Making a case for computers to ‘talk the talk’

Raymond D. Aller, MD

The functionality available with anatomic pathology information systems continues to increase, to the benefit of patients, yet most systems are still missing critical components.

Vendors should look beyond the initial “wish list” of prospective clients and offer them the crucially important, if less obvious or flashy, capabilities that will help laboratories to run more smoothly.

For instance, greater use should be made of positive identification and electronic connections in processing and tracking tissue and pathologic findings throughout the laboratory. Why is it still acceptable to accession a specimen, manually label a block, handwrite the identification for a slide, key into a staining machine the stain to be performed—or manually apply a label to that effect, then overlabeled a slide after staining? This process has the potential to lead to specimen and diagnosis mix-up and other egregious errors that are largely preventable.

Laboratories should scan the bar-code label on a specimen as soon as it arrives in the laboratory. All future activities involving that specimen should be automatically and positively linked back to that original specimen container. Using bar-coded cassette labels, which can be read by a bar-code reader on the microtome, is worthwhile but is still challenging in some cases. A bar-coded specimen/part identifier should be applied to the slide before tissue is placed on that slide. (Technology has existed for several years to protect the label from the staining process.) The slide should then be placed on an automatic staining machine that will scan the bar code, identify the specimen, and query the anatomic pathology system for instructions on what stain is to be performed. This has been standard operating procedure for users of chemistry and immunology analyzers for almost two decades—so why is the anatomic pathology arena so slow to catch on?

Another important gap is in the reporting end of the surgical pathology system. The first modern online surgical pathology information system was launched nearly 30 years ago. Although many of its capabilities were infantile compared with those of today’s systems, one key design feature that was cutting edge and is still as important today, if not more so, is the automatic transfer of SNOMED-coded surgical pathology diagnoses to the tumor registry. Despite its significance, only a small number of vendors appear to offer full SNOMED (Systematized Nomenclature of Medicine) capability. The question remains: Why is this fundamental characteristic of a surgical pathology system, included in the archetypal system three decades ago, absent from so many of the systems installed today? Laboratories should pose this question to their vendors.

Another acronym worthy of laboratories’ attention is DICOM (Digital Imaging and Communications in Medicine), the health care industry’s standard for transmitting image data from one computer system to another. A CAP committee worked with other specialty societies in the mid-1990s to create the visible light extension of DICOM, which makes it possible to transmit color images such as microscopic or gross photographs. Once again, however, it appears that anatomic pathology systems vendors have not taken advantage of a worthwhile technology for transmitting images.

CAP TODAY queried vendors about their support for the DICOM standard in preparing the survey tables on the following pages and not one vendor indicated that its software could fully support the DICOM standard. It is time that laboratorians move out of the island of the surgical pathology reading room and into communication with other clinical systems hospital-wide.

In none of these instances is there a direct economic incentive for change—and none is the “fashionable” issue right now. Despite this, vendors and laboratorians need to recognize the importance of high-reliability specimen identification, electronic linkage, communication of images with clinical systems, and complete and rapid reporting of cases for disease followup.

Presented on the following pages are 22 anatomic pathology systems that offer a variety of features. The data presented are based entirely on vendors’ responses to a questionnaire. We urge readers to be skeptical of any company that claims to have every feature installed in every one of its customer sites.

We encourage readers to talk to several vendors and the users of their systems before making a purchasing decision.

Dr. Aller is director of bioterrorism preparedness and response for Los Angeles County Public Health Acute Communicable Diseases. He can be reached at raller@ladhs.org.

Redefining ‘Integrity’

As systems become increasingly complex, it can be difficult to obtain all of the desirable features. One possible approach is to use external software to provide such features.

Mini-Integrity, a $25 shareware package developed by William Shang, MD, a pathologist in Cortland, NY, is one option. The program provides users with drop-down menu insertion of “canned” microscopics/diagnoses. Mini-Integrity runs in Visual Basic for Access and can be exported into an Excel format for uploading into most anatomic pathology software programs.

Dr. Shang has offered the larger scale Integrity freeware, open-architecture anatomic pathology system (featured on page 76) since 1996.—Raymond Aller, MD
## Anatomic pathology computer systems

### Part 1 of 11

**See accompanying article on page 56**

**Name of system**
- **Cerner Millennium Anatomic Pathology**
- **CoPathPlus**

**Central hardware or service type**
- **Compaq, IBM RISC/6000**
- **IBM RISC, Intel Pentium, Sun Solaris**

**Terminals/workstations or PC platform**
- **Intel Pentium**
- **Intel Pentium, Citrix through client**

**Innovative peripherals**
- **Image enabled, Web enabled, bar codes, others**
- **Web enabled, voice enabled, image enabled, bar codes, others**

**Network installation required/networks supported**
- **Yes/LAN, MAN, TCP/IP, Unix**
- **Yes/LAN, MAN, TCP/IP, Novell, Microsoft**

**Programming language(s)**
- **Visual C++, Visual Basic, Java**
- **PowerBuilder, C++**

**Databases and tools used**
- **Oracle**
- **MS SQL, Sybase**

**Word processor(s) used**
- **MS Word, Word Writer**
- **MS Word, Visual Writer**

**Operating system(s)**
- **Open VMS, AIX, Windows, NT, XP**
- **Windows NT, 98, 2000, XP, AIX Unix**

### Features (listed as a percentage of live installs or based on availability)

<table>
<thead>
<tr>
<th>Feature</th>
<th>Cerner Millennium Anatomic Pathology</th>
<th>CoPathPlus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical pathology information system</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Cytopathology information system</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Autopsy information system</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Specimen log-in</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Interface to automatic cassette labeler</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Entry of block IDs</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Specimen labels</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Histology slide labels</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Bar-coded slide labels</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Histology worksheets</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Interface to automatic slide scanner</td>
<td>Not available</td>
<td>Available in 2004</td>
</tr>
<tr>
<td>Word processing—vendor specific</td>
<td>80%</td>
<td>45%</td>
</tr>
<tr>
<td>Word processing—standard tools (Word, WordPerfect)</td>
<td>20%</td>
<td>56%</td>
</tr>
<tr>
<td>Voice entry of gross description/voice entry of final diagnosis</td>
<td>&lt;5% (&lt;5%)</td>
<td>10% (&lt;10%)</td>
</tr>
<tr>
<td>Back-end batch voice to text</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Gross and microscopic images integrated in reports</td>
<td>10%</td>
<td>15%</td>
</tr>
<tr>
<td>Electronic signature</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Remote printing of completed reports</td>
<td>80%</td>
<td>5%</td>
</tr>
<tr>
<td>Direct fax reports</td>
<td>80%</td>
<td>100%</td>
</tr>
<tr>
<td>Web-based remote inquiry of reports</td>
<td>&lt;5%</td>
<td>2%</td>
</tr>
<tr>
<td>Physician Web access for order entry</td>
<td>Not available</td>
<td>Not available</td>
</tr>
<tr>
<td>Natural language search capability</td>
<td>100%</td>
<td>Not available</td>
</tr>
<tr>
<td>SNOMED CT/SNOMED International</td>
<td>Not available/100%</td>
<td>98%/1%</td>
</tr>
<tr>
<td>SNOMED CT/SNOMED CT</td>
<td>Not available in 2004</td>
<td>Not available/5%</td>
</tr>
<tr>
<td>Multiple hospitals-wide area network</td>
<td>40%</td>
<td>30%</td>
</tr>
<tr>
<td>Sound-alike retrieval of patient history</td>
<td>100%</td>
<td>Not available</td>
</tr>
<tr>
<td>Autopsy measurements and organ weights</td>
<td>80%</td>
<td>100%</td>
</tr>
<tr>
<td>Tumor registry reports</td>
<td>100%</td>
<td>Not available</td>
</tr>
<tr>
<td>Management reports</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Cytopathology abnormal—unsatisfactory list to doctors</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Cytopathology diagnostics statistics by pathologist or cytopathologist</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Histology/cytology correlation report</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Reports sufficient to comply with CLIA’88 regulations</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Comprehensive billing/accounts receivable</td>
<td>&lt;5%</td>
<td>Not available</td>
</tr>
<tr>
<td>HIS interface: A/S/C/T</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>HIS interface: result reporting/incoming clinical results</td>
<td>100%/100% (integrated, not interfaced)</td>
<td>95%/not available</td>
</tr>
<tr>
<td>Interface to external billing system</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Standard ASTM/HL7/HL7</td>
<td>80%</td>
<td>95%</td>
</tr>
</tbody>
</table>

### Software provides indexed field in each test definition for LOINC code?

- Yes
- No

### No. of installations that use system to automatically transfer tumor diagnoses to a tumor registry

- <5 (NAACCR format), <5 (HL7 format)
- 3 (NAACCR format), 1 (HL7 format)

### Complete AP ASP solution?

- Yes
- No

### Method of charging for ASP service

- Fixed rate
- —

### Client contracts required

- Requires software be installed on client PC
- —

### ASP Information conduit

- Requires use of private, dedicated circuit
- —

### Client contracts supported from data center not operated by client

- >100
- —

### How data center is operated

- By vendor
- —

### Other IS interfaces

<table>
<thead>
<tr>
<th>Name of system</th>
<th>major vendors’ systems</th>
<th>major vendors’ systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voice-recognition packages integrated with AP system</td>
<td>Dragon Medical Suite</td>
<td>Medispeak, Dragon Naturally Speaking, Clinical Reporter</td>
</tr>
<tr>
<td>Histology and cytology laboratory instruments interfaced</td>
<td>Shur/Marks, Thermo Shandon cassette labelers</td>
<td>Shur/Marks, Thermo Shandon, Leica, others</td>
</tr>
</tbody>
</table>

### Source code/license group?

- Yes (also provide user-defined report writer, custom programming)
- No (and provide user-defined report writer, custom programming)

### Cost (hardware/software/installation and training/monthly maintenance)

- Yes (meets clinical lab in U.S., '01 is' U.S.
- No (other sites)

### Smallest stand-alone system

- ++
- —

### Largest stand-alone system

- ++
- —

### Base price of integrated system, excluding AP configuration

- ++
- —

### Incremental cost to add smallest AP configuration

- ++
- —

### Distinguishing features (supplied by vendor)

- Comprehensive, totally integrated single system
- More than 24 years in the LIS industry
- Continued innovations in LIS, including genomics, molecular testing, patented synoptic reporting
- Extreme flexibility
- Advanced imaging and synoptic reporting capabilities
- Web-based report delivery

### Other

- Cerner Corp. 816-201-2771  www.cerner.com
- 2800 Rockcreek Parkway, Kansas City, MO 64117

- Cerner BHt Inc. mconnors@cerner.com
- 51 Sawyer Rd., 2 University Office Park, Waltham, MA 02453
- 781-434-2208 www.cerner.com

---

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

Survey editor: Raymond D. Aller, MD
Anatomic pathology computer systems

### Features (listed as a percentage of live installs or based on availability)

- **Surgeon pathology information system**
- **Cytology information system**
- **Autoptography system**
- **Interface to automatic cassette labeler**
- **Entry of block IDs**
- **Specimen labels**
- **Histology slide labels**
- **Bar-coded slide labels**
- **Histology worksheets**
- **Interface to automatic slide stainer**
- **Word processing—vendor specific**
- **Word processing—standard tools** (Word, WordPerfect)
- **Voice entry of gross description/voice entry of final diagnosis**
- **Back-end batch voice to text**
- **Gross and microscopic images integrated in reports**
- **Electronic signature**
- **Remote printing of completed reports**
- **Direct fax reports**
- **Web-based remote inquiry of reports**
- **Physician Web access for order entry**
- **Natural language search capability**
- **SNOMED/ LOINC Medical international**
- **SNOMED CT/LOINC international**
- **Multiple hospitals-wide area network**
- **Sound-alike retrieval of patient history**
- **Autopsy measurements and organ weights**
- **Tumor registry reports**
- **Management reports**
- **Cytology abnormal—unsatisfactory list to doctors**
- **Cytology diagnosis statistics by pathologist or cytopathologist**
- **Histology/cytology correlation report**
- **Reports sufficient to comply with CLIA ’88 regulations**
- **Comprehensive billing/accounts receivable**
- **MIS interface: A/D/T**
- **MIS interface: result reporting/incoming clinical results**
- **Interface to external billing system**

### Operating system(s)

- Windows 95, 98, NT 3.51, NT 4.0, SCD Unix, NT 2000
- Windows 2000, NT, 98, XP

### Software provides indexed field in each test definition for LOINC code?

- Yes
- No

### No. of installations that use system to automatically transfer tumor diagnoses to a tumor registry

- 0

### Cost (hardware/software/installation and training/monthly maintenance)

- **Smallest stand-alone system**
- **Largest stand-alone system**
- **Base price of integrated system, excluding AP configuration**
- **Incremental cost to add smallest AP configuration**
- **Incremental cost to add largest AP configuration**

### Distinguishing features (supplied by vendor)

- Provides client/server point-and-click access for pathology and cytology
- Easy to learn and use; efficient
- Easily integrated into existing network environment
- Outstanding service/support
- True enterprise flexibility for multi-site
- Pathology practice management/multi-lab enterprises

Tabulation does not represent an endorsement by the College of American Pathologists.
### Anatomic pathology computer systems

**Part 3 of 11**

**See accompanying article on page 56**

<table>
<thead>
<tr>
<th>Name of system</th>
<th>The Gold Standard</th>
<th>CyberPath</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of contracts for sites operating AP system (W/LIC or GR/FO/D5)*</td>
<td>125 (38/53/39/38/0/0)</td>
<td>24 (16/33/23/20/0/0)</td>
</tr>
<tr>
<td>No. of contracts signed in calendar year 2003</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>No. of sites operating AP system</td>
<td>140</td>
<td>20</td>
</tr>
<tr>
<td>Percentage of installations standalone</td>
<td>48%</td>
<td>80%</td>
</tr>
<tr>
<td>Staff to develop/install-support-other**</td>
<td>6-4-6-7</td>
<td>12-4-19-33</td>
</tr>
<tr>
<td>In entire company</td>
<td>6-4-13-32/4-13-33</td>
<td></td>
</tr>
<tr>
<td>In LIS division (excluding AP)/in AP systems only</td>
<td>unknown</td>
<td>unknown</td>
</tr>
<tr>
<td>No. of user workstations in sites operating system</td>
<td>1-70 (ave. 5)</td>
<td>2-250 (ave. 160)</td>
</tr>
<tr>
<td>Range in No. of surgical pathology cases per year in sites operating system</td>
<td>unknown</td>
<td>3,000-200,000</td>
</tr>
<tr>
<td>Range in No. of gynecologic cytology cases per year in sites operating system</td>
<td>unknown</td>
<td>3,000-10,000</td>
</tr>
<tr>
<td>Central hardware or service type</td>
<td>any Windows compatible</td>
<td>Compaq, IBM RS/6000</td>
</tr>
<tr>
<td>Terminals/workstations or PC platform</td>
<td>any Windows compatible</td>
<td>Philips</td>
</tr>
<tr>
<td>Innovative peripherals</td>
<td>TWAIN-compliant image devices, mark sense reading capability</td>
<td>Microfocus Cubel, Dialog-c, Visual Basic</td>
</tr>
<tr>
<td>Network installation required?/networks supported</td>
<td>yes</td>
<td>yes/LAN, WAN, TCP/IP</td>
</tr>
<tr>
<td>Programming language(s)</td>
<td>Visual Basic</td>
<td>Codecs compliant</td>
</tr>
<tr>
<td>Databases and tools used</td>
<td>MS SQL, associated tools</td>
<td>USNC, SNOMED International</td>
</tr>
<tr>
<td>Word processor(s) used</td>
<td>MS Word</td>
<td>MS Word</td>
</tr>
<tr>
<td>Operating system(s)</td>
<td>Windows</td>
<td>SCO Unix, AIX</td>
</tr>
<tr>
<td>Features (listed as a percentage of five installs or based on availability)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Surgical pathology information system</td>
<td>installed</td>
<td>100%</td>
</tr>
<tr>
<td>• Cytology information system</td>
<td>installed</td>
<td>100%</td>
</tr>
<tr>
<td>• Autopsy information system</td>
<td>installed</td>
<td>100%</td>
</tr>
<tr>
<td>• Specimen log-in</td>
<td>installed</td>
<td>100%</td>
</tr>
<tr>
<td>• Interface to automatic cassette labeler</td>
<td>installed</td>
<td>100%</td>
</tr>
<tr>
<td>• Entry of block IDs</td>
<td>installed</td>
<td>100%</td>
</tr>
<tr>
<td>• Specimen labels</td>
<td>installed</td>
<td>100%</td>
</tr>
<tr>
<td>• Histology slide labels</td>
<td>installed</td>
<td>100%</td>
</tr>
<tr>
<td>• Bar-coded slide labels</td>
<td>installed</td>
<td>100%</td>
</tr>
<tr>
<td>• Histology worksheets</td>
<td>installed</td>
<td>100%</td>
</tr>
<tr>
<td>• Interface to automatic slide stainer</td>
<td>not available</td>
<td>not available but not installed</td>
</tr>
<tr>
<td>• Word processing—vendor specific</td>
<td>not available</td>
<td>0</td>
</tr>
<tr>
<td>• Word processing—standard tools (Word, WordPerfect)</td>
<td>not available</td>
<td>not available/100%</td>
</tr>
<tr>
<td>• Voice entry of gross description/voice entry of final diagnosis</td>
<td>not available</td>
<td>not available/100%</td>
</tr>
<tr>
<td>• Back-end batch voice to text</td>
<td>not available</td>
<td>not available but not installed</td>
</tr>
<tr>
<td>• Gross and microscopic images integrated in reports</td>
<td>installed</td>
<td>100%</td>
</tr>
<tr>
<td>• Electronic signature</td>
<td>installed</td>
<td>100%</td>
</tr>
<tr>
<td>• Remote printing of completed reports</td>
<td>installed</td>
<td>100%</td>
</tr>
<tr>
<td>• Direct fax reports</td>
<td>installed</td>
<td>100%</td>
</tr>
<tr>
<td>• Web-based remote inquiry of reports</td>
<td>installed</td>
<td>35%</td>
</tr>
<tr>
<td>• Physician Web access for order entry</td>
<td>installed</td>
<td>20%</td>
</tr>
<tr>
<td>• Natural language search capability</td>
<td>installed</td>
<td>20%</td>
</tr>
<tr>
<td>• SNOMED CT/SNOMED International</td>
<td>installed</td>
<td>100%</td>
</tr>
<tr>
<td>• SNOMED CT/SNOMED International installed</td>
<td>installed</td>
<td>not available/available but not installed</td>
</tr>
<tr>
<td>• Multiple hospitals-wide area network</td>
<td>installed</td>
<td>25%</td>
</tr>
<tr>
<td>• Sound-alike retrieval of patient history</td>
<td>not available</td>
<td>not available but not installed</td>
</tr>
<tr>
<td>• Autopsy measurements and organ weights</td>
<td>not available</td>
<td>available but not installed</td>
</tr>
<tr>
<td>• Tumor registry reports</td>
<td>installed</td>
<td>100%</td>
</tr>
<tr>
<td>• Management reports</td>
<td>installed</td>
<td>100%</td>
</tr>
<tr>
<td>• Cytology abnormal—unsatisfactory list to doctors</td>
<td>installed</td>
<td>100%</td>
</tr>
<tr>
<td>• Cytology diagnostic statistics by pathologist or cytopathologist</td>
<td>installed</td>
<td>100%</td>
</tr>
<tr>
<td>• Histology/cytology correlation report</td>
<td>installed</td>
<td>100%</td>
</tr>
<tr>
<td>• Reports sufficient to comply with CLIA '88 regulations</td>
<td>installed</td>
<td>100%</td>
</tr>
<tr>
<td>• Comprehensive billing/accounts receivable</td>
<td>installed</td>
<td>80%</td>
</tr>
<tr>
<td>• HIS interface: A/D/T</td>
<td>installed</td>
<td>not available/100%</td>
</tr>
<tr>
<td>• HIS interface: result reporting/incoming clinical results</td>
<td>installed</td>
<td>80%</td>
</tr>
<tr>
<td>• Interface to external billing system</td>
<td>installed</td>
<td>80%</td>
</tr>
<tr>
<td>• Standard ASTM/HL7 interface?</td>
<td>installed</td>
<td>yes</td>
</tr>
<tr>
<td>Software provides indexed field in each test definition for LOINC code?</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Provide LOINC dictionary for each new installation?</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>No. of installations that use system to automatically transfer tumor diagnoses to a tumor registry</td>
<td>0</td>
<td>0 (available but not installed)</td>
</tr>
<tr>
<td>Complete AP ASP solution?</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Method of charging for ASP service</td>
<td>fixed fee</td>
<td>—</td>
</tr>
<tr>
<td>Client software required</td>
<td>requires software be installed on client PC</td>
<td>—</td>
</tr>
<tr>
<td>ASP information conduit</td>
<td>operates over Internet</td>
<td>—</td>
</tr>
<tr>
<td>Client contracts supported from data center not operated by client</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>New data center is operated</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Other HIS interfaces</td>
<td>Cerner, McKesson, Meditech, Siemens, SCC Soft Computer</td>
<td>major vendors’ systems</td>
</tr>
<tr>
<td>Voice-recognition packages integrated with AP system</td>
<td>Philips</td>
<td>Dragon NaturallySpeaking</td>
</tr>
<tr>
<td>Histology and cytology laboratory instruments interfaced</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>Source code?/user group?</td>
<td>escrow/yes (meets online as well)</td>
<td>escrow/yes</td>
</tr>
<tr>
<td>User can modify screens?</td>
<td>yes (also provide user-defined report writer, custom programming)</td>
<td>no (but provide user-defined report writer, custom programming)</td>
</tr>
<tr>
<td>Cost (hardware/software/installation and training/monthly maintenance)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Smallest stand-alone system</td>
<td>$1k</td>
<td>—</td>
</tr>
<tr>
<td>• Largest stand-alone system</td>
<td>$5k</td>
<td>—</td>
</tr>
<tr>
<td>• Basic price of integrated system, excluding AP configuration</td>
<td>$50k</td>
<td>—</td>
</tr>
<tr>
<td>• Incremental cost to add smallest AP configuration</td>
<td>$2.8k per workstation</td>
<td>—/0k per workstation</td>
</tr>
<tr>
<td>• Incremental cost to add largest AP configuration</td>
<td>$8k per workstation</td>
<td>$14k/0k per workstation</td>
</tr>
<tr>
<td>Distinguishing features (supplied by vendor)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Secure delivery system for Internet reporting of diagnosis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Redef testing for linking HPV/DNA probe cases to current Pap smear cases (fluid based on patient-centric Gold Standard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Prior case histories immediately available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Comprehensive and integrated with CyberLab LIS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Reports/image access via WebGateway</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Corporate commitment to quality service and support</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Tabulation does not represent an endorsement by the College of American Pathologists.
Anatomic pathology computer systems

**Table 4 of 11**

**EasyPath Software**
Selig Leyser, MD
easypath@comcast.net
2551 103rd SE, Beaux Arts, WA 98004
425-899-2566
http://homepage.mac.com/SeligL/easypath/

**Centricity Ultra Laboratory AP**
Angelic Lau
angelica.lau@tripleg.com
3100 Steeles Ave. East, Ste. 600, Markham, Ontario, L3R 8T3 Canada
905-850-0041
www.tripleg.com

---

**Name of system**

<table>
<thead>
<tr>
<th>EasyPath</th>
<th>Centricity Ultra Laboratory AP</th>
</tr>
</thead>
<tbody>
<tr>
<td>First ever AP system installation/most recent AP system installation</td>
<td>—</td>
</tr>
<tr>
<td>No. of contracts for sites operating AP system (W/L/C or GF/IVD/3)</td>
<td>7 (6/0/1/0/0)</td>
</tr>
<tr>
<td>No. of contracts signed in calendar year 2003</td>
<td>0</td>
</tr>
<tr>
<td>No. of sites operating AP system</td>
<td>5</td>
</tr>
<tr>
<td>Percentage of installations standalone</td>
<td>100%</td>
</tr>
<tr>
<td>Staff to develop-install-support (other)</td>
<td>—</td>
</tr>
<tr>
<td>In entire company</td>
<td>—</td>
</tr>
<tr>
<td>In LIS (excluding AP/In AP systems only)</td>
<td>—</td>
</tr>
<tr>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>No. of user workstations in sites operating system</td>
<td>3-20</td>
</tr>
<tr>
<td>Range in No. of surgical pathology cases per year in sites operating system</td>
<td>8,000–25,000</td>
</tr>
<tr>
<td>Range in No. of gynecologic-cytology cases per year in sites operating system</td>
<td>100–25,000</td>
</tr>
<tr>
<td>Central hardware or service type</td>
<td>any Windows or Macintosh PC</td>
</tr>
<tr>
<td>Terminals/workstations or PC platform</td>
<td>any Windows or Macintosh PC</td>
</tr>
<tr>
<td>Innovative peripherals</td>
<td>—</td>
</tr>
<tr>
<td>Network installation required?/networks supported</td>
<td>no (but uses TCP/IP)</td>
</tr>
<tr>
<td>Programming language(s)</td>
<td>4th Dimension</td>
</tr>
<tr>
<td>Databases and tools used</td>
<td>4th Dimension server, 40 Write (word processor), 40 Compiler, 4D Customizer, 4D Tools</td>
</tr>
<tr>
<td>Word processor(s) used</td>
<td>40 Write</td>
</tr>
<tr>
<td>Operating system(s)</td>
<td>Windows 95 or better, Macintosh OS 7 or better</td>
</tr>
</tbody>
</table>

**Features (listed as a percentage of live installs or based on availability)**

- Surgical pathology information system 100%
- Cytopathology information system 100%
- Autopsy information system 100%
- Specimen log-in 100%
- Interface to automatic cassette labeler 100%
- Entry of block IDs 100%
- Specimen labels 100%
- Histology slide labels available but not installed 100%
- Bar-coded slide labels available but not installed 100%
- Histology worksheets 100%
- Interface to automatic slide stainer 100%
- Word processing—vendor specific available but not installed 100%
- Voice entry of gross description/voice entry of final diagnosis available but not installed 100%
- Back-end batch voice to test available but not installed 100%
- Gross and microscopic images integrated in reports available but not installed 100%
- Electronic signature available but not installed 100%
- Remote printing of completed reports available but not installed 100%
- Direct fax reports available but not installed 100%
- Web-based remote inquiry of reports available but not installed 100%
- Physician Web access for order entry available but not installed 100%
- Natural language search capability available but not installed 100%
- SNOMED CT/SNOMED International SNOMED-like coding available but not installed 100%
- SNOMED CT/SNOMED International SNOMED-like coding available but not installed 100%
- Multiple hospitals-wide area network available but not installed 100%
- Sound-alike retrieval of patient history available but not installed 100%
- Autopsy measurements and organ weights available but not installed 100%
- Tumor registry reports available but not installed 100%
- Management reports available but not installed 100%
- Cytopathology abnormal—unsatisfactory list to doctors available but not installed 100%
- Cytopathology diagnostics statistics by pathologist or cytopathologist available but not installed 100%
- Histology/cytology correlation report available but not installed 100%
- Reports sufficient to comply with CLIA ’88 regulations available but not installed 100%
- Comprehensive billing/accounts receivable available but not installed 100%
- HIS interface: A/D/T available but not installed 100%
- HIS interface: result reporting/incoming clinical results available but not installed 100%
- HIS interface: external billing system available but not installed 100%
- Standard ASTM/HL7 interface? yes

**Software provides indexed field in each test definition for LOINC code?**
no

**Provide LOINC dictionary for each new installation?**
no

**No. of installations that use system to automatically transfer tumor diagnoses to a tumor registry 100% supplied in format requested by registry 5 (HL7 format)**

**Complete AP 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**
—

**Other IT interfaces**
Cerner, Meditech
—

**Voice-recognition packages integrated with AP system**
Dragon, Via Voice
—

**Histology and cytology laboratory instruments interfaced**
Unify Vision, C
—

**Source code?/user group?**
—

**User can modify screens?**
—

**Cost (hardware/software/installation and training/monthly maintenance)**

- Smallest stand-alone system $7.5k
- Largest stand-alone system $33k
- Base price of integrated system, excluding AP configuration $33k
- Incremental cost to add smallest AP configuration $7.5k
- Incremental cost to add largest AP configuration $33k

- $50k/$150k/$25,000
- $1m/$2m/$500k/$25k
- $500k
- $15k

**Distinguishing features (supplied by vendor)**

- written by full-time practicing pathologist and professional programmer
- low cost to purchase, install, and maintain, yet powerful
- full word processing and tightly integrated image handling
- "estimated" or special hardware needed

—

**Tabulation does not represent an endorsement by the College of American Pathologists.**
## Anatomic pathology computer systems

<table>
<thead>
<tr>
<th>Name of system</th>
<th>Meditech Anatomical Pathology (client/server)</th>
<th>Meditech Anatomical Pathology (Magic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of contracts for sites operating AP system (W/L/C or G/H/US)*</td>
<td>——</td>
<td>——</td>
</tr>
<tr>
<td>No. of contracts signed in calendar year 2003</td>
<td>——</td>
<td>——</td>
</tr>
<tr>
<td>No. of sites operating AP system</td>
<td>100</td>
<td>861</td>
</tr>
<tr>
<td>Percentage of installations standalone</td>
<td>—</td>
<td>0</td>
</tr>
<tr>
<td>Staff to develop/install-support-other**</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>• In entire company</td>
<td>2,064 total</td>
<td>2,064 total</td>
</tr>
<tr>
<td>• In LIS division (including AP/in AP systems only)</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>No. of user workstations in systems operating</td>
<td>5–1,000+ (avg. 5–10)</td>
<td>5–1,000+ (avg. 5–10)</td>
</tr>
<tr>
<td>Range in No. of surgical pathology cases per year in sites operating system</td>
<td>——</td>
<td>——</td>
</tr>
<tr>
<td>Range in No. of gynecologic cytology cases per year in sites operating system</td>
<td>——</td>
<td>——</td>
</tr>
</tbody>
</table>

### Central hardware or service type

- HP, IBM, Dell

### Terminal/workstations or PC platform

- HP workstations supported
- Only PC workstations supported

### Innovative peripherals

- Voice input/output, image input/output
- Voice input/output, image input/output

### Network installation required/networks supported

- y/LAN, W/LAN, Novell, TCP/IP
- y/LAN, W/LAN, Novell, TCP/IP

### Programming language(s)

- Magic O/S
- Magic

### Databases and tools used

- MS Word, rich text
- MS Word, rich text

### Word processor(s) used

- Microsoft Word
- Microsoft Word

### Operating system(s)

- Magic
- Magic

### Features (listed as a percentage of live installs or based on availability)

- **Surgical pathology information system**
  - 100%
  - 100%

- **Cytopathology information system**
  - 100%
  - 100%

- **Autopsy information system**
  - 100%
  - 100%

- **Specimen log-in**
  - 100%
  - 100%

- **Interface to automatic cassette labeler**
  - available but not installed
  - available but not installed

- **Entry of block IDs**
  - 100%
  - 100%

- **Specimen labels**
  - 100%
  - 100%

- **Histology slide labels**
  - 100%
  - 100%

- **Bar-coded slide labels**
  - 100%
  - 100%

- **Histology worksheets**
  - 100%
  - 100%

- **Interface to automatic slide stainer**
  - 100%
  - 100%

- **Word processing—vendor specific**
  - 100%
  - 100%

- **Word processing—standard tools (Word, WordPerfect)**
  - 100%
  - 100%

- **Voice entry of gross description/voice entry of final diagnosis**
  - 100% / 100%
  - 100% / 100%

- **Back-end batch voice to text**
  - 100%
  - 100%

- **Gross and microscopic images integrated in reports**
  - 100%
  - 100%

- **Electronic signature**
  - 100%
  - 100%

- **Remote printing of completed reports**
  - 100%
  - 100%

- **Direct fax reports**
  - 100%
  - 100%

- **Web-based remote inquiry of reports**
  - 100%
  - 100%

- **Physician Web access for order entry**
  - 100%
  - 100%

- **Natural language search capability**
  - 100%
  - 100%

- **SNOMED@U/SNOMED International**
  - 100% / 100%
  - 100% / 100%

- **SNOMED RT/SNOMED CT**
  - 100% / 100%
  - 100% / 100%

- **Multiple hospitals-wide area network**
  - 100%
  - 100%

- **Sound-alike retrieval of patient history**
  - 100%
  - 100%

- **Autopsy measurements and organ weights**
  - 100%
  - 100%

- **Tumor registry reports**
  - 100%
  - 100%

- **Management reports**
  - 100%
  - 100%

- **Cytology abnormal—unsatisfactory list to doctors**
  - 100%
  - 100%

- **Cytology diagnostics statistics by pathologist or cyto technologist**
  - 100%
  - 100%

- **Histology/cytology verification report**
  - 100%
  - 100%

- **Reports sufficient to comply with CLIA ‘88 regulations**
  - 100%
  - 100%

- **Comprehensive billing/accounts receivable**
  - 100%
  - 100%

- **HIS interface: A/3/T**
  - 100%
  - 100%

- **HIS interface: result reporting/incoming clinical results**
  - 100%
  - 100%

- **Interface to external billing system**
  - 100%
  - 100%

- **Standard ASTM/LIST interface?**
  - yes
  - yes

### Software provides indexed field in each test definition for LOINC code?

- no
  - no

### Provide LOINC dictionary for new installation?

- no
  - no

### No. of installations that use system to automatically transfer tumor diagnoses to a tumor registry

- 0
  - 0

### Complete AP ASP solution?

- no
  - no

### Method of charging for AP service

- **Client software required**
  - —
  - —

### ASP information conduit

- —
  - —

### Client contracts supported from data center not operated by client

- —
  - —

### How data center is operated

- —
  - —

### Other LIS interfaces

- **Voice-recognition packages integrated with AP system**
  - Misys, McKesson, Siemens, others
  - Misys, McKesson, Siemens, others

### Histology and cytology laboratory instruments interfaced

- Dragron Systems
  - Dragron Systems

### Source code/-error group?

- **yes/yes**
  - some (provide user-defined report writer, custom programming)
  - some (provide user-defined report writer, custom programming)

### Cost (hardware/software/installation and training/monthly maintenance)

- **Smallest stand-alone system**
  - —
  - —

- **Largest stand-alone system**
  - —
  - —

### Base price of integrated system, excluding AP configuration

- —
  - —

### Incremental cost to add smallest AP configuration

- —
  - —

### Incremental cost to add largest AP configuration

- —
  - —

### Distinguishing features (supplied by vendor)

- **over 30 years’ experience developing and implementing LISs**
  - —
  - —

- **seamless support for labs in an integrated delivery network**
  - —
  - —

- **accurate, up-to-the-minute patient data and charge information**
  - —
  - —

### Notes:

- Meditech does not calculate these data
- Meditech does not calculate these data

---

Tabulation does not represent an endorsement by the College of American Pathologists.
Anatomic pathology computer systems

### Review Series on Anatomic Pathology

#### Anatomic Pathology Computer Systems

<table>
<thead>
<tr>
<th>Features (listed as a percentage of live installs or based on availability)</th>
<th>Mipsys</th>
<th>IntePath</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical pathology information system</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Cytology information system</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Autopsy information system</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Specimen log-in</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Interface to automatic cassette labeler</td>
<td>20%</td>
<td>100%</td>
</tr>
<tr>
<td>Entry of block IDs</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Specimen labels</td>
<td>80%</td>
<td>100%</td>
</tr>
<tr>
<td>Histology slide labels</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Bar-coded slide labels</td>
<td>75%</td>
<td>available but not installed</td>
</tr>
<tr>
<td>Histology worksheets</td>
<td>100%</td>
<td>installed</td>
</tr>
<tr>
<td>Interface to automatic slide stainer</td>
<td>not available</td>
<td>available but not installed</td>
</tr>
<tr>
<td>Word processing—vendor specific</td>
<td>15%</td>
<td>100%</td>
</tr>
<tr>
<td>Word processing—standard tools (Word, WordPerfect)</td>
<td>85%</td>
<td>available but not installed</td>
</tr>
<tr>
<td>Voice entry of gross description/voice entry of final diagnosis</td>
<td>10%/10%</td>
<td>available but not installed</td>
</tr>
<tr>
<td>Back-end batch voice to text</td>
<td>---</td>
<td>not available</td>
</tr>
<tr>
<td>Gross and microscopic images integrated in reports</td>
<td>25%</td>
<td>available but not installed</td>
</tr>
<tr>
<td>Electronic signature</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Remote printing of completed reports</td>
<td>5%</td>
<td>available but not installed</td>
</tr>
<tr>
<td>Direct fax reports</td>
<td>95%</td>
<td>available but not installed</td>
</tr>
<tr>
<td>Web-based remote inquiry of reports</td>
<td>5%</td>
<td>100%</td>
</tr>
<tr>
<td>Physician Web access for order entry</td>
<td>available but not installed</td>
<td>available but not installed</td>
</tr>
<tr>
<td>Natural language search capability</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>SNOMED/UNIFMED International</td>
<td>95%/not available</td>
<td>available but not installed/not available</td>
</tr>
<tr>
<td>SNOMED CT/UNIFMED CT</td>
<td>not available/not available but not installed</td>
<td>not available/not available/third quarter 2004</td>
</tr>
<tr>
<td>Multiple hospitals-wide area network</td>
<td>35%</td>
<td>available but not installed</td>
</tr>
<tr>
<td>Sound-side retrieval of patient history</td>
<td>not available</td>
<td>available third quarter 2004</td>
</tr>
<tr>
<td>Autopsy measurements and organ weights</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Tumor registry reports</td>
<td>95%</td>
<td>100%</td>
</tr>
<tr>
<td>Management reports</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Cytology abnormal—unsatisfactory list to doctors</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Cytology diagnostic statistics by pathologist or cytotechnologist</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Histology/cytology correlation report</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Reports sufficient to comply with CLIA ’96 regulations</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Comprehensive billing/accounts receivable</td>
<td>95%</td>
<td>100%</td>
</tr>
<tr>
<td>HIS interface: A/D/T</td>
<td>95%</td>
<td>available but not installed</td>
</tr>
<tr>
<td>HIS interface: result reporting/incoming clinical results</td>
<td>95%/available but not installed</td>
<td>5%/available but not installed</td>
</tr>
<tr>
<td>Interface to external billing system</td>
<td>95%</td>
<td>33%</td>
</tr>
<tr>
<td>Standard ASTM/HL7 interface?</td>
<td>yes</td>
<td>yes</td>
</tr>
</tbody>
</table>

### Software provides indexed field in each test definition for LOINC code?

- Mipsys: no
- IntePath: no

### Provide LOINC dictionary for each new installation?

- Mipsys: yes
- IntePath: yes

### Features that are installed in LIS division (including AP)/in AP systems only

- Mipsys: 0
- IntePath: 0

### First ever AP system installation/most recent AP system installation

- IntePath: 2001/2003

### Method of charging for ASP service

- Mipsys: no/C or GP=clinics or group practices in U.S., FI=foreign installations, OS=other sites
- IntePath: no

### Complete AP ASP solution?

- Mipsys: **other=sales, marketing, administration, and other company functions
- IntePath: C or GP=clinics or group practices in U.S., FI=foreign installations, OS=other sites

### Staff to develop-install-support-other**

- Mipsys: ---
- IntePath: ---

### **Other IS interfaces**

- Mipsys: HIS interface: result reporting/incoming clinical results
- IntePath: HIS interface: A/D/T

### Operating system(s)

- IntePath: Windows XP, 2000, NT

### Distinguishing features (supplied by vendor)

- Mipsys: • superior value and customer care
- IntePath: • unsurpassed reporting system using Crystal Reports customized for IntelliPath

### Hardware/operating system

- Mipsys: IBM, Compaq
- IntePath: Pentium III/4/600 MHz (Dell, Compaq, HP, generics)

### Software systems

- Mipsys: CoPathPlus from Misys
- IntePath: CoPathPlus from Misys

### Headquarters

- Mipsys: 800-748-9658
- IntePath: 866-463-8763

### Website

- Mipsys: www.misyshealthcare.com
- IntePath: www.netsoftusa.com

### Contact Information

- Mipsys: 4801 E. Broadway Blvd., Tucson, AZ 85711
- IntePath: 785 Loop Blvd., Lawrenceville, GA 30043

### Other III interfaces

- Mipsys: Voice-recognition packages integrated with AP system
- IntePath: Voice-recognition packages integrated with AP system

### Other III interfaces

- Mipsys: Histology and Cytology Laboratory Instruments interfaced
- IntePath: Histology and Cytology Laboratory Instruments interfaced

### Source code/owner group?

- Mipsys: no/yes (meets online as well)
- IntePath: escrow/yes (first meeting scheduled)

### User can modify screens?

- Mipsys: no (also provide user-defined report writer, custom programming)
- IntePath: yes (also provide user-defined report writer, custom programming)

### Cost (hardware/software/installation and training/monthly maintenance)

- Mipsys: ---
- IntePath: ---

### Distinguishing features (supplied by vendor)

- Mipsys: • structured data reporting with synoptic analysis and SNOMED CT
- IntePath: • all components, including word processing and billing, fully integrated

### Note:

1. *All U.S. hospitals, IL-independent labs in U.S., C or GP=clinics or group practices in U.S., F=foreign installations, O=other sites
2. **Staff to develop-install-support-other**
3. Superior value and customer care

Tabulation does not represent an endorsement by the College of American Pathologists.
### Anatomic pathology computer systems

#### Novovision Inc.

**Name of system**: NovoPath

<table>
<thead>
<tr>
<th>Feature</th>
<th>NovoPath</th>
<th>OpusAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical pathology information system</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Cytopathology information system</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Autopsy information system</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Specimen log-in</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Interface to automatic cassette labeler</td>
<td>100%</td>
<td>not available</td>
</tr>
<tr>
<td>Entry of block IDs</td>
<td>100%</td>
<td>30%</td>
</tr>
<tr>
<td>Specimen labels</td>
<td>100%</td>
<td>available but not installed</td>
</tr>
<tr>
<td>Histology slide labels</td>
<td>100%</td>
<td>30%</td>
</tr>
<tr>
<td>Bar-coded slide labels</td>
<td>100%</td>
<td>not available</td>
</tr>
<tr>
<td>Histology worksheets</td>
<td>100%</td>
<td>30%</td>
</tr>
<tr>
<td>Interface to automatic slide stainer</td>
<td>5%</td>
<td>not available</td>
</tr>
<tr>
<td>Word processing—vendor specific</td>
<td>not available</td>
<td>100%</td>
</tr>
<tr>
<td>Word processing—standard tools (Word, WordPerfect)</td>
<td>100%</td>
<td>not available</td>
</tr>
<tr>
<td>Voice entry of gross description/voice entry of final diagnosis</td>
<td>100%/100%</td>
<td>available but not installed</td>
</tr>
<tr>
<td>Back-end batch voice to text</td>
<td>100%</td>
<td>not available</td>
</tr>
<tr>
<td>Gross and microscopic images integrated in reports</td>
<td>100%</td>
<td>available in 2004</td>
</tr>
<tr>
<td>Electronic signature</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Remote printing of completed reports</td>
<td>20%</td>
<td>100%</td>
</tr>
<tr>
<td>Direct fax reports</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Web-based remote inquiry of reports</td>
<td>50%</td>
<td>30%</td>
</tr>
<tr>
<td>Physician/Web access for order entry</td>
<td>100%</td>
<td>not available</td>
</tr>
<tr>
<td>Natural language search capability</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>SNOMED CT/SNOMED International</td>
<td>available but not installed</td>
<td>not available</td>
</tr>
<tr>
<td>SNOMED CT/SNOMED International</td>
<td>available but not installed</td>
<td>not available</td>
</tr>
<tr>
<td>Multiple hospitals-wide area network</td>
<td>5%</td>
<td>100%</td>
</tr>
<tr>
<td>Sound-alike retrieval of patient history</td>
<td>installed</td>
<td>not available</td>
</tr>
<tr>
<td>Autopsy measurements and organ weights</td>
<td>100%</td>
<td>available but not installed</td>
</tr>
<tr>
<td>Tumor registry reports</td>
<td>25%</td>
<td>60%</td>
</tr>
<tr>
<td>Management reports</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Cytopathology abnormal—unsatisfactory list to doctors</td>
<td>100%</td>
<td>30%</td>
</tr>
<tr>
<td>Cytopathology diagnostics statistics by pathologist or cytopathologist</td>
<td>100%</td>
<td>30%</td>
</tr>
<tr>
<td>Histology/cytology correlation report</td>
<td>100%</td>
<td>30%</td>
</tr>
<tr>
<td>Reports sufficient to comply with CLIA '88 regulations</td>
<td>100%</td>
<td>30%</td>
</tr>
<tr>
<td>Comprehensive billing/accounts receivable</td>
<td>30%</td>
<td>100%</td>
</tr>
<tr>
<td>HIS interface: A/D/T</td>
<td>10%</td>
<td>100%</td>
</tr>
<tr>
<td>HIS interface: result reporting/incoming clinical results</td>
<td>10%/100%</td>
<td>100%/100%</td>
</tr>
<tr>
<td>Interface to external billing system</td>
<td>100%</td>
<td>30%</td>
</tr>
<tr>
<td>Standard ASTM/HIIL7 interface?</td>
<td>yes</td>
<td>yes</td>
</tr>
</tbody>
</table>

#### Software provides indexed field in each test definition for LOINC code?

- NovoPath: no
- OpusAP: yes

#### Provide LOINC dictionary for each new installation?

- NovoPath: no
- OpusAP: yes

#### No. of installations that use system to automatically transfer tumor diagnoses to a tumor registry

- NovoPath: 0
- OpusAP: 1 (format is facility specific)

#### Complete ASP solution?

- Yes

#### Cost (hardware/software/installation and training/monthly maintenance)

<table>
<thead>
<tr>
<th>Feature</th>
<th>NovoPath</th>
<th>OpusAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smallest stand-alone system</td>
<td>$5–10k/$30k/$10–20k/$1–2k</td>
<td>$5–10k/$30k/$20–40k/$2–4k</td>
</tr>
<tr>
<td>Largest stand-alone system</td>
<td>$10–25k/$35k/$20–40k/$2–4k</td>
<td>$10–25k/$35k/$20–40k/$2–4k</td>
</tr>
<tr>
<td>Base price of integrated system, excluding ASP configuration</td>
<td>$500–300k</td>
<td>$500–300k</td>
</tr>
<tr>
<td>Incremental cost to add smallest AP configuration</td>
<td>$5–10k/$30k/$10–20k/$1–2k</td>
<td>$5–10k/$30k/$20–40k/$2–4k</td>
</tr>
<tr>
<td>Incremental cost to add largest AP configuration</td>
<td>$10–25k/$35k/$20–40k/$2–4k</td>
<td>$10–25k/$35k/$20–40k/$2–4k</td>
</tr>
</tbody>
</table>

#### Distinguishing features (supplied by vendor)

- Interactive voice response for on-the-phone result delivery
- Dial-up remote printing of results
- Automated annotations of results availability
- Full integration with OpusLab to include ADT, billing, results review, HIS interface
- Remote-access ready
- Random 10% rescine of negative Pap smear cases is automatic

---

**Note:** The information provided is a summary of the features and costs associated with the NovoPath and OpusAP systems. For detailed pricing and specific features, please refer to the respective company websites or contact the vendors directly.
### Anatomic pathology computer systems

#### Part 8 of 11

**PathLogic Corp.**

Jerry Grayson  info@pathlogic.com

470 Nautilus St, #306, La Jolla, CA 92037 858-454-8308  www.pathlogic.com

**Psyche Systems Corp.**

Patricia Salem  info@psychesystems.com

321 Fortune Blvd., Milford, MA 01757  508-243-1514  www.windopath.com

#### Name of system

PathLogic

WindPath

#### First ever AP system installation/most recent AP system installation

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of contracts for sites operating AP system (IL/C or GP/TV/D5)?</td>
<td>74 (60/6/8/10)</td>
<td>6</td>
</tr>
<tr>
<td>No. of contracts signed in calendar year 2003</td>
<td>—</td>
<td>6</td>
</tr>
<tr>
<td>No. of sites operating AP system</td>
<td>80</td>
<td>50</td>
</tr>
<tr>
<td>Percentage of installations standalone</td>
<td>100%</td>
<td>90%</td>
</tr>
<tr>
<td>Staff to develop/install-support-other**</td>
<td>—</td>
<td>11-7-3-3</td>
</tr>
<tr>
<td>In LIS (excluding AP) in AP systems only</td>
<td>—</td>
<td>2-4-6-3</td>
</tr>
</tbody>
</table>

#### No. of user workstations in sites operating system

<table>
<thead>
<tr>
<th></th>
<th>1–40 (ave. 5)</th>
<th>1–40 (ave. 6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range in No. of surgical pathology cases per year in sites operating system</td>
<td>1,000–40,000</td>
<td>1,000–75,000</td>
</tr>
<tr>
<td>Range in No. of gynecologic/cytology cases per year in sites operating system</td>
<td>1,000–40,000</td>
<td>0–100,000+</td>
</tr>
</tbody>
</table>

#### Central hardware or service type

<table>
<thead>
<tr>
<th></th>
<th>Windows 98, NT, 2000, XP, server 2003 platforms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovative peripherals</td>
<td>operates with most standard peripherals</td>
</tr>
<tr>
<td>Network installation required*/networks supported</td>
<td>no</td>
</tr>
<tr>
<td>Programming language(s)</td>
<td>Visual Basic, SQL</td>
</tr>
<tr>
<td>Databases and tools used</td>
<td>SQL server, Access</td>
</tr>
<tr>
<td>Word processor(s) used</td>
<td>Integrated MS Word</td>
</tr>
<tr>
<td>Operating system(s)</td>
<td>Windows 98, NT, 2000, XP, server 2003 platforms</td>
</tr>
</tbody>
</table>

#### Features (listed as a percentage of five installs or on availability)

- Surgical pathology information system: 100%
- Cytology information system: 90%
- Autopsy information system: 100%
- Specimen log-in: 100%
- Interface to automatic cassette labeler: 100%
- Entry of block IDs: 100%
- Specimen labels: 100%
- Histology slide labels: 100%
- Bar-coded slide labels: 100%
- Histology worksheets: 100%
- Interface to automatic slide stainer: 100%
- Word processing—vendor specific: 100%
- Word processing—standard tools (Word, WordPerfect): 100%
- Voice entry of gross description/voice entry of final diagnosis: 100%
- Back-end batch voice to text: 100%
- Gross and microscopic images integrated in reports: 100%
- Electronic signature: 100%
- Remote printing of completed reports: 100%
- Direct fax reports: 100%
- Web-based remote inquiry of reports: 100%
- Physician Web access for order entry: installed
- Natural language search capability: 100%
- SNOMED/ICD/ICD9 International: available but not installed
- SNOMED RTS/SNOMED CT: available but not installed
- Multiple hospitals-wide area network: 100%
- Sound-alike retrieval of patient history: 5%
- Autopsy measurements and organ weights: 100%
- Tumor registry reports: 100%
- Management reports: 100%
- Cytology abnormal—unsatisfactory list to doctors: installed
- Cytology diagnostics statistics by pathologist or cytopathologist: installed
- Histology/cytology correlation report: installed
- Reports sufficient to comply with CLIA ’96 regulations: installed
- Comprehensive billing/accounts receivable: 100%
- HIS interface: A/D/T: 100%
- HIS interface: result reporting/incoming clinical results: installed
- Interface to external billing system: 100%
- Standard ASTM/HL7 interface: yes

#### Software provides indexed field in each test definition for LOINC code?

- no

#### Provide LOINC dictionary for each new installation?

- no

#### No. of installations that use system to automatically transfer tumor diagnoses to a tumor registry

<table>
<thead>
<tr>
<th></th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff to develop-install-support-other**</td>
<td>100%</td>
</tr>
</tbody>
</table>

#### No. of sites operating AP system

<table>
<thead>
<tr>
<th></th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of contracts signed in calendar year 2003</td>
<td>100%</td>
</tr>
<tr>
<td>No. of contracts for sites operating AP system (H/IL/C or GP/FI/OS)*</td>
<td>100%</td>
</tr>
</tbody>
</table>

#### Name of system

PathLogic

WindPath

#### Cost (hardware/software/installation and training/monthly maintenance)

- $2.5k (software license fee)
- $6k (software license fee)
- $12k/$22.15k/$14k/$5.66k
- $65k/91k/126k/162k/$2.9k

#### Distinguishing features (supplied by vendor)

- Internet option with customer report retrieval, online requisitions, other advanced features
- Features to help your marketing
- Flexibility and scalability
- Many value-added services, like disaster recovery, at a low total cost of ownership
- Support all ADT and billing interfaces as well as instruments
- Includes many custom and advanced features as standard elements, including voice, image management, tumor staging

#### Tabulation does not represent an endorsement by the College of American Pathologists.
Anatomic pathology computer systems

**Part 9 of 11**

**See accompanying article on page 56**

### Name of system

- **SoftPath**
- **AP Easy**

### First ever AP system installation/most recent AP system installation

- **SoftPath**: 1999/2003
- **AP Easy**: 1996/2003

### No. of contracts for sites operating AP system (NAACCR or GFI/VDOS)*/

- **SoftPath**: 127
- **AP Easy**: 117

### No. of contracts signed in calendar year 2003

- **SoftPath**: 7
- **AP Easy**: 16

### No. of sites operating AP system

- **SoftPath**: 165
- **AP Easy**: 167

### Percentage of installations standalone

- **SoftPath**: 2%
- **AP Easy**: 100%

### Staff to develop-instill-support-other**

- **SoftPath**: In entire company
- **AP Easy**: In LIS division (including AP) in AP systems only

### Centrality of data

- **SoftPath**:
  - 3-4-1-4

### Range in No. of surgical pathology cases per year in sites operating system

- **SoftPath**: 5–110 (ave. 10–20)
  - 1–53 (ave. 7)
  - 1,000–62,000
  - 25–100,000

### Central hardware or service type

- **SoftPath**: IBM pSeries (RS5/6000)
- **AP Easy**: Windows NT, 2000, XP; Macintosh OS platforms

### Terminals/workstations or PC platform

- **SoftPath**: PCs with Windows 2000, XP
- **AP Easy**: Image-enabled reports with digital camera, microscope camera, color printing, direct fax

### Innovative peripherals

- **SoftPath**: embedded images and lab results on final reports, Web portal access for ordering and reports, image-management modules, others
- **AP Easy**: yes/LAN, WAN, TCP/IP, UNIX

### Network installation required*/networks supported

- **SoftPath**: yes, LAN, WAN, TCP/IP, UNIX
- **AP Easy**: FileMaker Pro

### Programming language(s)

- **SoftPath**: C, C++, Visual C++, Java
- **AP Easy**: FileMaker Pro

### Databases and tools used

- **SoftPath**: RDM, Oracle
- **AP Easy**: FileMaker Pro

### Word processor(s) used

- **SoftPath**: Mac Word, FileMaker Pro
- **AP Easy**: Windows NT, 2000, XP, Macintosh OS (server only)

### Operating system(s)

- **SoftPath**: Mac AIX (Unix); clients: Windows 2000, XP
- **AP Easy**: Windows NT, 2000, XP, Macintosh OS

### No. of installations that use system to automatically transfer tumor diagnoses to a tumor registry

- **SoftPath**: 60%
- **AP Easy**: 100%

### Source code?/user group?

- **SoftPath**: yes (also provide user-defined report writer, custom programming)
- **AP Easy**: no

### Other IS interfaces

- **SoftPath**: Imaging, voice-recognition packages integrated with AP system
- **AP Easy**: Imaging, voice-recognition packages integrated with AP system

### Features (listed as a percentage of live installs or based on availability)

- **SoftPath**:
  - Surgical pathology information system: 100%
  - Cytology information system: 100%
  - Autopsy information system: 100%
  - Specimen label: 100%
  - Interface to automatic cassette labeling: 100%
  - Entry of block IDs: 100%
  - Specimen labels: 100%
  - Histology slice labels: 100%
  - Bar-coded slide labels: 100%
  - Histology worklists: 100%
  - Interface to automatic slide stainer: 100%
  - Word processing—vendor specific: 100%
  - Word processing—standard tools (Word, WordPerfect): 100%
  - Voice entry of gross description/voice entry of final diagnosis: installed
  - Back-end batch of voice to text: available but not installed
  - Gross and microscopic images integrated in reports: 100%
  - Electronic signature: 100%
  - Remote printing of completed reports: 100%
  - Direct fax reports: 100%
  - Web-based remote inquiry of reports: available but not installed
  - Natural language search capability: 100%
  - SNOMED to SNOMED International: not available/50%
  - SNOMED CT to SNOMED CT: available but not installed
  - Multiple hospitals wide area network: 55%
  - Sound-alike retrieval of patient history: 100%
  - Autopsy measurements and organ weights: 100%
  - Tumor registry reports: 100%
  - Management reports: 100%
  - Cytology abnormal—unsatisfactory list to doctors: 100%
  - Cytology diagnostics statistics by pathologist or cytopathologist: 100%
  - Histology/cytology correlation report: 100%
  - Reports sufficient to comply with CLIA ’88 regulations: 100%
  - Comprehensive billing/accounts receivable: 100% (client billing)
  - HIS Interface: A/D/T: 100%
  - HIS Interface: result reporting/incoming clinical results: 100%
  - HIS Interface: result reporting/incoming clinical results: 100%
  - Interface to external billing system: 100%
  - Standard ASTM/NHLBI interface: yes

- **AP Easy**:
  - Surgical pathology information system: 100%
  - Cytology information system: 100%
  - Autopsy information system: 100%
  - Specimen label: 100%
  - Interface to automatic cassette labeling: 100%
  - Entry of block IDs: 100%
  - Specimen labels: 100%
  - Histology slice labels: 100%
  - Bar-coded slide labels: 100%
  - Histology worklists: 100%
  - Interface to automatic slide stainer: available but not installed
  - Word processing—vendor specific: 100%
  - Word processing—standard tools (Word, WordPerfect): 100%
  - Voice entry of gross description/voice entry of final diagnosis: installed
  - Back-end batch of voice to text: available but not installed
  - Gross and microscopic images integrated in reports: 100%
  - Electronic signature: 100%
  - Remote printing of completed reports: 100%
  - Direct fax reports: 100%
  - Web-based remote inquiry of reports: available but not installed
  - Natural language search capability: 100%
  - SNOMED to SNOMED International: not available/50%
  - SNOMED CT to SNOMED CT: available but not installed
  - Multiple hospitals wide area network: 55%
  - Sound-alike retrieval of patient history: 100%
  - Autopsy measurements and organ weights: 100%
  - Tumor registry reports: 100%
  - Management reports: 100%
  - Cytology abnormal—unsatisfactory list to doctors: 100%
  - Cytology diagnostics statistics by pathologist or cytopathologist: 100%
  - Histology/cytology correlation report: 100%
  - Reports sufficient to comply with CLIA ’88 regulations: 100%
  - Comprehensive billing/accounts receivable: 100% (client billing)
  - HIS Interface: A/D/T: 100%
  - HIS Interface: result reporting/incoming clinical results: 100%
  - HIS Interface: result reporting/incoming clinical results: 100%
  - Interface to external billing system: 100%
  - Standard ASTM/NHLBI interface: yes

### Software provides indexed field in each text definition for LDNC code? (yes/no)

- **SoftPath**: no
- **AP Easy**: no

### Provide LDNC dictionary for each new installation? (yes/no)

- **SoftPath**: no
- **AP Easy**: no

### No. of installations that use system to automatically transfer tumor diagnoses to a tumor registry

- **SoftPath**: 5 (HL7 format)
- **AP Easy**: II (NAACCR format)

### Complete AP ASP solution? (yes/no)

- **SoftPath**: yes
- **AP Easy**: no

### Method of charging for ASP service

- **SoftPath**: 1
- **AP Easy**: by vendor

### Client software required

- **SoftPath**: requires software be installed on client PC
- **AP Easy**: requires use of private, dedicated circuit

### Client contracts supported from data center not operated by client

- **SoftPath**: 1
- **AP Easy**: by vendor

### New data center is operated

- **SoftPath**: by vendor
- **AP Easy**: by vendor

### Other IS interfaces

- **SoftPath**: must hospital information systems
- **AP Easy**: Macintosh OS packages that support FileMaker Pro

### Voice-recognition packages integrated with AP system

- **SoftPath**: Dragon
- **AP Easy**: Speech markers, slide labelers

### Voice recognition packages integrated with AP system

- **SoftPath**: Visium
- **AP Easy**: MediVoice

### Hospital information systems instruments interfaced

- **SoftPath**: FileMaker Pro
- **AP Easy**: yes/LAN, WAN, TCP/IP

### Image-enabled reports with digital camera, microscope camera

- **SoftPath**: color printing, direct fax
- **AP Easy**: Windows 98, NT, 2000, XP; Macintosh OS platforms

### Software development

- **SoftPath**: FileMaker Pro
- **AP Easy**: FileMaker Pro

### Cost (hardware/software/installation and training/monthly maintenance)

- **SoftPath**: $30k-$50k/$50k-$45k
  - $100k/$150k/$375k/$250k
  - $250k
- **AP Easy**: $50k-$100k/$375k-$250k

### Base price of integrated system, excluding AP configuration

- **SoftPath**: $10k/$30k/$60k/$45k
- **AP Easy**: $15k/$30k/$50k

### Incremental cost to add smallest AP configuration

- **SoftPath**: $10k/$375k/$375k/S.15k
- **AP Easy**: $10k/$375k/$375k/$250k

### Incremental cost to add largest AP configuration

- **SoftPath**: $250k
- **AP Easy**: n/a

### Distinguishing features (supplied by vendor)

- **SoftPath**:
  - unique Manager’s Dashboard with real-time data and ability to delegate tasks
  - Web-based module (SoftPath) for remote order entry and results query
  - powerful features for large commercial laboratories—and online alerts, full system audits, multi-site, billing
- **AP Easy**:
  - customized solution lab involved in design and implementation
  - Internet reporting of final reports to client physicians
  - high level of functionality and support

---

Tabulation does not represent an endorsement by the College of American Pathologists.
## Anatomic Pathology Computer Systems

### Part 10 of 11

**Anatomic Pathology Computer Systems**

**10/74**

**February 2004**

### Sysmex

<table>
<thead>
<tr>
<th>Name of system</th>
<th>Molis AP</th>
<th>Apara</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of contracts for sites operating AP system (NIL/CSI or GP/IVDS)**</td>
<td>24 (9/18/23/9)</td>
<td>5 (3/19/0)</td>
</tr>
<tr>
<td>No. of sites operating AP system</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Percentage of installations standalone</td>
<td>50%</td>
<td>—</td>
</tr>
<tr>
<td>Staff to develop-install-support-other**</td>
<td>—</td>
<td>20%</td>
</tr>
<tr>
<td>In entire company</td>
<td>1,800 total</td>
<td>37-15-18-7</td>
</tr>
<tr>
<td>In LIS division (excluding AP) in systems only</td>
<td>60-75-15/15-10-20-5</td>
<td>37-15-18-7/5-0-0</td>
</tr>
<tr>
<td>No. of user workstations in sites operating system</td>
<td>5–90 (ave. 40)</td>
<td>5–30 (ave. 10)</td>
</tr>
<tr>
<td>Range in No. of surgical pathology cases per year in sites operating system</td>
<td>250–1,450,000</td>
<td>5,000–70,000</td>
</tr>
<tr>
<td>Range in No. of gynecologic cytology cases per year in sites operating syst.</td>
<td>1,000–100,000</td>
<td>7,000–175,000</td>
</tr>
<tr>
<td>Central hardware or service type</td>
<td>Intel, HP, IBM</td>
<td>Dell, any Windows NT 2003 server</td>
</tr>
<tr>
<td>Innovative peripherals</td>
<td>Windows PC</td>
<td>Dell, any PC</td>
</tr>
<tr>
<td>Intelligent, voice, digital cameras</td>
<td>integrated voice files, image files, image storage</td>
<td></td>
</tr>
<tr>
<td>Network installation required?/networks supported</td>
<td>you/LAN, TCP/IP</td>
<td>you/LAN, WAN, TCP/IP</td>
</tr>
<tr>
<td>Programming language(s)</td>
<td>Lotus Notes—moving to HTML</td>
<td>Clinton, C++</td>
</tr>
<tr>
<td>Databases and tools used</td>
<td>Oracle—moving to Oracle</td>
<td>SQL-PSQL</td>
</tr>
<tr>
<td>Word processor(s) used</td>
<td>Lotus Notes—moving to Word</td>
<td>MS Word</td>
</tr>
<tr>
<td>Operating system(s)</td>
<td>Windows 2000 server</td>
<td>Windows 98, NT, XP, 2000</td>
</tr>
</tbody>
</table>

### Features (listed as a percentage of five installs or based on availability)

- **Surgeon pathology information system**
- **Cytopathology information system**
- **Autopsy information system**
- **Specimen log-in**
- **Interface to automatic cassette labeler**
- **Entry of block IDs**
- **Specimen labels**
- **Histology slide labels**
- **Bar-coded slide labels**
- **Histology worksheets**
- **Interface to automatic slide stainer**
- **Word processing—vendor specific**
- **Word processing—standard tools (Word, WordPerfect)**
- **Voice entry of gross description/voice entry of final diagnosis**
- **Back-end batch voice to text**
- **Gross and microscopic images integrated in reports**
- **Electronic signature**
- **Remote printing of completed reports**
- **Direct fax reports**
- **Web-based remote inquiry of reports**
- **Physician Web access for order entry**
- **Natural language search capability**
- **SNOMED/ICD9/ICD10 International**
- **SNOMED CT International**
- **Multiple hospitals-wide area network**
- **Sound-side retrieval of patient history**
- **Autopsy measurements and organ weights**
- **Tumor registry reports**
- **Management reports**
- **Cytopathology abnormal—unsatisfactory list to doctors**
- **Cytopathology diagnoses statistics by pathologist or cytopathologist**
- **Histology/cytology correlation report**
- **Reports sufficient to comply with CLIA ‘88 regulations**
- **Comprehensive billing/accounts receivable**
- **IRS interface: A/T**
- **IRS interface: result reporting/incoming clinical results**
- **Interface to external billing system**
- **Standard ASTM/HL7 interface?**

### Software provides indexed field in each test definition for LOINC code?

- yes
- no

### Provide LOINC dictionary for each new installation?

- yes
- no

### No. of installations that use system to automatically transfer tumor diagnoses to a tumor registry

- 10 (HL7 format)
- 0

### Complete AP ASP solution?

- no
- yes

### Method of charging for ASP service

- —
- —

### Client software required

- —
- requires software be installed on client PC

### ASP information conduct

- operates over Internet
- not available

### Client contracts supported from data center not operated by client

- —
- —

### New data center is operated

- —
- —

### Other IS interfaces

- Molis, Delphi, HISCOMM
- Corner, EIS, Care Evolution, MedStar, Seacoast

### Voice-Recognition packages integrated with AP system

- Philips, Dragon
- any Windows-compliant system—Dragon, MedSpeak, Windows XP voice recognition

### Histology and Cytology Laboratory Instruments interfaced

- —
- most major vendors—LX120, Molis Pro, ASP 360, others

### Source code?/user group?

- escrow/yes (beginning this year)
- escrow/yes (meets online)
- limited (but provide user-defined report writer, custom programming)
- yes (also provide user-defined report writer, custom programming)

### Cost (hardware/software/installation and training/monthly maintenance)

- **$15k/$105k/$150k/$1.5k**
- **$65k/$305k/$150k/$5.5k**
- **$850k**
- **$15k/$105k/$150k/$1.5k**
- **$65k/$305k/$150k/$5.5k**
- **$850k**
- **$15k/$105k/$150k/$1.5k**
- **$65k/$305k/$150k/$5.5k**

### Distinguishing features (supplied by vendor)

- workflow designed to maximize productivity
- intuitives, easy-to-use screens
- moving to HTML (Web-based) in 2004
- totally integrated image capture and voice dictation
- specialized gross workstations
- 100% paperless document-management standard

---

*Note: U.S. hospitals, C, Independent labs in U.S., C or GP entities or group practices in U.S., Foreign installations, Other sites.**

**Note:** Tabulation does not represent an endorsement by the College of American Pathologists.
## Anatomic pathology computer systems

### Part 11 of 11

**Tamtron Corp. (a division of Impact)**
Mark Cessa: sales@tamtron.com
6203 San Ignacio Ave., Ste. 110, San Jose, CA 95119
408-972-9900 www.tamtron.com

**Integrity**
William Shang, MD
wshang@yahoo.com
Cortland Memorial Hospital, 134 Homer Ave., Cortland, NY 13045
607-756-3621 www.geocities.com/wshang/

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

<table>
<thead>
<tr>
<th>Name of system</th>
<th>PowerPath</th>
<th>Integrity</th>
</tr>
</thead>
<tbody>
<tr>
<td>First ever AP system installation/most recent AP system installation</td>
<td>1986/2003</td>
<td>1996/2002</td>
</tr>
<tr>
<td>No. of contracts for sites operating AP system (W/L/C or GP/F/I/O/D)*</td>
<td>168 (127/30/9/2/0)</td>
<td>2 hospital contracts?</td>
</tr>
<tr>
<td>No. of sites operating AP system</td>
<td>348</td>
<td>---</td>
</tr>
<tr>
<td>Percentage of installations standalone</td>
<td>---</td>
<td>unknown (many downloads)</td>
</tr>
<tr>
<td>Staff to develop/install-support-other**</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>• In entire company</td>
<td>1,300 total</td>
<td>1 total</td>
</tr>
<tr>
<td>• In LIS division (including AP)/in AP systems only</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>

### Central hardware or service type

| Windows 2000 server | --- |
| Windows 2000, XP | --- |
| Innovative peripherals | --- |
| Programming language(s) | Borland Delphi |
| Databases and tools used | MS SQL |
| Word processor(s) used | MS Word |
| Operating system(s) | Windows |

### Features (listed as a percentage of five installs or based on availability)

| • Surgical pathology information system | 100% | 100% |
| • Cytology information system | 100% | 100% |
| • Autopsy information system | 100% | 100% |
| • Specimen log-in | 100% | 100% |
| • Interface to automatic cassette labeler | 5% | 0 |
| • Entry of block IDs | 100% | 0 |
| • Specimen labels | 100% | 0 |
| • Histology slide labels | 100% | 0 |
| • Bar-coded slide labels | 3% | 0 |
| • Histology worksheets | 100% | 0 |
| • Interface to automatic slide stainer | 3% | 0 |
| • Word processing—vendor specific | 100% | 0 |
| • Word processing—standard tools (Word, WordPerfect) | 100% | 0 |
| • Voice entry of gross description/voice entry of final diagnosis | --- | available in 2004 |
| • Back-end batch voice to text | --- | not available |
| • Gross and microscopic images integrated in reports | 5% | 50% |
| • Electronic signature | 100% | 100% |
| • Remote printing of completed reports | 100% | 50% |
| • Direct fax reports | 100% | 50% |
| • Web-based remote inquiry of reports | 5% | 0 |
| • Physician Web access for order entry | --- | available in 2004 |
| • Natural language search capability | 100% | 50% |
| • SNOMED/ICD/ICD International | 100% | 100% |
| • SNOMED CT/ICD International | 100% | 100% |
| • Multiple hospitals-wide area network | 100% | 50% |
| • Sound-alike retrieval of patient history | --- | 0 |
| • Autopsy measurements and organ weights | 100% | n/a |
| • Tumor registry reports | 100% | 50% |
| • Management reports | 100% | 0 |
| • Cytology abnormal—unsatisfactory list to doctors | 100% | 0 |
| • Cytology diagnostics statistics by pathologist or cytopathologist | 100% | 50% |
| • Histology/cytology correlation report | 100% | 50% |
| • Reports sufficient to comply with CLIA ’88 regulations | 100% | 50% |
| • Comprehensive billing/accounts receivable | 100% | 100% |
| • HIS interface: A/D/T | 100% | 0 |
| • HIS interface: result reporting/incoming clinical results | 100%/100% | 0 |
| • Interface to external billing system | 100% | 0 |
| • Standard ASTM/HL7 interface? | yes | n/a |

### Software provides indexed field in each text definition for LOINC code?

**no**

**Provide LOINC dictionary for each new installation?**

**no**

### No. of installations that use system to automatically transfer
tumor diagnoses to a tumor registry

**10 (HL7 format)**

### Complete AP ASP solutions?

**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

---

### Other IS interfaces

Eclipsys, Ceremon, Misys, Siemens, McKesson

| Voice-recognition packages integrated with AP system | Eclipsys, Ceremon, Misys, Siemens, McKesson |
| Histology and cytology laboratory instruments interfaced | Eclipsys, Ceremon, Misys, Siemens, McKesson |

### Source code/usager group?

| escrow/yes | yes/no (also provide user-defined report writer, custom programming) |

### User can modify screens?

no (but provide user-defined report writer, custom programming)

### Cost (hardware/software/installation and training/monthly maintenance)

**no**

### Smallest stand-alone system

---

### Largest stand-alone system

---

### Base price of integrated system, excluding AP configuration

---

### Incremental cost to add smallest AP configuration

---

### Incremental cost to add largest AP configuration

---

### Distinguishing features (supplied by vendor)

**• AP systems leader**
**• "case centric" workflow**
**• outstanding customer satisfaction**
**• a free system distributed upon request via Internet**
**• intermediate knowledge of Access required for modification or customization free-based service available**

† freeware, open architecture