Build your application better, smarter, faster

Using xRM to Accelerate Application Development
TABLE OF CONTENTS

EXECUTIVE SUMMARY .................................................................................................................. 3
INTRODUCTION ............................................................................................................................. 5
BUY OR BUILD? ............................................................................................................................. 7
GET THE BEST OF BOTH WORLDS .............................................................................................. 9
XRM EXTENDS CRM CAPABILITIES ............................................................................................. 10
SYSTEM ARCHITECTURE ............................................................................................................... 12
XRM SHIFTS “MAKE OR BUY” PARADIGM ................................................................................. 13
XRM APPLICATION OVERVIEW ................................................................................................. 14
TANGIBLE RESULTS, LOWER COSTS, HIGHER PRODUCTIVITY .................................................. 15
CASE STUDY: GLOBAL COMPANY STREAMLINES FIELD SERVICE .............................................. 17
EASY FOR MANAGERS. EASY FOR USERS. ................................................................................. 18
THE SWIFTEST WIN THE RACE .................................................................................................. 20
EXECUTIVE SUMMARY

Situation

NEW REALITIES OF BUSINESS TODAY

Today's businesses are learning to adjust to new economic, regulatory and social realities that are quickly transforming the industry. To balance risk and cost, companies need applications that can document, track and manage enormous volumes of sensitive information that is critical to product lifecycle management, health and safety, customer / dealer relations, asset management, operations management and other key business functions. All too often, companies invest in point solutions that quickly turn into bottlenecks and show diminishing returns.

Challenge

MAXIMIZING APPLICATION PERFORMANCE, MINIMIZING EXPENSE

To deliver highly specialized industry-specific capabilities, companies typically must build custom line of business (LOB) applications or buy targeted point solutions off the shelf. The build or buy decision hinges on hard choices between capabilities, budget and delivery time. Building a custom application in-house might be more expensive up front, but developers are able to produce an application that closely fits the company's business needs. Buying a point solution to manage a specialized process is great – until your needs exceed the application's capabilities. Both approaches are subject to maintenance challenges, rising support costs, and difficulties keeping pace with technology innovations.challenges:

• Their enterprise systems were old, difficult to maintain, and very complex
• The amount of data to manage was massive
• Their resources to embark on this effort were extremely limited – especially the manufacturing engineers responsible for the data
FAST, FLEXIBLE, COST-EFFECTIVE APPLICATION DEVELOPMENT

Microsoft Dynamics xRM gives companies a flexible, cost effective rapid development platform to deliver mission-critical line of business (LOB) applications. xRM provides the capability to easily build enterprise ready, vertical-specific applications, using simple to complex data models. Just as important, xRM integrates with both legacy and current enterprise systems through an application programming interface (API).

Essentially, xRM is the application framework from which Microsoft Dynamics CRM is delivered. Dynamics CRM provides native functionality for sales and service operations; the xRM framework enables the extensibility to perform data and business process modeling. This allows businesses to quickly and easily develop rich applications, and just as quickly put them to work.

MEET TODAY’S BUSINESS NEEDS; ANTICIPATE TOMORROW’S

mcaConnect xRM Solutions offer the best of both the custom development and off the shelf application approaches. mcaConnect leverages xRM to deliver a hybrid approach that provides both industry specific, packaged xRM functionality and user-configurable capabilities. That means faster application delivery, more reusability, better business fit and lower total cost of ownership.
INTRODUCTION

NEW, NOW, NEXT; ADJUSTING TO THE “NEW NORMAL”


In this dynamic business environment, change is the only constant. To stay competitive and meet the new requirements for business, you have to address today’s evolving technology needs while anticipating what’s coming tomorrow.

If your company is operating in a complex industry, you probably have to document, track and manage high volumes of sensitive information critical to all aspects of the operation, like product lifecycle management, asset and equipment maintenance, health and safety compliance, dealer relations, regulatory compliance, and operations management. Navigating the maze of legal, environmental, public relations, technology and operational requirements forces many companies to buy and build all kinds of point applications to address specific industry or process needs. In fact, some global enterprises run and support hundreds of different software systems. Whether it’s a few dozen or several hundred, these systems can be cumbersome to integrate and maintain, opening the door to costly inefficiencies.

Rather than buying or building a “real” solution, organizations can easily get caught in the trap of using familiar tools to meet specific demands. It’s very tempting to just build input/output worksheets in Excel. In the past, IT professionals relied on tools like Lotus Notes to achieve fast development of business applications. These tools were great for the time. On the upside, using them involved little coding and allowed developers to quickly and easily build databases and forms. On the downside, scalability and extensibility were limited at best.

The bottom line: Agility is the key to driving margins and profits
So many point solutions to manage. So little reuse across lines of business. Forget about achieving economies of scale. And there's the never ending challenge of retaining skilled resources to master and manage these disparate solutions.

To drive margins and profits, companies need to be agile. They need to be responsive to today's needs and proactively adapt to where the market will turn next.

How can you get the functionality you need without throwing time and money down the drain? Where is the simple, cost effective software solution to meet specific, unique business needs?

**xRM Defined:**

The simple definition is: xRM is “extended” relationship management or “anything” relationship management.

Think of the “x” in xRM as signifying “the extension of CRM capabilities beyond customer relationship management. The “x” can represent almost any relationship – or data object – that a business needs to manage.

With xRM, businesses can manage suppliers, employees, partners, assets, knowledge bases, and more.
BUY OR BUILD?

COMMERCIAL APPLICATION OR CUSTOM DEVELOPMENT?

In the past, when you needed vertical-specific line of business (LOB) capabilities, you’d have to develop or purchase highly specialized applications to do the job. Faced with hard choices between capabilities, budget and delivery time, you’re often stuck between two problem-riddled approaches. Both approaches are subject to maintenance challenges and difficulties in keeping pace with technology innovations. Over time, performance degrades and the cost of supporting and maintaining these legacy applications increases.

Either choice – buying packaged solutions off the shelf or developing custom applications – presents its own unique set of challenges and benefits.

Buying an off-the-shelf solution to manage a specialized process is less expensive up front than building a custom application from the ground up, but may not have all the capabilities the company needs. So even if the purchased application natively provides 60% of the needed functionality and 80% once you configure it, you may never get the missing 20%.
Packaged solutions can be deployed quicker and more smoothly than custom software because they’re built by dedicated, highly specialized development teams, and extensively tested by both the developer and by other businesses. However, a purchased solution can’t deliver the same efficiency as custom software. And, commercial software can accrue high support and maintenance costs. Addressing technical issues can put you at the mercy of a vendor who controls the cost and level of service.

By contrast, building a custom application might be more expensive up front, but your in-house developers are able to produce an application that more closely fits the company’s business needs. When you build it yourself, you can meet initial specifications and start off with precisely the customization you need. You have greater control to address specific requirements that commercial products can’t.

But, your corporate development team may lack the expertise and resource depth to create more advanced capabilities the business needs as you grow and evolve. Updating the code could be more trouble than it’s worth and lead to bugs and glitches, or increase your reliance on outside consultants. Custom software also tends to lack scalability, and upgrades can be troublesome. Because the underlying and inter-dependent technology is constantly evolving, you may have difficulty adapting to new platforms in the future. While a custom application may work well initially, it can become defunct in a few years. Then once again, you’re forced to spend more money to develop new software, and the cycle continues.
GET THE BEST OF BOTH WORLDS

A proven solution is available today: It’s called xRM – short for “extended” CRM (customer relationship management). Essentially xRM is the application framework from which Microsoft Dynamics CRM is delivered. xRM offers a cost effective, flexible application development platform that integrates easily with both legacy and modern enterprise systems.

While CRM handles information and processes centered on the customer, xRM addresses data and processes centered around any set of related data objects. For oil and gas companies, “anything” might include capital assets, wells, equipment, employees, warranties, regulatory requirements and so on.

Dynamics CRM provides native functionality for sales, service and marketing operations. xRM provides the capability to manage any set of related data objects. Built on Microsoft .NET, xRM streamlines the development of software applications by commoditizing database modeling, data forms, workflows, business logic, mobile device access, security modeling, data analytics and more, allowing businesses to develop rich applications quickly and easily.

xRM Specs:

SOA – The xRM data and functionality are available to external applications and databases via web services that support open extensibility across any platform.

Based on .NET standard – Deliver many applications from a single platform; quickly and easily configure customized processes and forms without turning to custom development.

Natively links with Microsoft stack – xRM provides a familiar user experience that enables faster learning, user acceptance and user ability to make full use of new capabilities.

Mobile-ready – Give users easy access to application data on any mobile device, anywhere they happen to be. Deploy in the cloud or on premise – Choose the deployment option that makes the most sense for your business.
XRM EXTENDS CRM CAPABILITIES

The xRM platform provides an extensibility framework that allows organizations to accelerate the process of building object-oriented web applications. As data objects are configured, they automatically inherit native platform capabilities, such as secure role based access, workflow enablement, web services, and mobility.

Developers can programmatically extend and customize the platform and application experience with Microsoft .NET, using the Dynamics CRM Software Development Kit (SDK). The xRM platform offers point and click configurability, data modeling, and business process modeling.

Here’s how the XRM platform extends the underlying technologies of Dynamics CRM:

ACCESSIBILITY

xRM is built on a Service Oriented Architecture (SOA). The xRM data and functionality are available to external applications and databases via web services that support open extensibility across any platform. The Data Services layer can be accessed via RESTful (REpresentational State Transfer) or SOAP (Simple Object Access Protocol) by multiple service consumers. xRM data and functionality are available to external applications via web services that support extensibility across any platform.

SECURE, SCALABLE DATA

xRM leverages the Microsoft SQL Server database platform. Security access to the data is built directly into the database layer. Authorization, authentication, data and functionality are provided via the SOA, continuously adhering to the security model set and controlled by the organization. The security model protects the platform from unauthorized access across the web.
EXTENSIBILITY, CONFIGURABILITY

Out-of-the-box configurability allows business users to define data models without accessing the database directly. Users can create simple or complex workflows within xRM using Windows Workflow Foundation. Developers can tap into the xRM engine to leverage the client and server event model, workflow foundation and integrations — extending the platform even further.

EASY INTEGRATION

xRM provides native integrations with Microsoft Office Suite (Outlook, Word, Excel and SharePoint). SOA enables xRM to integrate to and from any accessible database, whether the data source is simple or complex. Many enterprise middleware applications have data adapters for xRM, accelerating the development process. The application program interface (API) may be used to integrate with other SOA systems, and databases like SAP and Oracle.

FLEXIBLE DEPLOYMENT OPTIONS

The xRM platform supports several types of deployments with the power of choice: Online as a cloud service by Microsoft, on your own server (on premise), or a hosted deployment by a third party. On premise deployments have the option of exposing to the Internet (Internet Facing Deployment).
SYSTEM ARCHITECTURE

Microsoft Dynamics CRM, developed from the ground up on Microsoft .NET, offers extensibility with sophisticated data modeling, ultramodern UX creation, native mobility, security modeling, workflows, reporting and more.
XRM SHIFTS “MAKE OR BUY” PARADIGM

For today’s CIOs and IT directors, xRM provides a leading edge, enterprise capable application development tool that delivers scalability, extensibility and up to date accessibility.

xRM gives companies a flexible, agile platform to effectively address changing business needs, without turning to costly in-house application development or buying industry-specific, proprietary solutions.

xRM provides native capabilities today’s businesses cannot do without, like business intelligence (BI) and workflow. It helps you ensure that your application portfolio can keep pace with fast-moving technological innovations like social media, enterprise mobility, and big data. xRM is mobile-ready and can be deployed on premise or in the cloud.

Microsoft Unified Platform for Business

Just as important, xRM leverages the Microsoft stack. Built on a secure enterprise SQL Server available through SOA, xRM can instantly leverage the .NET platform and integrate with Outlook, SharePoint and more. Integration with other third-party systems is no problem.
XRM APPLICATION OVERVIEW

The advantage of an XRM application is that you take advantage of all the built-in security roles, relationship management, workflows, and integration points available from Microsoft Dynamics CRM.

mcaConnect customers are using xRM to manage field services, assets and equipment, laboratory operations, stakeholder relations, health and safety, and much more.

<table>
<thead>
<tr>
<th>Native Application Functionality</th>
<th>Platform Capabilities</th>
<th>Accessibility Options</th>
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<tbody>
<tr>
<td>• Customer Management</td>
<td>• Mobility</td>
<td>Web</td>
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<tr>
<td>• Contact Management</td>
<td>• Business Process Management</td>
<td>Email</td>
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<tr>
<td>• Activity Management</td>
<td>• Business Intelligence</td>
<td>Mobile</td>
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<tr>
<td>• Service Management</td>
<td>• Outlook/Office/Lync Integration</td>
<td>Integrated Applications</td>
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<tr>
<td>- Service Contract</td>
<td>• Highly Configurable</td>
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<tr>
<td>- Resource &amp; Equip Management</td>
<td>• Data Model Extensibility</td>
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<tr>
<td>- Job &amp; Resource Scheduling</td>
<td>• Role Based Security</td>
<td></td>
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<tr>
<td>- Rules &amp; Calendaring</td>
<td>• Auditing</td>
<td></td>
</tr>
<tr>
<td>- Service Activities</td>
<td>• Solution Deployment</td>
<td></td>
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<tr>
<td>• Issue/Case Management</td>
<td>• Scalability</td>
<td></td>
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<tr>
<td>• Reporting, Dashboarding, KPIs</td>
<td>• Data Cleaning</td>
<td></td>
</tr>
<tr>
<td>- Sales Operations Management</td>
<td>• Upgrades/Including extensions</td>
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<tr>
<td>- Opportunity Management</td>
<td>• Multi-Tenant, Language, Currency</td>
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<tr>
<td>• Quote &amp; Order Management</td>
<td>• Comprehensive Web Services/APIs</td>
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.NET Platform and SQL Server
TANGIBLE RESULTS, LOWER COSTS, HIGHER PRODUCTIVITY

xRM delivers a practical solution that extends your ability to drive down costs, improve efficiencies, increase operating margins and build competitive advantage. Modern applications easily integrate with each other and exchange data using contemporary methods like web services — older legacy applications can’t do that. While most modern ERP applications do provide this, some make it easier than others. Because xRM uses a SOA approach, that’s not a problem.

Risk is minimized through the commoditization of the development process — little or no custom code is needed. Your technology stays evergreen and up to date because Microsoft is handling the upgrade of the application and all the standard, packaged configurations as well.

Only the input/output aspects of custom code need to be updated from version to version. This reduces reliance on external and internal developers and all the massive amounts of bug fixing that typically go with upgrading custom solutions.

xRM provides point and click configuration capabilities that allow savvy business analysts or other end users with the appropriate permissions to easily perform configurations that would otherwise require a developer. And when user interfaces or business logic require very unique capabilities, xRM is not limited in what can be configured; developers can build custom functions and user interfaces with .NET on top of xRM.

xRM puts advanced capabilities in the hands of the people — business analysts, field engineers, asset managers, HS&E professionals, CSR managers and PR specialists — who want and need these capabilities to do their jobs better and drive value for their companies. Enhance IT team and user productivity. xRM is accessible through numerous interfaces including web browsers, mobile apps, and Microsoft Outlook. The ultramodern user interface enables streamlined system interactions and provides an intuitive, process guided user experience.
Your users deal with a familiar, simple to use interface, making it convenient for them to capture and organize data, find what they need when they need it, and quickly put that information to work.

For any user of Microsoft Office productivity tools, sending emails and tracking appointments in Outlook is familiar and natural. Users can track emails, conference calls and meetings against any record being managed in the xRM system – such as sales opportunities, asset records, or work orders – directly from Outlook. This eliminates duplicate efforts like keeping folders in Outlook and forwarding messages to others that need access to the data.

The ability to leverage common tools like Microsoft Excel and Power BI to analyze real-time information stored in xRM, makes xRM-based business applications more effective in delivering business insights. OData queries, Excel and Power BI can be used to connect directly to the xRM data store, enabling powerful analytics without the need to write complex reports or build data cubes.
CASE STUDY: GLOBAL COMPANY STREAMLINES FIELD SERVICE

A global services company needed a solution to help the technical support desk deliver better service faster. The existing solution lacked the capability that engineering support personnel needed to address field support inquires and issues as quickly as possible, with the best resources currently available. A failed piece of equipment, a problematic software program, or any other unplanned maintenance event could too easily cause costly production delays.

The company turned to mcaConnect to build an xRM solution integrated with their SharePoint intranet site. The solution enables engineers and technicians in the office or in the field to create trouble tickets and get them resolved more quickly and effectively.

With the new system, a user in the field just outlines an issue via a form in the company’s SharePoint portal, and the information is immediately processed through the xRM application.

Based on the type of issue, resolution is automatically assigned to the appropriate case manager and subject matter experts across the business.

Steps to resolve the issue are identified and executed through both manual and automated processes. Once the matter is resolved, the case manager notifies the original requestor and then uses the system to transform the facts of the case into a “lessons learned”, FAQ or knowledge base document that can easily be found if the same issue arises again. The xRM application helps promote ongoing learning in the organization and continuous improvement in issue resolution. Users like the way the system boosts their effectiveness; company leadership likes the way it helps them contain costs and avoid delays from unplanned maintenance.
EASY FOR MANAGERS.
EASY FOR USERS.

Onsite, xRM helps users track any type of information associated with a job, such as equipment utilization rates, samples, and related service jobs. For time strapped land managers, xRM makes it faster and easier to handle incoming requests and manage trending, escalation and follow-up. xRM can link with specific ERP data (by vendor, venture and division of interest), and provide call center capability and contact management functionality that helps them be more productive.

xRM gives field services organizations elegant tools to run more effectively and efficiently. Schedulers need to be able to track crews and resources into the future, so they can avoid assigning too many in one area and not enough in another. Shared resource calendars, visibility into equipment failure trends and mobile and social capabilities that enable real time communication with resources in the field enable more efficient, effective utilization of resources.

Maintenance managers need access to historic maintenance records with dates, work orders, line items and notes. Mobility is key to help field teams reduce time per job and increase customer satisfaction. All of this helps the warehouse managers stock the right amount of the right inventory.

For your public relations professionals, the social connector allows them to listen to public opinion and recognize key influencers, identify stakeholders and even find key community meetings to attend in person when necessary. From the field to your facilities, xRM gives your compliance managers a unified communications interface, strong workflow capabilities, visibility into open issues, vendor management and document management and reporting. It all adds up to more positive outcomes and fewer fines or court costs.

These are just a few ways you can leverage xRM across divergent lines of business. All of these roles benefit not only from intuitive usability but also from embedded modern capabilities – like mobile access and social media – that enable more effective communication.
## With xRM you get

<table>
<thead>
<tr>
<th>With xRM you get</th>
<th>With xRM you can</th>
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<tbody>
<tr>
<td><strong>Broad core functionality</strong></td>
<td>• Build new applications on comprehensive core platform capabilities.</td>
</tr>
<tr>
<td></td>
<td>• Forget about needing third party bolt-ons.</td>
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<tr>
<td><strong>Point and click configuration</strong></td>
<td>• Extend existing modules and create new modules with simple point and click interface.</td>
</tr>
<tr>
<td></td>
<td>• Use declarative design for other key platform elements, like process automation, offline capability, and security.</td>
</tr>
<tr>
<td><strong>Reusable modules</strong></td>
<td>• Reuse and repackage and modules configured within xRM across LOBs.</td>
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<tr>
<td><strong>Ubiquitous mobility</strong></td>
<td>• Give users easy access to application data on any mobile device, anywhere they happen to be.</td>
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<tr>
<td><strong>Simplified support</strong></td>
<td>• Ramp up IT and support staff fast; xRM is built on core Microsoft technologies.</td>
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<tr>
<td><strong>Straightforward customization</strong></td>
<td>• Deliver leading edge services for highly customized environments; xRM is completely service oriented.</td>
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<tr>
<td><strong>Rapid delivery; fast time to value</strong></td>
<td>• Enjoy a proven rapid business application platform.</td>
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<tr>
<td></td>
<td>• Empower users and developers with a familiar user experience.</td>
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<tr>
<td></td>
<td>• Enable rapid delivery with declarative and visual design capabilities.</td>
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<tr>
<td><strong>Low total cost of ownership</strong></td>
<td>• Drive down TCO with reusable xRM modules.</td>
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<tr>
<td></td>
<td>• Leverage Microsoft’s investment in keeping platform functionality and system compatibility evergreen.</td>
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<tr>
<td><strong>Best business fit</strong></td>
<td>• Address your full range of business needs.</td>
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<tr>
<td></td>
<td>• Give LOB professionals the capabilities they need to succeed.</td>
</tr>
<tr>
<td></td>
<td>• Manage service delivery, public relations, HS&amp;E, regulatory compliance and more.</td>
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</table>
THE SWIFTEST WIN THE RACE

Today's energy industry is experiencing rates of change unseen since the early days. With change comes opportunity – but that means you have to be ready when opportunity knocks.

To survive and thrive, energy companies need the agility to respond to today's needs and anticipate where the industry is going next. Companies need to balance risk and cost.

Today more than ever, that requires having the right technology and software applications in place.

xRM – short for “extended” CRM – gives energy companies a better, more cost effective solution. xRM provides the capability to easily build enterprise ready applications that range from simple to complex data models.

An extensible solution based on Microsoft Dynamics CRM, xRM provides the capability to manage data types linked to non-customer relationships; data linked to assets and equipment, stakeholders and owners, operations, regulatory compliance and other key business functions and processes. Just as important, xRM integrates easily with both legacy and current enterprise systems.

Built on Microsoft .NET, xRM delivers sophisticated data modelling, ultra-modern UX creation, diverse accessibility options, security modelling, workflows and reporting. It’s fast and easy to create robust, vertically specific, line of business applications that would otherwise require thousands of hours of custom development. And, everything is easily accessible through numerous interfaces including web browsers, mobile apps, and Microsoft Outlook.

mcaConnect xRM Solutions offer the best of both the custom development and off-the-shelf application worlds. Our hybrid approach to xRM delivers targeted, industry specific packaged xRM functionality, reporting and data – as well as powerful user-configurable capabilities. mcaConnect customers are using xRM to manage field services, assets and equipment, laboratory operations, stakeholder relations, health and safety, and much more.
ABOUT THE AUTHORS

Will Moseley leads the sales and marketing teams at mcaConnect, and directs the company’s CRM practice. Moseley is a recognized thought leader in the CRM and xRM fields; his years of experience working with Oil & Gas enterprises have given him an excellent perspective on applying this technology to meet the industry’s unique needs.

Martin Heward leads the CRM solutions architecture team at mcaConnect; his team is responsible for innovating and architecting leading edge CRM and xRM solutions for Oil & Gas companies. Heward is a seasoned business analyst and software engineer with deep experience designing SOA solutions based on the Microsoft .NET framework for oil and gas companies.

ABOUT MCACONNECT

mcaConnect is a Global Systems Integrator and Microsoft Dynamics Partner (AX & CRM) that delivers and supports operational transformation to help customers achieve competitive advantage. By combining product and industry expertise with proven strategic alignment methods, mcaConnect is able to consistently deliver innovative solutions that help clients realize their vision, as evidenced by our repeated recognition from Microsoft and the millions of dollars we’ve helped customers add to their bottom line. In 2015, mcaConnect was named Microsoft Dynamics U.S. Manufacturing Partner of the Year, Microsoft Enterprise Resource Partner of the Year and was a finalist for the Microsoft Customer Relationship Management Partner of the Year.

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