# TECHNOLOGY REQUIREMENT QUESTIONNAIRE

Most of the following questions require a complete textual response and not simply a yes/no answer. Include the answer directly below the question.

**Application Architecture**

Provide a brief history of the proposed application software.

1. Identify each component of your system and whether it is Browser based, web-enabled, or client-server?
2. Does the application support server clustering technology, or can clustering technology be used?
3. Describe the hardware, equipment and operating system software recommended for deployment:

* Specify the quantities of each type of equipment required.
* For servers, identify the number of processors, the amount of memory, and the hard disk space required.
* Describe the recommended disk configuration for the database server(s) (RAID 1, RAID 0+1, RAID 5, etc.).
* Describe where the equipment should be in order to best support all of our districts covering a large geographical area.
* Describe what software will run on each piece of equipment.

1. Will source code be provided to SCUSD? If not, under what conditions will source code be provided? If source code is provided what kind (VB, C, C#, Java, VBScript, etc.)?

1. Does the application use its own user authentication or can it use a secure external system such as Active Directory, LDAP, Radius, Novell NDS, etc.? If using secure external systems for authentication, what systems do you support? If the application does its own user authentication what security measures are taken to protect the system from unauthorized use (e.g. strong password enforcement, password aging)? What recommendations, if any, do you make to your customers in regards to authentication methods (password only, multi-factor using certificates, multi-factor using hardware tokens, biometrics, etc)?

**Database**

1. Describe the proposed database solution(s) for the SCUSD Student System implementation including the database product(s) and version(s), the database server operating system(s), and the number and purpose of different database instances to be used to run the system for all of our schools. Specify whether a separate database is required for each district and also include information on whether a separate database is required for each school year.
2. How often is the SIS product updated to use a more recent version of the database? How soon after the update has been released does the support of old versions expire?
3. Is all stored data used by the application stored in the relational database management system?

1. Are reports run against the production database or a copy of the production database? If a copy, is the copy kept in sync real-time with the production system? Explain.
2. Can every session be traced back to an individual user?

## Web Browser Access

1. Which browsers and associated versions are currently supported?
2. Will a user from a school office be able to exclusively use a web-browser to access the system?
3. Does the web client require a “plug-in” or add-on software product?
4. Does the web product require a java run time environment? If yes, what is the approximate size of the java applet which must be downloaded to the client? What version of Java and/or Java Virtual Machine is supported? How are upgrades and new releases controlled?

## Network Usage

1. Does the application system use TCP/IP for network communication between all required components? Does any part of the application require a protocol other than TCP/IP?
2. Can the application be used over a dial-up connection (i.e., remote connection to the parent portal)?
3. What mechanisms does the application use for printing over the network?
4. Can administrative staff and teachers reasonably use this product over a T1 (1.5 mbps) WAN link that is shared with internet traffic? If not, what is your minimum recommended bandwidth?
5. Does the solution employ data encryption so that the student information is not passed as clear text in network packets? Are reports encrypted when printed over the wide area network?

## Workstation Requirements

1. What is the minimum workstation configuration needed for the application for a traditional client, and what is it for a web-browser client?
2. What is the recommended workstation configuration to efficiently and effectively operate the SIS and multiple other general office applications simultaneously?
3. Is the application supported in a multi-platform environment? Indicate operating systems supported (i.e. OS9X, OS10X, Novell, Windows OS, Linux).

## School Interoperability Framework (SIF)

The Schools Interoperability Framework is an industry initiative to develop a specification for ensuring that K-12 instructional and administrative software applications can share information seamlessly. Please refer to <http://www.sifinfo.org> for more details about SIF.

1. Is your firm registered as a SIF endorser or participant? If yes, please indicate the SIF working groups you are participating in and how long you have been involved in each working group.
2. Have you built a working SIF agent for the SIS system? If so, what SIF objects does it support?
3. What Zone Integration Server (ZIS) are you proposing SCUSD use with this SIS system? Have the costs been included in this proposal? If not, why not?
4. Are you proposing that for this project, SIF will be the mechanism put in place to interface the student information system with our external systems?

**Software Implementation Tools**

1. What software tools are provided to assist with the implementation process (interface development, testing, data conversion, application customizing/extending, fit analysis, etc.)?

## Batch Processing

1. Which processes in the system are run in batch and who initiates or schedules them?
2. If this is a distributed system, is there a nightly data consolidation process that should be run at night to obtain a county-wide, district-wide consolidated data repository? How long would this process take for all districts?
3. What system processes must be performed when all on-line users are off the system?
4. Does the system have a mechanism to lock out on-line users from the system? Does it keep users from logging in or does it allow the system administrator to “bump them out” of the system? Describe how this works and what kind of messages can inform the user of what is about to happen.
5. Can any long-running online processes be run in background or in batch at the user’s discretion?
6. Can the system be configured dynamically to direct long-running processes to an alternate server to alleviate impact on other processes?
7. Do the users get notification back if a background process (e.g., a report or a process) which they initiated fails?

## Printing

1. Can all documents, reports and screens be printed? If so, are any external utilities/drivers required on the client workstation?
2. Are special forms required for any documents, reports or screens within the system, or can all documents, reports or screens be printed on plain paper?
3. Does your system include an integrated report writer, or is there a third party report writer included?
4. What are the requirements for using a third party report writer with your SIS?
5. Can your system produce reports in a centralized as well as a local printing environment? SCUSD has the need for both. Describe how your system would function in a centralized printing environment. If not supported, describe how you would implement centralized printing.
6. Does the System have print management that allows queuing of reports, routing to a selected printer on demand, reprioritizing the order of reports, etc.? Does the print management save a copy of the report in case it needs to be reprinted?

**Response Times & Performance**

*The following performance questions should be answered by vendors for the specific hardware, operating system, database and software solution recommended by vendor for the number of projected users at SCUSD.*

1. Are response times for all on-line transactions for WAN networked connections 1.5 seconds or less 95% of the time?
2. Define your strategy for preventing reporting processes from impacting transactional processes.

**Backup and Recovery**  
*For each of the following questions, differentiate between backup and recovery features of the database management system and other system components.*

1. What is the recommended method of backing up the database?

* Are users typically locked out of the application during backup?
* Can internal system backups be automated?

1. Can all batch processes, that perform updates, be restarted? If restarting requires special procedures, are those procedures documented?
2. Is your system customer installable, including all fixes and patches? We perform disaster recovery tests twice a year. Would we be able to get the application running, from scratch, within an 8 to 16 hour time frame?

**Phone Machine Compatibility**

1. Do you interface with any auto-dial phone systems to provide an integrated solution for out-bound parent notification regarding attendance or other school issues? If so, please provide information about the phone system vendors certified to work with the student information system.
2. Do you interface with any Interactive Voice Response (IVR) phone systems to provide in-bound solutions for either providing SIS information to students/parents via the phone, or collect information from the caller for use in the SIS system (e.g. collecting course requests)? Please provide details.

**Technical Support**

1. Does the vendor provide a "hotline" or "help desk" to assist users with system problems? If so, what days and hours (Pacific Time please) is this available?
2. Do you have a multi-tiered support system?
3. Does the help desk provide both application help as well as technical support?
4. How many vendor staff people provide technical support and what is the experience level and skill sets of your help desk and technical support staff?
5. How many SCUSD people will have direct access to vendor technical support?
6. Does the vendor provide remote programming and operations support to diagnose and correct system problems? If so, what method is used (e.g., dial, Internet, etc.)?
7. How quickly will we get a fix to a bug or problem that is causing production problems for our users?

**Technical Documentation**

1. Does the system have complete technical documentation (including systems and operations manuals) for the exact hardware/software that is being initially proposed?

* Will updates of data dictionaries and entity-relationship diagrams be provided with system upgrades? Are they easily available on-line within the system?

1. Does the system have complete end user documentation for the exact vanilla system that is being initially proposed?

## Upgrade Releases and Patches

1. What are your current release number and the date of the release? When is your next product release or update scheduled?
2. What is the current development cycle (time between upgrades)?
3. Describe the upgrade process and any tools provided to assist with upgrading the application software to a new version or release.
4. Describe any tools to help identify all system customizations and aid with upgrading these as part of the overall system upgrades.
5. How long does it typically take to upgrade the product to a new major release of the software, assuming a small amount of customizations have been put in place? For a minor upgrade?
6. When and how are fixes and/or patches released? Describe how they are installed. Can patches and/or fixes be consolidated, so a single update can be performed to install all patches and/or fixes, incase the system needs to be reinstalled? Do end users have the ability to accept or reject fixes and/or patches?
7. How are upgrades and patches distributed? On what media?
8. What is the testing process used by the vendor to ensure new releases and patches do not introduce new bugs or problems? Do you use an automated testing tool? If so, which one?

**SIS User Group & Enhancement Request Process**

1. What is the mechanism for customers to provide input for enhancements to future releases?
2. How does your company support national and local user groups for your SIS? How often and where do they meet?

1. Do the user groups have input into product development and enhancements for future releases?
2. Describe any mechanisms that are in place to give customers visibility to all enhancement requests and bug fix requests and the priority and schedule for completion?
3. Does the company prioritize input from user groups for enhancements over individual school district requests?
4. Is there an online customer discussion group for customers to share ideas on how best to use the system and/or work-around to any issues they are experiencing with the system.

**Future Technology Direction**

1. What percentage of revenues does the software vendor spend on research and development (R&D) annually?
2. How many technical staff are assigned full-time to R&D related directly to the SIS product?
3. What are some technology improvements to the system application we might expect to see in 3-5 years?
4. What is the software vendor’s support policy? How many versions of the application system are supported?
5. What strategic initiatives are currently underway in the vendor’s company?