

# Accessible FormNet: Simplifying the Customer Experience

**A Madison Advisors White Paper**

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## EXECUTIVE SUMMARY

Organizations today are challenged to find new ways to attract and retain customers. In an increasingly electronic world, dissatisfied or fickle customers can quickly and easily switch service providers. Organizations burdened by inflexible data collection tools are unable to automate and simplify customer interactions, triggering customer churn and turning away potential customers with unfriendly interfaces. In addition, customers require human intervention when the automated systems offer limited options or lack the flexibility to adequately communicate with the customer. This results in a higher call center call volume or loss of potential new customers that are unwilling to participate in a difficult data collection process.

Intercon Associates' Accessible FormNet solution is an electronic forms and data collection tool designed to greatly simplify customer interactions with an organization. The solution electronically presents information both visually and verbally, making the data request, presentation, and collection process accessible to all types of users. Using non-proprietary standards for both document presentation and data collection, Accessible FormNet integrates easily into corporate IT environments. The solution loosely couples document presentation and data, so either of these components can be updated without re-engineering applications or business processes.

Intercon Associates commissioned Madison Advisors to conduct an independent analysis of Accessible FormNet 3.0. Madison Advisors is an advisory firm that helps organizations advance their print and electronic communications strategies and solutions. Madison Advisors specializes in offering context-specific guidance for a range of content delivery strategies, particularly those addressing enterprise output technologies and customer communications.

Overall we found Accessible FormNet to be a compelling solution for interactive, authenticated data collection from all types of customers. The application presents forms visually and verbally and guides customers through the data collection process with instructions and extensive help tools. Customers can save work-in-process forms and restart from where they left off or go back and make changes to the data previously entered. Completed forms are then routed via e-mail, stored locally, or saved to a network directory.

The remainder of this paper reviews Accessible FormNet in terms of the unique business problems that it helps solve. It includes an up-close review of the product, as well as discussion of the strategic benefits that the offering delivers.

## CUSTOMER ACQUISITION AND RETENTION

In today's highly customer-centric business culture, customers have myriad product and service offerings to choose from. Often the trick to attracting a new customer is the simplicity of the initial on-line "enrollment" process. Specifically, the initial interaction that a perspective customer has with an organization must be simple and painless in order for the customer to complete the process and engage with an organization.

For services ranging from on-line membership forms to loan applications, electronic forms are a common tool for gathering basic customer data. Electronic forms must be accessible to all potential customers, including the blind, visually-impaired, or those with technical limitations. Furthermore, to be an effective tool for attracting customers, forms must be easy to use, and they must provide adequate instructions in order for customers to understand how to complete the form.

Once a customer has been acquired, an organization needs to maintain a high level of service to retain the customer. The organization must provide multiple, easy-to-use channels for customer interaction, so that the customer is not restricted by lack of access. Telephone and web-based customer service interactions must be equally responsive and able to address the customer's specific concern to eliminate frustration, which leads to customer churn. In addition, the more effective the automated data collection tool, the lower the burden cost on the organization for each interaction with its customers.

If during an interaction, the customer does not have all of the required information, the data collection tool and supporting process should allow the customer to save his or her work, retrieve the information at his or her convenience, and return to the process where he or she left off. Data collected thus far in the process should be saved as work-in-process data.

Once an interaction is complete, organizations need a straightforward method for sharing customer information with several applications. Unfortunately, in most cases, organizations' existing applications do not separate the data from the data collection method. Because of this, organizations end up with data silos, and the same data must be re-keyed multiple times or it cannot be shared across multiple applications. In addition, changes to the data collection process often require reformatting the data or re-building the data collection interface, because the data is not portable. Clearly, organizations need to overcome these challenges to better service their customers and to reduce the overall cost of data collection and maintenance.

## ACCESSIBLE FORMNET ENABLES EASY CUSTOMER INTERACTION

Accessible FormNet allows a wide range of customers to interact with organizations using electronic forms and enables accurate data collection. Both sighted and blind or visually-impaired customers use the same product interface to complete electronic forms. The product's flexible help system guides a user through the data collection process by asking questions of the user. The user's response determines the process flow, which minimizes confusion and shortens the overall process by eliminating unnecessary queries.

### SAVING TIME AND MONEY

In 2004, The United States General Services Administration (GSA) implemented Accessible FormNet throughout the department to reduce the paperwork burden on the GSA and the general public. Today, businesses and individuals interacting with GSA use over 140 publicly available forms created in Accessible FormNet.

According to GSA, the use of these electronic forms saved taxpayers \$274.4 million and 5.1 million hours of effort in 2004. These savings were achieved through electronic form distribution, elimination of print and mail costs, and electronic processing of the data collected.

Accessible FormNet is used by customers to complete electronic forms off-line (the conditional logic and help system are encapsulated and distributed with the form itself) or by customer service representatives to collect data from customers interactively over the phone. In either case, the data can be saved as a work-in-process and the data collection process can be restarted later at the same point where the user left off. Work-in-process data files can be stored locally on a customer's computer or saved to a network storage device.

Accessible FormNet stores data in an XML format using the hierarchical document type definition (DTD) structure assigned to the electronic form. The product uses the same data tags across multiple DTDs, which allows data sharing among forms and enables organizations to easily share the data with back-office and line of business applications.

Accessible FormNet uses TIFF images as the templates for all electronic forms. The product converts form designs from other applications into TIFF images and does not require existing forms to be redesigned within the product.

With Accessible FormNet, the form's presentation is independent of the data that is being collected. Because of this, organizations are able to make changes to the data collection process, update the electronic form's TIFF image, or import the data into additional applications without making any changes to the DTD structure.

## AN UP-CLOSE LOOK AT ACCESSIBLE FORMNET 3.0

This section reviews Intercon Associates and Accessible FormNet 3.0.

<b>Headquarters</b>	Rochester, NY	<b>Public Company?</b>	Private
<b>Employees</b>	15	<b>Revenues</b>	N/A
<b>Company Overview</b>	Intercon Associates develops software to automate the collection and processing of data for electronic forms, pharmacy labeling systems, and barcode applications. The software enables platform and printer independence by using standard data and image formats.		
<b>Product Focus</b>	Accessible FormNet allows organizations to make their electronic forms accessible to all customers, including those with visual impairments, via the Internet. The product's help scripts guide users through the data collection process and skip unnecessary steps based on the data provided by the user.		
<b>Key Strengths</b>	<ul style="list-style-type: none"> <li>▪ A single software interface is accessible to and usable by sighted, visually-impaired, and technically limited users</li> <li>▪ Variables and conditional logic scripts control the data capture process, streamlining and simplifying the overall process</li> <li>▪ Data and design are independent of one another, allowing either to be updated without extensive programming</li> </ul>		
<b>Areas of Caution</b>	<ul style="list-style-type: none"> <li>▪ Workflow routing requires custom coding during implementation</li> <li>▪ Software for Windows PC only</li> </ul>		

### PRODUCT ARCHITECTURE

Accessible FormNet is a modular solution that runs in Windows environments. It includes four main components, a client module called Filler, a form creation module called Creator, a web-based forms routing engine called Workflow, and a Windows print driver called Print To TIFF.

The Accessible FormNet Filler client supports the Windows desktop operating system from Windows 95 to Windows XP Pro. Windows Internet Explorer 4.0 or higher is also required to re-load XML data into a form. The Filler client stores all data in a separate XML file. For visually impaired users, the Filler client automatically detects the presence of a screen reader application and runs in visual or verbal mode as needed. Forms are backward and forward compatible with different versions of the Filler client.

The Accessible FormNet Creator module is used to create the form fields, conditional logic, and help scripts, and also supports the Windows desktop operating system. The Creator module encapsulates the TIFF images, rules, and scripts into a single, encrypted file, which is accessed by the Filler clients for data collection.

The Workflow engine uses a web server running Microsoft IIS and SQL Server. The product is developed in .NET and uses web services to link the Filler client to the workflow engine.

Finally, the product's Print To TIFF print driver converts output from any Windows desktop application into an uncompressed Huffman, PackBits, or Group 4 compressed TIFF image, which can be used as the template for data collection.

## FUNCTIONAL OVERVIEW

With Accessible FormNet, forms creation starts by importing any TIFF image to use as the template. The Creator module auto-detects some field locations based on the position of lines and boxes in the template. Designers adjust these data fields or draw and align new data fields on the template, then set the order in which fields are to be filled. They can further define data fields as required, e.g. locked, hidden, or speech only. To aide accurate data collection, designers can also apply drop down lists, case conversion, input masks and validation rules. Designers also divide templates into sections, which allows customers or the conditional logic to skip areas of the form and move to the next section, based on the data. Once all of the data fields have been identified, the designer selects a DTD for the data layout.

Designers add conditional logic to data fields, which use the data entered to control the process flow within the form. Boolean operations and mathematical formulas, including exponents, determine values for calculated data fields. Conditional logic statements and nested variables control the data collection process.

Data can be re-used throughout the form, so users only need to enter it once. Personal data is encrypted and stored locally on the customer's PC to pre-fill other forms. Incomplete required data fields do not stop the customer from moving on and completing other sections of the form, but the form cannot be signed unless all required data fields are filled. If all fields are variable, the Filler module presents the customer only with prompts and the customer does not need to move between fields.

In the Accessible FormNet Creator module, designers create multi-tiered help scripts to provide guidance to the user that is filling out the form. All of the help scripts are presented visually or verbally, depending on the Filler client settings. For each data field, designers write a prompt, which is presented when the customer moves to that data field. Designers may also write additional text and allow the users to choose whether or not it is presented. This feature allows novice or first-time users to learn more about the form, while experienced users can skip the explanatory material. Help scripts are also triggered at the beginning and end of each form and each page.

Once a form is completed, it can be signed digitally, and multiple levels of signatures can be used within a single form. Signatures are created using digital certificates or locally stored image files. Once applied, a signature field locks all previously filled fields that are associated with that signature level.

For ease of use, users can save the data at any point in the process and reload the file at a later time to restart the process. When the process is complete, users can print or e-mail the filled form or just the data to the organization for processing.

If the user is an operator collecting data interactively from a client over the phone, the operator can save the data to a networked directory for use with other applications. Accessible FormNet's help system assists call center operators and reduces the cost of training a new operator.

When workflow is required, Intercon sells and supports a web-based workflow solution from Auragen. Organizations can install this solution on their networks or it can be hosted by Auragen. When the Workflow component is included with the solution, designers embed routing information into the form and then publish the form to a server. Users or operators complete the form normally and submit the completed form to the workflow server for routing.

## KEY DIFFERENTIATORS

Accessible FormNet allows organizations to extend applications to new customers. The Filler module runs locally without a database and does not require a server or Internet connection to function, reducing the software requirements and associated costs. In addition, the Filler module automatically detects the use of screen reader software and switches to a verbal mode, eliminating the need for special software versions for the blind or visually-impaired.

Applications developed using Accessible FormNet are very easy for customers to use. The help system and conditional logic guide customers through the data collection process with prompts, detailed instructions, and the ability to skip unnecessary sections of a form. The figure below shows the Accessible FormNet Filler module prompting the user for specific data elements, which are mapped throughout the form.

Prompt	Data
Originator Employer Name	Intercon Associates Inc.
Originator Social Security Number	123-45-6789
Originator Name (first, middle initial and last)	
Originator Daytime Phone Number - Area Code	
Originator Daytime Phone Number - First 3 Digits	
Originator Daytime Phone Number - Remaining Digits (and optional extension)	
Originator Home Address - Number and Street	
Originator Home Address - City	
Originator Home Address - State	
Originator Home Address - Zip Code	
Item 1: Date of Service	
Item 1: Family Member	
Item 1: Provider Name and Description of Service	

Figure 1: Accessible FormNet Visual Filler

Organizations using Accessible FormNet benefit from the open standards used throughout the system. Organizations are able to scan existing paper forms or “print” electronic forms designed in other systems as a TIFF image. Accessible FormNet then uses the TIFF image as the form template and does not require a form to be re-designed from scratch in a proprietary design tool, which saves several hours per form. This is a significant savings, considering that most organizations have thousands of forms on average.

Finally, organizations are able to parse the XML data collected from customers and feed the data into existing corporate systems without writing custom integrations or implementing enterprise application integration (EAI) solutions. Because the data is separate from the form presentation, the data is easily accessible for processing.

## IN SUMMARY

Electronic forms offer significant cost and time savings over paper forms in the immediacy of access to an electronic document, the electronic delivery of data, and the back-office processing of electronic data versus manual re-keying and data entry. However, electronic forms that lack flexibility or do not clearly present options are intimidating and confusing to many users.

Accessible FormNet is unique in its approach to blending customer access and ease of use with simple enterprise implementation. The solution's flexible help system and conditional logic make the forms easy to use for customers. Furthermore, the solution's reliance on TIFF image templates and XML datasets make it easy to implement throughout an organization.

The product's multi-tiered help system assists customers, who are otherwise intimidated by forms. The software automatically guides customers through the data collection process, providing detailed assistance for novice users and allowing experienced users to skip directly to data entry.

Because Accessible FormNet maintains the forms' presentation independent of the data that is being collected, updates and modifications to the application do not require extensive programming. Organizations are able to update the electronic form application without making changes to the DTD data structure. In addition, since the Filler module is backwards and forwards compatible, customers are not forced to download new versions of the Filler module to use new forms.

With its sophisticated ability to address the needs of both the sighted and visually impaired, Madison Advisors believes that Accessible FormNet is an excellent distributed data collection solution for large organizations supporting a diverse user community or call center operation. Accessible FormNet also reduces an organization's back-office data processing costs for customer acquisition through automated data collection processes, as well as simplified processes to collect the right data the first time.

## ABOUT MADISON ADVISORS

Madison Advisors exists to advance the print and electronic communications objectives of Fortune 1000 companies. Madison Advisors specializes in offering context-specific guidance for a range of content delivery strategies, particularly those addressing enterprise output technologies and customer communications.

Madison Advisors offers services and expertise primarily through short-term, high-impact consulting services. With no-nonsense, quick engagements (measurable in days or weeks, not months), Madison Advisors directly helps our clients achieve very hard and specific return on investment (ROI) related to their print and electronic communications initiatives.

Madison Advisors' analysts are dedicated to technology and market research that is delivered through short-term project engagements as well as articles, publications, and presentations. We specialize in customer communication technologies including enterprise output management, content management, customer relationship management, e-billing, and infrastructure technology.

For more information about Madison Advisors, visit our web site – [www.Madison-Advisors.com](http://www.Madison-Advisors.com).