

Small and Medium sized enterprises (SMEs) typically do not run their business on enterprise-grade, expensive software. They use paper, Excel spreadsheets, Access databases, QuickBooks and other off-the-shelf accounting packages, as well as, industry specific and internally developed legacy applications. SMEs are often price sensitive and are not willing to completely replace the investment they've made in their existing back-office systems or pay someone to help them re-engineer their business processes. They expect solutions to work with their existing back-office systems with minimum expense and effort for integration.

In order to address that need, TrueContext mExperience supports four types of integration with back-end systems to provide a solution for every business need and budget. The four types of integration have increasing functionality and complexity and can be viewed as sequential levels:

### **Level 1: Viewable electronic forms**

TrueContext is the first company to provide mobile electronic forms that replace paper and can be used in your business out-of-the-box. This is achieved via a mobile forms hosted solutions which can transmit and receive electronic forms to and from your mobile workers on virtually any type of mobile device – be it a PC, laptop, PDA or Smartphone.

The ability for any authorized user to interact with mobile forms on their device at any time leads to improved worker productivity and tangible savings. One way this is achieved is by having known fields, such as client name and address, pre-filled, which allows mobile workers to complete the forms faster. mExperience also enables the workers to transmit completed forms from the field, thus eliminating time delays and costs associated with having to fax, courier, or drive to the office to drop off paperwork. Finally, workplace productivity is boosted by the fact that data is entered and validated into the system directly by the mobile worker, choosing from pre-defined drop down lists and selection boxes with little or no typing required. Errors associated with re-keying of forms by data entry clerks in the office are eliminated. Data entry clerks can be re-assigned within the organization in order to help generate additional revenue.

### **Level 2: Reports/printing**

The next level is the ability to save electronic forms as common file types such as HTML, Word, Excel and PDF. With minimal effort a standard form template that mimics traditional paper forms can be created in any of the popular office productivity applications. Then with a few mouse clicks anybody using an electronic form can save form data as a separate file. This file can then be printed in order to create a physical paper copy of the form, emailed to anybody who needs to see it or added to an electronic archive according to company policies or integrated into office documents, spreadsheets and even presentations for further analysis and communication.

### **Level 3: Interchange format for import/export to back-end systems**

The third level of integration involves using common interchange file formats such as XML and CSV in order to manually export data from mExperience by saving it as a separate XML/CSV file and then importing it into back-end applications, such as databases, accounting, trouble ticket, payroll or inventory management systems. Most common off the shelf applications and industry-specific back-end systems support some level of importing/exporting data in CSV or XML format.

### **Level 4: Direct connectors**

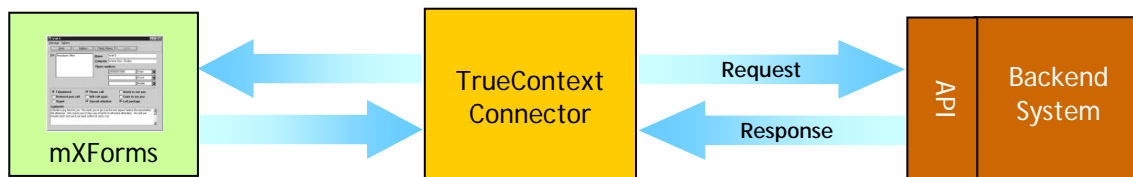
The fourth level involves robust and automated connectors, which provide a more seamless integration to back-end systems. These connectors have the ability to automatically exchange data between mobile forms on devices and back-end systems back-end.

Examples of generic technology or "horizontal" direct connectors include relational databases (Access, SQL Server, Oracle, MySQL, etc.), Web Services, 3rd Party APIs, Email/SMS and Printers. TrueContext has also developed a number of specific connectors for Independent Software Vendor (ISVs) or "vertical" back-end systems including, but not limited to:

- Gary Jonas (HVAC and Construction software)
- Microsoft Excel, Access, SharePoint and SQL Server
- Microsoft Business Solutions (Dynamics) – CRM and Solomon
- Data-Basics (Field-service software)
- QuickBooks (Accounting software)

Direct connectors usually involve bi-directional data interchange (see Diagram 1). For example, when a user has filled out and submitted a mobile form using the TrueContext mXForm Client, the connector will take the data from the form such as description of work performed, hours worked and parts used, and update the back-end system with the information. In fact, dispatching partially completed forms to the mobile worker is achieved by passing data from the back-end system to the mobile device. Form data such as drop down menus that appear on the form (to look up things like part numbers, etc.) are also extracted from the back-end system. The ability to pick the right part number from the drop-down menu makes the job of the field worker easier, eliminating errors from manual data entry while speeding the completion of form filling.

**Diagram 1: Bi-directional connector**



TrueContext has a Connector framework that makes it possible to create a connector for any type of back-end system. The effort required varies depending on the complexity of the back-end system API, and the complexity of the forms application that is being created. With the systems for which connectors already exist, there is no additional effort required. For applications requiring new connector development, the process typically takes 2 to 4 weeks.

In summary, TrueContext mExperience offers four levels of increasing complete integration with back-end systems. First, it offers an out-of-the-box electronic form viewing capability, which boosts workplace productivity and leads to tangible savings. Second, form data can be exported to common file types such as HTML, Word, Excel and PDF in order to be printed, emailed or archived. Third, mExperience has the ability to export data via XML or CSV files, which can then be manually imported in the back-office applications. Finally, direct connectors, which allow data to be automatically transferred from mExperience to back-end systems can be developed. Even at this stage flexible choices are available ranging from simple automated scripts and processes, to APIs and tighter web-services types of integration. TrueContext has already built horizontal and vertical connectors to a number of common applications and also has the capability to build custom connectors for companies that have special requirements in a relatively short time by using the TrueContext connector framework.