

As a public safety solutions provider, Total Computer Group has found that one of the most common challenges associated with preparing proposals in response to software solution RFP's is based on adequately scoping and pricing professional services engagements, which are generally very specific to a particular customer, always highly important to the success of the project, and in many cases significantly under-defined.

These deliverables will typically fall into two categories:

1. software interfaces for the dynamic exchange of data with various external systems and
2. migration of historical data from legacy systems being replaced or integrated into the new environment.

Although agency-provided interface and migration requirements are usually quite specific as to their functionality and purpose, they seldom contain a level of detail sufficient to allow the provider to adequately estimate the scope of effort required to meet the customer's expectations.

Most RFP's will contain, at a minimum, the name of the respective application, it's basic purpose, the name of the provider and/or developer who supplied it and a few general attributes of the technology, such as database, operating system, hardware platform and/or network topology. In some cases, the requirements will also contain some reference to the types of records to be queried, accessed or migrated, such as "incident reports," or "master person records." Very rarely however, do they contain the necessary details of these records, including examples of raw data, schemas or data dictionaries.

From a provider perspective, the more information an agency can provide for these systems and target data, the more comprehensively and accurately engineers will be able to respond to the requirements. Unfortunately, less detailed technical specifications generally translate to a higher risk for the provider. Higher risk will usually translate to a higher quoted price in order to mitigate that risk, even though the actual effort required may end up being less than the provider had quoted. Conversely, some providers may also be inclined to underestimate the effort in order to affect a more competitive price, citing lack of sufficient information as justification for additional costs later, *after* winning the business. In both of these scenarios, the delivery of professional services is likely to undermine the success of the project, either through the erosion of trust between the parties, the perception of iniquity of the provider, or both.

In order to ensure the best possible chance of success in the delivery of the most complex aspects of the project, it is highly recommended that the agency spend at least as much time analyzing and documenting interface and data migration requirements, as it does capturing the various business practices and workflow throughout the organization. Whenever a software interface or data migration effort is required, an associated appendix should accompany any functional requirements for that system as addressed in the RFP. Each appendix should ideally include every possible detail surrounding the customer's expectations for integration, either via a software interface, or data migration effort.

Recommended items to be considered would include:

### **General descriptive elements**

- System name, conventions and any associated terminology or acronyms.
- Current version of software installed.
- General purpose of the application.
- Provider and/or developer responsible for the initial delivery.
- Current legal relationship with above, including warranties or maintenance agreements.
- Availability and access to database, source code, and/or technical documentation.
- Time in service of application.
- Number of named, average concurrent and peak users.

### **Architectural details of the target system**

- Operating system name, version, patches and or service packs applied.
- Database name, version, patches and/or service packs applied.
- Basic architecture (client/server, n-tier, web based, etc) with component descriptions.
- Hardware type, models, provider and detailed configuration information.
- Networking topology and available throughput.
- Communications protocols supported.
- Messaging protocols or Application Programming Interfaces (API's).

### **Technical details of the target data**

- List of modules and/or entity records required for interface or migration.
- Number of total current records for each module or entity type.
- Average number of new records added annually for each module or entity type.
- Name and number of fields expected to be addressed.
- Relational structure, diagrams or schema depicting all respective data elements and keys.
- Data dictionary including all metadata for each effected field/table.
- Sample live or 'dummy' data in the format and file type expected to be provided.

In addition to the details of the target systems as suggested above, other items regarding the actual scope of the engagement should also be considered prior to finalizing these requirements. Before an agency decides that historical or legacy data should be made available in the new live environment, several questions should first be contemplated:

- What will the total cost of retaining/accessing this data be, in relation to its value?
- What is the level of integrity of the source data in terms of the GIGO (garbage in-garbage out) principle?
- How much duplication exists in the source data?
- How realistic is the expectation that records can be 'scrubbed' or merged programmatically?
- How normalized is the existing data structure to support referential integrity?
- How much dependence is there on the 'outbound' provider relative to current relationships and impending circumstances surrounding their replacement?

- What is the agency's level of technical capability and willingness to assist in extract, transform & load (ETL) processes to provide data in an easily accessible format?
- What does the agency consider reasonable in terms of number of hours and cost to deliver the integration/migration component?

Total Computer Group believes that any successful project should always seek the path *of least resistance* when it comes to identifying and mitigating risk. In most cases, if all involved parties are aware of, and have a cohesive strategy to deal with known hurdles before they occur, the ability to quickly and efficiently dispense with them is improved significantly. In this case, this paper simply serves to share suggestions, from a provider's experience and perspective that will help public safety agencies to *clear their paths* and ensure the success of their projects.