTM 1238, HL7, custom when required
System supports LOINC for identifying lab result database elements?	yes	yes
System architecture or functionality	thin proprietary client, standard Web browsers	thick client, PC, whether or not connected to lab host, thin proprietary client, modified and standard Web browsers
Patient order and result database maintained on local PC?	no	yes (for thick client)
• Functions <i>not</i> available if network link is down	—	—
Online connections between PO and central or host system	dial-up modem to private phone No., VPN, public Internet connection	dial-up modem to private phone No., public Internet connection (dial-up sufficient), satellite
Complete ASP solution for POLL software?/Method of charging for ASP service	yes/fixed monthly fee (subscription)	yes/fixed monthly fee (subscription) or transaction based
Features (listed as a percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	75%	80%
- Advanced beneficiary notice printed if medical necessity criteria not met	75%	80%
- Local medical review policies can be viewed	75%	80%
- Automatic routing of an order to different labs according to payer rules	75%	60%
- Printing of lab's requisitions	75%	80%
- Printing of requisitions for other lab providers	75%	65%
- Duplicate order checking	75%	60%
- Physician office-specific panels	75%	35%
• Electronic order entry (from PO to host)	—	80%
- Transfer of patient demographics or insurance	75%	60%
- Automatic handling of scheduled or standing orders	75%	10%
- Automatic routing of orders to hospital or commercial labs depending on payer rules	75%	50%
• Bar-code collection label printing	75%	65%
• Two-dimensional bar code on printed requisition	75%	25% (PDF)
• Software adapted for use in phlebotomy or collection stations	75%	20%
• Result receipt		
- Stored as a block of text	100%	5%
- All items (result, reference range, units) stored as individual data elements	100%	100%
- Automatic parsing of report pages to extract results	75%	100%
- Inquiry mode that allows PO to check status of specimens with host	10%	80%
• Reporting		
- In exact format received from host lab	100%	75%
- Cumulative	100%	85%
- Integration of host and PO lab results	100%	10%
- Display of new results for patient and/or clinic	100%	100%
- Remote access available to on-call physicians	100%	100%
- Unattended printing of reports	available but not installed	75%
- Display current report with historical data on same screen	100%	75%
- Graph historical results with current results for trend analysis	100%	100%
• Physician can electronically sign reports to confirm review	15%	100%
• Physician can compose and send secure electronic messages to patients	25%	10%
• User-defined rule-based system and alerts in PO module	100%	20%
• Electronic transfer of data to another PO	100%	100% (using 4Medica forwarding function)
- E-mail/encrypted e-mail	not available/available but not installed	—
- Web reference or pointer to Web site	100%	—
- Fax	not available	—
• PO orders supplies from host lab	not available	10%
• Specimen pickup or courier requests to host lab	not available	80%
• Financial		
- Billing, collections, accounts receivable	not available	5%
- Electronic claims transfer/interfaces to billing systems	not available/5%	5%/30%
• Electronic medical record interface	not available	35%
• Interfaces to PO lab instruments	15%	2%
• Entry of PO lab results with edit checks	100%	2%
System priced on a cost-per-transaction basis?	no	yes (\$0.35-\$0.50 per transaction)
One-time/initial charges	\$30k-\$60k	\$50k-\$100k
Monthly/subscription fees	optional maintenance contract (\$2.5k-\$15k)	\$2.5k+
Basis for increasing fees as POs are added	no increase—flat fee per host lab	transaction based
Situations where fees increase with additional services	if order entry is added to result transmission (or vice versa)	no increase
Distinguishing features (supplied by vendor)	<ul style="list-style-type: none"> clients benefit from branding fully customizable application ASP or lab hosted 	<ul style="list-style-type: none"> ease of use and high adoption rates easy to deploy—thin client (true ASP) and thick client no user- or practice-based license fees

*PO=physician's office

**other=sales, marketing, administration, other company functions

***POPMS=physician office practice management systems

† application privately labeled by clients

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Physician office-laboratory links software

<p><i>Part 5 of 12</i></p> <p><i>See accompanying article on page 26</i></p>	<p>Labtest Systems Jack Redding jredding@labtest.com 140 Greenwood Ave. Midland Park, NJ 07432 866-522-8378 www.labtest.com</p>	<p>McKesson Leigh Ann Nail 5995 Windward Parkway Alpharetta, GA 30005 404-338-6000 http://infosolutions.mckesson.com</p>
<p>Name of POLL software/system</p>	<p>Lab Valet (and sponsor lab branded)</p>	<p>Horizon Lab Web Outreach</p>
<p>First/most recent installation of software or system No. of host or central labs using software clinically • No. of host labs that electronically transfer orders from PO* to LIS No. of satellite locations installed No. of host lab contracts signed to date in 2004 No. of contracts signed since 6-1-03/No. that went live since 6-1-03 Staff to develop-install & support-other** in entire firm/in POLL software division Average time to install, build files, train office staff in a typical PO Major commercial labs that use POLL package</p>	<p>2000/July 2004 31 20 2,600+ 12 22/17 20 total/6-7-7 1 hour Beaumont Reference, Deaconess, United West Laboratories, New York Presbyterian, Southern Diagnostic Laboratories</p>	<p>1999/2004 3 3 100+ 6 8/3 — 1-3 hours n/a</p>
<p>LIS, HIS, and other interfaces Software modifications or modules required on host LIS to interface? POPMS*** used to transfer patient demographics or billing info. to POLL system How demographics or billing information is transferred from POPMS at PO or clinic to POLL system External software tools or vendors used to transfer data from POPMS to POLL system</p>	<p>Fletcher Flora, SCC, Misys, Cerner, CoPath, Meditech, others yes (HL7 interface) most major vendors' systems one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed, other transfer modes HyperSend, proprietary, others</p>	<p>McKesson systems no McKesson, Medical Manager, Epic, MedicalLogic, standard HL7, others one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed, other transfer modes McKesson, others</p>
<p>Test directory stored on PO system? How results are returned to PO Data interface standards supported System supports LOINC for identifying lab result database elements?</p>	<p>no block of text, PDF, individually segmented fields ASTM 1238, HL7, ANSI X12, XML, CDA, custom when required yes</p>	<p>no block of text, PDF, individually segmented fields HL7, ANSI X12, XML yes</p>
<p>System architecture or functionality Patient order and result database maintained on local PC? • Functions <i>not</i> available if network link is down Online connections between PO and central or host system</p>	<p>thick client, PC, while connected to lab host, standard Web browsers yes thick client: none, standard Web browsers: all VPN, public Internet connection (dial-up sufficient)</p>	<p>standard Web browsers yes — VPN, public Internet connection (dial-up sufficient)</p>
<p>Complete ASP solution for POLL software?/Method of charging for ASP service</p>	<p>yes/flat monthly fee (subscription)</p>	<p>no/—</p>
<p>Features (listed as a percentage of live installs or whether or not it's available)</p> <ul style="list-style-type: none"> • Order entry <ul style="list-style-type: none"> - Medicare compliance checking using carrier-specific rules 100% - Advanced beneficiary notice printed if medical necessity criteria not met 100% - Local medical review policies can be viewed 100% - Automatic routing of an order to different labs according to payer rules 100% - Printing of lab's requisitions 100% - Printing of requisitions for other lab providers 100% - Duplicate order checking 100% - Physician office-specific panels 100% • Electronic order entry (from PO to host) 100% <ul style="list-style-type: none"> - Transfer of patient demographics or insurance 100% - Automatic handling of scheduled or standing orders 100% - Automatic routing of orders to hospital or commercial labs depending on payer rules 100% • Bar-code collection label printing 100% • Two-dimensional bar code on printed requisition installed (PDF 417) 100% • Software adapted for use in phlebotomy or collection stations 100% • Result receipt <ul style="list-style-type: none"> - Stored as a block of text 10% - All items (result, reference range, units) stored as individual data elements 100% - Automatic parsing of report pages to extract results 100% - Inquiry mode that allows PO to check status of specimens with host 100% • Reporting <ul style="list-style-type: none"> - In exact format received from host lab 100% - Cumulative 100% - Integration of host and PO lab results 6% - Display of new results for patient and/or clinic 100% - Remote access available to on-call physicians 100% - Unattended printing of reports 100% - Display current report with historical data on same screen 100% - Graph historical results with current results for trend analysis 100% • Physician can electronically sign reports to confirm review 100% • Physician can compose and send secure electronic messages to patients available but not installed — • User-defined rule-based system and alerts in PO module 100% • Electronic transfer of data to another PO — <ul style="list-style-type: none"> - E-mail/encrypted e-mail available but not installed/100% —/available but not installed - Web reference or pointer to Web site available but not installed available but not installed - Fax available but not installed installed • PO orders supplies from host lab 100% • Specimen pickup or courier requests to host lab 6% • Financial <ul style="list-style-type: none"> - Billing, collections, accounts receivable 100% (in partnership with Quadax) available in 2004 - Electronic claims transfer/interfaces to billing systems 100%/100% (both in partnership with Quadax) available but not installed/100% • Electronic medical record interface not available available but not installed • Interfaces to PO lab instruments available in early 2005 not available • Entry of PO lab results with edit checks 10% not available 		
<p>System priced on a cost-per-transaction basis? One-time/initial charges Monthly/subscription fees Basis for increasing fees as POs are added Situations where fees increase with additional services</p>	<p>no \$5k-\$75k \$2k+ based on No. of physicians of record —</p>	<p>no \$25k-\$75k \$2k-\$5k no increase if special billing functions are added</p>
<p>Distinguishing features (supplied by vendor)</p>	<ul style="list-style-type: none"> • five-year history of successful implementations • expert order-entry process: AP, CCI, ABN • no offshore programming or outsourcing 	<ul style="list-style-type: none"> • integrated component of Horizon Lab LIS • installed and live in less than 30 days • physician office integration services
<p>*PO=physician's office **other=sales, marketing, administration, other company functions ***POPMS=physician office practice management systems</p>		

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Physician office-laboratory links software

<p>Part 6 of 12</p> <p><i>See accompanying article on page 26</i></p>	<p>MedPlus Joel Williams jwilliams@medplus.com 4690 Parkway Drive Mason, OH 45040 513-229-5500 www.medplus.com</p>	<p>Misys Healthcare Systems Liddy West 4801 E. Broadway Blvd. Tucson, AZ 75711 800-748-9658 www.misyshealthcare.com</p>
Name of POLL software/system	eMaxx	Misys Encompass
First/most recent installation of software or system	2002/April 2004	2001/2004
No. of host or central labs using software clinically	30	7
• No. of host labs that electronically transfer orders from PO* to LIS	30	3
No. of satellite locations installed	3,500	500+
No. of host lab contracts signed to date in 2004	0	3
No. of contracts signed since 6-1-03/No. that went live since 6-1-03	0	4/2
Staff to develop-install & support-other** in entire firm/in POLL software division	73-156-40/15-48-4	400-450-175/11-9-2
Average time to install, build files, train office staff in a typical PO	4 hours	1-2 hours
Major commercial labs that use POLL package	Quest Diagnostics	TriCore Laboratories
LIS, HIS, and other interfaces	Misys, TopLab, Cerner, McKesson, IDX, Eclipsys, others	Misys
Software modifications or modules required on host LIS to interface?	yes (HL7 order and result interface)	no
POPMS*** used to transfer patient demographics or billing info. to POLL system	IDX, Logician, Medical Manager, MediSoft, Millbrook, Misys, others	MedicalLogic, others (in testing phase)
How demographics or billing information is transferred from POPMS at PO or clinic to POLL system	one-time batch download/file transfer, daily update of demographics	more frequent automatic update of all demographics that have changed
External software tools or vendors used to transfer data from POPMS to POLL system	eGate	Hilgraeve
Test directory stored on PO system?	no	yes
How results are returned to PO	block of text, PDF, individually segmented fields	block of text, individually segmented fields
Data interface standards supported	ASTM 1238, HL7, ANSI X12, XML	HL7
System supports LOINC for identifying lab result database elements?	yes	yes
System architecture or functionality	standard Web browsers	thin proprietary client, standard Web browsers
Patient order and result database maintained on local PC?	no	no
• Functions not available if network link is down	—	thin client
Online connections between PO and central or host system	public Internet connection (DSL/cable modem required)	public Internet connection (dial-up sufficient) for order entry
Complete ASP solution for POLL software?/Method of charging for ASP service	yes/fixed monthly fee (subscription)	yes (client hosted)/subscription, license & mo. maintenance
Features (listed as a percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	100%	installed
- Advanced beneficiary notice printed if medical necessity criteria not met	100%	installed
- Local medical review policies can be viewed	100%	not available
- Automatic routing of an order to different labs according to payer rules	not available	available in 2005
- Printing of lab's requisitions	100%	100%
- Printing of requisitions for other lab providers	100%	available in 2005
- Duplicate order checking	100%	not available
- Physician office-specific panels	100%	100%
• Electronic order entry (from PO to host)	100%	100%
- Transfer of patient demographics or insurance	100%	100%
- Automatic handling of scheduled or standing orders	100%	100% (scheduled orders)
- Automatic routing of orders to hospital or commercial labs depending on payer rules	not available	available in 2005
• Bar-code collection label printing	100%	100%
• Two-dimensional bar code on printed requisition	100%	not available
• Software adapted for use in phlebotomy or collection stations	100%	installed
• Result receipt		
- Stored as a block of text	100%	50%
- All items (result, reference range, units) stored as individual data elements	100%	100%
- Automatic parsing of report pages to extract results	10%	100%
- Inquiry mode that allows PO to check status of specimens with host	100%	100%
• Reporting		
- In exact format received from host lab	100%	100%
- Cumulative	100%	100%
- Integration of host and PO lab results	100%	not available
- Display of new results for patient and/or clinic	100%	100%
- Remote access available to on-call physicians	100%	100%
- Unattended printing of reports	100%	not available
- Display current report with historical data on same screen	100%	100%
- Graph historical results with current results for trend analysis	100%	not available
• Physician can electronically sign reports to confirm review	not available	100%
• Physician can compose and send secure electronic messages to patients	not available	not available
• User-defined rule-based system and alerts in PO module	not available	not available
• Electronic transfer of data to another PO	100%	not available
- E-mail/encrypted e-mail	not available/100%	not available
- Web reference or pointer to Web site	not available	not available
- Fax	not available	not available
• PO orders supplies from host lab	not available	not available
• Specimen pickup or courier requests to host lab	not available	not available
• Financial		
- Billing, collections, accounts receivable	100%	—†
- Electronic claims transfer/interfaces to billing systems	not available	—†
• Electronic medical record interface	100%	not available
• Interfaces to PO lab instruments	not available	not available
• Entry of PO lab results with edit checks	not available	not available
System priced on a cost-per-transaction basis?	no	no
One-time/initial charges	\$0-\$10k	—
Monthly/subscription fees	\$.010k-\$0.15k	—
Basis for increasing fees as POs are added	based on No. of physicians of record	based on No. of physicians of record
Situations where fees increase with additional services	if special billing functions are added	if order entry is added to result transmission (or vice versa)
Distinguishing features (supplied by vendor)	<ul style="list-style-type: none"> • complete patient-centric view • electronic prescribing and portal are completely configurable/customizable 	<ul style="list-style-type: none"> • real-time dictionary table updates eliminate dual maintenance • electronic medical patient index logic ensures unique identification • learning logic builds frequently selected items lists automatically
<p>*PO=physician's office **other=sales, marketing, administration, other company functions ***POPMS=physician office practice management systems</p>		

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Physician office-laboratory links software

<p>Part 7 of 12</p> <p><i>See accompanying article on page 26</i></p>	<p>Multidata Computer Systems Michael Slater mrslater@mul.com 330 Seventh Ave. New York, NY 10001 212-967-6700 www.mul.com</p>	<p>Orchard Software Kerry Foster kfoster@orchardsoft.com 701 Congressional Blvd., Ste. 360 Carmel, IN 46032 800-856-1948 www.orchardsoft.com</p>
Name of POLL software/system	Multilink	Orchard Harvest Webstation
First/most recent installation of software or system	1996/June 2004	2000/2004
No. of host or central labs using software clinically	7	121
• No. of host labs that electronically transfer orders from PO* to LIS	6	121
No. of satellite locations installed	200+	1,000+
No. of host lab contracts signed to date in 2004	0	20
No. of contracts signed since 6-1-03/No. that went live since 6-1-03	1/1	37/26
Staff to develop-install & support-other** in entire firm/in POLL software division	4-5-2/1.5-1.5-1	66 total/12-31-23
Average time to install, build files, train office staff in a typical PO	4 hours	1 hour
Major commercial labs that use POLL package	several regional labs	regional reference laboratories
LIS, HIS, and other interfaces	Multidata, Diamond	Orchard, McKesson, Siemens, Dairlyland, Meditech, Cerner, IDX, CPSI, Misys, others
Software modifications or modules required on host LIS to interface?	no	no
POPMS*** used to transfer patient demographics or billing info. to POLL system	VitalWorks, others	Medical Manager, Clinitek, IDX, MedicalLogic, Next Gen, Millbrook, Medigate, Misys
How demographics or billing information is transferred from POPMS at PO or clinic to POLL system	one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed, other transfer modes	one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed
External software tools or vendors used to transfer data from POPMS to POLL system	LinkTools for real-time HL7	Procomm
Test directory stored on PO system?	yes	no
How results are returned to PO	individually segmented fields	results returned as HTML
Data interface standards supported	ASTM 1238, HL7, custom when required	HL7
System supports LOINC for identifying lab result database elements?	yes	no
System architecture or functionality	thick client, PC, while not connected to lab host	standard Web browsers
Patient order and result database maintained on local PC?	yes	no
• Functions <i>not</i> available if network link is down	new orders/results cannot be exchanged	—
Online connections between PO and central or host system	dial-up modem to private phone No., VPN, public Internet connection (dial-up sufficient)	public Internet connection
Complete ASP solution for POLL software?/Method of charging for ASP service	no/—	yes/—
Features (listed as a percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	95%	100%
- Advanced beneficiary notice printed if medical necessity criteria not met	15%	100%
- Local medical review policies can be viewed	95%	installed
- Automatic routing of an order to different labs according to payer rules	60%	100%
- Printing of lab's requisitions	95%	100%
- Printing of requisitions for other lab providers	60%	100%
- Duplicate order checking	95%	100%
- Physician office-specific panels	95%	100%
• Electronic order entry (from PO to host)	95%	installed
- Transfer of patient demographics or insurance	95%	100%
- Automatic handling of scheduled or standing orders	25%	100%
- Automatic routing of orders to hospital or commercial labs depending on payer rules	not available	100%
• Bar-code collection label printing	95%	100%
• Two-dimensional bar code on printed requisition	available but not installed (PDF 417)	not available
• Software adapted for use in phlebotomy or collection stations	5%	100%
• Result receipt		
- Stored as a block of text	not available	not available
- All items (result, reference range, units) stored as individual data elements	100%	100%
- Automatic parsing of report pages to extract results	not available	100%
- Inquiry mode that allows PO to check status of specimens with host	100%	100%
• Reporting		
- In exact format received from host lab	100%	100%
- Cumulative	100%	100%
- Integration of host and PO lab results	not available	100%
- Display of new results for patient and/or clinic	100%	100%
- Remote access available to on-call physicians	not available	100%
- Unattended printing of reports	100%	100% (unattended posting of electronic reports)
- Display current report with historical data on same screen	100%	100%
- Graph historical results with current results for trend analysis	100%	100%
• Physician can electronically sign reports to confirm review	not available	100%
• Physician can compose and send secure electronic messages to patients	not available	not available
• User-defined rule-based system and alerts in PO module	50%	100%
• Electronic transfer of data to another PO	not available	30%
- E-mail/encrypted e-mail	not available	—/30%
- Web reference or pointer to Web site	not available	not available
- Fax	not available	100%
• PO orders supplies from host lab	25%	not available
• Specimen pickup or courier requests to host lab	25%	not available
• Financial		
- Billing, collections, accounts receivable	not available	not available
- Electronic claims transfer/interfaces to billing systems	not available	not available/100%
• Electronic medical record interface	not available	not available
• Interfaces to PO lab instruments	not available	not available
• Entry of PO lab results with edit checks	not available	not available
System priced on a cost-per-transaction basis?	no	no
One-time/initial charges	\$25k-\$50k	set-up fee: \$7.5k
Monthly/subscription fees	—	license: \$.89k
Basis for increasing fees as POs are added	based on No. of practices/groups	based on No. of practices/groups (additional licenses needed)
Situations where fees increase with additional services	if order entry is added to result transmission (or vice versa) or for special modules (e.g. multi-user LAN)	no increase
Distinguishing features (supplied by vendor)	<ul style="list-style-type: none"> • collection/handling rules can be incorporated on specimen labels • custom functionality for special clinics/settings • multi-user version can be implemented across PO LAN 	<ul style="list-style-type: none"> • cost-effective • diagnosis code screening, destination filters • order-entry/results retrieval for reference lab testing
<p>*PO=physician's office **other=sales, marketing, administration, other company functions ***POPMS=physician office practice management systems</p>		

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Physician office-laboratory links software

Part 8 of 12	Park City Solutions Brent Dover bdoever@parkcitysolutions.com 380 E. Main, Ste. B-110 Midway, UT 84049 435-654-0621 www.parkcitysolutions.com	PathLogix Corp. Jerry Grayson jerry@pathlogix.com 470 Nautilus St., Ste. 306 La Jolla, CA 92037 858-454-8030 www.pathlogix.com, www.paperless-emr.com
See accompanying article on page 26		
Name of POLL software/system	EmPowernet DX Portal	PathLogix InterPath
First/most recent installation of software or system	1999/July 2004	2002/June 2004
No. of host or central labs using software clinically	14	2
• No. of host labs that electronically transfer orders from PO* to LIS	3	2
No. of satellite locations installed	100+	unknown†
No. of host lab contracts signed to date in 2004	10	2
No. of contracts signed since 6-1-03/No. that went live since 6-1-03	17/7	2/2
Staff to develop-install & support-other** in entire firm/in POLL software division	280 total/25-60-195	3 total
Average time to install, build files, train office staff in a typical PO	4 hours	1 hour
Major commercial labs that use POLL package	commercial, regional, and hospital-based labs	—
LIS, HIS, and other interfaces	Misys, Cerner, McKesson, Meditech, Siemens, IDX	PathLogix
Software modifications or modules required on host LIS to interface?	no	no
POPMS*** used to transfer patient demographics or billing info. to POLL system	Medical Manager, MedQuest, Millbrook, Next Gen, Misys, MedicalLogic	—
How demographics or billing information is transferred from POPMS at PO or clinic to POLL system	one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed	—
External software tools or vendors used to transfer data from POPMS to POLL system	variety of products	Microsoft Visual Basic, Microsoft .NET
Test directory stored on PO system?	no	no
How results are returned to PO	individually segmented fields	block of text
Data interface standards supported	ASTM 1238, HL7, ANSI X12, XML, CDA, custom when required	HL7, XML, custom when required
System supports LOINC for identifying lab result database elements?	yes	no
System architecture or functionality	thick client, PC, whether or not connected to lab host, thin proprietary client, standard Web browsers	thick client, PC, while connected to lab host, standard Web browsers
Patient order and result database maintained on local PC?	yes	no
• Functions <i>not</i> available if network link is down	—	—
Online connections between PO and central or host system	dial-up modem to private phone No., leased line, VPN, public Internet connection	VPN, public Internet connection (dial-up sufficient) for order entry, results reporting
Complete ASP solution for POLL software?/Method of charging for ASP service	yes/fixed monthly fee (subscription)	no/—
Features (listed as a percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	100%	not available
- Advanced beneficiary notice printed if medical necessity criteria not met	100%	not available
- Local medical review policies can be viewed	installed	not available
- Automatic routing of an order to different labs according to payer rules	100%	not available
- Printing of lab's requisitions	100%	100%
- Printing of requisitions for other lab providers	100%	100%
- Duplicate order checking	100%	installed
- Physician office-specific panels	100%	100%
• Electronic order entry (from PO to host)	installed	installed
- Transfer of patient demographics or insurance	100%	installed
- Automatic handling of scheduled or standing orders	100%	not available
- Automatic routing of orders to hospital or commercial labs depending on payer rules	100%	not available
• Bar-code collection label printing	100%	not available
• Two-dimensional bar code on printed requisition	installed	not available
• Software adapted for use in phlebotomy or collection stations	100%	not available
• Result receipt		
- Stored as a block of text	not available	not available
- All items (result, reference range, units) stored as individual data elements	100%	not available
- Automatic parsing of report pages to extract results	100%	not available
- Inquiry mode that allows PO to check status of specimens with host	100%	not available
• Reporting		
- In exact format received from host lab	installed	not available
- Cumulative	installed	not available
- Integration of host and PO lab results	installed	not available
- Display of new results for patient and/or clinic	100%	100%
- Remote access available to on-call physicians	100%	100%
- Unattended printing of reports	100%	not available
- Display current report with historical data on same screen	100%	100%
- Graph historical results with current results for trend analysis	100%	not available
• Physician can electronically sign reports to confirm review	100%	installed
• Physician can compose and send secure electronic messages to patients	10%	not available
• User-defined rule-based system and alerts in PO module	100%	not available
• Electronic transfer of data to another PO	100%	not available
- E-mail/encrypted e-mail	installed	not available
- Web reference or pointer to Web site	installed	not available
- Fax	installed	not available
• PO orders supplies from host lab	100%	not available
• Specimen pickup or courier requests to host lab	100%	not available
• Financial		
- Billing, collections, accounts receivable	not available	not available
- Electronic claims transfer/interfaces to billing systems	not available/100%	not available
• Electronic medical record interface	100%	not available
• Interfaces to PO lab instruments	not available	not available
• Entry of PO lab results with edit checks	not available	not available
System priced on a cost-per-transaction basis?	no	no
One-time/initial charges	—	\$3k+
Monthly/subscription fees	—	—
Basis for increasing fees as POs are added	based on estimate of work	no increase
Situations where fees increase with additional services	if order entry is added to result transmission (or vice versa) or if special billing functions are added	no increase
Distinguishing features (supplied by vendor)	<ul style="list-style-type: none"> • combination of lab and hospital functionality • provides patient-centric view of clinical information • flexible deployment options 	<ul style="list-style-type: none"> • ease of use • efficient and flexible • technical support is highly responsive and effective
*PO=physician's office **other=sales, marketing, administration, other company functions ***POPMS=physician office practice management systems		† browser based

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Physician office-laboratory links software

<p>Part 9 of 12</p> <p><i>See accompanying article on page 26</i></p>	<p>SCC Soft Computer Ellie Vahman 34350 U.S. Highway 19 North Palm Harbor, FL 34684 727-789-0100 www.softcomputer.com</p>	<p>Specialty Laboratories Sumeet Bhatia oesales@specialtylabs.com 2211 Michigan Ave. Santa Monica, CA 90404 310-828-6543 www.specialtylabs.com</p>
Name of POLL software/system	SoftWeb Outreach Suite	Outreach Express
First/most recent installation of software or system	2003/June 2004	1998/February 2004
No. of host or central labs using software clinically	1	11
• No. of host labs that electronically transfer orders from PO* to LIS	1	1
No. of satellite locations installed	4	700-900
No. of host lab contracts signed to date in 2004	7	1
No. of contracts signed since 6-1-03/No. that went live since 6-1-03	8/1	4/4
Staff to develop-install & support-other** in entire firm/in POLL software division	495-289-178/17-10-6	75 total/12 total
Average time to install, build files, train office staff in a typical PO	16 hours	2 hours
Major commercial labs that use POLL package	none	9 labs
LIS, HIS, and other interfaces	SCC Soft Computer	Misys, SoftLab, Cerner, Meditech, IDX, Siemens
Software modifications or modules required on host LIS to interface?	no	yes (potential need to add field to store order No.)
POPMS*** used to transfer patient demographics or billing info. to POLL system	—	Next Gen
How demographics or billing information is transferred from POPMS at PO or clinic to POLL system	one-time batch download/file transfer	one-time batch download/file transfer, more frequent automatic update of all demographics that have changed
External software tools or vendors used to transfer data from POPMS to POLL system	interfacing, scripting	any interface engine that supports HL7 standards
Test directory stored on PO system?	no	no
How results are returned to PO	PDF, individually segmented fields	block of text, individually segmented fields
Data interface standards supported	XML	HL7
System supports LOINC for identifying lab result database elements?	no	yes
System architecture or functionality	thick client, PC, while connected to lab host	standard Web browsers
Patient order and result database maintained on local PC?	no	no
• Functions <i>not</i> available if network link is down	—	—
Online connections between PO and central or host system	public Internet connection (dial-up sufficient)	VPN, public Internet connection (dial-up sufficient)
Complete ASP solution for POLL software?/Method of charging for ASP service	no/—	yes/fixed monthly fee (subscription)
Features (listed as a percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	installed	installed
- Advanced beneficiary notice printed if medical necessity criteria not met	installed	installed
- Local medical review policies can be viewed	not available	installed
- Automatic routing of an order to different labs according to payer rules	not available	installed
- Printing of lab's requisitions	installed	installed
- Printing of requisitions for other lab providers	not available	installed
- Duplicate order checking	—	installed
- Physician office-specific panels	installed	not available
• Electronic order entry (from PO to host)	installed	10%
- Transfer of patient demographics or insurance	—	10%
- Automatic handling of scheduled or standing orders	—	installed
- Automatic routing of orders to hospital or commercial labs depending on payer rules	not available	available but not installed
• Bar-code collection label printing	installed	installed
• Two-dimensional bar code on printed requisition	not available	installed
• Software adapted for use in phlebotomy or collection stations	installed	installed
• Result receipt		
- Stored as a block of text	—	installed
- All items (result, reference range, units) stored as individual data elements	installed	installed
- Automatic parsing of report pages to extract results	installed	available in 2005
- Inquiry mode that allows PO to check status of specimens with host	installed	installed
• Reporting		
- In exact format received from host lab	—	installed
- Cumulative	not available	available in 2005
- Integration of host and PO lab results	not available	available but not installed
- Display of new results for patient and/or clinic	installed	installed
- Remote access available to on-call physicians	installed	installed
- Unattended printing of reports	—	available in 2005
- Display current report with historical data on same screen	installed	available in 2005
- Graph historical results with current results for trend analysis	installed	installed
• Physician can electronically sign reports to confirm review	installed	available in 2005
• Physician can compose and send secure electronic messages to patients	—	not available
• User-defined rule-based system and alerts in PO module	—	installed
• Electronic transfer of data to another PO	installed	available in 2005
- E-mail/encrypted e-mail	installed/—	available in 2005
- Web reference or pointer to Web site	not available	available in 2005
- Fax	installed	available in 2005
• PO orders supplies from host lab	not available	available in 2005
• Specimen pickup or courier requests to host lab	not available	available in 2005
• Financial		
- Billing, collections, accounts receivable	not available	available in 2005
- Electronic claims transfer/interfaces to billing systems	—	available in 2005
• Electronic medical record interface	—	available but not installed
• Interfaces to PO lab instruments	not available	not available
• Entry of PO lab results with edit checks	not available	available but not installed
System priced on a cost-per-transaction basis?	no	no
One-time/initial charges	—	\$15k per interface
Monthly/subscription fees	—	\$5k + 18% of interface charge per year
Basis for increasing fees as POs are added	no increase	based on No. of practices/groups
Situations where fees increase with additional services	if order entry is added to result transmission (or vice versa) or if special billing functions are added	no increase
Distinguishing features (supplied by vendor)	<ul style="list-style-type: none"> • robust rules and logic simplify Medicare compliance • customizable dashboard view of patient results for physicians • remote Web-enabled order entry with bar-coded label printing 	<ul style="list-style-type: none"> • client control over field labels, patient identifiers, required fields • easily supports multiple lab/multiple entity health care organizations • developed by a lab for labs
<p>*PO=physician's office **other=sales, marketing, administration, other company functions ***POPMS=physician office practice management systems</p>		

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Physician office-laboratory links software

<p>Part 10 of 12</p> <p><i>See accompanying article on page 26</i></p>	<p>Sysmex America Bill Blair blairb@sysmex.com 5210 E. Williams Circle Tucson, AZ 85711 520-790-4624 www.sysmex.com/usa</p>	<p>Sysware Healthcare Systems Mark Trigsted mark@syswareinc.com P.O. Box 2776 Farmington Hills, MI 48333-2776 800-SYSWARE www.syswareinc.com</p>
Name of POLL software/system	eCLAIR	PowerLink
First/most recent installation of software or system	1998/May 2004	1998/2003
No. of host or central labs using software clinically	18	22
• No. of host labs that electronically transfer orders from PO* to LIS	3	22
No. of satellite locations installed	4,000+	400+
No. of host lab contracts signed to date in 2004	2	5
No. of contracts signed since 6-1-03/No. that went live since 6-1-03	6/6	11/8
Staff to develop-install & support-other** in entire firm/in POLL software division	300-100-1,500/5-10-0	49-30-8/4-2-0
Average time to install, build files, train office staff in a typical PO	1 hour	3 hours
Major commercial labs that use POLL package	Health Network Laboratories, Aurora Consolidated Laboratories	10 labs
LIS, HIS, and other interfaces	Misys, Molis	Cerner, MedStar, First Coast, Keane, Meditech, Eclipsys, others
Software modifications or modules required on host LIS to interface?	no	no
POPMS*** used to transfer patient demographics or billing info. to POLL system	none in the U.S.	Care Evolution
How demographics or billing information is transferred from POPMS at PO or clinic to POLL system	one-time batch download/file transfer, more frequent automatic update of all demographics that have changed	one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed, other transfer modes
External software tools or vendors used to transfer data from POPMS to POLL system	—	PowerMessage, any HL7 interface engine
Test directory stored on PO system?	no	yes
How results are returned to PO	block of text, PDF, individually segmented fields	block of text, PDF, individually segmented fields
Data interface standards supported	HL7, XML	ASTM 1238, HL7, ANSI X12, XML, custom when required
System supports LOINC for identifying lab result database elements?	yes	yes
System architecture or functionality	standard Web browsers	thick client, PC, whether or not connected to lab host, thin proprietary client
Patient order and result database maintained on local PC?	no	yes
• Functions not available if network link is down	—	none
Online connections between PO and central or host system	leased line, VPN, public Internet connection (DSL/cable modem required)	no online connection, dial-up modem to private phone No., leased line, VPN, public Internet connection
Complete ASP solution for POLL software?/Method of charging for ASP service	yes/—	yes/fixed monthly fee (subscription)
Features (listed as a percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	available but not installed	100%
- Advanced beneficiary notice printed if medical necessity criteria not met	available but not installed	100%
- Local medical review policies can be viewed	available but not installed	100%
- Automatic routing of an order to different labs according to payer rules	available but not installed	100%
- Printing of lab's requisitions	20%	100%
- Printing of requisitions for other lab providers	available but not installed	100%
- Duplicate order checking	20%	available but not installed
- Physician office-specific panels	20%	100%
• Electronic order entry (from PO to host)	—	100%
- Transfer of patient demographics or insurance	20%	100%
- Automatic handling of scheduled or standing orders	20%	100%
- Automatic routing of orders to hospital or commercial labs depending on payer rules	available but not installed	100%
• Bar-code collection label printing	20%	100%
• Two-dimensional bar code on printed requisition	installed	100%
• Software adapted for use in phlebotomy or collection stations	20%	100%
• Result receipt		
- Stored as a block of text	100%	100%
- All items (result, reference range, units) stored as individual data elements	100%	100%
- Automatic parsing of report pages to extract results	100%	100%
- Inquiry mode that allows PO to check status of specimens with host	100%	100%
• Reporting		
- In exact format received from host lab	100%	100%
- Cumulative	100%	100%
- Integration of host and PO lab results	100%	100%
- Display of new results for patient and/or clinic	100%	100%
- Remote access available to on-call physicians	100%	100%
- Unattended printing of reports	100%	100%
- Display current report with historical data on same screen	100%	100%
- Graph historical results with current results for trend analysis	100%	available but not installed
• Physician can electronically sign reports to confirm review	100% (optional)	available in 2005
• Physician can compose and send secure electronic messages to patients	installed	100%
• User-defined rule-based system and alerts in PO module	100%	100%
• Electronic transfer of data to another PO	—	100%
- E-mail/encrypted e-mail	installed/100%	100%/100%
- Web reference or pointer to Web site	100%	100%
- Fax	100%	100%
• PO orders supplies from host lab	not available	100%
• Specimen pickup or courier requests to host lab	100%	100%
• Financial		
- Billing, collections, accounts receivable	not available	installed
- Electronic claims transfer/interfaces to billing systems	not available	installed
• Electronic medical record interface	100%	not available
• Interfaces to PO lab instruments	not available	available but not installed
• Entry of PO lab results with edit checks	100%	available but not installed
System priced on a cost-per-transaction basis?	no	no
One-time/initial charges	—	\$2.5k per workstation
Monthly/subscription fees	based on concurrent users	—
Basis for increasing fees as POs are added	based on concurrent users	per workstation
Situations where fees increase with additional services	if order entry is added to result transmission (or vice versa) or if special billing functions are added	no increase
Distinguishing features (supplied by vendor)	<ul style="list-style-type: none"> • order screens can be customized by client/user • user friendly • can be used for all areas within the delivery network or hospital 	<ul style="list-style-type: none"> • no Internet connection needed—batch transfer of data • 100 percent of functionality deliverable on day one • reasonable one-time cost—no additional subscription fees
<p>*PO=physician's office **other=sales, marketing, administration, other company functions ***POPMS=physician office practice management systems</p>		

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Physician office-laboratory links software

Part 11 of 12	Sysware Healthcare Systems Mark Trigsted mark@syswareinc.com P.O. Box 2776 Farmington Hills, MI 48333-2776 800-SYSWARE www.syswareinc.com	Telcor Jerry Genrich michelles@telcorinc.com 1560 S. 70th St. Lincoln, NE 68506 402-489-1207 www.telcor.com
<i>See accompanying article on page 26</i>		
Name of POLL software/system	PowerWeb	Quick-Req
First/most recent installation of software or system	1998/July 2003	2002/July 2004
No. of host or central labs using software clinically	22	10
• No. of host labs that electronically transfer orders from PO* to LIS	22	0
No. of satellite locations installed	400+	1,860
No. of host lab contracts signed to date in 2004	5	4
No. of contracts signed since 6-1-03/No. that went live since 6-1-03	11/8	5/5
Staff to develop-install & support-other** in entire firm/in POLL software division	49-30-8/4-2-0	8-17-11/2-17-3
Average time to install, build files, train office staff in a typical PO	1 hour	1 hour
Major commercial labs that use POLL package	none	none
LIS, HIS, and other interfaces	Sysware, Cerner, MedStar, Keane, Meditech, Eclipsys, First Coast, others	Novius, CCA, Eclipsys, McKesson, Misys, Siemens, Cerner, Meditech, others
Software modifications or modules required on host LIS to interface?	no	no
POPMS*** used to transfer patient demographics or billing info. to POLL system	Care Evolution	—
How demographics or billing information is transferred from POPMS at PO or clinic to POLL system	one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed, other transfer modes	one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed, other transfer modes
External software tools or vendors used to transfer data from POPMS to POLL system	PowerMessage, any standard HL7 interface engine	none
Test directory stored on PO system?	no	yes
How results are returned to PO	block of text, PDF, individually segmented fields	individually segmented fields
Data interface standards supported	ASTM 1238, HL7, ANSI X12, XML, custom when required	HL7, ANSI X12
System supports LOINC for identifying lab result database elements?	yes	no
System architecture or functionality	thick client, PC, while connected to lab host, thin proprietary client, standard Web browsers	thick client, PC, while not connected to lab host
Patient order and result database maintained on local PC?	no	yes
• Functions not available if network link is down	—	none
Online connections between PO and central or host system	leased line, VPN, public Internet connection (DSL/cable modem required)	no online connection (for order entry), public Internet connection
Complete ASP solution for POLL software?/Method of charging for ASP service	yes/fixed monthly fee (subscription)	no/—
Features (listed as a percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	100%	100%
- Advanced beneficiary notice printed if medical necessity criteria not met	100%	100%
- Local medical review policies can be viewed	100%	100%
- Automatic routing of an order to different labs according to payer rules	100%	100%
- Printing of lab's requisitions	100%	100%
- Printing of requisitions for other lab providers	100%	100%
- Duplicate order checking	available but not installed	100%
- Physician office-specific panels	100%	100%
• Electronic order entry (from PO to host)	100%	available in September 2004
- Transfer of patient demographics or insurance	100%	available but not installed
- Automatic handling of scheduled or standing orders	100%	available but not installed
- Automatic routing of orders to hospital or commercial labs depending on payer rules	100%	not available
• Bar-code collection label printing	100%	100%
• Two-dimensional bar code on printed requisition	100%	100% (PDF 417)
• Software adapted for use in phlebotomy or collection stations	100%	available in December 2004
• Result receipt		
- Stored as a block of text	100%	not available
- All items (result, reference range, units) stored as individual data elements	100%	100%
- Automatic parsing of report pages to extract results	100%	100%
- Inquiry mode that allows PO to check status of specimens with host	100%	100%
• Reporting		
- In exact format received from host lab	100%	100%
- Cumulative	100%	100%
- Integration of host and PO lab results	100%	available but not installed
- Display of new results for patient and/or clinic	100%	100%
- Remote access available to on-call physicians	100%	100%
- Unattended printing of reports	100%	100%
- Display current report with historical data on same screen	100%	100%
- Graph historical results with current results for trend analysis	available but not installed	100%
• Physician can electronically sign reports to confirm review	100%	not available
• Physician can compose and send secure electronic messages to patients	available in 2005	not available
• User-defined rule-based system and alerts in PO module	100%	100%
• Electronic transfer of data to another PO	100%	not available
- E-mail/encrypted e-mail	100%/100%	not available
- Web reference or pointer to Web site	100%	not available
- Fax	100%	100%
• PO orders supplies from host lab	100%	100%
• Specimen pickup or courier requests to host lab	100%	100%
• Financial		
- Billing, collections, accounts receivable	installed	0
- Electronic claims transfer/interfaces to billing systems	installed	0/100%
• Electronic medical record interface	not available	available but not installed
• Interfaces to PO lab instruments	available but not installed	not available
• Entry of PO lab results with edit checks	available but not installed	available in March 2005
System priced on a cost-per-transaction basis?	no	no
One-time/initial charges	\$50k-\$100k	Quick-Req: \$10k, outreach client: \$6k, results: \$27.3k, client: \$6k
Monthly/subscription fees	n/a	none
Basis for increasing fees as POs are added	based on No. of physicians of record	based on No. of practices/groups
Situations where fees increase with additional services	no increase	if order entry is added to result transmission (or vice versa)
Distinguishing features (supplied by vendor)	<ul style="list-style-type: none"> complete lab integration and implementation in four weeks 100 percent of functionality deliverable on day one reasonable one-time cost—no additional subscription fees 	<ul style="list-style-type: none"> complete outreach information system that provides functionality to perform order entry and results reporting all the way to outreach billing and remittance
*PO=physician's office **other=sales, marketing, administration, other company functions ***POPMS=physician office practice management systems		

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Physician office-laboratory links software

Online order entry

continued from page 28

users. "The end-user—that is, the physician—has been the [vendor's] primary focus," he says, meaning the vendor is "often ignoring the needs of the purchaser—that is, the hospital or lab."

Bill Blair, vice president of sales and marketing for Sysmex Health IT Systems, takes a different point of view. Older systems were designed for billing capture and not the work of the clinician, he says. As a result, it's the hospital, not the caregiver, that benefits. "Physician acceptance is close to zero when they see no benefit to their practice," he adds.

It's the lab and the patient that benefit, says Nicole Spencer, marketing director for Axolotl Corp. "The lab receives data that is correct, legible, and electronic, and patients benefit from the order already being at the lab when they arrive."

Some physicians may find that the computerized system lengthens the order-entry process. "They may be asked for information that they wouldn't necessarily have had to write down on paper but that is necessary for this order to be processed and that may be perceived as burdensome," says Arthur Hauck, MD, of Cerner Corp.

Vendors can overcome physicians' technological resistance in part by better understanding each client's unique business processes, says Ian Cameron, medical communications analyst for Specialty Laboratories. Many vendors, he notes, are trying to provide an off-the-shelf solution for clients who have mix-and-match systems with highly customized interfaces.

Vendors, he adds, should include a planning phase with each implementation to better understand the client's business goals. One size does not fit all, he says, so "putting the power to tailor the application in the hands of the lab gives clients an opportunity to meet the changing needs of their business."

Newer systems, says Sysmex's Blair, have a higher level of acceptance because they offer customized screens. Physicians, he adds, can also review results and place orders using fewer screens.

While many vendors might disagree, Mitchell Fry, senior vice president of business development and marketing for Telcor, says the industry's customary answers—Web-based and ASP solutions—are problematic because they are too slow compared to PCs. Advanced technology such as Microsoft's, he says, provides better and more timely support for remote applications and allows applications to be integrated.

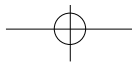
These advances, he says, mean users can implement online order-entry applications that run resident on the PC, allowing for greater speed and easier workflow, and include management capabilities that are comparable to a Web-based solution. "It's basically the best of both worlds," Fry says.

According to Jack Redding, vice president of Labtest Systems, the challenge is no longer the technology, but integrating the systems across the health care continuum, which, he adds, is improving. "We have seen in the last two years," he says, "a widespread acceptance of electronic order entry as [medical] office staff have become comfortable with the Internet as a reliable, user-friendly appliance." □

Karen L. Wagner is a freelance writer in Forest Lake, Ill.

Part 12 of 12	Zix Corp.—Dr. Chart (formerly MyDocOnline) Mike Reardon mreardon@zixcorp.com 5000 T-Rex Ave. Boca Raton, FL 33431 561-999-3205 www.zixcorp.com
See accompanying article on page 28	
Name of POLL software/system	Dr. Chart
First/most recent installation of software or system	1990/2004
No. of host or central labs using software clinically	28
• No. of host labs that electronically transfer orders from PO* to LIS	18
No. of satellite locations installed	1,500+
No. of host lab contracts signed to date in 2004	5
No. of contracts signed since 6-1-03/No. that went live since 6-1-03	8/5
Staff to develop-install & support-other** in entire firm/in POLL software division	50+-56-150/6-6-3
Average time to install, build files, train office staff in a typical PO	2 hours
Major commercial labs that use POLL package	2 labs
LIS, HIS, and other interfaces	Cerner, McKesson, Siemens, Misys, SCC Soft Computer, others
Software modifications or modules required on host LIS to interface?	no
POPMS*** used to transfer patient demographics or billing info. to POLL system	Medical Manager, Misys, Millbrook, IDX, Lytec, others
How demographics or billing information is transferred from POPMS at PO or clinic to POLL system	one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed, other transfer modes
External software tools or vendors used to transfer data from POPMS to POLL system	proprietary interface engine
Test directory stored on PO system?	no
How results are returned to PO	individually segmented fields
Data interface standards supported	HL7, XML, custom when required
System supports LOINC for identifying lab result database elements?	support names and codes
System architecture or functionality	standard Web browsers
Patient order and result database maintained on local PC?	no
• Functions <i>not</i> available if network link is down	—
Online connections between PO and central or host system	VPN, public Internet connection (dial-up sufficient)
Complete ASP solution for POLL software?/Method of charging for ASP service	yes/fixed monthly fee (subscription)
Features (listed as a percentage of live installs or whether or not it's available)	
• Order entry	
- Medicare compliance checking using carrier-specific rules	70%
- Advanced beneficiary notice printed if medical necessity criteria not met	70%
- Local medical review policies can be viewed	50%
- Automatic routing of an order to different labs according to payer rules	40%
- Printing of lab's requisitions	70%
- Printing of requisitions for other lab providers	50%
- Duplicate order checking	—
- Physician office-specific panels	—
• Electronic order entry (from PO to host)	40%
- Transfer of patient demographics or insurance	40%
- Automatic handling of scheduled or standing orders	25%
- Automatic routing of orders to hospital or commercial labs depending on payer rules	40%
• Bar-code collection label printing	70%
• Two-dimensional bar code on printed requisition	available but not installed
• Software adapted for use in phlebotomy or collection stations	20%
• Result receipt	
- Stored as a block of text	not available
- All items (result, reference range, units) stored as individual data elements	100%
- Automatic parsing of report pages to extract results	not available
- Inquiry mode that allows PO to check status of specimens with host	installed
• Reporting	
- In exact format received from host lab	100%
- Cumulative	100%
- Integration of host and PO lab results	not available
- Display of new results for patient and/or clinic	100%
- Remote access available to on-call physicians	60%
- Unattended printing of reports	available but not installed
- Display current report with historical data on same screen	100%
- Graph historical results with current results for trend analysis	100%
• Physician can electronically sign reports to confirm review	not available
• Physician can compose and send secure electronic messages to patients	available in early 2005
• User-defined rule-based system and alerts in PO module	not available
• Electronic transfer of data to another PO	70%
- E-mail/encrypted e-mail	70%/30%
- Web reference or pointer to Web site	not available
- Fax	not available
• PO orders supplies from host lab	30%
• Specimen pickup or courier requests to host lab	not available
• Financial	
- Billing, collections, accounts receivable	20%
- Electronic claims transfer/interfaces to billing systems	not available/20%
• Electronic medical record interface	25%
• Interfaces to PO lab instruments	not available
• Entry of PO lab results with edit checks	not available
System priced on a cost-per-transaction basis?	no
One-time/initial charges	\$20k-\$100k
Monthly/subscription fees	\$3k-\$7k
Basis for increasing fees as POs are added	no increase
Situations where fees increase with additional services	if order entry is added to result transmission (or vice versa), if special billing functions are added, based on No. of interfaces
Distinguishing features (supplied by vendor)	• screens, tools, functions, features customized to users • streamlined order entry • full featured, fully automated
*PO=physician's office **other=sales, marketing, administration, other company functions ***POPMS=physician office practice management systems	

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Online order entry

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users. "The end-user—that is, the physician has been the [vendor's] primary focus," he says, meaning the vendor is "often ignoring the needs of the purchaser—that is, the hospital or lab."

Bill Blair, vice president of sales and marketing for Sysmex Health IT Systems, takes a different point of view. Older systems were designed for billing capture and not the work of the clinician, he says. As a result, it's the hospital, not the caregiver, that benefits. "Physician acceptance is close to zero when they see no benefit to their practice," he adds.

It's the lab and the patient that benefit, says Nicole Spencer, marketing director for Axolotl Corp. "The lab receives data that is correct, legible, and electronic, and patients benefit from the order already being at the lab when they arrive."

Some physicians may find that the computerized system lengthens the order-entry process. "They may be asked for information that they wouldn't necessarily have had to write down on paper but that is necessary for this order to be processed and that may be perceived as burdensome," says Arthur Hauck, MD, of Cerner Corp.

Vendors can overcome physicians' technological resistance in part by better understanding each client's unique business processes, says Ian Cameron, medical communications analyst for Specialty Laboratories. Many vendors, he notes, are trying to provide an off-the-shelf solution for clients who have mix-and-match systems with highly customized interfaces.

Vendors, he adds, should include a planning phase with each implementation to better understand the client's business goals. One size does not fit all, he says, so "putting the power to tailor the application in the hands of the lab gives clients an opportunity to meet the changing needs of their business."

Newer systems, says Sysmex's Blair, have a higher level of acceptance because they offer customized screens. Physicians, he adds, can also review results and place orders using fewer screens.

While many vendors might disagree, Mitchell Fry, senior vice president of business development and marketing for Telcor, says the industry's customary answer—Web-based and ASP solutions—are problematic because they are too slow compared to PCs. Advanced technology such as Microsoft's, he says, provides better and more timely support for remote applications and allows applications to be integrated.

These advances, he says, mean users can implement online order-entry applications that run resident on the PC, allowing for greater speed and easier workflow, and include management capabilities that are comparable to a Web-based solution. "It's basically the best of both worlds," Fry says.

According to Jack Redding, vice president of Labtest Systems, the challenge is no longer the technology, but integrating the systems across the health care continuum, which, he adds, is improving. "We have seen in the last two years," he says, "a widespread acceptance of electronic order entry as [medical] office staff have become comfortable with the Internet as a reliable, user-friendly appliance." □

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