

September 16, 2003

TO: Isabel Stirling, Chair, UC Heads of Public Services (HOPS)

FROM: Digital Reference Common Interest Group (Digital Ref CIG)

RE: **Progress Report – Digital Reference Systems Evaluation**

## **EXECUTIVE SUMMARY**

The Digital Ref CIG developed criteria for evaluating digital reference systems, obtained written responses to its criteria from each vendor, and invited each to conduct a 2-hour live demonstration. At present, there seem to be five digital reference systems that provide most of the required and desirable features necessary for a UC inter-campus digital reference program:

1. 24/7 Reference
2. LSSI Virtual Reference ToolKit (now Tutor.com)
3. NetAgent
4. VRLplus
5. Question Point

The first two systems are so similar that we combined our evaluation of them into one demonstration.

Based on these inspections, we concluded that no single system, as it exists today, possesses all the features we found desirable. All of them seem to meet our minimum requirements. To be certain of this last claim, however, further testing is necessary.

Therefore, we recommend more extensive trial periods for NetAgent, VLRplus, and Question Point. (This is not necessary for 24/7 Reference and LSSI/Tutor.com systems, because they are already in use on one or more UC campuses.) Only by testing the systems on one or more UC campuses can we see where they fail and succeed, how responsive they are in real or simulated reference environments, and what enhancements would make them satisfactory.

Each UC campus is unique and, therefore, has different digital reference needs. These differences cause some campuses to prefer one system over another. The emergence of NISO standards supporting collaboration across different vendor interfaces may, in the future, alleviate the need for all UC campuses to have the same digital reference interface. However, we believe more extensive trials could result in a consensus among the campuses. We may discover that one of the above systems is adequate or that enhancements to one of these systems could produce a system satisfactory for use by all UC campuses.

The full progress report begins on page 2.

## **Context: The Charge to the Digital Ref CIG**

The second of the goals and objectives in the Charge to the Digital Ref CIG requests it to:

*Develop a statement of criteria needed for software to support digital reference services in the UC environment, i.e. spell out the minimum and highly desirable features needed in a software package that should be adopted by the UC libraries to allow for future inter-campus communication or cooperation through shared or interfaced systems.*

Point 4 of the charge spells this previous statement out more specifically:

*Monitor software developments and consider applications for UC libraries. Recommend a best system for UC libraries to adopt as it becomes available.*

Our committee has met three times and has worked via email in the interim. The delay in assembling this portion of our charge was caused by the fact that two of the most important digital reference systems underwent ownership and/or distribution-rights changes during 2003. We had to wait until August 2003 to schedule demonstrations for two of the systems.

### **1. Required Features**

At our first meeting, (1/9/03) we unanimously decided on a set of minimum requirements for all systems worth considering. Those of us familiar with one or more digital reference systems knew these minimums were obtainable and realistic:

- Real-time chat with ability to share web pages ("co-browse") with clients
  - Must be able to share most UC-licensed and owned resources (Melvyl and CDL interface, journal indexes, e-journals) and support PDF and other common formats
  - Agent (library staff operator) must be free to show whatever resources are deemed appropriate without restrictions, but clients must not be able to roam unauthorized into restricted sites. Therefore, software must be compatible with patron authentication protocols in use at UC campuses (local proxy servers, EZ proxy, VPN), and must allow other means to determine a patron's status when a session is initiated (IP address, ID, self-description)
- Highly intuitive, easy interface for clients, with minimal (or no) downloading or system configuration, and compatibility with most browsers and operating systems
- Must provide some level of service for clients with Mac operating systems. The systems on the market provide page pushing and chat, but none provides live co-browsing or escorting. None supports the agent using a Mac (must use Windows).
- ADA compliant
- Provide tools supporting collaboration among service points within campuses and among UC campuses:
  - Ability to establish and manage multiple, hierarchically associated queues by campus, library unit, subject area, and clusters of individual staff members from any campus
  - Capability to transfer clients across queues in real-time and via e-mail
  - Ability for any agent to handle more than one client at a time
- Customizable tools for management reporting and evaluation of service
  - Reporting/analysis/management tools to assess use, performance, and satisfaction
  - Transcripts of chat sessions with URLs of content sent to patrons and available to analyze within acceptable privacy and security tolerances
  - Customizable surveys of user satisfaction and means to analyze results

## 2. Other Important Features

We identified the following desirable but non-required features that might influence our recommendation and the development of digital reference services at UC. We do not agree unanimously about the relative importance or value of each of these desirable features, but we all see them as useful to some degree in some situations:

- Agent interface difficulty/ease of use
- Ease of use and versatility of scripted chat messages, bookmarked URL's
- Appeal, adequacy, and ease of use of client welcome screen and client interface
- Means to advertise the service to specified URLs and not just by web page links
- Form sharing
- Agent text highlighting, co-scrolling, synchronized cursor pointers (when client or agent types in forms, scrolls up or down, or moves the mouse cursor, the action is visible on the other side)
- Varying co-browsing levels (1. Agent and client share a single browser where either can change the screen being shared, 2. only agent leads, 3. only client leads)
- Application sharing (ability, with permission, to operate or demonstrate software outside the web browser, such as EndNote or Excel)
- Ease of use of management reports
- Voice and/or video over IP
- Meetings capability (one to many) for group presentations, training, and/or chat

## 3. Vendors and Systems Explored

We identified five vendors who provide digital reference systems that appeared or claimed to meet our minimum requirements. We scheduled vendor presentations to determine whether the products perform as claimed. Two of the digital reference systems were already in use at some UC campuses and were so similar that we combined these demonstrations into one presentation (24/7 and LSSI). Two digital reference systems underwent ownership and/or distribution-rights changes during 2003 and we had to wait until August 2003 to schedule their demonstrations.

1. 24/7 (an enhanced e-Gain product, in use at UCLA, UCI, and UCD, and tested at UCB)
2. LSSI/Tutor.com (an enhanced e-Gain product very similar to 24/7, in use at UCSB)
3. VRLplus (from Docutek)
4. NetAgent (changed ownership from Divine to eAssist)
5. Question Point (Convey distributed exclusively by OCLC)

In order to obtain consistent information about all products, the group developed a 20-page detailed Inventory of Features of Digital Reference Systems (available in at <http://orpheus.ucsd.edu/cs/jdrcig/features.pdf>). In addition to detailing the minimum requirements above, this Inventory lists many other features, each ranked as "required," "highly desirable," "desirable," and "optional." This document was sent to Docutek, eAssist, and OCLC prior to the presentations, and we received annotated written responses, in varying levels of detail and precision, addressing each product's capabilities. Alice Kawakami, (UCLA) completed the document for and in consultation with 24/7, and the Patrick Dawson, (UCSB) said that this document also spoke adequately for LSSI's product.

## 4. Comparison of Systems

Although the systems all met the minimum requirements, the Group members had widely varying subjective preferences concerning aesthetics, ease of use, and the relative importance of certain features. We remain unsure about a few technical issues, and, therefore, think that one or more of our campuses should evaluate these systems under real, or simulated, reference situations. Among the issues requiring further testing:

- How well the systems work with local proxy server setups, and whether they work with VPN authentication (required for UCSF and perhaps UCR)
- How frequently the systems fail to access some Melvyl features, some CDL interfaces, some e-journals, and some article indexes (all of the vendors admitted to some degree of failure -- will performance be adequate?)
- Adequacy of Mac capabilities could not be well compared in our tests; all of the systems provide page pushing and chat (not true co-browsing) if the client is using a Mac; none offers full co-browsing with Mac users.
- Adequacy of performance with Linux/UNIX users

The table at the end of this report illustrates the strengths and weaknesses of the four systems in respect to the major features above. It does not include features all systems handle about equally well.

## 5. Cost and pricing

We were unable to obtain pricing information with comparability from all of the vendors. Each uses a very different model for pricing and recognized that the size of the deal and the degree of customization the UC system might require would greatly impact price.

## 6. Recommendations

### • *Is there a "best system"?*

At the end of our evaluations, we each ranked all of the systems. There is no clear winner or best system for all of the uses envisioned by the Group, although the majority of us were very favorably impressed, during our brief presentations, with the features of NetAgent.

- NetAgent seemed easy to use for both clients and agents, seemed to work a little better with Macs, had powerful sharing features, and excellent management and collaboration capabilities. It automatically detects the client's computer configuration and adapts the agent interface functionality based on the presence of Java, Active X, and HTML. We also like its ability to send automated scripts at intervals to clients while they are waiting to chat with an agent. The agent interface includes stored email addresses for easy forwarding/referrals.
- VRLplus was preferred by some campuses for its clean, easy look. Some software enhancements have recently been added to facilitate collaborative inter-library use. VLRplus offers excellent co-browsing features and good management reporting. Agents can chat privately with other agents online. While co-browsing, the agent can highlight text for the client.
- The 24/7/LSSI system(s) is currently working satisfactorily (acceptable, with room for improvement) at UCLA, UCI, UCD, UCSB, and in tests at UCB.
- Question Point has some powerful features and was deemed the hardest to use:
  - Question Point Enhanced alone offers application sharing, which would make it possible to help users, after permission, with more than what can be made to appear in a browser window (e.g. EndNote or Excel applications). Question Point Enhanced is the only system currently supporting voice and video IP, and a few of us believed that voice is a

very important improvement over chat. Question Point also seems uniquely capable of sharing any web page application because it is not running on JavaScript or Active X. Question Point Enhanced allows each user group to specify a list of URLs which trigger its “help” button to appear in the corner of the client’s browser, providing a unique ability to push help at likely points of need.

- On the other hand, Question Point is the only system requiring clients to choose between a Basic mode (chat-only – not within our minimum requirements) and Enhanced mode (Web page and application sharing, voice and video). If they opt for the latter, they must accept a download which installs a persistent browser button on their computer, coordinated to appear in the client’s browser whenever they visit any site from a pre-specified list of URLs. Several of us believed that this feature of Question Point Enhanced was confusing and too complex and made the agent’s interface almost impossible to manage. Question Point was the only system we viewed which some of us wanted to reject as too hard to use.

Would Question Point be mastered and used by enough of the library staff providing digital reference service to warrant the complexity of the features it adds to the client interface?

Would the required download deter clients from using the service? We recommend a trial period to assess the pros and cons of this powerful but highly controversial system.

- ***Is it desirable for all UC's to use one system?***

- At least two of the vendors said they were engaged in NISO standards meetings at which progress was being made to create interoperability across major digital reference systems. This is very likely to occur and all of these systems are very likely to comply with such an industry standard. Two or three of the systems say they are looking seriously at providing voice IP, and a third offers it through third-party software.
- If collaboration can be achieved through standardization, it may not make sense to impose a single system on all UC libraries. Some campuses may need system features that are not available in other systems and might be willing to maintain the training needed for complex systems.
- Furthermore, imposing a single system on libraries and campuses with diverse populations, sizes, staffing levels, cultures, and affinities may encounter resistance and inhibit the quality of reference services.
- Conversely, if a single system were chosen and provided to all campuses, it is possible that it could provide the impetus to begin offering digital reference service more widely. If a single system were made available, units within campuses could implement digital reference on some scale, while other units could implement it later. Some UC campuses are concerned about software costs, and others about organization or cost of staffing digital reference. At least one campus voiced the hope that digital reference collaboration with other campuses might enable them to begin digital reference service given their limited staffing. A single reference system might facilitate such collaboration.

- ***The need for more extensive trial periods***

- We recommend that NetAgent, VRLplus and Question Point be tested by some of the campuses with experience using or testing 24/7 and/or LSSI. HOPS may wish to identify and designate libraries willing to run 30-day or longer trials, sharing what they discover with other campuses.
- These trials should be established with pre-defined goals and objectives (e.g., test Melvyl, e-journals, indexing databases; calibrate ease of use and ease of learning curve; Mac operability; proxy server and other authentication compatibility).

<b>Feature</b>	<b>24/7 &amp; LSSI</b>	<b>VRLplus</b>	<b>NetAgent</b>	<b>Question Point</b>
<b>Agent interface</b>	Moderately difficult to master, but works adequately at UCLA, UCI, and UCD	Seems easy to use	Seems easy to use	Difficult to master, confusing. "QP enhanced" (the Convey product) has many windows
<b>Client interface</b>	Satisfactory	Satisfactory	Easiest to use. Agent knows when client typing.	Chat box in top browser bar, can be enlarged by agent. Deemed both good & too small, hard to find
<b>Means to advertise service</b>	Link to service.	Link to service	Link to service.	Browser button (customizable) appears at listed URLs for QP enhanced.
<b>Forms sharing</b>	Yes.	Yes.	Yes.	Only in QP enhanced
<b>Co-scrolling</b>	No.	No.	No.	Only in QP enhanced
<b>Synchronized cursors</b>	No.	No.	No.	Only in QP enhanced
<b>Text highlighting</b>	Link "highlighting" arrow	Yes	No.	No.
<b>Co-browsing options</b>	Co-browsing, escorting two ways. Can turn off to search.	Co-browsing, escorting two ways. Can turn off to search.	Either client or agent can lead. Not both in recent release.	In QP enhanced, client or agent can lead, not both.
<b>Application sharing</b>	No.	No.	No.	Yes.
<b>Management reports</b>	Yes.	Yes.	Versatile and real time.	Yes.
<b>Voiceover IP</b>	Not yet.	No.	With Net Meeting.	Yes.
<b>Video</b>	No.	No.	No.	Yes.
<b>Meetings</b>	Yes.	Can push PowerPoint. May offer in future release.	With Net Meeting software.	No.
<b>Scripted chats and bookmarked URLs</b>	Yes.	Yes.	Yes.	Yes.
<b>Collaboration support</b>	Programs developed for consortia.	Programs developed for consortia.	Very flexible, hierarchical grouping and sub-grouping of agents	Profiles group agents working together. More inter-agent flexibility in future developments
<b>Mac serviceability</b>	Chat and page pushing	Chat and page pushing	Chat and page pushing	Chat and page pushing