Blood bank companies branching out and barreling ahead

Emily Stone

If you think of a successful blood bank as a quilt, with a patch for cost savings, a patch for automation, a patch for reduced blood unit waste—you get the picture—then communication would be the thread holding all the pieces together. But the stitching may be more complicated than you realize.

Product Guide
Blood bank information systems, pages 78–92

Adding to the intricacy of communication in the blood bank is innovative technology, such as automated dispensing refrigerators, or refrigerated vending machines, for dispensing blood units at the point of care. Two such products are the BloodTrack HemoSafe from Haemonetics Corp., Braintree, Mass., and BloodSafe, from Mediware Information Systems, Lenexa, Kan.

With both products, doctors or nurses log on to a computer connected to the vending machine to perform an instantaneous electronic crossmatch, which verifies that the right blood type is being dispensed. They can then deliver the blood unit from the vending machine, which is located outside the operating room door or near another point-of-care site, to the patient in about one minute.

Auburn, Wash.-based Blood Bank Computer Systems and other companies market software that links Haemonetics' BloodTrack HemoSafe with their blood bank information systems. "The BBCS Primary Application ensures the safety and security of remote allocation through integration with the BloodTrack system," says Brian Forbis, director of products and sales at BBCS. "The integration of these two products changes the model for how blood centers distribute their blood."


Hakim

Clearwater, Fla.-based SCC Soft Computer is in the process of connecting its blood bank software with BloodTrack HemoSafe. "We've started this in the testing phase," says company CEO Gilbert Hakim.

The vending machines reduce the amount of blood units being wasted by surgeons, notes John Van Blaricum, vice president for marketing and communications at Mediware Information Systems. "We've found that in the OR, blood orders go down because the doctors are confident in their ability to quickly access blood if needed."

The benefits of reducing blood unit waste are not lost on the customers of San Francisco-based McKesson Provider Technologies. Blood banks are using McKesson's Horizon Blood Bank software with the company's laboratory information system to communicate with computerized physician order-entry software in order to use blood products more efficiently.

One McKesson client hospital requires that doctors review a patient's hemoglobin value before administering a unit of blood. That value must be below a certain threshold for the unit to be issued. If a second unit is requested, the doctor must review a subsequent hemoglobin value, which must not have risen above a specified level, in order to receive the additional blood.

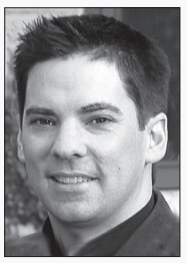
By doing this, the hospital reduced overall blood use by 25 percent from

continued on page 76

Blood bank companies

continued from page 74

2007 to 2009, resulting in savings of approximately $198,000 for each of those years, explains Jay Nakashima, senior product manager for McKesson's Horizon Blood Bank. "Not to mention the fact that by not transfusing the patients unnecessarily, they provided safer patient care," he adds.


Nakashima

"Health care organizations are under increased pressure to reduce costs and improve care," says Alec Bobroff, vice president of global marketing/software solutions for Haemonetics, which acquired blood bank software vendor Global Med Technologies in April. "They will examine all of their supply chains for opportunities to improve efficiencies. Blood collection and supply is no exception. In this critical area, many health care organizations are looking for integrated, scalable blood bank systems."

Advantages of automation

Another way to improve efficiencies in the blood bank is to reduce the workload of blood bank staff by automating processes.

"Automation of the blood bank laboratory is one of the hottest trends right now," says Michael Garver, applications specialist for Psyche Systems, Milford, Mass. "The blood bank has been one of the last holdouts in the ever-increasing trend toward automation."

Psyche recently expanded its ability to interface with automated blood bank solutions, such as Ortho's ProVue automated blood bank instrument. "Having an automated instrument interface in blood bank has many benefits," adds Garver. "It helps ensure positive identification of the patient's sample, greatly reduces the risk of data-entry errors, and saves precious time for the laboratory staff."

BBCS has, this year, developed or augmented four products that support automation. The company enhanced its blood bank system so tests, such as Chagas disease, can be selectively ordered for a unit based on configurable criteria. It also automated patient-specific blood orders for transfusion via its new hospital interface application. "This will allow hospital center staff to place an order in their hospital information system and, through automation, the order will appear in our BBCS Primary Application," says Forbis. In addition, the company automated the donor history questionnaire and blood stock orders in its BBCS Primary Application.

"Automation allows the trained specialists to concentrate more time on problems, decisionmaking, and consulting," says Jan Bruse, SBB(ASCP), lead quality engineer at Sunquest Information Systems, Tucson, Ariz. The company introduced last year a closed-loop transfusion management system, called Sunquest Transfusion Manager, which is fully integrated with its Sunquest Laboratory LIS and blood bank module. The product suite automates positive patient identification at the point of collection and transfusion and performs an electronic crossmatch.

"Other departments in the clinical laboratory have long ago adopted instrument and information system autoverification of test results," adds Bruse. "The blood bank is an area that is late to adopt autoverification in the form of electronic crossmatch."

Westwood, Mass.-based Meditech also recognizes the value of electronic crossmatching and is incorporating the capability into its software platforms. "Electronic crossmatch is a feature many customers are looking for because it saves critical time checking and confirming blood compatibility prior to transfusion," says Meditech's Christine Silva, manager of marketing support for laboratory.

"Electronic crossmatch really drives productivity," confirms Mediware's Van Blaricum, noting that the use of such functionality with the company's BloodSafe refrigerated vending machine has allowed nurses to obtain units quickly and has reduced transport workload and product waste.


Van Blaricum

Earlier this year, Mediware launched two products of a different nature, but they too are intended to reduce staff workload. The company's KnowledgeTrak solution manages the often disparate programs for employee training and compliance. If a new standard operating procedure is introduced, for example, the software informs the appropriate personnel and documents that those employees have read the new information and taken a test to show that they understand it, explains Van Blaricum.

Mediware's DonorTrak Lite helps blood banks improve communication with donors by automating alerts about blood drives and when donors are eligible to donate and then electronically scheduling donor appointments.

Keys to communication

Standardizing communication "is the future for blood banking technology," says Blood Bank Computer Systems' Forbis. "The idea that everything can communicate with everything is where we are headed."

Yet HL7, an electronic communication standard widely used in hospitals, isn't entrenched in most blood centers, Forbis says. However, BBCS' hospital interface application, for which the company received FDA 510(k) clearance in January, allows blood bank systems to communicate with other hospital systems using HL7. The advantage of this, Forbis explains, is that the blood bank system can connect to other HL7-compliant systems faster and more economically. Blood centers increasingly are seeking help to become more efficient, he adds. "Interfaces among systems within the blood centers have proven to be an effective method to gain these efficiencies."


Bobroff

Bobroff, of Haemonetics, agrees. Linking with hospital information systems will, he says, allow blood banks "to anticipate demand for blood products and thus meet those needs in the most efficient, regulatory compliant, and safest way possible." Haemonetics recently introduced Impact Online. The product is "a comprehensive blood management business intelligence portal that converts individual, disparate data points into actionable information," says Bobroff. "Through a secure Web-based interface, organizations can track their blood use and subsequent clinical outcomes."

The need to continually improve communication has led SCC Soft Computer to enhance the functionality of its blood bank systems to better serve multi-site facilities. This gives individual sites greater flexibility to set up their computer systems while sharing the same central database, says Hakim.

Individual sites that are part of a multi-facility health care system may use different products or have customized terms of use, he explains. For example, users may want to see only their own site's electronic dictionary in the system or access only their own inventory. The system also deals with the issue of time zones, ensuring that actions are stamped with the time of the place where they occur, not where the central database is located.

SCC also enhanced its SoftBank blood bank system this year by adding the ability to print ISBT labels, an interface option for irradiation, features for tracking lot numbers and supply inventory, and improved neonate functionality.

In addition, the company received FDA clearance for its SoftID.Tx product in April. The product, which is integrated with SoftBank and operates on a wireless network, "supports bedside transfusion administration and bedside collection of patient vitals during blood transfusions using handheld computers with embedded bar-code scanners," explains Hakim.

Beyond blood

SCC Soft Computer, like most of the other companies interviewed by CAP TODAY, is focusing greater attention on nonblood biologic products, such as stem cells, bone, and tissue.

"We are working on SoftBioBank, which will be a banking system for tissue, bone, and derivative products," says Hakim. The product is undergoing beta testing and is expected to be available early next year.

Sunquest customers are using the company's blood bank module to inventory tissue and bones, as well as a variety of blood products. "Sunquest clients are very creative in their use of the system," says Bruse.

Mediware, which markets the BiologiCare biologics management system, has seen blood bank customers' interest in this market segment increase. "We believe," says Van Blaricum, "that as regulations increase, this will become another function of the blood bank." □

Emily Stone is a freelance writer in Chicago.

Blood bank information systems

Part 1 of 9 See accompanying article on page 74	Blood Bank Computer Systems Brian Forbis bforbis@bbcsinc.com 1002 15th St. SW, Suite 120 Auburn, WA 98001 888-738-2227 www.bbcsinc.com	Cerner Corp. Jenna Halvorson jenna.halvorson@cerner.com 2800 Rockcreek Parkway Kansas City, MO 64117 816-201-7740 www.cerner.com
Name of blood bank system	Blood Bank Control System	Cerner Millennium PathNet Blood Bank
First/most recent blood bank system installation (based on July 2010 survey deadline)	1987/2008	1986/June 2010
Last major product release (for product featured)	March 2010	August 2010
Total number of contracts for sites operating blood bank system	31	—
•Contracts for U.S. hospitals with donor and transfusion services	1	0
•Contracts for U.S. hospitals with transfusion service only	0	—
•Contracts for U.S. regional blood centers with donor service only	23	0
•Contracts for U.S. regional blood centers with donor and transfusion services	4	0
•Contracts for centralized transfusion services in the U.S.	2	0
•Contracts for foreign hospitals and regional blood centers	0	—
•Contracts for other sites	1	0
Number of contracts signed between June 2009–June 2010	0	—
Total number of sites operating blood bank system	120	313 (59 sites in Australia, Canada, England, Saudi Arabia, Singapore, Egypt, United Arab Emirates)
Number of sites that went live between June 2009–June 2010	0	48
Installations not yet live (hospitals/regional blood centers/others)	1 (0/0/1 – medical research company)	23 (23/0/0)
Percentage of installations that are standalone blood bank systems	100%	0
No. of employees in entire company	25	7,504
•No. of employees dedicated to software development, installation, and support	23	420
Number of different versions of this software installed	9	2
•Versions of product in field covered by FDA 510(k) clearance	BBCSP 4.4, 5.2.2, 5.3, 5.3.1, 5.3.2, 5.3.3, 5.3.4, 5.3.5, 5.3.6	Cerner Classic, Cerner Millennium
•Versions of product that did not require FDA 510(k) clearance	none	—
Range in number of user workstations in live sites (average)	10–200 (average, 40)	—
Central hardware or services type	IBM iSeries	Hewlett-Packard, IBM
Workstations or PC platform	IBM-compatible workstations, PCs	Microsoft Windows locally or via Citrix thin client
Software programming language(s)	RPG 400, Java	Java, Visual Basic, C++, C#, Visual C
Operating system(s)	OS/400	HP-UX, AIX, VMS
Databases and tools	IBM DB2	Oracle
Features (listed as percentage of live installs or based on availability)		
•Full support of ISBT 128 unit labeling	90%	95%
•Bar-code reading of donor and unit information	100%	100%
•Unit inventory	100%	100%
•Autologous and directed unit tracking	100%	100%
•Direct entry of test results	100%	100%
•Crossmatch results	17%	100%
•Electronic crossmatch decisionmaking	3%	>50%
•Antigen typing	100%	100%
•Integrated bedside check for transfusion	not available	1%
•Track all steps in production of product	100%	100%
•Print donor unit labels—bar coded	3%	100%
•Interface with automated instruments	100%	>25%
•Interface with blood irradiator or centrifuges	not available	not available
•Centralized transfusion service capability	7%	available
•Donor recruitment and management/donor questionnaire	installed/40%	available through company's LIS or via third party (both features)
•Mobile scheduling	installed	available through company's LIS or via third party
•Laptop-based mobile donor registration module	installed	available through company's LIS or via third party
•Source or recovered plasma management	100%	available through company's LIS or via third party
•Accounts receivable	100%	>25%
•Management reports/ad hoc report writer	100%/100%	100%/100%
•Quality control management/collection management	100%/100%	<25%/<25%
System provides standard HL7 interface?	yes (version 5.3.6)	yes (versions 2.3, 2.4)
Interfaces to automated donor infectious disease testing instruments	uni-directional to Ortho, Immucor, Abbott, Olympus, DiaMed/Bio-Rad, IDM via Surround; bi-directional to Immucor	—
Interfaces to automated ABO/Rh/antibody screening instruments	uni-directional to Ortho, Immucor, Abbott, Olympus, DiaMed/Bio-Rad	bi-directional to Ortho, Immucor, Abbott, DiaMed/Bio-Rad
FDA 510(k)-approved interface to bedside patient ID system?	no	yes (to Cerner Bridge Medical)
•HISs interfaced to bedside patient ID system	—	Cerner, Epic, any supporting HL7 messaging
Languages (other than English) offered on system	—	German, Spanish, French
Tools to help clients validate their systems	validation protocols, flow charts, risk mitigation online portal, installation and verification instructions, 24/7 customer support	validation services on request, certification guidelines, documentation, consulting services
Complete blood bank ASP solution?	yes	yes
•Method of charging for ASP service	transaction based	fixed fee
•Client software required	browser based or requires software be installed on a client PC	requires software be installed on a client PC, Citrix thin client
•ASP information conduit	operates over the Internet	requires use of a VPN or other dedicated connection
•Client contracts supported from data center not operated by client	0	225
•How data center is operated	by a third party (blood bank or IBM business partner)	by vendor
System provides indexed field in each test definition for LOINC code?	no	yes
Provide LOINC dictionary for each new installation?	no	yes
Information system interfaces	—	McKesson, Siemens, Epic, Eclipsys, Meditech, others
User group?	yes (meets in person annually)	yes (meets via Internet semi-annually; in person annually; via Web-based community)
Source code?	no	no
User can modify screens?	no	yes
User-defined report writer/custom programming?	yes/yes	yes/yes
Cost for smallest standalone HW/SW/install & training/mo. maintenance	—	—
Cost for largest standalone HW/SW/install & training/mo. maintenance	—	—
Cost for smallest integrated HW/SW/install & training/mo. maintenance	—	—
Cost for largest integrated HW/SW/install & training/mo. maintenance	—	—
Distinguishing features (supplied by company)	• complete blood center management package, from recruiting to transfusion • self-registration and customizable online questionnaire capable of touch-screen integration support a paperless donor room • highly configurable to fit the needs of large and small facilities	• positive patient ID capabilities at the patient bedside, from specimen collection to transfusion administration • support for increased efficiencies through key capabilities, such as mother-baby linking, online secondary review of results (pre- or post-verification), quality control specific to blood bank workflows, computerized crossmatch, other offerings • support for blood bank within a single LIS and EMR architecture

Note: a dash in lieu of an answer means company did not answer question or question is not applicable

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Survey editors: Raymond D. Aller, MD, and Hal Weiner

Blood bank information systems

Part 2 of 9	Haemonetics Software Solutions (Wyndgate Technologies) Scott Dustin scott.dustin@haemonetics.com 4925 Robert J. Mathews Parkway, Suite 100 El Dorado Hills, CA 95762 916-404-8400 www.haemonetics.com	Haemonetics Software Solutions (Wyndgate Technologies) Scott Dustin scott.dustin@haemonetics.com 4925 Robert J. Mathews Parkway, Suite 100 El Dorado Hills, CA 95762 916-404-8400 www.haemonetics.com
Name of blood bank system	ElDorado Donor	SafeTrace
First/most recent blood bank system installation (based on July 2010 survey deadline)	1996/May 2010	1996/December 2009
Last major product release (for product featured)	March 2010	July 2009
Total number of contracts for sites operating blood bank system	13†	55
•Contracts for U.S. hospitals with donor and transfusion services	9†	15
•Contracts for U.S. hospitals with transfusion service only	0	0
•Contracts for U.S. regional blood centers with donor service only	2†	21
•Contracts for U.S. regional blood centers with donor and transfusion services	1†	12
•Contracts for centralized transfusion services in the U.S.	0	0
•Contracts for foreign hospitals and regional blood centers	1 (Egypt)	3 (Botswana, Nigeria, Ethiopia)
•Contracts for other sites	0	4 (hospitals in U.S. with donor service only)
Number of contracts signed between June 2009–June 2010	8	0
Total number of sites operating blood bank system	1	284
Number of sites that went live between June 2009–June 2010	1	2
Installations not yet live (hospitals/regional blood centers/others)	12 (9/3/0)	0
Percentage of installations that are standalone blood bank systems	77%	55%
No. of employees in entire company	189	189
•No. of employees dedicated to software development, installation, and support	148	148
Number of different versions of this software installed	1	6
•Versions of product in field covered by FDA 510(k) clearance	2.1	1.0–4.0.4
•Versions of product that did not require FDA 510(k) clearance	—	—
Range in number of user workstations in live sites (average)	4–100+ (average, 20)	4–100+ (average, 20)
Central hardware or services type	Intel based (determined by Oracle, ASP)	Unix-based servers, Sun, Hewlett-Packard, IBM
Workstations or PC platform	Windows	PCs
Software programming language(s)	C#	Delphi, PL/SQL, .Net
Operating system(s)	Windows	Unix
Databases and tools	Oracle, Crystal Reports	Oracle, Crystal Reports
Features (listed as percentage of live installs or based on availability)		
•Full support of ISBT 128 unit labeling	100%	100%
•Bar-code reading of donor and unit information	100%	100%
•Unit inventory	100%	100%
•Autologous and directed unit tracking	100%	100%
•Direct entry of test results	100%	100%
•Crossmatch results	available via Haemonetics' SafeTrace Tx	available via Haemonetics' SafeTrace Tx
•Electronic crossmatch decisionmaking	available via Haemonetics' SafeTrace Tx	available via Haemonetics' SafeTrace Tx
•Antigen typing	100%	100%
•Integrated bedside check for transfusion	not available	not available
•Track all steps in production of product	100%	100%
•Print donor unit labels—bar coded	100%	100%
•Interface with automated instruments	installed	installed
•Interface with blood irradiator or centrifuges	not available	not available
•Centralized transfusion service capability	available via Haemonetics' SafeTrace Tx	available via Haemonetics' SafeTrace Tx
•Donor recruitment and management/donor questionnaire	available via Haemonetics' eDonor/available via Haemonetics' ElDorado Donor Doc	available via Haemonetics' eDonor/available via Haemonetics' ElDorado Donor Doc
•Mobile scheduling	available via Haemonetics' eDonor/Hemasphere	available via Haemonetics' eDonor/Hemasphere
•Laptop-based mobile donor registration module	available in second quarter 2011	installed
•Source or recovered plasma management	available in second quarter 2011	installed
•Accounts receivable	available via third party	available via third party
•Management reports/ad hoc report writer	100%/available in third quarter 2010	100%/installed
•Quality control management/collection management	available via Haemonetics' ElDorado Control/100%	available via Haemonetics' ElDorado Control/100%
System provides standard HL7 interface?	no	no
Interfaces to automated donor infectious disease testing instruments	uni-directional to Ortho, Immucor, Abbott, Olympus, DiaMed/Bio-Rad	uni-directional to Ortho, Immucor, Abbott, Olympus, DiaMed/Bio-Rad
Interfaces to automated ABO/Rh/antibody screening instruments	uni-directional to Ortho, Immucor, Abbott, Olympus, DiaMed/Bio-Rad	uni-directional to Ortho, Immucor, Olympus, DiaMed/Bio-Rad
FDA 510(k)-approved interface to bedside patient ID system?	no	no
•HISs interfaced to bedside patient ID system	—	—
Languages (other than English) offered on system	none	none
Tools to help clients validate their systems	validation templates and validation test plan for safety critical control checks; validation services through Haemonetics' PeopleMed Software Solutions subsidiary	validation guidelines, templates, and validation test plan for safety critical control checks; validation services through Haemonetics' PeopleMed Software Solutions subsidiary
Complete blood bank ASP solution?	yes	yes
•Method of charging for ASP service	fixed fee, transaction based	fixed fee, transaction based
•Client software required	Citrix or remote desktop	terminal emulator software
•ASP information conduit	requires use of a VPN or other dedicated connection	requires use of a VPN or other dedicated connection
•Client contracts supported from data center not operated by client	2	12
•How data center is operated	by vendor	by vendor
System provides indexed field in each test definition for LOINC code?	no	no
Provide LOINC dictionary for each new installation?	no	no
Information system interfaces	Haemonetics, Cerner	Haemonetics
User group?	yes (meets via Internet as needed; in person annually; via routine teleconferences)	yes (meets via Internet as needed; in person annually; via routine teleconferences)
Source code?	no	escrow
User can modify screens?	no	yes
User-defined report writer/custom programming?	yes/yes	yes/yes
Cost for smallest standalone HW/SW/install & training/mo. maintenance	—	—
Cost for largest standalone HW/SW/install & training/mo. maintenance	—	—
Cost for smallest integrated HW/SW/install & training/mo. maintenance	—	—
Cost for largest integrated HW/SW/install & training/mo. maintenance	—	—
Distinguishing features (supplied by company)	• extensive safety checks throughout system with a commitment to compliance • open workflow with extensive user-defined, table-based rules • Service 360 commitment to ensure quality customer implementation and support experience	• extensive safety checks throughout system with a commitment to compliance • open workflow with extensive user-defined, table-based rules • Service 360 commitment to ensure quality customer implementation and support experience

Note: a dash in lieu of an answer means company did not answer question or question is not applicable

†not all contracts represent live sites

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Blood bank information systems

Part 3 of 9	Haemonetics Software Solutions (Wyndgate Technologies) Scott Dustin scott.dustin@haemonetics.com 4925 Robert J. Mathews Parkway, Suite 100 El Dorado Hills, CA 95762 916-404-8400 www.haemonetics.com	McKesson Joseph R. Stabile joseph.stabile@mckesson.com 5995 Windward Parkway Alpharetta, GA 30005 404-338-4363 www.mckesson.com/laboratory
Name of blood bank system	SafeTrace Tx	Horizon Blood Bank†
First/most recent blood bank system installation (based on July 2010 survey deadline)	1996/May 2010	2004/May 2010
Last major product release (for product featured)	January 2010	fall 2009
Total number of contracts for sites operating blood bank system	281	87
•Contracts for U.S. hospitals with donor and transfusion services	17	0
•Contracts for U.S. hospitals with transfusion service only	223	84
•Contracts for U.S. regional blood centers with donor service only	0	0
•Contracts for U.S. regional blood centers with donor and transfusion services	10	0
•Contracts for centralized transfusion services in the U.S.	19	0
•Contracts for foreign hospitals and regional blood centers	8 (Botswana, Puerto Rico, Canada, Ethiopia)	3 (Canada)
•Contracts for other sites	4 (regional donor centers with transfusion only)	0
Number of contracts signed between June 2009–June 2010	23	10
Total number of sites operating blood bank system	348	147
Number of sites that went live between June 2009–June 2010	61	28
Installations not yet live (hospitals/regional blood centers/others)	95 (94/1/0)	12 (12/0/0)
Percentage of installations that are standalone blood bank systems	88%	0
No. of employees in entire company	189	32,000
•No. of employees dedicated to software development, installation, and support	148	148††
Number of different versions of this software installed	7	4
•Versions of product in field covered by FDA 510(k) clearance	1.0–3.5.1(SR)	SafeTrace Tx 3.2, 3.3, 3.4, 3.5
•Versions of product that did not require FDA 510(k) clearance	—	—
Range in number of user workstations in live sites (average)	1–105 (average, 7)	1–6 (average, 2)
Central hardware or services type	Intel based (determined by Oracle, ASP)	Intel- and Unix-based servers
Workstations or PC platform	Windows	PCs
Software programming language(s)	Delphi	Delphi, SQL, Crystal Reports
Operating system(s)	Windows	Microsoft Windows, XP Professional, Windows 2003 (Unix optional)
Databases and tools	Oracle, Crystal Reports	Oracle
Features (listed as percentage of live installs or based on availability)		
•Full support of ISBT 128 unit labeling	100%	installed
•Bar-code reading of donor and unit information	100%	installed
•Unit inventory	100%	installed
•Autologous and directed unit tracking	100%	installed
•Direct entry of test results	100%	installed
•Crossmatch results	100%	installed
•Electronic crossmatch decisionmaking	70%	installed
•Antigen typing	100%	installed
•Integrated bedside check for transfusion	available via third party	available through company's LIS in 2010
•Track all steps in production of product	100%	installed
•Print donor unit labels—bar coded	installed	installed
•Interface with automated instruments	installed	installed
•Interface with blood irradiator or centrifuges	installed	installed
•Centralized transfusion service capability	100%	installed
•Donor recruitment and management/donor questionnaire	available via Haemonetics' eDonor/available via Haemonetics' ElDorado Donor Doc	available via third party/available via third party
•Mobile scheduling	available via Haemonetics' Hemasphere	available via third party
•Laptop-based mobile donor registration module	available via Haemonetics' SafeTrace Mobile Collections	available via third party
•Source or recovered plasma management	available via Haemonetics' SafeTrace	available via third party
•Accounts receivable	available via third party	available via third party
•Management reports/ad hoc report writer	100%/available via third party	installed/installed
•Quality control management/collection management	installed/available via Haemonetics' ElDorado Donor and SafeTrace	installed/available through company's LIS
System provides standard HL7 interface?	yes (versions 2.1, 2.2, 2.3)	yes (version 2.2 and higher)
Interfaces to automated donor infectious disease testing instruments	—	—
Interfaces to automated ABO/Rh/antibody screening instruments	uni- and bi-directional to Ortho, Immucor	uni-directional to Ortho, Immucor, Olympus, Data Innovations; bi-directional to Ortho, Immucor, Olympus, Biotest, Data Innovations
FDA 510(k)-approved interface to bedside patient ID system?	no	yes (to MobileCare Transfusion module of McKesson Horizon Lab LIS)
•HISs interfaced to bedside patient ID system	—	—
Languages (other than English) offered on system	none	—
Tools to help clients validate their systems	validation guidelines, templates, and test plan for critical control checks; validation services through Haemonetics' PeopleMed Software Solutions subsidiary	validation services and guidelines from recommended third parties
Complete blood bank ASP solution?	yes	yes
•Method of charging for ASP service	fixed fee, transaction based	fixed fee, transaction based
•Client software required	Citrix, remote desktop	browser based, requires software be installed on a client PC
•ASP information conduit	requires use of a VPN or other dedicated connection	operates over the Internet, requires use of a VPN or other dedicated connection
•Client contracts supported from data center not operated by client	7	2
•How data center is operated	by vendor	by vendor or by a third party (ACS)
System provides indexed field in each test definition for LOINC code?	no	no
Provide LOINC dictionary for each new installation?	no	no
Information system interfaces	McKesson, Cerner, Siemens, GE Healthcare, CPSI, Meditech, SCC Soft Computer, Sysmex, Misys, Orchard Software, Sunquest, others	McKesson
User group?	yes (meets via Internet as needed; in person annually; via routine teleconferences)	yes (meets in person annually)
Source code?	escrow	escrow
User can modify screens?	no	—
User-defined report writer/custom programming?	no/yes	yes/no
Cost for smallest standalone HW/SW/install & training/mo. maintenance	—	—
Cost for largest standalone HW/SW/install & training/mo. maintenance	—	—
Cost for smallest integrated HW/SW/install & training/mo. maintenance	—	—
Cost for largest integrated HW/SW/install & training/mo. maintenance	—	—
Distinguishing features (supplied by company)	• extensive safety checks throughout system with a commitment to compliance • industry patents for Patient-At-A-Glance Bar, antigen-antibody identification, and central transfusion service functionality • Service 360 commitment to ensure quality customer implementation and support experience	• extensive safety checks throughout system, including Patient-At-A-Glance Bar; commitment to compliance • open workflow with extensive user-defined, table-based rules • Wyndgate's Service 360 commitment to ensure quality customer implementation and support experience

Note: a dash in lieu of an answer means company did not answer question or question is not applicable

†software for Horizon Blood Bank supplied by Haemonetics Software Solutions
††from Haemonetics Software Solutions (software supplier)

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Blood bank information systems

Part 4 of 9	Medical Information Technology Paul Berthiaume pberthiaume@meditech.com Meditech Circle Westwood, MA 02090 781-821-3000 www.meditech.com	Medical Information Technology Paul Berthiaume pberthiaume@meditech.com Meditech Circle Westwood, MA 02090 781-821-3000 www.meditech.com
Name of blood bank system	Blood Bank System–6.0	Blood Bank System–client/server
First/most recent blood bank system installation (based on July 2010 survey deadline)	1981/May 2010	1981/May 2010
Last major product release (for product featured)	April 2008	April 2008
Total number of contracts for sites operating blood bank system	11	306
•Contracts for U.S. hospitals with donor and transfusion services	—	—
•Contracts for U.S. hospitals with transfusion service only	—	—
•Contracts for U.S. regional blood centers with donor service only	—	—
•Contracts for U.S. regional blood centers with donor and transfusion services	—	—
•Contracts for centralized transfusion services in the U.S.	—	—
•Contracts for foreign hospitals and regional blood centers	—	—
•Contracts for other sites	—	—
Number of contracts signed between June 2009–June 2010	28	17
Total number of sites operating blood bank system	11	306 (33 sites in Canada, Singapore, Bahamas, United Arab Emirates)
Number of sites that went live between June 2009–June 2010	8	7
Installations not yet live (hospitals/regional blood centers/others)	3 (3/not tracked/0)	36 (36/not tracked/0)
Percentage of installations that are standalone blood bank systems	0	0
No. of employees in entire company	3,011	3,011
•No. of employees dedicated to software development, installation, and support	111	111
Number of different versions of this software installed	3	3
•Versions of product in field covered by FDA 510(k) clearance	Magic, client/server, 6.0	Magic, client/server, 6.0
•Versions of product that did not require FDA 510(k) clearance	—	—
Range in number of user workstations in live sites (average)	—	—
Central hardware or services type	Hewlett-Packard, Dell, EMC, IBM, others	Hewlett-Packard, Dell, EMC, IBM, others
Workstations or PC platform	Windows 2000, XP, Vista, XP Tablet on the end-user client device	Windows XP, Vista, XP Tablet on the end-user client device
Software programming language(s)	Meditech-developed programming language	Meditech-developed programming language
Operating system(s)	Microsoft Windows Server 2003 Enterprise of Datacenter x64 Edition, Server 2008 Standard Edition Service Pack 1 (server); Windows 2000 Professional, XP, Vista (PCs)	Windows 2000 Professional, XP, Vista (PCs); Windows 2003, Server 2008 Standard Edition Service Pack 1 (server)
Databases and tools	Meditech database management system	Meditech database management system
Features (listed as percentage of live installs or based on availability)		
•Full support of ISBT 128 unit labeling	100%	100%
•Bar-code reading of donor and unit information	100%	100%
•Unit inventory	100%	100%
•Autologous and directed unit tracking	100%	100%
•Direct entry of test results	100%	100%
•Crossmatch results	100%	100%
•Electronic crossmatch decisionmaking	installed	installed
•Antigen typing	installed	installed
•Integrated bedside check for transfusion	installed	installed
•Track all steps in production of product	100%	100%
•Print donor unit labels—bar coded	installed	installed
•Interface with automated instruments	installed	installed
•Interface with blood irradiator or centrifuges	not available	not available
•Centralized transfusion service capability	100%	100%
•Donor recruitment and management/donor questionnaire	installed/installed	installed/installed
•Mobile scheduling	installed	installed
•Laptop-based mobile donor registration module	installed	installed
•Source or recovered plasma management	installed	installed
•Accounts receivable	installed	installed
•Management reports/ad hoc report writer	100%/100%	100%/100%
•Quality control management/collection management	installed/installed	installed/installed
System provides standard HL7 interface?	yes (up to version 3.0)	yes (up to version 3.0)
Interfaces to automated donor infectious disease testing instruments	—	—
Interfaces to automated ABO/Rh/antibody screening instruments	uni-directional to Ortho, Immucor	uni-directional to Ortho, Immucor
FDA 510(k)-approved interface to bedside patient ID system?	yes (to Meditech solutions)	yes (to Meditech solutions)
•HISs interfaced to bedside patient ID system	—	—
Languages (other than English) offered on system	Spanish in development	Spanish in development
Tools to help clients validate their systems	testing scripts on Web site via validation guides	testing scripts on Web site via validation guides
Complete blood bank ASP solution?	no	no
•Method of charging for ASP service	—	—
•Client software required	—	—
•ASP information conduit	—	—
•Client contracts supported from data center not operated by client	—	—
•How data center is operated	—	—
System provides indexed field in each test definition for LOINC code?	yes	yes
Provide LOINC dictionary for each new installation?	no	no
Information system interfaces	—	—
User group?	yes (meets via Internet and in person)	yes (meets via Internet and in person)
Source code?	escrow	escrow
User can modify screens?	yes	yes
User-defined report writer/custom programming?	yes/no	yes/no
Cost for smallest standalone HW/SW/install & training/mo. maintenance	—	—
Cost for largest standalone HW/SW/install & training/mo. maintenance	—	—
Cost for smallest integrated HW/SW/install & training/mo. maintenance	—	—
Cost for largest integrated HW/SW/install & training/mo. maintenance	—	—
Distinguishing features (supplied by company)	• an integrated component of Meditech's HCIS; provides a seamless exchange of data across the continuum, ensuring the accuracy of information across applications • fully integrated with Meditech's patient care solution, fostering the sharing of blood bank transfusion information through a transfusion administration record, which uses bar-code readers to promote bedside transfusion verification • features electronic crossmatching	• an integrated component of Meditech's HCIS; provides a seamless exchange of data across the continuum, ensuring the accuracy of information across applications • fully integrated with Meditech's patient care solution, fostering the sharing of blood bank transfusion information through a transfusion administration record, which uses bar-code readers to promote bedside transfusion verification • features electronic crossmatching

Note: a dash in lieu of an answer means company did not answer question or question is not applicable

Blood bank information systems

Part 5 of 9	Medical Information Technology Paul Berthiaume pberthiaume@meditech.com Meditech Circle Westwood, MA 02090 781-821-3000 www.meditech.com	Mediware Information Systems Steve Sedlock steve.sedlock@mediware.com 11711 W. 79th St. Lenexa, KS 66214 913-307-1000 www.mediware.com
Name of blood bank system	Blood Bank System–Magic	HCLL Transfusion†
First/most recent blood bank system installation (based on July 2010 survey deadline)	1981/April 2010	1980/2010
Last major product release (for product featured)	July 2008	2009
Total number of contracts for sites operating blood bank system	415	208
•Contracts for U.S. hospitals with donor and transfusion services	—	16
•Contracts for U.S. hospitals with transfusion service only	—	170
•Contracts for U.S. regional blood centers with donor service only	—	6
•Contracts for U.S. regional blood centers with donor and transfusion services	—	2
•Contracts for centralized transfusion services in the U.S.	—	8
•Contracts for foreign hospitals and regional blood centers	—	6 (Ireland, Saudi Arabia, Singapore, Canada)
•Contracts for other sites	—	0
Number of contracts signed between June 2009–June 2010	9	3
Total number of sites operating blood bank system	661 (57 sites in Canada, Ireland, United Kingdom)	362
Number of sites that went live between June 2009–June 2010	57	65
Installations not yet live (hospitals/regional blood centers/others)	1 (1/not tracked/0)	75 (70/5/0)
Percentage of installations that are standalone blood bank systems	0	85%
No. of employees in entire company	3,011	275
•No. of employees dedicated to software development, installation, and support	111	93
Number of different versions of this software installed	3	8
•Versions of product in field covered by FDA 510(k) clearance	Magic, client/server, 6.0	3.0
•Versions of product that did not require FDA 510(k) clearance	—	2.95, 3.1, 3.2, 3.3, 4.0, 4.1, 4.2
Range in number of user workstations in live sites (average)	—	2–50 (average, 8)
Central hardware or services type	Hewlett-Packard, Dell, IBM, EMC, others	Microsoft compatible
Workstations or PC platform	Intel-based PC with 1 GHz or higher Intel or equivalent processor with at least 512 MB, capable of 32-bit color display; requires Microsoft Windows 2000 Professional, XP, Vista, XP Tablet, LAN network card	Microsoft compatible
Software programming language(s)	Magic	Visual Basic, C++ Com, Microsoft .Net, C#
Operating system(s)	Windows 2000 Professional, XP, Vista, XP Tablet (PCs); Microsoft Windows 2003, Server 2008 Standard Edition Service Pack 1 (server)	Windows XP, 2005, 2003
Databases and tools	Meditech database management system	Microsoft SQL 2000, 2005
Features (listed as percentage of live installs or based on availability)		
•Full support of ISBT 128 unit labeling	100%	installed
•Bar-code reading of donor and unit information	100%	installed
•Unit inventory	100%	installed
•Autologous and directed unit tracking	100%	installed
•Direct entry of test results	100%	installed
•Crossmatch results	100%	installed
•Electronic crossmatch decisionmaking	installed	installed
•Antigen typing	installed	installed
•Integrated bedside check for transfusion	installed	installed
•Track all steps in production of product	100%	installed
•Print donor unit labels—bar coded	installed	installed
•Interface with automated instruments	installed	installed
•Interface with blood irradiator or centrifuges	not available	not available
•Centralized transfusion service capability	100%	installed
•Donor recruitment and management/donor questionnaire	installed/installed	installed/not available
•Mobile scheduling	installed	not available
•Laptop-based mobile donor registration module	installed	not available
•Source or recovered plasma management	installed	not available
•Accounts receivable	installed	installed
•Management reports/ad hoc report writer	100%/100%	installed/installed
•Quality control management/collection management	installed/installed	installed/installed
System provides standard HL7 interface?	yes (up to version 3.0)	yes (version 4.2)
Interfaces to automated donor infectious disease testing instruments	—	—
Interfaces to automated ABO/Rh/antibody screening instruments	uni-directional to Ortho, Immucor	bi-directional to Ortho, Immucor, Olympus
FDA 510(k)-approved interface to bedside patient ID system?	yes (to Meditech solutions)	yes (to Mediware BloodSafe Tx)
•HISs interfaced to bedside patient ID system	—	—
Languages (other than English) offered on system	Spanish in development	none
Tools to help clients validate their systems	testing scripts on Web site via validation guides	validation scripts
Complete blood bank ASP solution?	no	no
•Method of charging for ASP service	—	—
•Client software required	—	—
•ASP information conduit	—	—
•Client contracts supported from data center not operated by client	—	—
•How data center is operated	—	—
System provides indexed field in each test definition for LOINC code?	yes	no
Provide LOINC dictionary for each new installation?	no	no
Information system interfaces	—	Cerner, McKesson, Epic, Meditech, SCC Soft Computer, Sunquest, others
User group?	yes (meets via Internet and in person)	yes (meets via Internet quarterly and in person annually)
Source code?	escrow	escrow
User can modify screens?	yes	yes
User-defined report writer/custom programming?	yes/no	yes/no
Cost for smallest standalone HW/SW/install & training/mo. maintenance	—	$19,259/$46,500/$71,630/$394.17
Cost for largest standalone HW/SW/install & training/mo. maintenance	—	$32,562/$265,000/$75,090/$4,900
Cost for smallest integrated HW/SW/install & training/mo. maintenance	—	$33,881/$58,500/$85,980/$1,414.16
Cost for largest integrated HW/SW/install & training/mo. maintenance	—	$49,298/$277,000/$89,440/$5,420
Distinguishing features (supplied by company)	• an integrated component of Meditech's HCIS; provides a seamless exchange of data across the continuum, ensuring the accuracy of information across applications • fully integrated with Meditech's patient care solution, fostering the sharing of blood bank transfusion information through a transfusion administration record, which uses bar-code readers to promote bedside transfusion verification • features electronic crossmatching	• offers a seamlessly integrated, closed-loop solution that begins with donor collection and ends with final disposition of the blood product • Mediware brought together HCLL TFS and InSight, a new-generation performance management solution, to form HCLL InSight; InSight offers blood bank performance results in easy to use, configurable dashboards • more than 60 different safety checks throughout the system and color-coded alerts to ensure this standard is met

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†previously marketed as Hemocare/LifeLine

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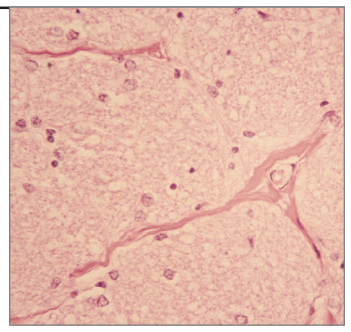

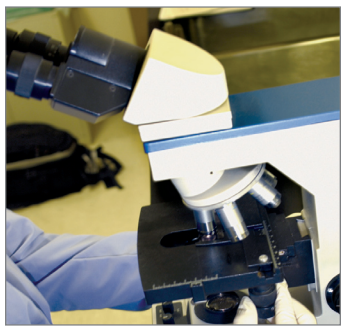

Blood bank information systems

Part 6 of 9

Mediware Information Systems
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11711 W. 79th St.
Lenexa, KS 66214
913-307-1000 www.mediware.com

Name of blood bank system	LifeTrak
First/most recent blood bank system installation (based on July 2010 survey deadline)	1980/May 2010
Last major product release (for product featured)	December 2009
Total number of contracts for sites operating blood bank system	15
•Contracts for U.S. hospitals with donor and transfusion services	7
•Contracts for U.S. hospitals with transfusion service only	0
•Contracts for U.S. regional blood centers with donor service only	2
•Contracts for U.S. regional blood centers with donor and transfusion services	4
•Contracts for centralized transfusion services in the U.S.	1
•Contracts for foreign hospitals and regional blood centers	0
•Contracts for other sites	1 (donor testing)
Number of contracts signed between June 2009–June 2010	2
Total number of sites operating blood bank system	99
Number of sites that went live between June 2009–June 2010	1
Installations not yet live (hospitals/regional blood centers/others)	3 (1/2/0)
Percentage of installations that are standalone blood bank systems	44%
No. of employees in entire company	285
•No. of employees dedicated to software development, installation, and support	120
Number of different versions of this software installed	13
•Versions of product in field covered by FDA 510(k) clearance	2.03, 3.02
•Versions of product that did not require FDA 510(k) clearance	3.1, 3.2.1, 3.2, 3.3, 3.4, 3.4.1, 3.4.2, 3.4.3, 4.2, 4.3, 4.4
Range in number of user workstations in live sites (average)	7–340 (average, 100)
Central hardware or services type	Intel-based server (Linux)
Workstations or PC platform	Microsoft compatible
Software programming language(s)	Oracle Forms and Reports
Operating system(s)	Linux
Databases and tools	Oracle
Features (listed as percentage of live installs or based on availability)	
•Full support of ISBT 128 unit labeling	94%
•Bar-code reading of donor and unit information	100%
•Unit inventory	75%
•Autologous and directed unit tracking	94%
•Direct entry of test results	installed
•Crossmatch results	not available
•Electronic crossmatch decisionmaking	not available
•Antigen typing	installed
•Integrated bedside check for transfusion	not available
•Track all steps in production of product	100%
•Print donor unit labels—bar coded	94%
•Interface with automated instruments	32%
•Interface with blood irradiator or centrifuges	available in December 2010
•Centralized transfusion service capability	not available
•Donor recruitment and management/donor questionnaire	81%/94%
•Mobile scheduling	81%
•Laptop-based mobile donor registration module	available but not installed
•Source or recovered plasma management	94%
•Accounts receivable	—
•Management reports/ad hoc report writer	100%/100%
•Quality control management/collection management	100%/94%
System provides standard HL7 interface?	yes (version 3.02 and up)
Interfaces to automated donor infectious disease testing instruments	uni-directional to Ortho, Immucor, Abbott, Olympus, DiaMed/Bio-Rad, Novartis, Biotest, Gen-Probe, others
Interfaces to automated ABO/Rh/antibody screening instruments	uni-directional to Ortho, Immucor, Olympus, DiaMed/Bio-Rad, Biotest
FDA 510(k)-approved interface to bedside patient ID system?	no
•HISs interfaced to bedside patient ID system	—
Languages (other than English) offered on system	—
Tools to help clients validate their systems	release notes, training, scripts, validation services
Complete blood bank ASP solution?	yes
•Method of charging for ASP service	fixed fee
•Client software required	browser based
•ASP information conduit	requires use of a VPN or other dedicated connection
•Client contracts supported from data center not operated by client	2
•How data center is operated	by a third party (Peer1)
System provides indexed field in each test definition for LOINC code?	no
Provide LOINC dictionary for each new installation?	no
Information system interfaces	Cerner HL7
User group?	yes (meets in person at least annually)
Source code?	escrow
User can modify screens?	no
User-defined report writer/custom programming?	no/no
Cost for smallest standalone HW/SW/install & training/mo. maintenance	—
Cost for largest standalone HW/SW/install & training/mo. maintenance	—
Cost for smallest integrated HW/SW/install & training/mo. maintenance	—
Cost for largest integrated HW/SW/install & training/mo. maintenance	—
Distinguishing features (supplied by company)	• dedicated blood center technology staff who meet the needs of donor centers and testing services • comprehensive donor-management system that is fully integrated with recruitment and retention products to streamline efficiencies • 60 percent of the nation's blood donor facilities, including hospitals, donor centers, and testing facilities, utilize Mediware Blood Center Technologies solutions

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Blood bank information systems

Part 7 of 9	NetLims LLC Eram Malinovitz eram@netlims.com 111 Town Square Place, Suite 700 Jersey City, NJ 07310 201-894-5300 www.netlims.com	Psyche Systems Corp. Rachel Stratman sales@psychesystems.com 321 Fortune Blvd. Milford, MA 01757 508-473-1500 www.psychesystems.com
Name of blood bank system	AutoFusion	Systematic Blood Bank (SBB)
First/most recent blood bank system installation (based on July 2010 survey deadline)	2002/June 2010	1987/April 2010
Last major product release (for product featured)	November 2009	2001
Total number of contracts for sites operating blood bank system	3	21
•Contracts for U.S. hospitals with donor and transfusion services	0	0
•Contracts for U.S. hospitals with transfusion service only	0	21
•Contracts for U.S. regional blood centers with donor service only	0	0
•Contracts for U.S. regional blood centers with donor and transfusion services	0	0
•Contracts for centralized transfusion services in the U.S.	0	0
•Contracts for foreign hospitals and regional blood centers	3 (Israel)	0
•Contracts for other sites	0	0
Number of contracts signed between June 2009–June 2010	—	4
Total number of sites operating blood bank system	24	21
Number of sites that went live between June 2009–June 2010	1	4
Installations not yet live (hospitals/regional blood centers/others)	8 (8/0/0)	1 (1/0/0)
Percentage of installations that are standalone blood bank systems	—	50%
No. of employees in entire company	113	44
•No. of employees dedicated to software development, installation, and support	20	10
Number of different versions of this software installed	4	1
•Versions of product in field covered by FDA 510(k) clearance	3.02.03	Systematic Blood Bank 3.0
•Versions of product that did not require FDA 510(k) clearance	3.01MS, 3.02.06, 3.02.07	—
Range in number of user workstations in live sites (average)	8–37 (average, 22)	1–100 (average, 13)
Central hardware or services type	Wintel (HP, IBM, Dell)	none (hosted/Web deployed)
Workstations or PC platform	Wintel (HP, IBM, Dell)	PCs
Software programming language(s)	C++	Visual Basic, Fortran
Operating system(s)	Windows XP, 2000	any (supports all operating systems)
Databases and tools	Microsoft SQL, Oracle	proprietary
Features (listed as percentage of live installs or based on availability)		
•Full support of ISBT 128 unit labeling	100%	100%
•Bar-code reading of donor and unit information	100%	100%
•Unit inventory	100%	100%
•Autologous and directed unit tracking	100%	100%
•Direct entry of test results	100%	100%
•Crossmatch results	100%	100%
•Electronic crossmatch decisionmaking	available but not installed	100%
•Antigen typing	100%	100%
•Integrated bedside check for transfusion	available but not installed	available but not installed
•Track all steps in production of product	100%	100%
•Print donor unit labels—bar coded	45%	not available
•Interface with automated instruments	100%	10%
•Interface with blood irradiator or centrifuges	not available	not available
•Centralized transfusion service capability	available but not installed	100%
•Donor recruitment and management/donor questionnaire	45%/45%	not available/not available
•Mobile scheduling	available but not installed	not available
•Laptop-based mobile donor registration module	45%	not available
•Source or recovered plasma management	available but not installed	not available
•Accounts receivable	available but not installed	not available
•Management reports/ad hoc report writer	100%/available through Netlims' LIS	100%/100%
•Quality control management/collection management	70%/100%	100%/not available
System provides standard HL7 interface?	yes (versions 2.3, 2.5)	yes (version 2.3.1)
Interfaces to automated donor infectious disease testing instruments	—	—
Interfaces to automated ABO/Rh/antibody screening instruments	uni-directional to Vidas, Immucor	uni-directional to Immucor
FDA 510(k)-approved interface to bedside patient ID system?	no	no
•HISs interfaced to bedside patient ID system	—	—
Languages (other than English) offered on system	Hebrew	—
Tools to help clients validate their systems	audit trail, ad hoc reporting, automated scheduled reports, automated alerts, user alerts followup, control screens	software validation guidelines
Complete blood bank ASP solution?	no	yes
•Method of charging for ASP service	—	fixed fee
•Client software required	—	browser based, requires software be installed on a client PC
•ASP information conduit	—	operates over the Internet
•Client contracts supported from data center not operated by client	—	21
•How data center is operated	—	by vendor
System provides indexed field in each test definition for LOINC code?	yes	no
Provide LOINC dictionary for each new installation?	no	no
Information system interfaces	—	CPSI, Psyche Systems, Meditech, Siemens, McKesson, Cerner, Misys, others
User group?	yes (meets in person biannually)	yes (meets via Internet daily; in person biannually; via conference call)
Source code?	no	yes
User can modify screens?	yes	—
User-defined report writer/custom programming?	yes/yes	yes/no
Cost for smallest standalone HW/SW/install & training/mo. maintenance	—	—/$10,000/$2,500/$200
Cost for largest standalone HW/SW/install & training/mo. maintenance	—	$1,000/$40,000/$5,000/$800
Cost for smallest integrated HW/SW/install & training/mo. maintenance	—	—/$30,000/$10,000/$600
Cost for largest integrated HW/SW/install & training/mo. maintenance	—	$5,000/$70,000/$15,000/$1,500
Distinguishing features (supplied by company)	• graphical, user-friendly, simple interface • higher level of automation and decision support increase productivity and safety • user-level configuration, setup, and user logic engine integration provide unparalleled customizability	• complete, affordable blood bank system for the small to mid-size blood bank • flexible and easy to use •securely hosted, Web-deployed system that requires no additional hardware investments

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Blood bank information systems

Part 8 of 9	SCC Soft Computer Ellie Vahman sales@softcomputer.com 5400 Tech Data Drive Clearwater, FL 33760 727-789-0100 www.softcomputer.com	SCC Soft Computer Ellie Vahman sales@softcomputer.com 5400 Tech Data Drive Clearwater, FL 33760 727-789-0100 www.softcomputer.com
Name of blood bank system	SoftBank II	SoftDonor
First/most recent blood bank system installation (based on July 2010 survey deadline)	1992/July 2010	1992/June 2009
Last major product release (for product featured)	June 2009	January 2009
Total number of contracts for sites operating blood bank system	184	18
•Contracts for U.S. hospitals with donor and transfusion services	15	15
•Contracts for U.S. hospitals with transfusion service only	161	0
•Contracts for U.S. regional blood centers with donor service only	0	2
•Contracts for U.S. regional blood centers with donor and transfusion services	0	0
•Contracts for centralized transfusion services in the U.S.	0	0
•Contracts for foreign hospitals and regional blood centers	8 (Canada)	1 (Canada)
•Contracts for other sites	0	0
Number of contracts signed between June 2009–June 2010	8	1
Total number of sites operating blood bank system	345	56
Number of sites that went live between June 2009–June 2010	38	3
Installations not yet live (hospitals/regional blood centers/others)	22 (22/0/0)	3 (3/0/0)
Percentage of installations that are standalone blood bank systems	4%	—
No. of employees in entire company	1,522	1,522
•No. of employees dedicated to software development, installation, and support	75	75
Number of different versions of this software installed	8	3
•Versions of product in field covered by FDA 510(k) clearance	19.1, 21, 22, 23, 23 with SoftScape, 23.1 with DMSI, 23.2, 25	4.3, 4.4, 4.5
•Versions of product that did not require FDA 510(k) clearance	none	none
Range in number of user workstations in live sites (average)	1–100+ (average, 8)	3–12 (average, 8)
Central hardware or services type	IBM pSeries	IBM pSeries
Workstations or PC platform	Intel-based PCs	Intel-based PCs
Software programming language(s)	C, C++, .Net	C, C++, .Net
Operating system(s)	IBM AIX (Unix)	IBM AIX (Unix)
Databases and tools	Oracle	Oracle
Features (listed as percentage of live installs or based on availability)		
•Full support of ISBT 128 unit labeling	55%	70%
•Bar-code reading of donor and unit information	100%	100%
•Unit inventory	100%	100%
•Autologous and directed unit tracking	100%	100%
•Direct entry of test results	100%	100%
•Crossmatch results	100%	available via SCC's SoftBank
•Electronic crossmatch decisionmaking	70%	available via SCC's SoftBank
•Antigen typing	100%	100%
•Integrated bedside check for transfusion	5% (new module)	available via SCC's SoftID-Tx when used with SoftBank
•Track all steps in production of product	100%	100%
•Print donor unit labels—bar coded	80% (component labels)	available via third party
•Interface with automated instruments	40%	available via SCC's SoftBank
•Interface with blood irradiator or centrifuges	10%	available via SCC's SoftBank
•Centralized transfusion service capability	10%	available via SCC's SoftBank
•Donor recruitment and management/donor questionnaire	available via SCC's SoftDonor/available via SCC's SoftDonor	100%/100%
•Mobile scheduling	available via SCC's SoftDonor	50%
•Laptop-based mobile donor registration module	available via SCC's SoftDonor	90%
•Source or recovered plasma management	10%	100%
•Accounts receivable	95%	100%
•Management reports/ad hoc report writer	100%/100%	100%/100%
•Quality control management/collection management	100%/100% (specimen collection)	80%/100%
System provides standard HL7 interface?	yes (versions 2.1–2.5)	yes (versions 2.1–2.5)
Interfaces to automated donor infectious disease testing instruments	—	—
Interfaces to automated ABO/Rh/antibody screening instruments	uni-directional to Ortho, Immucor; bi-directional to Ortho, Immucor, Olympus	—
FDA 510(k)-approved interface to bedside patient ID system?	yes (to SCC SoftID, SoftID-Tx, CareFusion, BD.ID, Lattice)	yes (to SCC SoftID, SoftID-Tx, CareFusion, BD.ID, Lattice)
•HISs interfaced to bedside patient ID system	Cerner, CPSI, Eclipsys, Epic, First Coast, GE Healthcare, Healthland, HMS, IntraNexus, Keane, McKesson, Meditech, QuadraMed, Siemens, others	Cerner, CPSI, Eclipsys, Epic, First Coast, GE Healthcare, Healthland, HealthWorks, HMS, InfoMedica, IntraNexus, Keane, McKesson, Meditech, QuadraMed, Siemens
Languages (other than English) offered on system	French	none
Tools to help clients validate their systems	critical control points, test case instructions, release notes with links to test cases, electronic screen capture	critical control points, test case instructions, release notes with links to test cases, electronic screen capture
Complete blood bank ASP solution?	yes	yes
•Method of charging for ASP service	fixed fee	fixed fee
•Client software required	requires software be installed on a client PC	requires software be installed on a client PC
•ASP information conduit	requires use of a VPN or other dedicated connection	requires use of a VPN or other dedicated connection
•Client contracts supported from data center not operated by client	1	0
•How data center is operated	by vendor	by vendor
System provides indexed field in each test definition for LOINC code?	no	no
Provide LOINC dictionary for each new installation?	no	—
Information system interfaces	Cerner, CPSI, Eclipsys, Epic, First Coast, GE Healthcare, Healthland, HealthWorks, HMS, IntraNexus, Keane, McKesson, Meditech, QuadraMed, Siemens, others	—
User group?	yes (meets in person annually; special interest group meets via Listserv)	yes (meets in person annually; special interest group meets via Listserv)
Source code?	escrow	escrow
User can modify screens?	no	no
User-defined report writer/custom programming?	yes/yes	yes/yes
Cost for smallest standalone HW/SW/install & training/mo. maintenance	$25,000/$30,000/$50,000/$500	$25,000/$30,000/$50,000/$500
Cost for largest standalone HW/SW/install & training/mo. maintenance	$90,000/$250,000/$80,000/$4,000	$90,000/$250,000/$80,000/$4,000
Cost for smallest integrated HW/SW/install & training/mo. maintenance	$40,000/$120,000/$120,000/$1,800	$40,000/$120,000/$120,000/$1,800
Cost for largest integrated HW/SW/install & training/mo. maintenance	$400,000/$2,500,000/$1,125,000/$35,000	$400,000/$2,500,000/$1,125,000/$35,000
Distinguishing features (supplied by company) *Note: a dash in lieu of an answer means company did not answer question or question is not applicable*	• warns user of inconsistencies, errors, omissions, and presents user with an exception to describe the problem before user can proceed; exception is sent to the manager for review • user-definable worksheet allows for the resulting of patient, unit, and crossmatch tests in a batch mode • emergency issue feature combines tasks to save time	• powerful, user-defined test algorithms can automatically order required, repeat, and confirmatory tests • detailed donor database search capability increases effectiveness of targeted recruiting efforts, including search by antigen • all significant steps in the donation process documented, including history review, questionnaire, physical exam, and phlebotomy

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Blood bank information systems

Part 9 of 9	Sunquest Information Systems Donald Mounce donald.mounce@sunquestinfo.com 250 S. Williams Blvd. Tucson, AZ 85711 877-239-6337 www.sunquestinfo.com
Name of blood bank system	Sunquest Laboratory Blood Bank and Blood Donor modules†
First/most recent blood bank system installation (based on July 2010 survey deadline)	1985/2009
Last major product release (for product featured)	2009
Total number of contracts for sites operating blood bank system	362
•Contracts for U.S. hospitals with donor and transfusion services	37
•Contracts for U.S. hospitals with transfusion service only	312
•Contracts for U.S. regional blood centers with donor service only	0
•Contracts for U.S. regional blood centers with donor and transfusion services	0
•Contracts for centralized transfusion services in the U.S.	0
•Contracts for foreign hospitals and regional blood centers	13 (Bermuda, Canada, Ireland, United Arab Emirates, United Kingdom)
•Contracts for other sites	0
Number of contracts signed between June 2009–June 2010	9
Total number of sites operating blood bank system	400+
Number of sites that went live between June 2009–June 2010	4
Installations not yet live (hospitals/regional blood centers/others)	10 (10/0/0)
Percentage of installations that are standalone blood bank systems	0
No. of employees in entire company	—
•No. of employees dedicated to software development, installation, and support	—
Number of different versions of this software installed	2
•Versions of product in field covered by FDA 510(k) clearance	Sunquest Laboratory Blood Bank and Blood Donor v6.0.1 for Laboratory v6.1 and 6.2
•Versions of product that did not require FDA 510(k) clearance	Sunquest Laboratory Blood Bank and Blood Donor v6.0.2 distributed with Laboratory v6.3, Sunquest Laboratory Blood Bank and Blood Donor v6.4
Range in number of user workstations in live sites (average)	10–100+ (average, 20+)
Central hardware or services type	IBM pSeries, HP Integrity
Workstations or PC platform	Dell, HP Windows
Software programming language(s)	ANSI Standard M, Caché Script, Standard C/C++, Visual Basic, Visual C++, Active X
Operating system(s)	AIX, HP-UX, OpenVMS
Databases and tools	InterSystems Caché
Features (listed as percentage of live installs or based on availability)	
•Full support of ISBT 128 unit labeling	100%
•Bar-code reading of donor and unit information	100%
•Unit inventory	100%
•Autologous and directed unit tracking	100%
•Direct entry of test results	100%
•Crossmatch results	100%
•Electronic crossmatch decisionmaking	15%
•Antigen typing	100%
•Integrated bedside check for transfusion	1%
•Track all steps in production of product	100%
•Print donor unit labels—bar coded	15%
•Interface with automated instruments	15%
•Interface with blood irradiator or centrifuges	not available
•Centralized transfusion service capability	100%
•Donor recruitment and management/donor questionnaire	15%/not available
•Mobile scheduling	not available
•Laptop-based mobile donor registration module	not available
•Source or recovered plasma management	installed
•Accounts receivable	90% (charge capture)
•Management reports/ad hoc report writer	100%/100%
•Quality control management/collection management	100%/25%
System provides standard HL7 interface?	yes (versions 2.3–3.0)
Interfaces to automated donor infectious disease testing instruments	—
Interfaces to automated ABO/Rh/antibody screening instruments	uni-directional to Ortho, Immucor, Abbott, Olympus, DiaMed/Bio-Rad; bi-directional to Ortho
FDA 510(k)-approved interface to bedside patient ID system?	yes (to Sunquest Collection Manager, Sunquest Transfusion Manager)
•HISs interfaced to bedside patient ID system	Epic, Cerner, GE Healthcare, McKesson, Siemens, Eclipsys
Languages (other than English) offered on system	—
Tools to help clients validate their systems	client testing guidelines, documentation, training, consulting service
Complete blood bank ASP solution?	no
•Method of charging for ASP service	—
•Client software required	—
•ASP information conduit	—
•Client contracts supported from data center not operated by client	—
•How data center is operated	—
System provides indexed field in each test definition for LOINC code?	no
Provide LOINC dictionary for each new installation?	no
Information system interfaces	Epic, McKesson, Meditech, Siemens, Eclipsys, Cerner, GE Healthcare, others
User group?	yes (meets via Internet quarterly; in person quarterly and annually; via conference call)
Source code?	escrow
User can modify screens?	no
User-defined report writer/custom programming?	yes/yes
Cost for smallest standalone HW/SW/install & training/mo. maintenance	—
Cost for largest standalone HW/SW/install & training/mo. maintenance	—
Cost for smallest integrated HW/SW/install & training/mo. maintenance	—
Cost for largest integrated HW/SW/install & training/mo. maintenance	—
Distinguishing features (supplied by company)	• combined with Sunquest Laboratory, Sunquest Collection Manager, and Sunquest Blood Bank, clients are able to create a closed-loop blood administration system • full integration with laboratory information system for reporting, inquiry, maintenance, and quality assurance • multi-facility capacity, including unit inventory tracking and management
Note: a dash in lieu of an answer means company did not answer question or question is not applicable	*†formerly Misys Laboratory Blood Bank*

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