

CELENT

2018 CRM SOLUTIONS FOR BANKING

A GLOBAL VENDOR SPECTRUM

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17 January 2018

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EXECUTIVE SUMMARY

Customer relationship management (CRM) systems are one of the components in many financial institutions' application maps. Although CRM solutions are not unique to one industry, they are still key technologies used to manage relationships with customers, whether customers are defined as financial services representatives, brokerage agents, or clients.

This report provides an overview of the CRM systems available for banks. The report profiles 11 solutions providing an overview of the functionality, customer base, lines of business supported, technology, implementation, pricing, and support.

As such, the report seeks to answer three key questions.

KEY RESEARCH QUESTIONS

- 1** *How have market conditions driven change throughout the CRM vendor landscape?*
- 2** *How do the CRM solutions compare?*
- 3** *What capabilities will CRMs be portraying in the near future?*

There are literally hundreds of CRM solutions available today from firms large and small, well-known, and obscure. This report is focused on enterprise solutions for organizations similar to most banks.

The vendors included are: Acidaes Solutions, Addaccion, Backstop, Big Brain Works, CRM Software, Digiterre, Ensynergy, Ivanti, Nexj Systems Inc., Objectway S.p.A., and Soluciones Tecnologicas de la Informacion.

INTRODUCTION

KEY RESEARCH QUESTIONS

- 1** *How have market conditions driven change throughout the CRM vendor landscape?*
- 2** *How do the CRM solutions compare?*
- 3** *What capabilities will CRMs be portraying in a near future?*

DEFINING CRM FOR BANKING

Customer relationship management is a well-known term in the industry. CRM is a strategy and business process encompassing many technologies by which firms acquire, manage, and service customers. The goal of a bank implementing a CRM strategy is to gather and organize both data and knowledge about customers in order to provide support to advisors, salesforce, customer service representatives, and probably end customers. CRM solutions are very much in high demand, especially since financial services institutions want to provide as much transparency and customized service to clients as possible. CRM systems automate critical sales, marketing, and client service activities at a financial institution.

An efficient CRM strategy will include the following steps:

- Getting the data: collecting data from multiple sources, including social media.
- Analyzing the data: developing an understanding of customer needs.
- Delivering the data: using the results of the analysis to increase sales and customer satisfaction.
- Storing the data: archiving important documents and electronic communication of customer data.

RESEARCH METHODOLOGY

In 2017, Celent conducted a study on the global CRM market for banking, and it focused on technology vendors that offered stand-alone solutions.

The vendors responded to a detailed RFI that consisted of a range of questions covering the following topic areas:

- Client types: retail banks, private banks, brokerages, family offices, etc.
- Firm strategy and how client reporting fits into their overall offering.
- Regional presence.
- Solution architecture, technology, and functionality.

Table 1 shows the vendors with a CRM solution for banking. This list is by no means exhaustive, but it is a good representation of the active players in the CRM arena focusing on banking.

Table 1: List of Vendors

VENDOR	SOLUTION	PAGE
ACIDAES SOLUTIONS PVT	CRMNEXT	12
ADDACCION	AddACCION UI	17
BACKSTOP	BACKSTOP	22
BIG BRAIN WORKS	GRENDL	22
CRM SOFTWARE INC	JUNXURE/JUNXURE CLOUD	32
DIGITERRE	COMMUNICA	37
ENSYNERGY	CRM 360	42
IVANTI	GOLDMINE PREMIUM EDITION & GOLDMINE CLOUD	47
NEXJ SYSTEMS INC	NEXJ CRM	52
OBJECTWAY S.P.A.	CLIENT ENGAGE	58
SOLUCIONES TECNOLOGICAS DE LA INFORMACION	ENGAGE BUSINESS	63

Source: Celent

TRENDS IN CRM SOLUTIONS

Celent has identified the following market and technology trends impacting the CRM market.

Streamlined and improved system usability. The majority of CRM solutions have revamped their user interface to provide end users with more intuitive and easy-to-use tools and functionalities. CRM vendors have added a number of new functionalities to their systems, including improved workflows and dashboards, lead generation, and integration to back office systems, analytics, relationship hierarchies, predefined and customizable reports, and smart forms for client onboarding.

Improved customer service. Vendors have strengthened their client communication portals, which has led to more effective customer service. CRM systems have incorporated analytics and real-time decision engines to help retail customers make effective financial decisions.

Spending on CRM systems continues to grow. Spending on CRM solutions has grown steadily over the past couple of years and is expected to continue growing, which will further increase efficiencies, reduce costs, and improve 360-degree customer view.

Increased focus on self-service. The online channel is still the main access point for users, but mobility access, in particular smartphones and tablets, is emerging. Vendors have also focused on developing mobile tools for the end investor, mostly providing functionality available on a client web portal, including basic contact information, account information, and a document vault that clients can access.

Robust mobile and tablet features. All vendors offer a web-based solution and are now supporting mobile delivery. CRM providers have been building out their mobile and tablet functionalities for advisors and investors.

Social media integration. Vendors have integrated their systems with social media websites, such as Facebook, Twitter, and LinkedIn, which provides the banks with more information about the client and can overall strengthen the relationship.

Increased partnerships. CRM vendors have increased their partner network with a number of players, including portfolio management, financial planning, aggregators, and data sources, among others. Partnerships offer vendors the scale needed to support growing operations, a wide range of functions without adding too much cost, and the ability to target enterprise firms.

Multiple deployment options available. While the market is set to migrate to full web-based and mobile offerings, several also still offer a desktop version. In addition, vendors are focusing on delivering their solution on-premise or on-cloud, as well as a hybrid model.

CRM SOLUTIONS AND THEIR COMPONENTS

Key
Research
Question

1

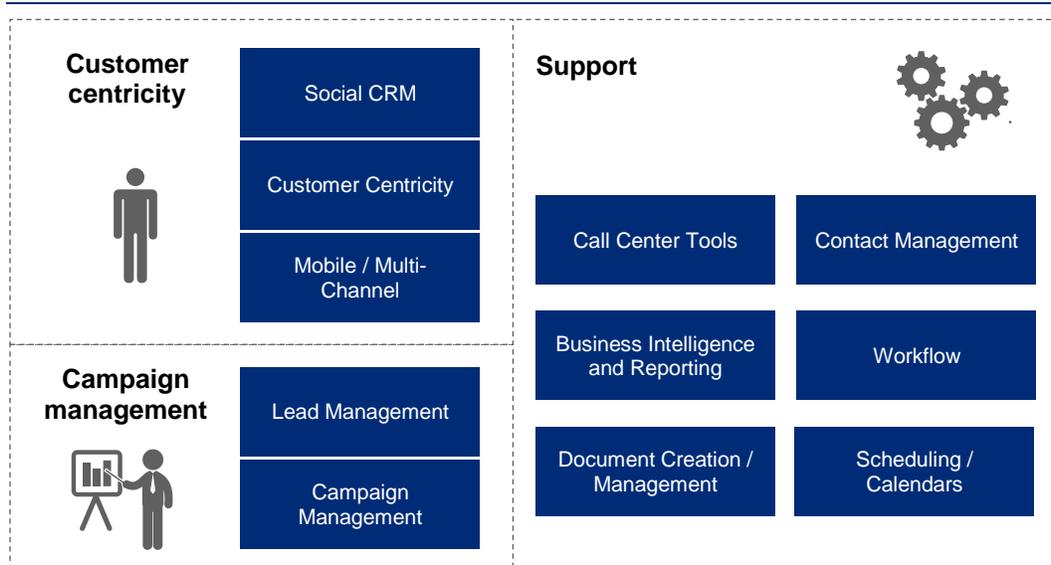
How have market conditions driven change throughout the CRM vendor landscape?

There is increased interest in CRM. Market drivers such as multichannel adoption, compliance measures, and demand for customization have influenced the CRM landscape.

Vendors have enhanced existing features as well as built new ones with the intention of strengthening the enterprise / end client relationship.

CRM solution providers offer a number of specific features.

Figure 1: Functionality



Source: Celent

Customer Centricity

Social CRM. More and more solutions are including social computing capabilities. This includes messaging or chat capabilities, collaboration tools, and the ability to integrate to social sites such as LinkedIn, Facebook, or Twitter. This can take the form of pulling up a LinkedIn profile on a contact, or posting campaigns to Facebook. Some include social listening tools (the ability to monitor social media sites). Some include survey functionality as well.

Customer Centricity. Many new CRM solutions have been transformed into tools that help companies to track all activities and contacts with clients providing a 360 degrees client-view.

Mobile/Multichannel/Onmichannel. For financial agents, sales force, and other types of personnel, ubiquity is key, and CRM solutions provide this by allowing staff to access clients' information through mobile devices like smartphones and tablets.

Campaign Management

Lead Management. CRM solutions are typically used to manage leads. They generally provide the ability to import leads, assign leads, and notify assignees of changes. They can assign leads by zip code or other criteria. They generally allow some mechanism for tracking the process of bringing a prospect to a customer with the ability to define different stages and probabilities of success. Most include some capability to support users de-duping data sets or comparing lists.

Campaign Management. CRM solutions are used heavily by marketing and sales departments to manage marketing campaigns. Features needed to support this function include the ability to create mailing lists, both email and snail mail. They often allow users to structure dynamic email messages based on the contact's specific information. Tracking opt-outs is a critical feature, and many support targeted opt-outs so that the recipient can choose to opt out of specific communication types. They often provide centralized opt-out controls or integrate to centralized corporately managed lists including integration or export capability that allows automated updates to corporate systems for new opt-out notifications. Lastly, a key feature of campaign management is integration with ability to track the effectiveness of campaigns by people who take action based on a particular email, web ad, or mailing.

Support

Call Center Tools. CRM tools are often used by the call center as the primary point of entry to customer information. While virtually all of the tools will integrate with existing telephony solutions, some include their own solutions as well. Some provide CTI Screen Pop capabilities, and configurable Call Routing Capability. Some support scripting for service agents. Many support integrating the customer service and eservice interaction. Some allow authorized users to listen and take over a live call. A nice feature is the ability to transcribe a call log using voice to text from a cell phone. Tools may be provided to allow users to review and report live call activity real time.

Business Intelligence and Reporting are key requirements for this tool. Standard, preconfigured reports are typically included, as is the ability to create ad hoc reports. Most have some type of graphical interface and slick dashboards. Integration of web analytic tools (e.g., Google analytics) is common as part of campaign management.

Document Creation/Management. CRM solutions generally permit campaigns to be run directly from the CRM tool. As such, they often include the ability to create targeted letters and emails using templates and information prefilled from the database. They support advanced personalization, multiple jurisdictions, and multiple output channels. Many allow the linkage and display of images, emails, documents, recordings, wav, pdf, or video files with the applicable record. The general need is to see all the correspondence and communication to and from a particular contact. Keyword search within the repository is usually supported.

Contact Management is the key functionality of a customer relationship management tool. The CRM typically serves as the central repository for storing contact information for salesforce, representatives, customer service reps, or other entity. Most platforms are able to support importing contacts from existing lists and exporting contacts to spreadsheets. Many include name/address validation (when integrated to an address

cleansing tool). They generally permit definitions of territories and the assignment of contacts within the territories. Customers can be profiled, and segmentation status is maintained in a CRM. Some include tools that allow easy redefinition of territories. A highly desired feature is the ability to provide a view of the existing customers and the breadth and depth of their relationships across multiple products or divisions — essentially a 360-degree customer view built by consolidating customer information from all stores and matching those records. This typically requires integration to multiple systems.

Workflow. Many tools include automated work assignment based on configurable rules. The ability to override automated processes and manually trigger workflow processes is also usually supported. There can be wide variation in the workload management tools available for supervisors (e.g., ability to reassign tasks, automatically assign all outstanding workflow tasks, and automatically generate a reassignment letter with a potential link to the assignment rules engine).

Scheduling / Calendars. Most of the solutions available include calendar and scheduling capabilities. Multi-calendar synchronization is typically found as well as diaries, reminders, and notes. Most integrate directly with Outlook, and many are so tightly integrated that users can work directly in Outlook, accessing CRM functionality specifically from an application they are already familiar with.

COMPARISON TABLES

**Key
Research
Question**

2

How do the CRM solutions compare?

Most CRMs are still focusing on traditional capabilities related to data management, document creation and management, workflow, and contact management.

The majority of CRMs are capable of offering sales support through lead and campaign management.

Very few CRMs have out-of-the box capabilities that focus on customer centricity, including social media.

We divided CRM capabilities into three major groups: Customer Centricity, Campaign Management, and Tools. Traditional CRMs usually portray capabilities like Workflow, Scheduling or Calendars, Document Creation and Management, Lead Management, and Campaign Management; functionality allocated for Campaign Management and Tools are included in this methodology.

Most CRMs are still focusing on traditional capabilities related to data management, document creation and management, workflow, and contact management. The majority of CRMs are capable of offering sales support through lead and campaign management. Very few CRMs have out-of-the box capabilities that focus on customer centricity, including social media.

In this section of the report we compare CRM solutions by their regional customer base and line of business supported. More details and specific functionality are provided in each vendor profile.

CUSTOMER BASE

Table 2 illustrates the regions where banks have installed the solution.

Table 2: Customer-Base by Region

VENDOR	SOLUTION	NORTH AMERICAN MARKET	EUROPEAN / MIDDLE EAST MARKET	ASIAN MARKET	LATIN AMERICAN MARKET
ACIDAES SOLUTIONS PVT	CRMNEXT	●	●	●	○
ADDACCION	AddACCION UI	○	○	○	●
BACKSTOP	BACKSTOP	●	●	●	○

BIG BRAIN WORKS	GRENDDEL	●	○	○	○
CRM SOFTWARE	JUNXURE / JUNXURE CLOUD	●	Not provided	Not provided	Not provided
DIGITERRE	COMMUNICA	●	●	●	●
ENSYNERGY	CRM 360	●	●	●	●
IVANTI	GOLDMINE PREMIUM EDITION & GOLDMINE CLOUD	●	●	●	●
NEXJ SYSTEMS INC	NEXJ CRM	●	●	●	○
OBJECTWAY S.P.A.	CLIENT ENGAGE	○	●	○	○
SOLUCIONES DE LA INFORMACION	ENGAGE BUSINESS	○	○	○	●

Source: Vendor RFI

Legend: ● = Supported, ○ Not Supported but not in production

PRODUCT LINES SUPPORTED

Table 3 shows the product and service support.

Table 3: Product and Service Support

SOLUTION	BANK PRODUCTS	BROKERAGE ACCOUNTS	LOYALTY PROGRAMS	CLAIMS	CUSTOMER SERVICE	OTHER
CRMNEXT	●	●	●	●	●	●
ADDACCION UI	●	●	●	○	●	●
BACKSTOP	○	○	○	○	●	●
GRENDDEL	○	○	○	○	○	●
JUNXURE / JUNXURE CLOUD	●	●	○	○	○	○
COMMUNICA	○	○	○	○	○	●
CRM 360	○	○	○	○	○	●

GOLDMINE PREMIUM EDITION & GOLDMINE CLOUD	○	○	○	○	●	●
LEDGEX CRM	○	●	○	○	○	●
NEXJ CRM	●	●	●	●	●	●
CLIENT ENGAGE	○	●	●	●	●	●
ENGAGE BUSINESS	●	○	●	●	●	●

Source: Vendor RFI

Legend: ● = Supported, ○ Not Supported but not in production

VENDORS

ACIDAES SOLUTIONS PVT LTD: CRMNEXT

COMPANY

Acidaes Solutions Pvt Ltd. is a privately owned company, with international investors. The company is headquartered in India with sales and professional services personnel located throughout North American, European, Middle Eastern, and African and Asia-Pacific regions. Acidaes Solutions Pvt Ltd.'s business is providing software and services to the banking, insurance, financial services, mutual funds, telecom, pharma, retail, and media industries. The company has 600 employees. Over 500 are available to provide professional services and client support for the solution. The average experience of the employees is four to five years.

Table 4: Company and Product Snapshot

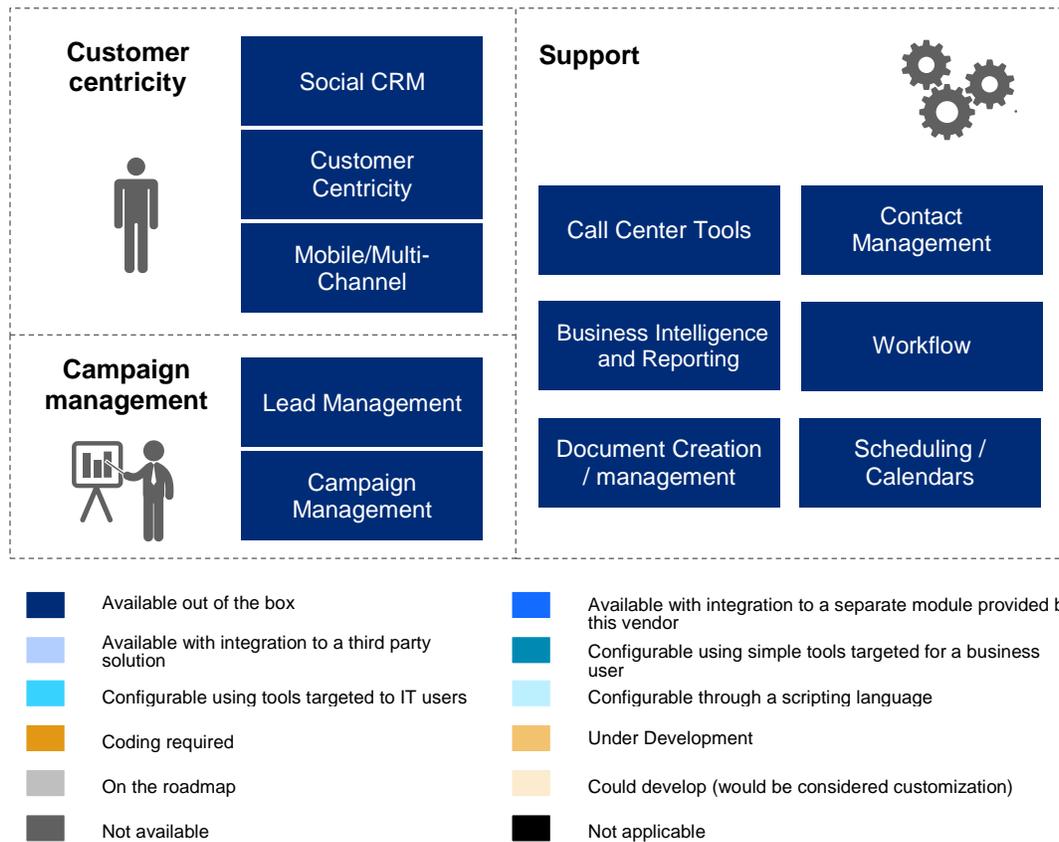
COMPANY	Annual revenues derived from this product	Confidential
	Year founded	2001
	Exchanges/Symbols	NA
	Headquarters Location	Global: Noida, India North America: Sausalito, CA Europe, Middle East, and Africa: Dubai Internet City, UAE Asia-Pacific: Noida, India
CRM	Name	CRMNEXT
	Current release and date of release	CRMNEXT 2016
	Last major release (change to technology)	2016 CRMNEXT 2016 Enhanced Digital Capabilities with a number of related changes
	Release intervals	Major enhancement: Yearly Minor enhancement: Thrice an year
	Upgrades	Clients must upgrade by going from one version to the next sequentially (e.g., 4.0 to 5.0). They support all versions.
	Target market	Large and medium sized banks with over 300 users

Source: Vendor RFI

OVERALL FUNCTIONALITY

All of the functionality is available out of the box.

Figure 2: Functionality



Source: Vendor RFI

CUSTOMER BASE

Acidaes Solutions Pvt Ltd. has over 100 clients; of them, 28 are new clients since 2015. Most clients are allocated in Asia-Pacific (96%) followed by North America (3%) and Europe (1%). Clients include retail banks, private banks, investment banks, brokerages, and financial advisors.

Table 5: Customer Base

CUSTOMER BASE		Total clients	Over 100
	New clients since 2015	28	
	Upgrades since 2015	1	
	Percentage breakdown of clients in following regions	North America: 3%	Europe and Middle East: 1%
		Asia-Pacific: 96%	
	Percentage breakdown of clients by type of financial institution	Retail bank: 85%	Private bank: 10%
		Investment bank: 2%	Brokerage: 2%
		Financial advisors: 1%	
DEPLOYMENT METHOD AND		Deployment method	On-Premise: 80%
		BPO:	25%

MARQUEE CLIENTS	(percentage of client base)	Hosted:	10%
		In the cloud:	5%
		SaaS:	5%
	Marquee clients	HDFC Bank, National Bank of Oman, BDO Unibank, ICICI Bank, National Bank of Fujairah	

Source: Vendor RFI

PRODUCT LINES SUPPORTED

Banks with CRMNEXT typically use the solution to support the following product lines and services.

Table 6: Supported Products

PRODUCT	SUPPORT	COUNTRIES
PERSONAL LOANS	●	Confidential
COMMERCIAL LOANS	●	Confidential
MORTGAGE	●	Confidential
CREDIT CARD	●	Confidential
SAVINGS ACCOUNTS	●	Confidential
CHECKING ACCOUNTS	●	Confidential
CERTIFICATE OF DEPOSIT (CDS)	●	Confidential
MONEY MARKET ACCOUNTS	●	Confidential
BROKERAGE ACCOUNTS	●	Confidential
INSURANCE (OFFERED THE BANK)	●	Confidential
LOYALTY PROGRAMS	●	Confidential
CLAIMS	●	Confidential
CUSTOMER SERVICE	●	Confidential

Source: Vendor RFI

Legend: ● = In Production, ○ Supported but not in production, NS=Not Supported

TECHNOLOGY

CRMNEXT is a browser based, thin client based, and native application / Java client for end users. It also has a browser based, thin client based, and native application / Java client interface for developers and configurers. The technical architecture of CRMNEXT is built on C#.NET platform on a single vortex cloud architecture, which is pure metadata-driven and multitenant. This architecture allows applications to fundamentally alter the relationships between its components to deliver exact needs of the business.

Applications for employees, end customers, and agents/representatives are all live.

The solution natively supports Apple (iOS), Android, and mobile-friendly HTML5 apps.

Table 7: Technology Options

TECHNOLOGY	SPECIFICS
CODE BASE	<p><u>Core technology:</u> .NET (): 90% Other (HTML5, react.js, jQuery, css3.0): 10%</p> <p><u>Business users:</u> .NET (): 90% Other (HTML5, react.js, jQuery, css3.0): 10%</p> <p><u>Developers:</u> .NET (): 90% Other (XML, WSDL, SQL): 10%</p>
OPERATING SYSTEMS	<p>Microsoft .NET</p> <p>Operating systems deployed on: Windows 2012 Standard Edition and Above</p>
APPLICATION SERVERS	<p>1x CPU (Quadcore) 64 bit Intel Xeon Processor 3.2 GHz or above, 16 GB Standard Memory, Minimum 300 GB SATAHDD.</p>
DATABASES	<p>Preferred: Oracle; Microsoft SQL Server</p> <p>Additional options: None</p>
INTEGRATION METHODS	<p>Preferred: SOA/Web Services</p> <p>Additional options: ACORD Standard XML; Other XML; MQSeries, JMS or similar queue technology; Flat files; Custom API</p> <p>10% of transactions accessible to external web services; 100% of integration points can use web services / SOA.</p>
SCALABILITY	<p>Largest deployment: 325,000 users.</p> <p>CRMNEXT runs the largest banking implementation in the world with over 300,000 users in a single implementation. It is certified for a concurrency of 20,000+ users. It has many customers with 50,000+ users.</p>

Source: Vendor RFI

The data model is proprietary. The data model can be extended by institutions using codeless configuration drag and drop designers. For the financial institutions to make changes to the data model, the vendor has a set of tools that allow technical staff to extend the data model and the SQL database schema. They have provided a number of extension points in the data model where the customer can store data of their choosing

(the number of slots is limited and the underlying schema cannot be changed except by changing code). They use XML directly in their database and allow the customer to store any data in this format. The data model will be released to a bank. It is easily published to the bank manager's data model.

Institutions generally do not have access to core code. About 11% to 20% of customization of the CRM system is usually required for a client to be up and running.

Bank product configuration, screen configuration, workflow configuration, business rule configuration, interface configuration, data configuration, and role-based security integration are configurable using simple tools targeted for a business user.

Product changes can be analyzed using an impact analysis tool that provides a report, detailing products and channels affected, and can be tested using a specific tool with a set of prebuilt tests. A restart of the system is not required for any changes.

PARTNERSHIPS

Acidaes Solutions Pvt Ltd has established partnerships with IBM, Infosys, Tata Consultancy Services, Tech Mahindra, and PWC. CRMNEXT is preintegrated with FinOne LOS, and NewGen LOS for account aggregation; Newgen Omnidocs, Dropbox, Google docss, and One Drive for document management systems; IBM for data warehouse; Twitter, Facebook, LinkedIn, Instagram, and Google+ for social media; Capital Market and D&B for third party data services (e.g., market data such as Lexis Nexis, IS, etc.); and Finacle, FlexCube, T24, Ethix, and Equation Mysis for banking core systems.

IMPLEMENTATION, PRICING, AND SUPPORT

The preferred implementation approach is Agile. A typical project team of 4 to 5 people consists of resources from the bank (2%), Acidaes Solutions PVT Ltd. (depends on type of engagement, typically it would be 30% to 40%), and third parties (depends on need of the institution). Acidaes Solutions PVT Ltd. does typically work with third party system integrators.

Acidaes Solutions Pvt Ltd. offers term license, usage-based, SaaS, and subscription. The license fees are typically based on number of functional components/modules, number of concurrent users, number of total or named users, and number of states or geographies.

The vendor will offer a fixed price implementation typically only for preconfigured out of box solution. CRMNEXT can be deployed as on premises, hosted on vendor's own data center, hosted on external data center, through the Cloud, and as SaaS (if hosted, the solutions are based on a multitenant architecture).

The total cost to implement CRMNEXT can vary according to the capabilities and available resources of the client, and the overall scope of system use.

For an in-house implementation model, the subscription/license would typically be a term-based license (three years). Implementation and customization costs would typically be US\$9,000 per man month onsite, US\$6,000 offsite. Annual maintenance fee is 24%.of the license.

For an ASP or SaaS implementation model, the subscription/license would typically be US\$65 per user and per month. Implementation and customization costs would typically be US\$9,000 per man month onsite, US\$6,000 offsite. Annual maintenance fees are in the range of 22% to 26% of license and implementation costs.

ADDACCION: ADDACCION UI

COMPANY

AddACCION is a privately owned company headquartered in Mexico and Argentina with sales and professional services personnel located throughout the North American and Latin American regions. AddACCION's business is providing software and services to the banking, insurance, retail industries, and other financial institutions. The company has over 50 employees. Twenty are available to provide professional services and client support for the solution. The average experience of the employees is above 10 years.

Table 8: Company and Product Snapshot

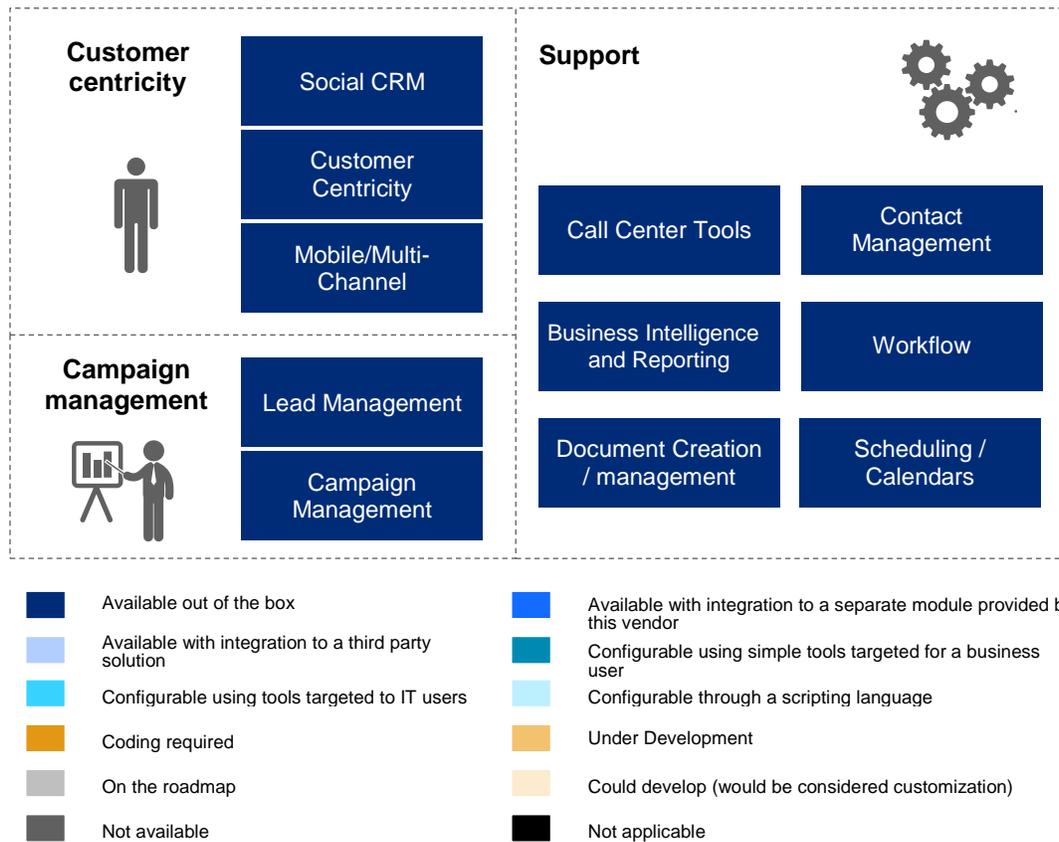
COMPANY	Annual revenues derived from this product	Over US\$300,000
	Year founded	2013
	Exchanges/Symbols	AddACCION
	Headquarters Location	<u>North America:</u> Mexico, CDMX <u>South America</u> Argentina, Buenos Aires
CRM	Name of the solution	AddACCION UI
	Current release and date of release	3.05 - January 2017
	Last major release (change to technology)	2015
		3.01 Introducing 360 Multidimensional Vision
	Release intervals	Major enhancement: Every 2 Years
		Minor enhancement: Quarterly
Upgrades	Clients must upgrade by going from one version to the next sequentially (e.g., 4.0 to 5.0). They support current versions and more than two prior but not all versions.	
Target market	Banking, Assurance, Financial, and Retail Industries in Latin America and Caribbean.	

Source: Vendor RFI

OVERALL FUNCTIONALITY

All of the functionality is available out of the box.

Figure 3: Functionality



Source: Vendor RFI

CUSTOMER BASE

AddACCION has a total of 15 clients; of them three are new clients since 2015. All clients are allocated in Latin America. Clients include private banks and brokerages.

Table 9: Customer Base

CUSTOMER BASE	Total clients	15		
	New clients since 2015	3		
	Upgrades since 2015	2		
	Percentage breakdown of clients in following regions	Latin America:	100%	
		Private bank:	90%	
Percentage breakdown of clients by type of financial institution	Brokerage:	10%		
	DEPLOYMENT METHOD AND MARQUEE CLIENTS	Deployment method (percentage of client base)	On-Premise:	30%
Hosted:			70%	
	Marquee clients	Confidential		

Source: Vendor RFI

PRODUCT LINES SUPPORTED

Banks with AddACCION UI typically use the solution to support the following product lines and services.

Table 10: Supported Products

PRODUCT	SUPPORT	COUNTRIES
PERSONAL LOANS	●	Confidential
COMMERCIAL LOANS	●	Confidential
MORTGAGE	●	Confidential
CREDIT CARD	●	Confidential
SAVINGS ACCOUNTS	●	Confidential
CHECKING ACCOUNTS	●	Confidential
CERTIFICATE OF DEPOSIT (CDS)	NS	Does not apply
MONEY MARKET ACCOUNTS	NS	Does not apply
BROKERAGE ACCOUNTS	●	Confidential
INSURANCE (OFFERED THE BANK)	●	Confidential
LOYALTY PROGRAMS	●	Confidential
CLAIMS	NS	Does not apply
CUSTOMER SERVICE	●	Confidential

Source: Vendor RFI

Legend: ● = In Production, ○ Supported but not in production, NS=Not Supported

TECHNOLOGY

AddACCION UI is browser-based for end users. It has a browser-based interface for developers and configurers. The technical architecture is Multilayer, using .NET, AJAX, DHTML y DOM.Technology.

The solution natively supports Apple (iOS), Android, Windows and mobile-friendly HTML5 apps.

Table 11: Technology Options

TECHNOLOGY	SPECIFICS
CODE BASE	<p><u>Core technology:</u> .NET (C#): 100%</p> <p><u>Business users:</u> .NET (C#): 100%</p> <p><u>Developers:</u> .NET (C#): 100%</p>
OPERATING SYSTEMS	<p>Microsoft .NET</p> <p>Operating systems deployed on: Windows 2008/2012</p>
APPLICATION SERVERS	NA
DATABASES	<p>Preferred: None</p> <p>Additional options: Oracle; Microsoft SQL Server; Other SQL</p>
INTEGRATION METHODS	<p>Preferred: SOA/Web Services; Flat files; Custom API</p> <p>Additional options: ACORD Standard XML; Other XML; MQSeries, JMS or similar queue technology</p> <p>100% of transactions accessible to external web services; 100 of integration points can use web services / SOA.</p>
SCALABILITY	<p>Largest deployment: 650 users.</p> <p>Modular Solution can be implanted by Module (i.e., Sales, Customer Services, Collections, Marketing).</p>

Source: Vendor RFI

The data model is proprietary. The data model can be extended by institutions extending code with new modules and adding custom tables to the model. They have provided a number of extension points in the data model where the customer can store data of their choosing (the number of slots is limited and the underlying schema cannot be changed except by changing code). They use XML directly in their database and allow the customer to store any data in this format. The data model can be released to a bank. It is easily published to a bank's data model.

Institutions generally do not have access to core code. About 21% to 30% of customization of the CRM is usually required for a client to be up and running.

Bank product configuration, workflow configuration, business rule configuration, data configuration and roles based security integration are configurable using simple tools targeted for a business user. Screen configuration and interface configuration are not available.

A restart of the system is required for, change to underlying data model, new web service or integration point.

PARTNERSHIPS

AddACCION has established technology partnerships and preintegrations like QHits Solutions, Calipso, Tableau, Team Quality, QlikView, Zafiro, Avaya, Genesys, InConcert, Next Step, Microsoft and Cognitiva, etc.

IMPLEMENTATION, PRICING, AND SUPPORT

The preferred implementation approach is other. A typical project team is five people. Resources from the bank range around 20%, 75% from AddACCION, and 5% from third parties. AddACCION does not typically work with third party system integrators.

AddACCION offers term license, perpetual license, usage-based, SaaS, subscription, and risk-based pricing. The license fees are typically based on number of concurrent users, revenue, number of states or geographies, enterprise license / flat fee, and other (usage Based, transactions).

AddACCION UI can be deployed as on premises, hosted on vendor's own data center, hosted on external data center, through the Cloud, as SaaS, through BPO (if hosted, the solutions are based on a multitenant architecture).

The total cost to implement AddACCION UI can vary according to the capabilities and available resources of the client, and the overall scope of system use.

BACKSTOP SOLUTIONS GROUP, LLC: BACKSTOP

COMPANY

Backstop is a privately owned company headquartered in Chicago, IL with sales and professional services personnel located throughout North America, Europe, and Asia-Pacific. Backstop Solutions offers a cloud-based suite of productivity-enhancing software to the alternative and institutional investment industry. The platform enables alternative asset managers to raise capital and service investors, and empowers institutional asset owners to centralize the quantitative and qualitative information needed for investment decisions and for compliance and regulatory requirements. The Backstop Suite consists of a CRM, Investor Relations software, an investor portal, research management, portfolio management, and accounting capabilities. The company has over 195 employees.

Table 12: Company and Product Snapshot

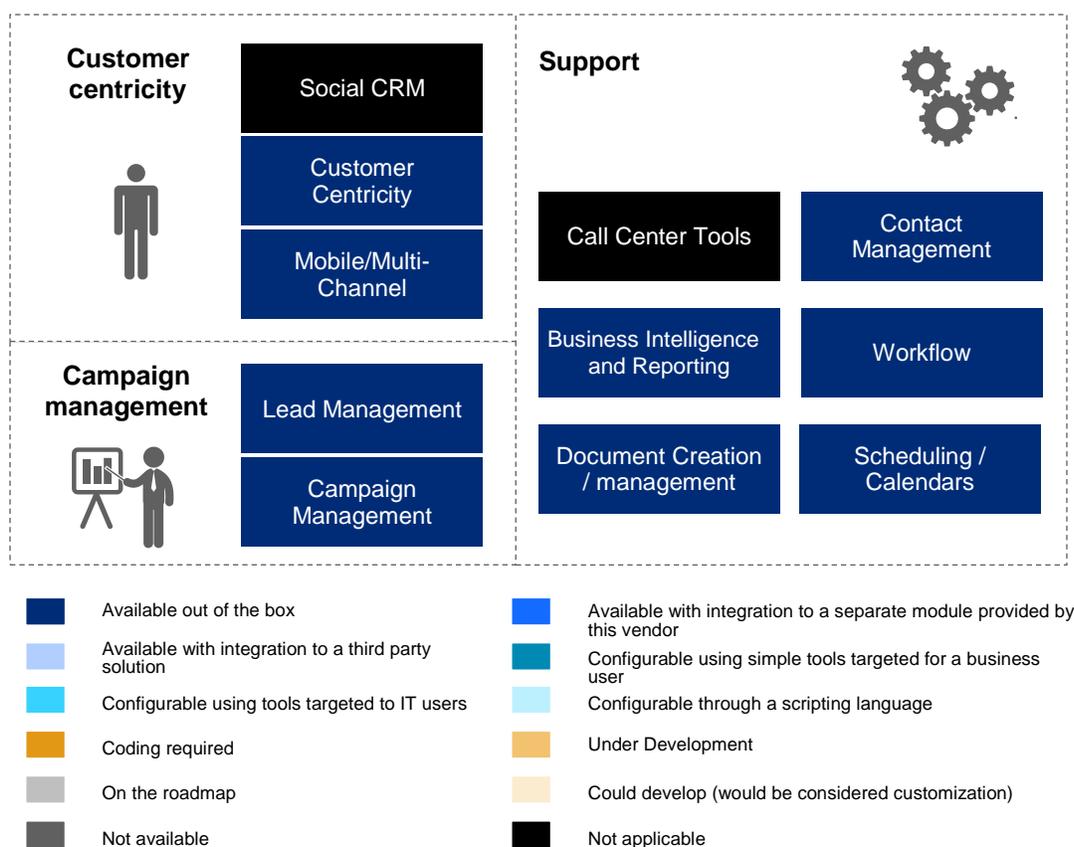
COMPANY	Annual revenues derived from this product	Confidential
	Year founded	2003
	Exchanges/Symbols	N/A
	Headquarters Location	Global: Chicago, IL North America: Chicago, IL Europe: London, UK Asia-Pacific: Hong Kong
CRM	Name	Backstop
	Current release and date of release	Backstop releases new software every 2 weeks
	Last major release (change to technology)	No versions, they push updates every 2 weeks on multitenant SaaS, everyone is on the same version.
	Release intervals	Major enhancement: Backstop releases new software every 2 weeks Minor enhancement: Backstop releases new software every 2 weeks
	Upgrades	All Clients are automatically upgraded as the updates are pushed every two weeks. All clients are on the same version. They support all versions.
	Target market	Firms operating in the private / alternative investment space. Managers of these funds as well as institutional investors, consultants, private wealth, etc.

Source: Vendor RFI

OVERALL FUNCTIONALITY

The majority of the functionality is available out of the box. Exceptions include Social CRM and Call Center Tools, which are not applicable.

Figure 4: Functionality



Source: Vendor RFI

CUSTOMER BASE

Backstop has approximately 750 clients worldwide. Clients include hedge funds, private equity firms, real estate firms, funds of funds, pensions, investment consultants, family offices, endowments, and foundations.

Table 13: Customer Base

CUSTOMER BASE	Total clients	750
	New clients since 2015	Not disclosed
	Upgrades since 2015	Ongoing. Backstop releases upgrades every 2 weeks with new features as well as fixes.
	Percentage breakdown of clients in following regions	North America: Not disclosed Europe and Middle East: Asia-Pacific
	Percentage breakdown of clients by type of financial	Private bank: Not disclosed Family office:

	institution	Other:	
DEPLOYMENT METHOD AND MARQUEE CLIENTS	Deployment method (percentage of client base)	SaaS:	100%
	Marquee clients	Confidential	

Source: Vendor RFI

PRODUCT LINES SUPPORTED

Banks with Backstop typically use the solution to support the following product lines and services.

Table 14: Supported Products

PRODUCT	SUPPORT	COUNTRIES
PERSONAL LOANS	NS	Does not apply
COMMERCIAL LOANS	NS	Does not apply
MORTGAGE	NS	Does not apply
CREDIT CARD	NS	Does not apply
SAVINGS ACCOUNTS	NS	Does not apply
CHECKING ACCOUNTS	NS	Does not apply
CERTIFICATE OF DEPOSIT (CDS)	NS	Does not apply
MONEY MARKET ACCOUNTS	NS	Does not apply
BROKERAGE ACCOUNTS	NS	Does not apply
INSURANCE (OFFERED THE BANK)	NS	Does not apply
LOYALTY PROGRAMS	NS	Does not apply
CLAIMS	NS	Does not apply
CUSTOMER SERVICE	●	Confidential

Source: Vendor RFI

Legend: ● = In Production, ○ Supported but not in production, NS=Not Supported

TECHNOLOGY

Backstop is a multitenant SaaS solution. The application is accessed by users and administrators via a browser-based interface.

The solution natively supports Apple (iOS) and Android through the Backstop mobile app as well as mobile browsers.

Table 15: Technology Options

TECHNOLOGY	SPECIFICS
CODE BASE	Core Technology: Java: 100%

TECHNOLOGY	SPECIFICS
	<u>Business Users:</u> Java: 90% Other: 10% <u>Developers:</u> Not provided
OPERATING SYSTEMS	Operating Systems Deployed On: As a hosted SaaS system, Backstop is functional on any system running a modern web browser, such as Firefox, that is at a version that will support TLS 1.2 secure communications
APPLICATION SERVERS	SaaS via browser supporting TLS 1.2
DATABASES	Preferred: Oracle is primary for the SaaS application. Additional Options: None needed
INTEGRATION METHODS	Preferred: REST API Additional options: Excel Upload
SCALABILITY	Largest deployment: 200+ users. 99.9% Uptime goals and history

Source: Vendor RFI

Screen configuration, interface configuration, and role-based security integration are configurable using simple tools targeted for a business user. Workflow configuration is configurable through a scripting language. Business rule configuration requires coding. Data configuration is not available.

A restart of the system is required for change to underlying data model.

PARTNERSHIPS

Backstop has established partnerships with most of the hedge fund databases (HFR, Morningstar, Barclayhedge, Hedge Fund Intelligence, etc.) as well as Preqin and market data providers. They have also successfully integrated with ACA Technologies data warehouse / security master in a “cloud to ground” deployment, and they have integration with AlternativeSoft for advanced analytics. Backstop does not have any preintegration.

IMPLEMENTATION, PRICING, AND SUPPORT

The preferred implementation approach is Agile. A typical project team consists of resources from Backstop (100%). Backstop does not often work with third party system integrators, but may work with them if clients prefer. ACA Technology, Slalom, and Gravitas are examples of third parties that have been involved in implementations and integrations with other systems.

Backstop offers SaaS as a subscription. The license fees are typically based on number of functional components/modules and number of total or named users. For certain service providers, the number of clients (funds, not investors) serviced may also be a licensing metric.

The vendor will offer a fixed price implementation typically for smaller clients with defined, system friendly data sources, or those that will be doing most of the data migration themselves. Backstop is only deployed as SaaS.

The total cost to implement Backstop can vary according to the capabilities and available resources of the client, and the overall scope of system use.

For a SaaS implementation model, there are various levels of features/licenses. Implementation and customization costs would typically be SOW-driven or flat fee for simple implementations. Annual maintenance fees are based on number and types of users.

BIG BRAIN WORKS, INC.: GRENDEL

COMPANY

Grendel is a privately owned company headquartered in West Chester, PA with sales and professional services personnel located throughout the North American region. Grendel's business is providing software and services to the financial service industries. The company has 40 employees. The majority are available to provide professional services and client support for the solution.

Table 16: Company and Product Snapshot

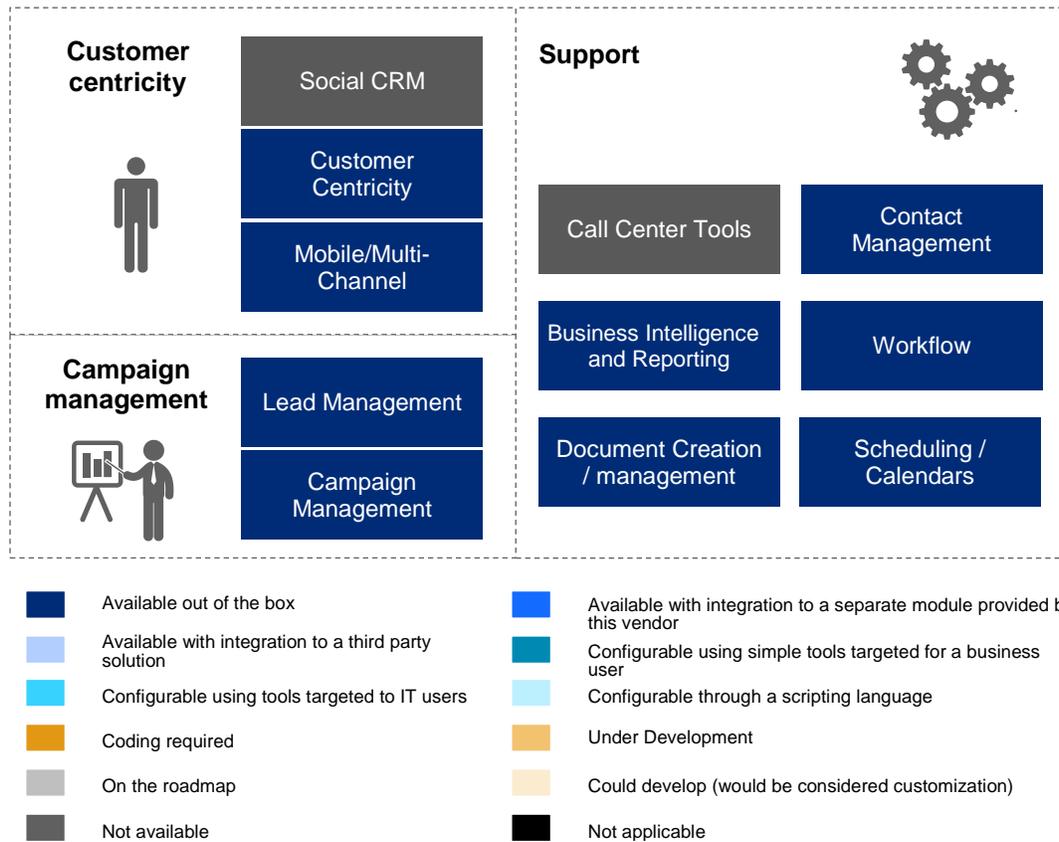
COMPANY	Annual revenues derived from this product	Confidential
	Year founded	2004
	Exchanges/Symbols	N/A
	Headquarters Location	Global: West Chester, PA, USA North America: West Chester, PA, USA
CRM	Name	Grendel
	Current release and date of release	3.95 released in 2017
	Last major release (change to technology)	2017 3.95 Added an advanced trading framework. Built to be able to handle multiple custodians.
	Release intervals	Major enhancement: Twice annually. Minor enhancement: Monthly.
	Upgrades	Clients must upgrade by going from one version to the next sequentially (e.g., 4.0 to 5.0). They support all versions.
	Target market	RIA's or Banks with US\$500 million to US\$5 billion in AuM or BDs with 50–500 Advisors

Source: Vendor RFI

OVERALL FUNCTIONALITY

The majority of the functionality is available out of the box. Exceptions include Social CRM and Call Center Tools, which are not available.

Figure 5: Functionality



Source: Vendor RFI

CUSTOMER BASE

Grendel clients are located in North America. These include brokerages, RIAs, family offices, and financial advisors.

Table 17: Customer Base

CUSTOMER BASE	Total clients	thousands	
	New clients since 2015	Confidential	
	Upgrades since 2015	Confidential	
	Percentage breakdown of clients in following regions	North America:	100%
	Percentage breakdown of clients by type of financial institution	Brokerage: RIA: Family office: Financial advisors:	10% 65% 5% 20%
DEPLOYMENT METHOD AND MARQUEE CLIENTS	Deployment method (percentage of client base)	Confidential	
	Marquee clients	Not provided	

Source: Vendor RFI

PRODUCT LINES SUPPORTED

Banks with Grendel typically use the solution to support the following product lines and services.

Table 18: Supported Products

PRODUCT	SUPPORT	COUNTRIES
PERSONAL LOANS	●	United States
COMMERCIAL LOANS	●	United States
MORTGAGE	●	United States
CREDIT CARD	●	United States
SAVINGS ACCOUNTS	●	United States
CHECKING ACCOUNTS	●	United States
CERTIFICATE OF DEPOSIT (CDS)	●	United States
MONEY MARKET ACCOUNTS	●	United States
BROKERAGE ACCOUNTS	●	United States
INSURANCE (OFFERED THE BANK)	●	United States
LOYALTY PROGRAMS	NS	Does not apply
CLAIMS	NS	Does not apply
CUSTOMER SERVICE	●	United States

Source: Vendor RFI

Legend: ● = In Production, ○ Supported but not in production, NS=Not Supported

TECHNOLOGY

Grendel is browser based and thin client based for end users. It has a browser based and thin client based interface for developers and configurers. The technical architecture is three-tier client server architecture.

Applications for employees, end customers, and agents/representatives are all live.

The solution natively supports Apple (iOS), Android, and mobile-friendly HTML5 apps.

Table 19: Technology Options

TECHNOLOGY	SPECIFICS
CODE BASE	<p><u>Core technology:</u> Java: 50% Other (Angular, Flex, SQL): 50%</p> <p><u>Business users:</u> Java: 50% Other (Angular, Flex, SQL): 50%</p> <p><u>Developers:</u> Java: 50% Other (Angular, Flex, SQL): 50%</p>
OPERATING SYSTEMS	<p>JEE/Java</p> <p>Operating systems deployed on: OS agnostic</p> <p>Planned change to code base: Full angular 4+ adoption for all applications in the suite</p>
APPLICATION SERVERS	N/A
DATABASES	<p>Preferred: Microsoft SQL Server (only option)</p> <p>Additional options: None</p>
INTEGRATION METHODS	<p>Preferred: SOA/Web Services</p> <p>Additional options: ACORD Standard XML; Other XML; Flat files; Custom API</p> <p>50% of transactions accessible to external web services; 50% of integration points can use web services / SOA.</p>
SCALABILITY	System performance, scalability, and availability are high.

Source: Vendor RFI

The data model is proprietary and uses industry standards. The data model can be extended by institutions using tools or by modifying source code. For the financial institutions to make changes to the data model, the vendor has a set of tools that allow technical staff to extend the data model and the SQL database schema. They recommend that a DBA extend the database schema in SQL (the changes in business logic and screen designs are written in code). They use XML directly in their database and allow the customer to store any data in this format. Nontechnical staff can create data objects using built-in tools. Object creation will extend, without limit, the number of fields available to users. All field types are available as options (i.e., string, int, date/time, boolean, etc.). Supporting data sets for specific fields (i.e., picklists) are supported and driven by user. The data model will be released to a bank. It is easily published to a bank manager's data model, and it can be mapped to an intermediate format.

Institutions generally have access to core code. No customization of the CRM is usually required for a client to be up and running.

Bank product configuration, screen configuration, workflow configuration, business rule configuration, interface configuration, data configuration, and role-based security integration are configurable using simple tools targeted for a business user.

Product changes can be analyzed using testing tools provided that help evaluate the impact of change and can be tested in a standard way using common tools. A restart of the system is required for new web service or integration point.

PARTNERSHIPS

Grendel has established partnerships with Aquumulate, First Rate, Netmail, SIGNiX, and TD Ameritrade for integration shared deep functionality; Alliance of Comprehensive Planners, Albridge, AssetBook, ASI, Blueleaf, DeSola Group, Envestnet, Fox Financial Planning, Hidden Levers, Laser App, and MoneyGuidePro for integration software; Charles Schwab, DST Advisor, DST Broker, Fidelity, Hilltop Securities, National Planning, Scottrade, TD Ameritrade, Trust Company of America, COR Clearing, and FolioFN for integration account feeds. Grendel does not have any preintegration.

IMPLEMENTATION, PRICING, AND SUPPORT

Grendel has its own implementation approach. The size of the project teams depends on the implementation requirements, and can vary from around five to several dozen. The team consists of resources from the bank (usually a small internal customer team), Grendel (team varies greatly based on needs (i.e., performance-based customers will have a performance team in addition to CRM team, while those without performance will not utilize the performance based team), and third parties (usually depends on client needs and can range from zero to a majority of the team depending on the needs). Grendel does typically work with third party system integrators.

Grendel offers term license, perpetual license, usage-based, SaaS, subscription, and risk-based (can be structured to be based on assets under management with Grendel willing to take downside risk). The license fees are typically based on number of functional components/modules, number of concurrent users, number of total or named users, enterprise license / flat fee, and other (assets under management).

The vendor will offer a fixed price implementation when there are "standard" implementations. Custom implementations require SOW. Grendel can be deployed as on premises, hosted on vendor's own data center, hosted on external data center, through the cloud, and as SaaS (if hosted, the solutions are based on a multitenant architecture).

The total cost to implement Grendel can vary according to the capabilities and available resources of the client, and the overall scope of system use.

For a SaaS implementation model, the subscription/license would typically be US\$75/seat/month. Implementation and customization costs would typically range from zero to tens of thousands based on requirements. Annual maintenance fees are based on the level of customization and are typically a percentage of the original customization statement of work fee.

CRM SOFTWARE INC.: JUNXURE/JUNXURE CLOUD

COMPANY

Junxure is a privately owned company headquartered in Raleigh, NC with sales and professional services personnel located throughout the North American region. Junxure’s business is providing software and services to the financial service industry. The company has 50 employees. Over 16 are available to provide professional services and client support for the solution. The average experience of the employees is 10 years and above.

Table 20: Company and Product Snapshot

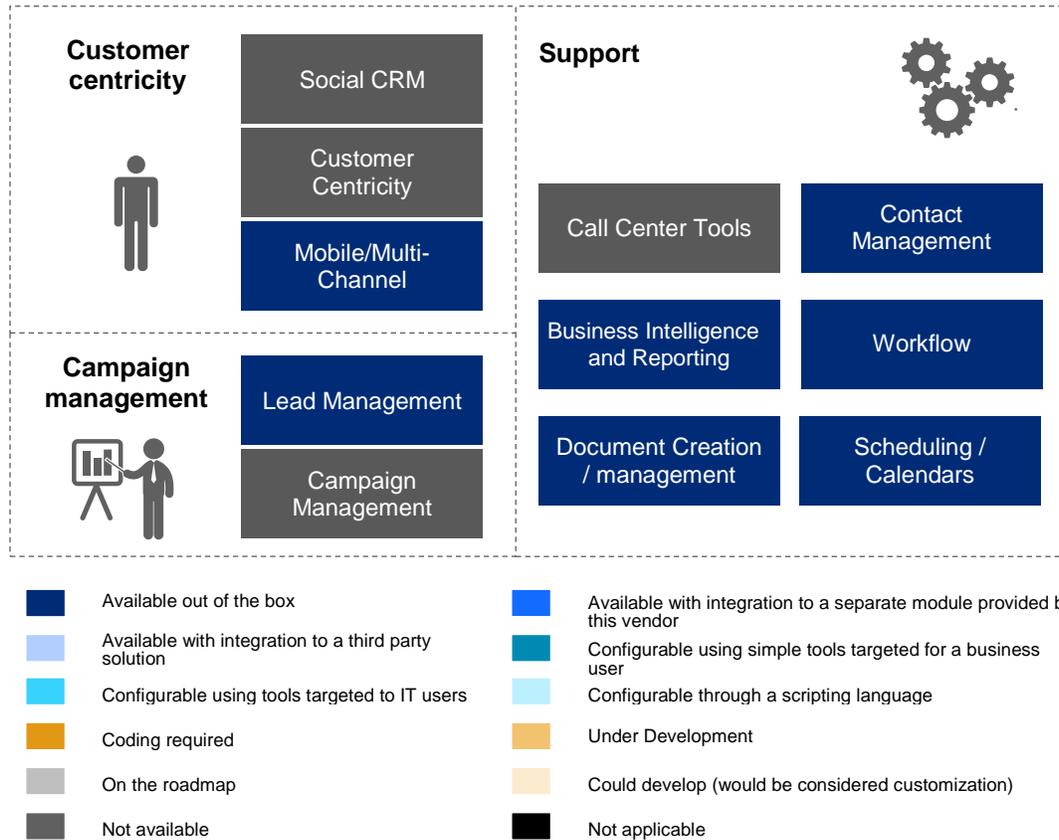
COMPANY	Annual revenues derived from this product	Confidential
	Year founded	Incorporated in 2000
	Exchanges/Symbols	N/A
	Headquarters Location	North America: Raleigh, NC
CRM	Name	Junxure/Junxure Cloud
	Current release and date of release	3.8.2 - July 2017
	Last major release (change to technology)	2014 In 2014 they launched Junxure Cloud, a new cloud-based CRM platform for advisors. This first version included all of the core capabilities necessary in a CRM solution as well as key integrations with third party vendors
	Release intervals	Major enhancement: Twice a year Minor enhancement: Monthly
	Upgrades	Clients can skip multiple versions (e.g., go directly from version 4.0 to version 7.0). They support current versions and up to two prior.
	Target market	Not provided

Source: Vendor RFI

OVERALL FUNCTIONALITY

The majority of the functionality is available out of the box. Exceptions include campaign management, Social CRM, Call Center Tools, and Customer Centricity, which are not available.

Figure 6: Functionality



Source: Vendor RFI

CUSTOMER BASE

Table 21: Customer Base

CUSTOMER BASE	Total clients	12,000 clients in 1,500 firms		
	New clients since 2015	650		
	Upgrades since 2015	Not provided		
	Percentage breakdown of clients in following regions	North America:	Yes	
		Europe and Middle East:	Not provided	
		Asia-Pacific:	Not provided	
		Latin America:	Not provided	
Percentage breakdown of clients by type of financial institution	RIA:	95%		
	Family office:	5%		
	Trust companies:	10%		
	Financial advisors:	100%		
DEPLOYMENT METHOD AND	Deployment method (percentage of client base)	On-Premise:	60%	

MARQUEE CLIENTS	In the cloud:	40%
	Marquee clients	Not provided

Source: Vendor RFI

PRODUCT LINES SUPPORTED

Banks with Junxure/Junxure Cloud typically use the solution to support the following product lines and services.

Table 22: Supported Products

PRODUCT	SUPPORT	COUNTRIES
PERSONAL LOANS	●	Not provided
COMMERCIAL LOANS	●	Not provided
MORTGAGE	●	Not provided
CREDIT CARD	NS	N/A
SAVINGS ACCOUNTS	NS	N/A
CHECKING ACCOUNTS	NS	N/A
CERTIFICATE OF DEPOSIT (CDS)	NS	N/A
MONEY MARKET ACCOUNTS	●	Not provided
BROKERAGE ACCOUNTS	●	Not provided
INSURANCE (OFFERED THE BANK)	●	Not provided
LOYALTY PROGRAMS	NS	N/A
CLAIMS	NS	N/A
CUSTOMER SERVICE	NS	N/A

Source: Vendor RFI

Legend: ● = In Production, ○ Supported but not in production, NS=Not Supported

TECHNOLOGY

Junxure is browser based and thin client based for end users. It has a browser based interface for developers and configurers. The technical architecture is SQL.

Applications for employees, end customers, and agents/representatives are all live.

The solution natively supports mobile-friendly HTML5 apps.

Table 23: Technology Options

TECHNOLOGY	SPECIFICS
CODE BASE	<p><u>Core technology:</u> .NET (C#): 100%</p> <p><u>Business users:</u> .NET (C#): 100%</p> <p><u>Developers:</u> .NET (C#): 100%</p>
OPERATING SYSTEMS	<p>Microsoft .NET</p> <p>Operating systems deployed on: Windows</p>
APPLICATION SERVERS	Not provided
DATABASES	<p>Preferred: Microsoft SQL Server (only option)</p> <p>Additional options: None</p>
INTEGRATION METHODS	<p>Preferred: Custom API</p> <p>Additional options: SOA/Web Services; Flat files</p> <p>75% of transactions accessible to external web services; 75% of integration points can use web services / SOA.</p>
SCALABILITY	<p>Largest deployment: 200 users.</p> <p>Highly available — Load balanced, stateless web farm, one database per firm. Their system architecture is extensible in nature and built to grow. Currently the hardware is capable of handling a load three times the current base. Extending past that is as simple as growing the farm.</p>

Source: Vendor RFI

The data model is proprietary. It supports security membership (asp.net membership database). The data model can be extended by institutions using API. For the financial institutions to make changes to the data model, the vendor has provided a number of extension points in the data model where the customer can store data of their choosing (the number of slots is limited, and the underlying schema cannot be changed except by changing code). The data model will be released to a bank. It is easily published to a bank manager's data model.

Institutions generally do not have access to core code. No customization of the CRM system is usually required for a client to be up and running.

Bank product configuration, screen configuration, workflow configuration, interface configuration, data configuration, and role-based security integration are configurable using simple tools targeted for a business user. Business rule configuration is not applicable.

Product changes cannot be analyzed and can be tested in a standard way using common tools. A restart of the system is required for change to underlying data model, new web service or integration point, and business rule change.

PARTNERSHIPS

Junxure has not established any partnerships. Junxure/Junxure Cloud does not have any preintegration.

IMPLEMENTATION, PRICING, AND SUPPORT

The preferred implementation approach is Agile. A typical project team of 3 people consists of resources from the bank (5%) and Junxure (95%). Junxure does typically work with third party system integrators.

Junxure offers usage-based, SaaS and subscription. The license fees are typically based on number of total or named users and revenue. Banks may also need to license the following third party software: Email and social media archiving requires external licensing to a 3rd party vendor. Junxure/Junxure Cloud can be deployed as hosted on vendor's own data center, hosted on external data center, through the cloud, and as SaaS.

The total cost to implement Junxure/Junxure Cloud can vary according to the capabilities and available resources of the client, and the overall scope of system use.

DIGITERRE LTD.: COMMUNICA

COMPANY

Digiterre is a privately owned company headquartered in London, with sales and professional services personnel supporting clients throughout the European, Middle Eastern, and African region. Digiterre’s business is providing software and services to the financial service industries. The company has 75 employees. Fifteen of them are available to provide professional services and client support for the solution. The average experience of the employees is eight years and above.

Table 24: Company and Product Snapshot

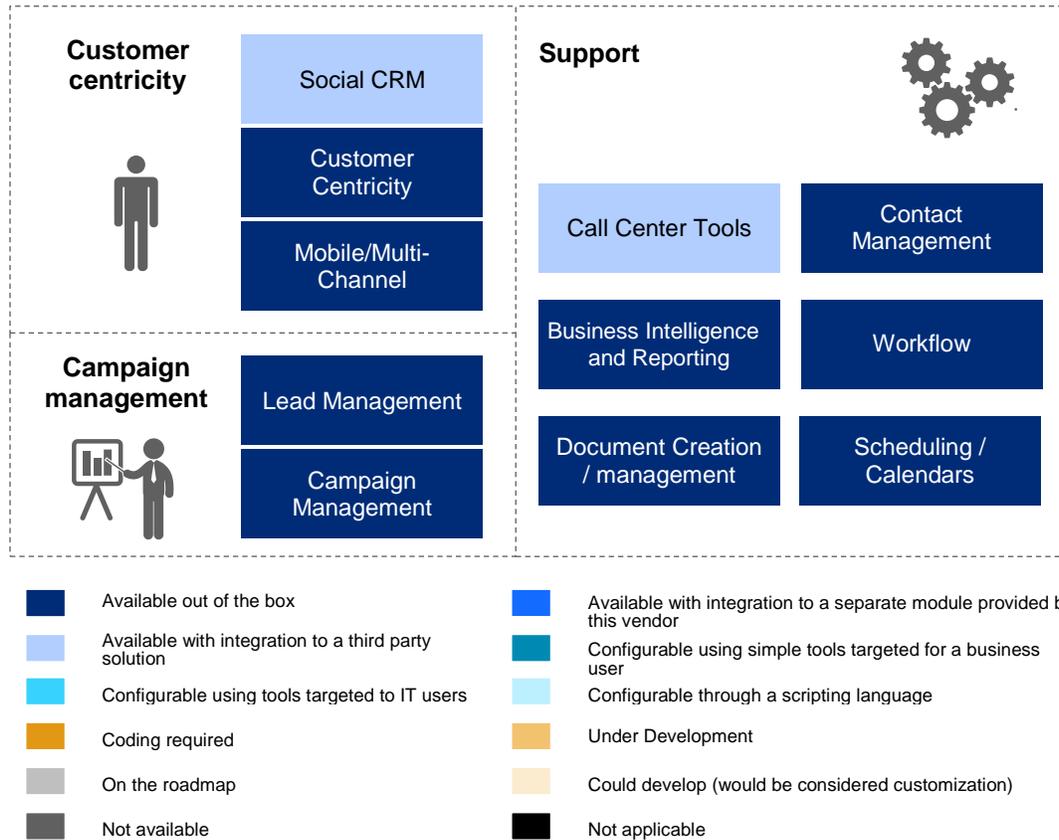
COMPANY	Annual revenues derived from this product	US\$3,000,000
	Year founded	2000
	Exchanges/Symbols	N/A
	Headquarters Location	Global: London, United Kingdom
CRM	Name	Communica
	Current release and date of release	8.2.1.253- 30/06/17
	Last major release (change to technology)	2017 Communica V8 Update to Microsoft 365.
	Release intervals	Major enhancement: In line with Microsoft Dynamics CRM 365 releases Minor enhancement: Every 4-8 Weeks
	Upgrades	Clients can skip multiple versions (e.g., go directly from version 4.0 to version 7.0). They support all versions.
	Target market	Organizations supporting services the alternative asset management space, manager, private equity, wealth managers, fund service organizations.

Source: Vendor RFI

OVERALL FUNCTIONALITY

The majority of the functionality is available out of the box. Exceptions include social CRM and call center tools.

Figure 7: Functionality



Source: Vendor RFI

CUSTOMER BASE

Digiterre has a total of 59 clients; of them 10 are new clients since 2015. Most clients are allocated in Europe followed by North America, Asia-Pacific, and Latin America. Clients include private banks, investment banks, bank affiliated brokerages, and family offices.

Table 25: Customer Base

CUSTOMER BASE	Total clients	59		
	New clients since 2015	10		
	Upgrades since 2015	All		
	Percentage breakdown of clients in following regions	North America:	20%	
		Europe and Middle East:	55%	
		Asia-Pacific:	20%	
		Latin America:	5%	
Percentage breakdown of clients by type of financial institution	Hedge Fund	76%		
	Banks	4%		
	Private Equity	4%		
	Commodities Trading	2%		
	Family Office	2%		
	Institutional Asset Mgr	8%		
	Prime Broker	2%		
Fund Admin				

		:	2%
DEPLOYMENT METHOD AND MARQUEE CLIENTS	Deployment method (percentage of client base)	On-Premise: In the cloud:	16% 84%
	Marquee clients	Martin Currie, Normura, Tokio Marine Asset Management, Citco	

Source: Vendor RFI

PRODUCT LINES SUPPORTED

Banks with Communica typically use the solution to support the following product lines and services.

Table 26: Supported Products

PRODUCT	SUPPORT	COUNTRIES
PERSONAL LOANS	NS	N/A
COMMERCIAL LOANS	NS	N/A
MORTGAGE	NS	N/A
CREDIT CARD	NS	N/A
SAVINGS ACCOUNTS	NS	N/A
CHECKING ACCOUNTS	NS	N/A
CERTIFICATE OF DEPOSIT (CDS)	NS	N/A
MONEY MARKET ACCOUNTS	NS	N/A
BROKERAGE ACCOUNTS	NS	N/A
INSURANCE (OFFERED THE BANK)	NS	N/A
LOYALTY PROGRAMS	NS	N/A
CLAIMS	NS	N/A
CUSTOMER SERVICE	NS	N/A
OTHER	●	Not provided

Source: Vendor RFI

Legend: ● = In Production, ○ Supported but not in production, NS=Not Supported

TECHNOLOGY

Digiterre is browser based, thin client based, and native application / Java client for end users. It has a browser based, thin client based, and native application / Java client interface for developers and configurers.

The solution natively supports Apple (iOS), Android, Windows, Blackberry, and mobile-friendly HTML5 apps.

Table 27: Technology Options

TECHNOLOGY	SPECIFICS
CODE BASE	<p><u>Core technology:</u> .NET (C#): 100%</p> <p><u>Business users:</u> Java: 5% .NET (C#): 95%</p> <p><u>Developers:</u> Java: 5% .NET (C#): 95%</p>
OPERATING SYSTEMS	<p>Microsoft .NET</p> <p>Operating systems deployed on: Windows Server 2012</p>
APPLICATION SERVERS	
DATABASES	<p>Preferred: Microsoft SQL Server (only option)</p> <p>Additional options: None</p>
INTEGRATION METHODS	<p>Preferred: SOA/Web Services (only option)</p> <p>Additional options: None</p> <p>84% of transactions accessible to external web services; integration points can use web services / SOA (depends what the integration point is).</p> <p>The system is web based so accessible via the web</p>
SCALABILITY	<p>Largest deployment: 150 users.</p>

Source: Vendor RFI

The data model is based on Microsoft Dynamics 2016. The data model can be extended by institutions using tools. For the financial institutions to make changes to the data model, the vendor has a set of tools that allow technical staff to extend the data model and the SQL database schema. The data model will not be released to the bank.

Institutions generally do not have access to core code. About 1% to 10% of customization of the CRM is usually required for a client to be up and running.

Screen configuration and role-based security integration are configurable using simple tools targeted for a business user. Workflow configuration and business rule configuration are configurable using tools targeted for an IT user. Interface configuration and data configuration require coding. Bank product configuration is not applicable.

Product changes cannot be analyzed and cannot be tested. A restart of the system is not required for any changes.

PARTNERSHIPS

Digiterre has established partnerships with multiple companies: ProFund.com for marketing analytics and Resco for mobile offering). Communica is preintegrated with multiple systems for document management systems and social media integration, e.g., Sharepoint and LinkedIn.

IMPLEMENTATION, PRICING, AND SUPPORT

The preferred implementation approach is Waterfall. A typical project team of 3 people consists of resources from the bank (10%), Digiterre (90%), and third parties (depending

on third parties required to meet the client needs). Digiterre does typically work with third party system integrators.

Digiterre offers SaaS and subscription. The license fees are typically based on number of functional components/modules, number of users, and enterprise license / flat fee.

The total cost to implement Communica can vary according to the capabilities and available resources of the client, and the overall scope of system use.

For an in-house implementation model, the subscription/license would typically be 20%. Implementation and customization costs would typically be 40%. Annual maintenance fees are 40%.

For an ASP or SaaS implementation model, the subscription/license would typically be US\$100,000. Implementation and customization costs would typically be US\$100,000. Annual maintenance fees are included.

ENSYNERGY GROUP: CRM 360

COMPANY

enSynergy is a privately owned company, with outside investors, headquartered in United Kingdom, with sales and professional services personnel located throughout the European, Middle Eastern, Caribbean, African, and Asia-Pacific regions. enSynergy's business is providing software and services to the financial service and private banking, family office, corporate service providers, accountancy, legal, and insurance industries. The company has 22 employees. Four of them are available to provide professional services and client support for the solution. The average experience of the employees is 14 years.

Table 28: Company and Product Snapshot

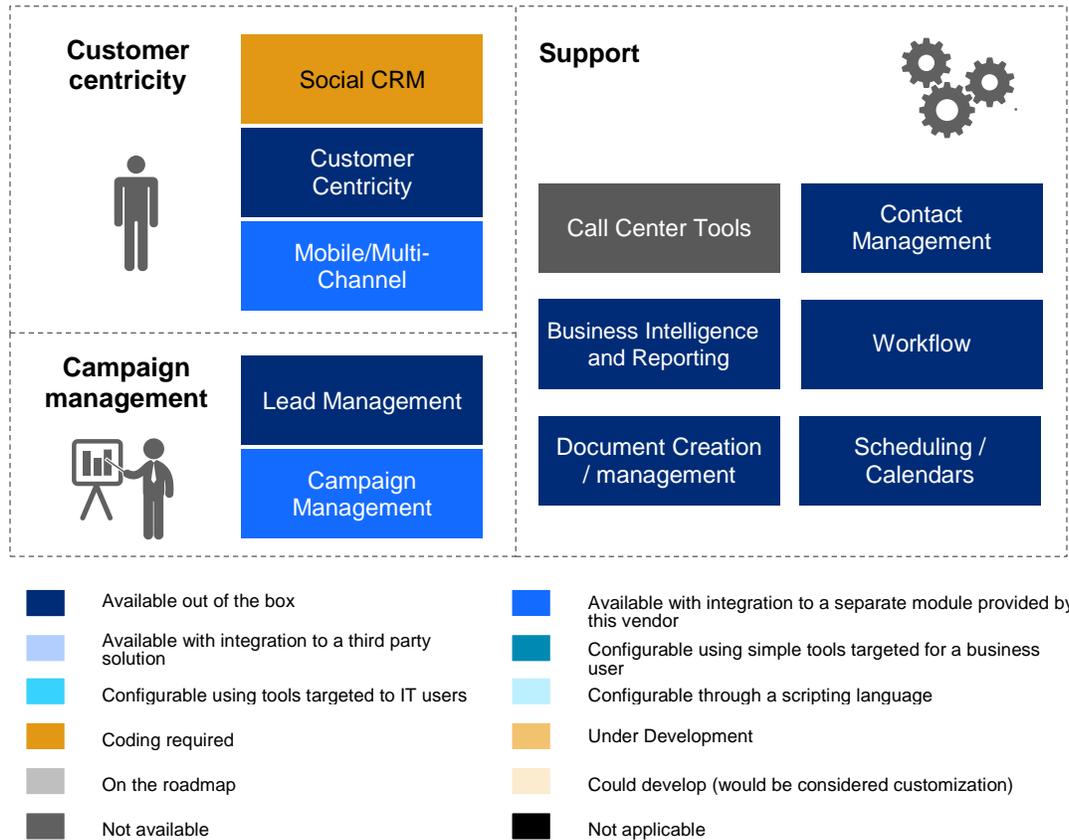
COMPANY	Annual revenues derived from this product	Confidential
	Year founded	1996
	Exchanges/Symbols	N/A
	Headquarters Location	Global: United Kingdom Europe, Caribbean, Middle East, and Africa: United Kingdom, Monaco Asia-Pacific: Australia
CRM	Name	CRM 360
	Current release and date of release	360 v.6.31
	Last major release (change to technology)	2017 360 Migration to .Net / c# UI
	Release intervals	Major enhancement: Annually Minor enhancement: Quarterly
	Upgrades	Clients can skip one version (e.g., go from version 4.0 to 6.0). They support current versions and up to two prior.
	Target market	Institutions with 10 to 200 employees.

Source: Vendor RFI

OVERALL FUNCTIONALITY

The majority of the functionality is available out of the box. Exceptions include Campaign Management and Mobile/Multi-Channel, which are available with integration to a separate module provided by the vendor; and Social CRM, which requires coding. Call Center Tools are not available.

Figure 8: Functionality



Source: Vendor RFI

CUSTOMER BASE

enSynergy has a total of 95 clients; of them seven are new clients since 2015. Most clients are allocated in Europe, followed by Asia-Pacific and Caribbean / Latin America, and finally North America. Clients include private banks, family offices, and trust companies.

Table 29: Customer Base

CUSTOMER BASE		Total clients	95
	New clients since 2015	7	
	Upgrades since 2015	15	
	Percentage breakdown of clients in following regions	North America:	5%
		Europe and Middle East:	75%
		Asia-Pacific:	10%
		Latin America / Caribbean:	10%
	Percentage breakdown of clients by type of financial institution	Private bank:	10%
		Family office:	25%
		Trust companies:	55%
		Other:	10%
DEPLOYMENT METHOD AND		Deployment method	On-Premise: 80%
			In the cloud: 20%

MARQUEE CLIENTS	(percentage of client base)
Marquee clients	Not provided

Source: Vendor RFI

PRODUCT LINES SUPPORTED

Banks with CRM 360 typically use the solution to support the following product lines and services.

Table 30: Supported Products

PRODUCT	SUPPORT	COUNTRIES
PERSONAL LOANS	NS	Does not apply
COMMERCIAL LOANS	NS	Does not apply
MORTGAGE	NS	Does not apply
CREDIT CARD	NS	Does not apply
SAVINGS ACCOUNTS	NS	Does not apply
CHECKING ACCOUNTS	NS	Does not apply
CERTIFICATE OF DEPOSIT (CDS)	NS	Does not apply
MONEY MARKET ACCOUNTS	NS	Does not apply
BROKERAGE ACCOUNTS	NS	Does not apply
INSURANCE (OFFERED THE BANK)	NS	Does not apply
LOYALTY PROGRAMS	NS	Does not apply
CLAIMS	NS	Does not apply
CUSTOMER SERVICE	NS	Does not apply
OTHER	●	Confidential

Source: Vendor RFI

Legend: ● = In Production, ○ Supported but not in production, NS=Not Supported

TECHNOLOGY

enVisual 360 is thin client based and native application / Java client for end users. It has a thin client based and native application / Java client interface for developers and configurers. The technical architecture is confidential.

The solution natively supports Windows and mobile-friendly HTML5 apps.

Table 31: Technology Options

TECHNOLOGY	SPECIFICS
CODE BASE	<u>Core technology</u> : C++: 20% .NET (): 80%

TECHNOLOGY	SPECIFICS
	<u>Business users:</u> C++: 20% .NET (:): 80% <u>Developers:</u> C++: 20% .NET (:): 80%
OPERATING SYSTEMS	Microsoft .NET Operating systems deployed on: Microsoft Windows
APPLICATION SERVERS	Not provided
DATABASES	Preferred: Microsoft SQL Server Additional options: Other SQL
INTEGRATION METHODS	Preferred: ACORD Standard XML Additional options: SOA/Web Services; Other XML; MQSeries, JMS or similar queue technology; Flat files; Custom API 50% of transactions accessible to external web services; 50% of integration points can use web services / SOA.
SCALABILITY	Largest deployment: 400 users. System has been optimized to manage entities in the hundreds of thousands.

Source: Vendor RFI

The data model is proprietary. The data model can be extended by institutions via enSynergy's BPM tool sets. For the financial institutions to make changes to the data model, the vendor has a set of tools that allow technical staff to extend the data model and the SQL database schema. They recommend that a DBA extend the database schema in SQL (the changes in business logic and screen designs are written in code). They have provided a number of extension points in the data model where the customer can store data of their choosing (the number of slots is limited, and the underlying schema cannot be changed except by changing code). They use XML directly in their database and allow the customer to store any data in this format. The data model will be released to a bank. It is easily published to a bank manager's data model, and it can be mapped to an intermediate format.

Institutions generally do not have access to core code. About 1% to 10% of customization of the CRM is usually required for a client to be up and running.

Bank product configuration, screen configuration, workflow configuration, business rule configuration, interface configuration, and role-based security integration are configurable using simple tools targeted for a business user. Data configuration is configurable using tools targeted for an IT user.

Product changes can be analyzed using an impact analysis tool that provides a report, detailing products and channels affected, and can be tested in a standard way using common tools. A restart of the system is not required for any changes.

PARTNERSHIPS

enSynergy has established partnerships with WorldCompliance, RDC. CRM 360 is preintegrated with Accounts Professional 360 (their products) for account aggregation,

A/P - disbursement systems, and general ledger; LiveFile 360 (their products) for document management systems; the solution has its own internal rules engine; LiveScan 360 for third party data services (e.g., market data such as LexisNexis, IS, etc.); and enProcess 360 (their product) for workflow engine.

IMPLEMENTATION, PRICING, AND SUPPORT

The preferred implementation approach is hybrid of Waterfall and Agile. A typical project team of 4 to 10 people consists of resources from the bank (10%), enSynergy (75%), and third parties (15%). enSynergy does not typically work with third party system integrators.

enSynergy offers term license, usage-based, SaaS, and subscription. The license fees are typically based on number of functional components/modules and number of concurrent users. Banks may also need to license the following third party software: Microsoft SQL.

The vendor will offer a fixed price implementation based on agreed scope and requirements documents. CRM 360 can be deployed as on premises, hosted on vendor's own data center, hosted on external data center, through the cloud, and through BPO.

The total cost to implement CRM 360 can vary according to the capabilities and available resources of the client, and the overall scope of system use.

IVANTI, INC.: GOLDMINE PREMIUM EDITION & GOLDMINE CLOUD

COMPANY

Ivanti is the publisher of GoldMine and is a privately owned company headquartered in South Jordan, UT with sales and professional services personnel located throughout the North American, European, Middle Eastern, and African, Asia-Pacific, and Latin American regions. Ivanti's business is providing software and services to the financial service and manufacturing, distribution, business services, insurance, and healthcare industries. The company has over 1,600 employees. Over 70 GoldMine certified partners are available to provide professional services and client support for the solution. The average experience of the employees is 10 years.

Table 32: Company and Product Snapshot

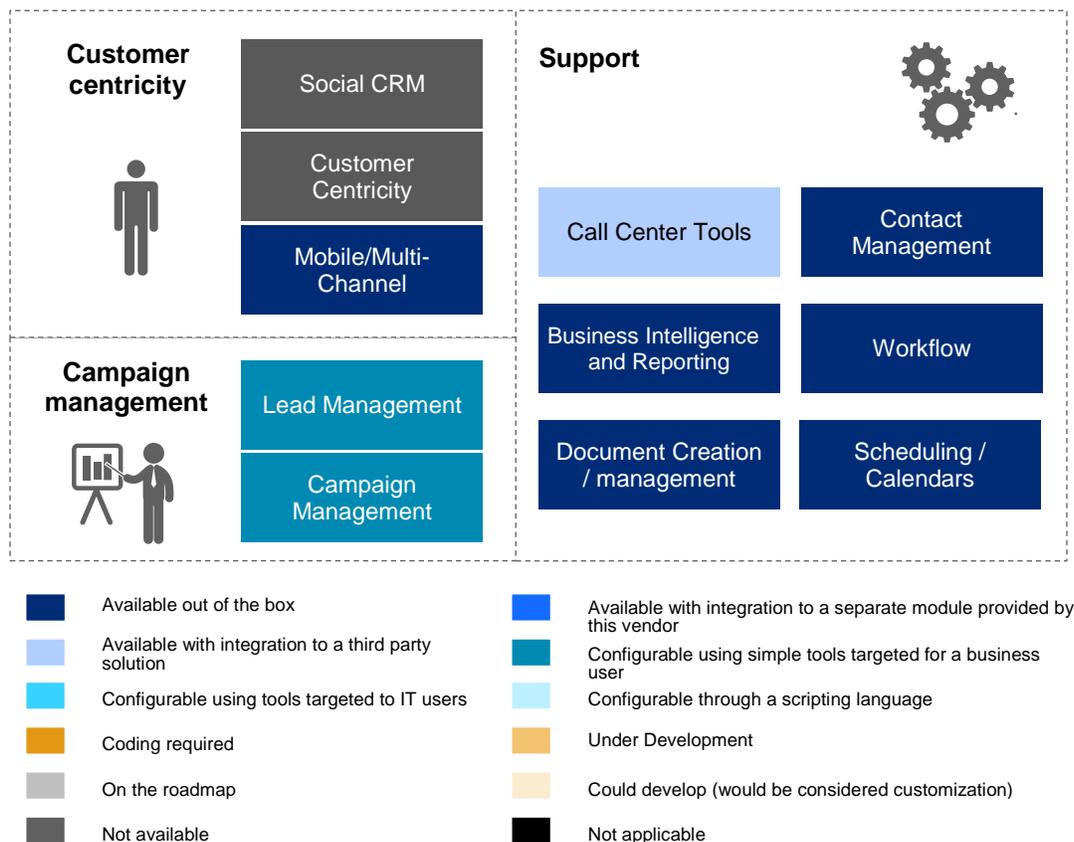
COMPANY	Annual revenues derived from this product	Confidential
	Year founded	1989 (GoldMine)
	Exchanges/Symbols	Does not apply
	Headquarters Location	Global: South Jordan, UT North America: South Jordan, UT Europe, Middle East and Africa: Dublin, Warsaw Asia-Pacific: Sydney Latin America: Brazil
CRM	Name	GoldMine Premium Edition & GoldMine Cloud
	Current release and date of release	2018.1 released Nov 2017
	Last major release (change to technology)	2014 2014.2 Release of a mobile responsive web client for real-time access from PCs, tablets, and smart phones
	Release intervals	Major enhancement: One to two a year Minor enhancement: Download
	Upgrades	Clients can skip multiple versions (e.g., go directly from version 4.0 to version 7.0). They support current versions and up to two prior.
	Target market	Not provided

Source: Vendor RFI

OVERALL FUNCTIONALITY

The majority of the functionality is available out of the box. Exceptions include Campaign Management and Lead Management, which are configurable using simple tools targeted for a business user; and Call Center Tools, which are available with integration to a third party solution. Social CRM and Customer Centricity are not available.

Figure 9: Functionality



Source: Vendor RFI

CUSTOMER BASE

Ivanti does not disclose information about its clients.

Table 33: Customer Base

CUSTOMER BASE	Total clients	Confidential
	New clients since 2015	Confidential
	Upgrades since 2015	3
	Percentage breakdown of clients in following regions	Confidential
	Percentage breakdown of clients by type of financial institution	Confidential

DEPLOYMENT METHOD AND MARQUEE CLIENTS	Deployment method (percentage of client base)	On-Premise: In the cloud:	90% 10%
	Marquee clients	Confidential	

Source: Vendor RFI

PRODUCT LINES SUPPORTED

Banks with GoldMine Premium Edition & GoldMine Cloud typically use the solution to support the following product lines and services.

Table 34: Supported Products

PRODUCT	SUPPORT	COUNTRIES
PERSONAL LOANS	NS	Does not apply
COMMERCIAL LOANS	NS	Does not apply
MORTGAGE	NS	Does not apply
CREDIT CARD	NS	Does not apply
SAVINGS ACCOUNTS	NS	Does not apply
CHECKING ACCOUNTS	NS	Does not apply
CERTIFICATE OF DEPOSIT (CDS)	NS	Does not apply
MONEY MARKET ACCOUNTS	NS	Does not apply
BROKERAGE ACCOUNTS	NS	Does not apply
INSURANCE (OFFERED THE BANK)	NS	Does not apply
LOYALTY PROGRAMS	NS	Does not apply
CLAIMS	NS	Does not apply
CUSTOMER SERVICE	●	Confidential
OTHER (SUPPORT TICKET TRACKING MODULE)	●	Confidential

Source: Vendor RFI

Legend: ● = In Production, ○ Supported but not in production, NS=Not Supported

TECHNOLOGY

GoldMine is a Windows-based application with browser based access as an option, thin client based, and native application / Java client for end users. It has a Windows and API interface for developers and configurers. The technical architecture is SQL Tables and client/server.

Applications for employees and agents/representatives are live, and there are no plans to offer one for end customers.

The solution natively supports mobile-friendly HTML5 apps.

Table 35: Technology Options

TECHNOLOGY	SPECIFICS
CODE BASE	<p><u>Core technology:</u> C++: 100%</p> <p><u>Business users:</u> C++: 100%</p> <p><u>Developers:</u> Other (API): 100%</p>
OPERATING SYSTEMS	Operating systems deployed on: Windows 10, Server 2016 (and some prior versions)
APPLICATION SERVERS	Not provided
DATABASES	<p>Preferred: Microsoft SQL Server (only option)</p> <p>Additional options: None</p>
INTEGRATION METHODS	<p>Preferred: Custom API</p> <p>Additional options: None</p>
SCALABILITY	<p>Largest deployment: 600 users.</p> <p>Based on Windows and SQL architecture of client.</p>

Source: Vendor RFI

The data model is proprietary. The data model can be extended by institutions using a configuration screen to add custom fields and third party product to add tables. For the financial institutions to make changes to the data model, the vendor has provided a number of extension points in the data model where the customer can store data of their choosing (the number of slots is limited, and the underlying schema cannot be changed except by changing code). The data model will be released to a bank.

Institutions generally do not have access to core code. About 1% to 10% of customization of the CRM system is usually required for a client to be up and running.

Bank product configuration, screen configuration, workflow configuration, business rule configuration, interface configuration, data configuration, and role-based security integration are configurable using simple tools targeted for a business user.

Product changes cannot be analyzed and cannot be tested. A restart of the system is not required for any changes.

PARTNERSHIPS

GoldMine has established partnerships with CloudJumper, GraphOn, and Constant Contact. GoldMine Premium Edition & GoldMine Cloud includes integration for Constant Contact users.

GoldMine has a Canadian based a managed and application service provider (MSP/ASP) for GoldMine Cloud that provides options for one to two users and data storage for the Canadian market.

IMPLEMENTATION, PRICING, AND SUPPORT

The preferred implementation approach is other. A typical project team consists of one person assigned by the bank and/or third parties. Ivanti does typically work with third party system integrators.

Ivanti offers perpetual license and subscription. The license fees are typically based on number of concurrent users. Banks may also need to license the following third party software: Microsoft SQL Server for database. GoldMine Premium Edition is offered as on-premise, third party hosting, and cloud.

The total cost to implement GoldMine Premium Edition & GoldMine Cloud can vary according to the capabilities and available resources of the client, and the overall scope of system use.

For an in-house implementation model, the /license would typically be US\$695 one-time perpetual license fee per concurrent user list, with volume discounts available. Implementation and customization costs would typically be from US\$0 (self-install) to an average of two days (US\$2,400). Annual maintenance fees are US\$139 per user per year for software updates and unlimited self-service and phone support (annual minimum of US\$417).

For an ASP implementation model, the subscription is \$55 per user per month (minimum of three); license is not applicable. Implementation and customization costs would typically be from US\$0 (self-install) to an average of two days (US\$2,400). Annual maintenance fees are not applicable.

NEXJ SYSTEMS INCORPORATED: NEXJ CRM

COMPANY

NexJ Systems Inc. is a publicly traded company headquartered in Toronto, Canada with sales and professional services personnel located throughout North America and Australia. NexJ Systems Inc.’s business is providing software and services to the financial service and insurance industries. The company has 176 employees. 65 are available to provide professional services and client support for the solution. The average experience of the employees is between 10 and 15 years.

Table 36: Company and Product Snapshot

COMPANY	Annual revenues derived from this product	US\$25.4 million
	Year founded	2003
	Exchanges/Symbols	TSX:NXJ
	Headquarters Location	Global: Toronto, Ontario, Canada
CRM	Name	NexJ CRM
	Current release and date of release	NexJ CRM 8.5, released May 2017
	Last major release (change to technology)	2016 <ul style="list-style-type: none"> • NexJ Server as an alternative application server to WebSphere and Jboss. • Major upgrade to NexJ's reporting engine • Support for additional third party platforms: Exchange 2013/2016, Oracle 12C, WebSphere 8.5.5.x, SQL Server 2016
	Release intervals	Major enhancement: NexJ provides three types of releases: <ul style="list-style-type: none"> • Major releases. These represent significant architectural changes and occur every 12 to 18 months. • Service Pack releases. These mainly compromise targeted bug fixes and occasional minor feature enhancements and occur every four months. • Hot Fix releases. These are reserved for production issues and occur when necessary. • The NexJ Enterprise Application Platform enables a faster, more flexible deployment process, and the continuous delivery of features into production. Minor enhancement: See above.
	Upgrades	Clients can skip multiple versions (e.g., go directly from version 4.0 to version 7.0). They support current versions and up to two

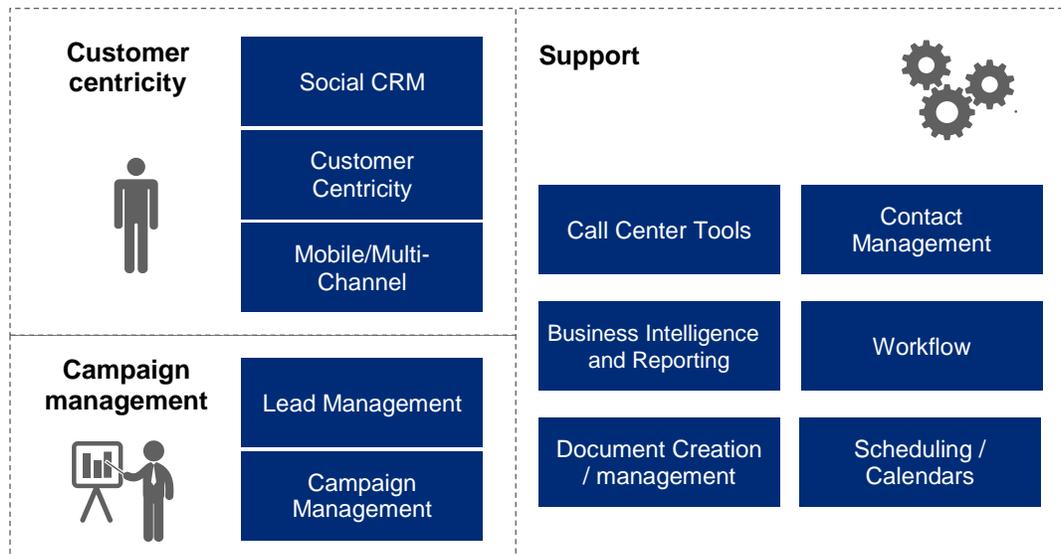
	prior.
Target market	Enterprise Financial Services Organizations

Source: Vendor RFI

OVERALL FUNCTIONALITY

All the functionality is available out of the box.

Figure 10: Functionality



- Available out of the box
- Available with integration to a third party solution
- Configurable using tools targeted to IT users
- Coding required
- On the road map
- Not available
- Available with integration to a separate module provided by this vendor
- Configurable using simple tools targeted for a business user
- Configurable through a scripting language
- Under Development
- Could develop (would be considered customization)
- Not applicable

Source: Vendor RFI

CUSTOMER BASE

NexJ Systems Inc. has clients from various industries in 63 countries. Most clients are allocated in North America, followed by Europe and Asia-Pacific. Clients include private banks, investment banks, brokerages, and bank-affiliated brokerages.

Table 37: Customer Base

CUSTOMER BASE	Total clients	19
	New clients since 2015	2
	Upgrades since 2015	None
	Percentage breakdown of	North America: 80% Europe and Middle East: 15%

	clients in following regions	Asia-Pacific:	5%
	Percentage breakdown of clients by type of financial institution	Private bank:	5%
		Investment bank:	17%
		Brokerage:	9%
		Bank affiliated brokerage:	55%
		Other:	14%
DEPLOYMENT METHOD AND MARQUEE CLIENTS	Deployment method (percentage of client base)	On-Premise:	100%
	Marquee clients	HSBC, Wells Fargo, ANZ	

Source: Vendor RFI

PRODUCT LINES SUPPORTED

Banks with NexJ CRM typically use the solution to support the following product lines and services.

Table 38: Supported Products

PRODUCT	SUPPORT	COUNTRIES
PERSONAL LOANS	NS	Does not apply
COMMERCIAL LOANS	●	See list below
MORTGAGE	●	See list below
CREDIT CARD	●	See list below
SAVINGS ACCOUNTS	●	See list below
CHECKING ACCOUNTS	●	See list below
CERTIFICATE OF DEPOSIT (CDS)	●	See list below
MONEY MARKET ACCOUNTS	●	See list below
BROKERAGE ACCOUNTS	●	See list below
INSURANCE (OFFERED THE BANK)	NS	N/A
LOYALTY PROGRAMS	●	See list below
CLAIMS	NS	See list below
CUSTOMER SERVICE	●	See list below

Source: Vendor RFI

Legend: ● = In Production, ○ Supported but not in production, NS=Not Supported

List of countries where the solution is implemented: Argentina, Australia, Austria, Belgium, Bermuda, Brazil, Canada, Cambodia, China, Cook Islands, Cyprus, Czech Republic, France, Fiji, Germany, Gibraltar, Greece, Guernsey, Hong Kong, India, Indonesia, Ireland, Isle of Man, Israel, Italy, Japan, Jersey, Jordan, Kiribati, Laos, Lebanon, Luxembourg, Malaysia, Malta, New Zealand, Oman, Papua New Guinea, Peru, Poland, Qatar, Russian Federation, Samoa, Saudi Arabia, Singapore, Solomon Islands, South Africa, South Korea, Spain, Sri Lanka, Sweden, Switzerland, Taiwan, Thailand, Timor-Leste, Tonga, Turkey, United Arab Emirates, United Kingdom, United States, Vanuatu, and Vietnam.

TECHNOLOGY

NexJ Systems Inc. is browser based, thin client based, and native application / Java client for end users. It has a browser based and native application / Java client interface for developers and configurers.

Applications for employees, end customers, and agents/representatives are all live.

The solution natively supports mobile-friendly HTML5 apps.

Table 39: Technology Options

TECHNOLOGY	SPECIFICS
CODE BASE	<p><u>Core technology:</u> Java: 5% Other (NexJ Studio): 95%</p> <p><u>Business users:</u> Java: 100%</p> <p><u>Developers:</u> Java: 5% Other (NexJ Studio): 95%</p>
OPERATING SYSTEMS	<p>JEE/Java</p> <p>Operating systems deployed on: Enterprise distributions of Linux, including CentOS, openSUSE, and Red Hat; IBM AIX, Oracle Solaris for SPARC; Microsoft Windows; additional configurations may be supported as required.</p>
APPLICATION SERVERS	<p>Jboss (Red Hat), WebSphere (IBM), and NexJ Server are preferred servers and are in production.</p>
DATABASES	<p>Preferred: Oracle; Microsoft SQL Server</p> <p>Additional options: DB2/UDB; Sybase; Others (SAP Sybase Adaptive Server Enterprise, Oracle MySQL, and PostgreSQL)</p>
INTEGRATION METHODS	<p>Preferred: SOA/Web Services; ACORD Standard XML; Other XML; MQSeries, JMS or similar queue technology; Flat files; Custom API</p> <p>Additional options: Direct Database Integration</p> <p>100% of transactions accessible to external web services; 100% of integration points can use web services / SOA.</p>
SCALABILITY	<p>Largest deployment: 35,000 users.</p> <p>The NexJ solution is specifically architected to be highly scalable. It has been certified under a load of over 65,000 users by an independent testing lab. During this testing, the NexJ solution maintained subsecond response times while processing over 85,000 transactions per hour and maintained</p>

responsiveness up to 250,000 transactions per hour.

Source: Vendor RFI

NexJ provides a Model Driven Engineering framework that is a customizable Services Oriented Architecture (SOA)-based technology platform designed for easy customization and integration with other systems. With this platform, customers can rapidly deploy the integrated CRM solution that meets their unique and specific requirements, and continue to evolve the solution as requirements change. The NexJ solution includes a common Business Domain Model across all applications and systems that is insulated from the low-level complexities of the underlying platform. NexJ CRM is developed in NexJ Studio using NexJ's declarative domain-specific language for enterprise development. NexJ Studio is based on Eclipse, an open source Java application framework with a rich Java development ecosystem. The entire application, including the data dictionary and logical database models, is specified in metadata. If a developer changes the model, the application components also change, so the diagrams are always an accurate depiction of the system. Using NexJ Studio's easy-to-use graphical modeling tools, organizations can customize the solution's rich entity model by adding attributes and defining events as required. The majority of NexJ enterprise customers modify the data model to meet their unique and specific business requirements. The model documentation is published as a PDF document. It is also available as interactive UML class and activity diagrams in NexJ Studio. This provides an easy way for developers to navigate through the model and access the documentation.

Customers are provided with a physical data model as part of the professional services engagement. It supports relational databases. These logical representations specify how data is organized into tables with columns and indexes and are used to generate actual RDBMS vendor-specific schema at deploy time, including IBM DB2, Microsoft SQL Server, and Oracle Database. The business model is specified in UML2 class diagrams supporting inheritance and associations. This is where the concepts and their relationships are primarily defined and explored. The business model has a clear relationship to the underlying relational data sources through a flexible persistence mapping. The data model can be extended by institutions using tools. For the financial institutions to make changes to the data model, the vendor has a set of tools that allow technical staff to extend the data model and the SQL database schema. The data model will be released to a bank. It is easily published to a bank manager's data model, and it can be mapped to an intermediate format.

Institutions generally have access to the code. NexJ CRM is a domain model which is typically customized by the institutions.

Screen configuration, workflow configuration, business rule configuration, and interface configuration are configurable using simple tools targeted for a business user. Bank product configuration, data configuration, and role-based security integration are configurable using tools targeted for an IT user.

Product changes can be analyzed using testing tools provided that help evaluate the impact of change and can be tested in a standard way using common tools, and they provide a set of prebuilt tests. A restart of the system is not required for any changes.

PARTNERSHIPS

NexJ Systems Inc. has established partnerships with SAP for analytics, Microsoft for integration, and JasperSoft, Oracle, and MySQL. NexJ CRM is preintegrated with Broadridge Investigo, SunGard WealthStation, and Thomson ONE Advisor for account aggregation; Dataphile for A/P - disbursement systems; Documentum, SharePoint, and

PackMan for document management systems; Teradata, MSSQL, Oracle, DB2, MySQL, PostgreSQL, Sybase, and SAP HANA for proprietary in-house data marts for data warehouse; GrapeVine6 for social media; LexisNexis, Morningstar, MT Newswire, Dow Jones News, Funddata, NBCN, Dow Jones, Yahoo! Finance, and Google Finance for third party data services (e.g., market data); and Microsoft Dynamics CRM and Pegasystems for workflow engine.

IMPLEMENTATION, PRICING, AND SUPPORT

The preferred implementation approach is a hybrid of Waterfall and Agile. A typical project team size varies and consists of resources from the bank, NexJ Systems Inc., and third parties. NexJ Systems Inc. can either provide the NexJ Professional Services team or third party systems integrators to implement the NexJ solution.

NexJ Systems Inc. offers term license, perpetual license, SaaS, and subscription. The license fees are typically based on number of functional components/modules, number of total or named users, and enterprise license / flat fee.

NexJ CRM can be deployed as on premises, hosted on external data center, through the Cloud, and as SaaS (if hosted, the solutions are based on a single-tenant architecture).

The total cost to implement NexJ CRM can vary according to the capabilities and available resources of the client, and the overall scope of system use.

For an in-house implementation model, the license would typically be priced as a one-time software license fee (perpetual license). NexJ CRM is priced on a per named user basis at US\$2,000 to \$2,750 (depending on selected products) before volume discounts. NexJ Server is priced on a per server, per CPU Core basis at US\$10,000 per license. NexJ Studio is priced on a per named user/developer basis at US\$5,000 per user. Implementation and customization costs would typically be available at a blended daily rate starting at US\$1,800 per eight (8) hour day. Volume discounts are available, based on the total number of professional services days committed to in a single twelve (12) month period. Annual maintenance and support fees are priced as a percentage of the software license fees. NexJ provides three support options: Standard Support (18%), Extended Support (20%), and Comprehensive Support (22%).

OBJECTWAY S.P.A.: CLIENT ENGAGE

COMPANY

Objectway is a privately owned company, with outside investors, headquartered in Milan, Italy with sales and professional services personnel located throughout the European, Middle Eastern, and African region. Objectway's business is providing software and services to the financial service, banking, securities, and the insurance industry. The company has over 580 employees. Eight are available to provide professional services and client support for the solution. The average experience of the employees is over 10 years.

Table 40: Company and Product Snapshot

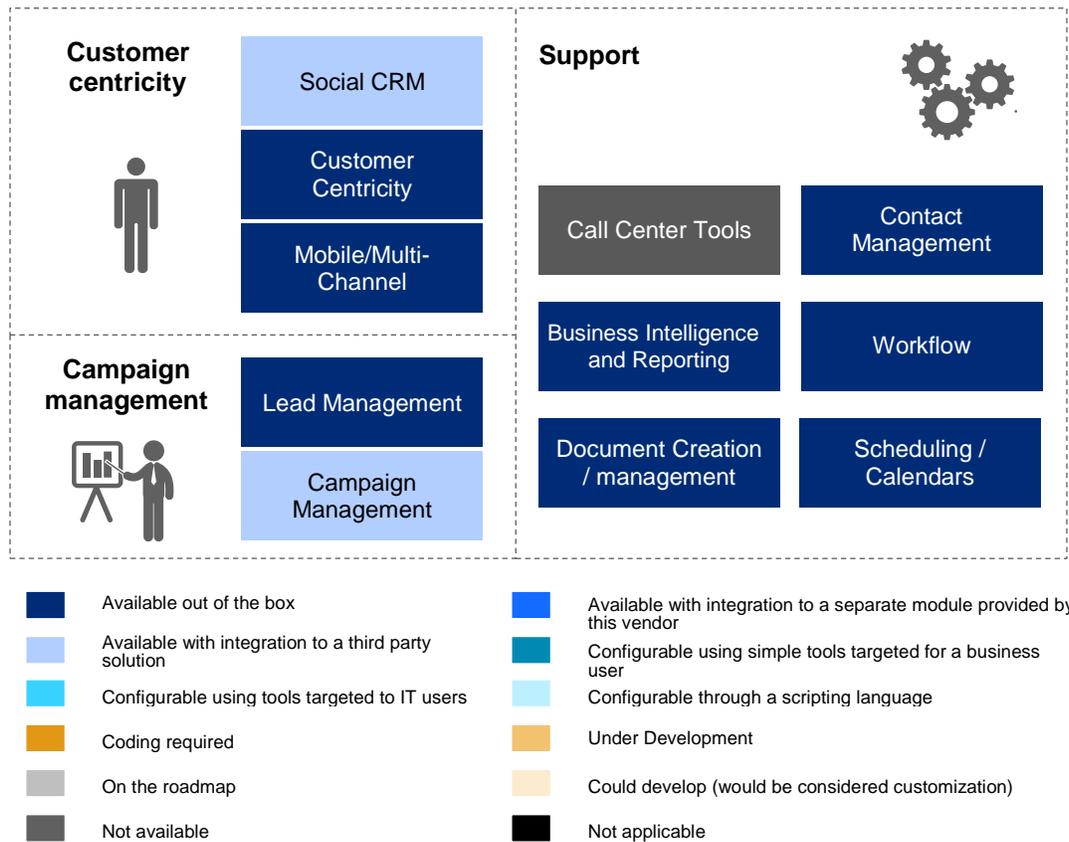
COMPANY	Annual revenues derived from this product	US\$2 million
	Year founded	1990
	Exchanges/Symbols	Does not apply
	Headquarters Location	Global: Milan, Italy Europe, Middle East, and Africa: London, Brussels, Dublin, Johannesburg
CRM	Name	Client Engage
	Current release and date of release	version 2.0 was released end of June
	Last major release (change to technology)	2017 2.0 Introduction of a Message Broker integration for loosely coupled integration with other systems and backend layer in .NET for scheduling tasks and backend processing. Exposing a rest API for data extraction and ingestion.
	Release intervals	Major enhancement: 2 times per year Minor enhancement: Every 2 weeks
	Upgrades	Clients can skip multiple versions (e.g., go directly from version 4.0 to version 7.0). They support current versions and up to two prior.
Target market	Private wealth managers, stockbrokers, and private bankers of T2, T3, and T4 organisations in the EMEA region.	

Source: Vendor RFI

OVERALL FUNCTIONALITY

The majority of the functionality is available out of the box. Exceptions include Campaign Management and Social CRM, which are available with integration to a third party solution. Call Center Tools are not available.

Figure 11: Functionality



Source: Vendor RFI

CUSTOMER BASE

Objectway has a total of three clients; all three are new clients since 2015. All clients are allocated in Europe. Clients include retail banks, private banks, wealth managers and stockbrokers, fund and asset managers, insurers, and service providers.

Table 41: Customer Base

CUSTOMER BASE	Total clients	3	
	New clients since 2015	3	
	Upgrades since 2015	1	
	Percentage breakdown of clients in following regions	Europe and Middle East:	100%
	Percentage breakdown of clients by type of financial institution	Retail bank: Private bank: Other:	21% 6% Wealth Managers & Stockbrokers 45%; Fund & Asset Managers 7%; Insurers 5%; Service

			Providers 7%; Other Segments 9%
DEPLOYMENT METHOD AND MARQUEE CLIENTS	Deployment method (percentage of client base)	On-Premise:	33.4%
		Hosted:	33.3%
		SaaS:	33.3%
	Marquee clients	Not provided	

Source: Vendor RFI

PRODUCT LINES SUPPORTED

Banks with Client Engage typically use the solution to support the following product lines and services.

Table 42: Supported Products

PRODUCT	SUPPORT	COUNTRIES
PERSONAL LOANS	NS	Does not apply
COMMERCIAL LOANS	NS	Does not apply
MORTGAGE	NS	Does not apply
CREDIT CARD	NS	Does not apply
SAVINGS ACCOUNTS	NS	Does not apply
CHECKING ACCOUNTS	NS	Does not apply
CERTIFICATE OF DEPOSIT (CDS)	NS	Does not apply
MONEY MARKET ACCOUNTS	●	UK, Italy
BROKERAGE ACCOUNTS	●	UK
INSURANCE (OFFERED THE BANK)	NS	Does not apply
LOYALTY PROGRAMS	NS	Does not apply
CLAIMS	NS	Does not apply
CUSTOMER SERVICE	●	UK, Italy

Source: Vendor RFI

Legend: ● = In Production, ○ Supported but not in production, NS=Not Supported

TECHNOLOGY

Objectway is browser based for end users. It has a browser based and native application/java client interface for developers and configurers. The technical architecture is built on top of MS CRM Dynamics 365 both online and on-premises, supported with an additional application backend layer built on top of IIS to complete the solution with backend processes to make it more robust and to have strong integration capabilities over a message broker or external APIs.

Applications for employees and end customers are live, and they are planning to develop one for agents and representatives.

The solution natively supports Apple (iOS), Android, Windows, and mobile-friendly HTML5 apps.

Table 43: Technology Options

TECHNOLOGY	SPECIFICS
CODE BASE	<p><u>Core technology:</u> .NET (): 100%</p> <p><u>Business users:</u> .NET (): 100%</p> <p><u>Developers:</u> .NET (): 100%</p>
OPERATING SYSTEMS	<p>Microsoft .NET</p> <p>Operating systems deployed on: Microsoft Servers</p>
APPLICATION SERVERS	Microsoft .Net Application Server
DATABASES	<p>Preferred: Microsoft SQL Server (only option)</p> <p>Additional options: None</p>
INTEGRATION METHODS	<p>Preferred: SOA/Web Services</p> <p>Additional options: MQSeries, JMS or similar queue technology; Flat files; Custom API</p> <p>100% of transactions accessible to external web services; 100% of integration points can use web services / SOA.</p>
SCALABILITY	<p>Largest deployment: 250 users.</p> <p>Databases and database servers can be scaled based on multitenant instances or organizations and made redundant. The different roles of CRM Dynamics can be scaled horizontally and the Client Engage proprietary back end server can also be scaled horizontally. All servers can be failed over and be made redundant.</p>

Source: Vendor RFI

The data model is based on industry standards and is a normalized relational data model. It supports relational data model. The data model can be extended by institutions using tools (CRM Dynamics). For the financial institutions to make changes to the data model, the vendor has a set of tools that allow technical staff to extend the data model and the SQL database schema. The data model will be released to a bank. It is easily published to a bank manager's data model.

Institutions generally have access to core code. About 1% to 10% of customization of the CRM system is usually required for a client to be up and running.

Bank product configuration and screen configuration are configurable using simple tools targeted for a business user. Workflow configuration, business rule configuration, data configuration, and role-based security integration are configurable using tools targeted for an IT user. Interface configuration requires coding.

Product changes can be analyzed using the configuration and development user interface and can be tested in a standard way using common tools, and they provide a

set of prebuilt tests. A restart of the system is required for change to underlying data model, new web service, or integration point.

PARTNERSHIPS

Objectway has established partnerships with Microsoft Dynamics for CRM and Invenso for Document Generation. Client Engage is preintegrated with Alfresco and Hitec for document management systems and LexisNexis for third party data services. It is also preintegrated with Xperido, Bing Maps, Twilio (SMS), RabbitMQ, and Microsoft ServiceBus.

IMPLEMENTATION, PRICING, AND SUPPORT

The preferred implementation approach is Agile. A typical project team of 10 people consists of resources from the bank (10%), Objectway (80%), and third parties (10%). Objectway does not typically work with third party system integrators.

Objectway offers term license, perpetual license, SaaS, and subscription. The license fees are typically based on number of functional components/modules, number of total or named users, revenue, enterprise license / flat fee, and other. Banks may also need to license the following third party software: Bing Maps, Twilio, and Xperido (Invenso).

The vendor will offer a fixed price implementation only after business and technical workshops to define scope and integration approach. Client Engage can be deployed as on premises, hosted on vendor's own data center, hosted on external data center, through the cloud, and through BPO (if hosted, the solutions are based on a multitenant architecture).

The total cost to implement Client Engage can vary according to the capabilities and available resources of the client, and the overall scope of system use.

For an in-house implementation model, the subscription/license would typically be 45%. Implementation and customization costs would typically be 30%. Annual maintenance fees are 25%.

For an ASP implementation model, the subscription/license would typically be 40%. Implementation and customization costs would typically be 20%. Annual maintenance fees are 25%. Hosting fees are 15%.

SOLUCIONES TECNOLOGICAS DE LA INFORMACION S. A.: ENGAGE BUSINESS SOLUTION

COMPANY

Soluciones Tecnologicas de la Informacion is a privately owned. The company is headquartered in Buenos Aires, Argentina with services personnel located throughout South America. Soluciones Tecnologicas de la Informacion’s business is providing software and services to the banking, insurance, health, retail, and media industries. The company has 60 employees. Over 50 are available to provide professional services and client support for the solution. The average experience of the employees is 15 years.

Table 44: Company and Product Snapshot

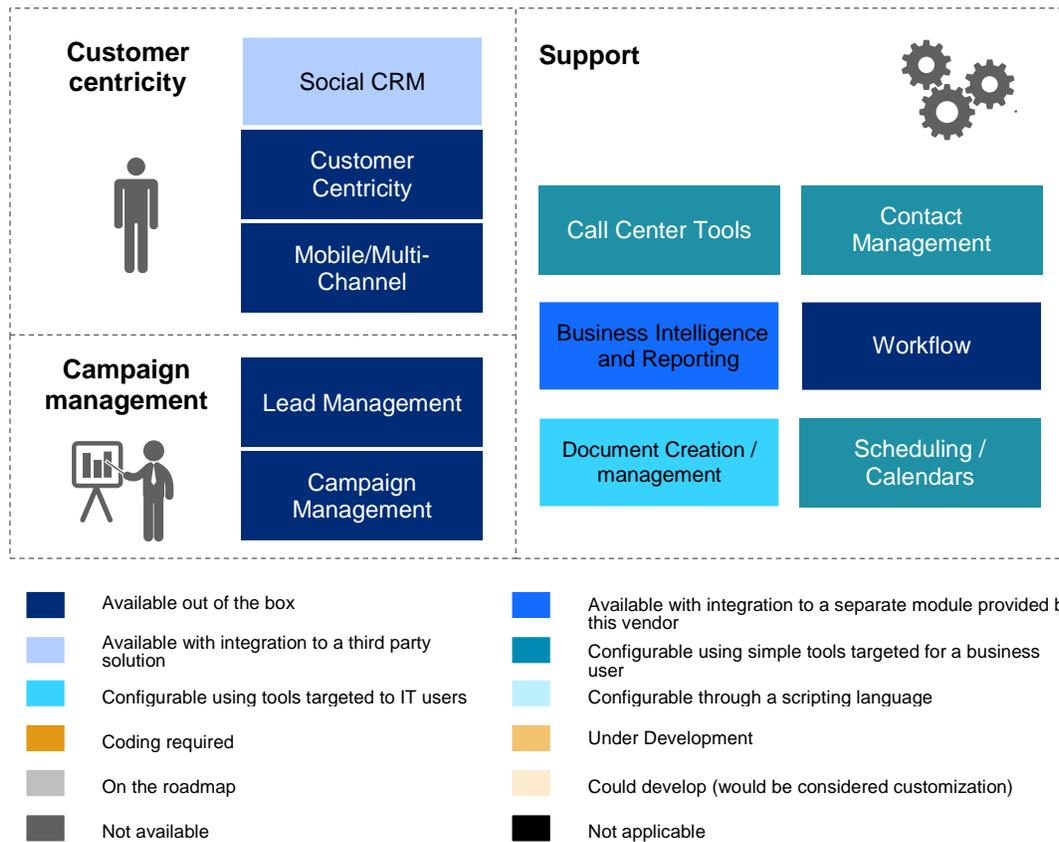
COMPANY	Annual revenues derived from this product	US\$5 million
	Year founded	1999
	Exchanges/Symbols	NA
	Headquarters Location	South America: Buenos Aires, Argentina (HQs) Montevideo, Uruguay Lima, Peru
CRM	Name	Engage Business Solution
	Current release and date of release	5.8.0.4 - (November, 2017)
	Last major release (change to technology)	2010 Framework. SOA Layer. Support for high scale operations and availability
	Release intervals	Major enhancement: 3 / 4 years Minor enhancement: Three times a year
	Upgrades	Clients must upgrade by skipping multiple versions (e.g., go directly from version 4.0 to version 7.0). They support all versions.
	Target market	Big and Mid Range Regional Companies: Banks, Finance, Retail, Insurance, Services, Telco, and Gov.

Source: Vendor RFI

OVERALL FUNCTIONALITY

The majority of the functionality is available out of the box. Social CRM is available with integration to a third party solution. Call Center Tools, Contact Management, and Scheduling / Calendars are configurable using simple tools targeted for a business user. Business Intelligence and Reporting is available through integration to a separate module provided by this vendor. Document Creation / Management is configurable using tools targeted to IT users.

Figure 12: Functionality



Source: Vendor RFI

CUSTOMER BASE

Soluciones Tecnologicas de la Informacion has 25 clients; of them, five are new clients since 2015. All the clients are allocated in Latin America, and 70% of them are retail banks.

Table 45: Customer Base

CUSTOMER BASE	Total clients	25		
	New clients since 2015	5		
	Upgrades since 2015	15		
	Percentage breakdown of clients in following regions	Latin America	100%	
		Percentage breakdown of clients by type of financial institution	Retail bank:	70%
	Other:	30%		
DEPLOYMENT METHOD AND MARQUEE CLIENTS	Deployment method (percentage of client base)	On-Premise:	80%	
		BPO:	5%	
		Hosted:	10%	
		In the cloud:	5%	
		SaaS:	10%	

Marquee clients

BBVA, ITAU, BCP, Crediq, Banco
Provincia de Buenos Aires

Source: Vendor RFI

PRODUCT LINES SUPPORTED

Banks with Engage Business typically use the solution to support the following product lines and services.

Table 46: Supported Products

PRODUCT	SUPPORT	COUNTRIES
PERSONAL LOANS	●	Argentina, Peru, El Salvador, Honduras, Costa Rica, Chile, Uruguay, Nicaragua
COMMERCIAL LOANS	●	Argentina
MORTGAGE	NS	Does not apply
CREDIT CARD	●	Argentina, Peru, Chile, El Salvador, Honduras, Costa Rica
SAVINGS ACCOUNTS	●	Argentina
CHECKING ACCOUNTS	NS	Does not apply
CERTIFICATE OF DEPOSIT (CDS)	NS	Does not apply
MONEY MARKET ACCOUNTS	NS	Does not apply
BROKERAGE ACCOUNTS	NS	Does not apply
INSURANCE (OFFERED THE BANK)	●	Argentina, Peru, Chile, El Salvador, Honduras, Costa Rica
LOYALTY PROGRAMS	●	Argentina, Peru, Chile, Ecuador, Uruguay, Colombia
CLAIMS	●	Argentina, Chile, Peru, Ecuador, Colombia, El Salvador, Honduras, Costa Rica
CUSTOMER SERVICE	●	Argentina, Chile, Peru, Ecuador, Colombia, El Salvador, Honduras, Costa Rica

Source: Vendor RFI

Legend: ● = In Production, ○ Supported but not in production, NS=Not Supported

TECHNOLOGY

Engage Business is a browser based, thin client based, and native application / Java client for end users. It also has a browser based, thin client based, and native application / Java client interface for developers and configurers. The technical architecture of Engage Business is built on .NET platform on a single vortex cloud architecture which is pure metadata-driven and multitenant. This architecture allows applications to fundamentally alter the relationships between its components to deliver exact needs of the business.

Applications for employees, end customers, and agents/representatives are all live.

The solution natively supports Apple (iOS), Android, and mobile-friendly HTML5 apps fully integrated with main workflow and business rules services.

Table 47: Technology Options

TECHNOLOGY	SPECIFICS
CODE BASE	<p><u>Core technology:</u></p> <p>.NET (C#, VB.Net. Aspx. CSS. Html5. Bootstrap.): 90%</p> <p>Visual Basic: 10%</p> <p><u>Business users:</u></p> <p>.NET (C#, VB.Net. Aspx. CSS. Html5. Bootstrap.): 90%</p> <p>Visual Basic: 10%</p> <p><u>Developers:</u></p> <p>.NET (C#, VB.Net. Aspx. CSS. Html5. Bootstrap.): 90%</p> <p>Visual Basic: 10%</p>
OPERATING SYSTEMS	<p>Microsoft .NET</p> <p>Operating systems deployed on: Windows</p>
APPLICATION SERVERS	<p>Microsoft .NET</p> <p>Operating systems deployed on: Windows</p>
DATABASES	<p>Preferred: Oracle; Microsoft SQL Server</p>
INTEGRATION METHODS	<p>Preferred: SOA/Web Services</p> <p>Additional options: Other XML, MQSeries, JMS or similar queue technology, Flat files, and Custom API</p>
SCALABILITY	<p>Engage has architecture based on scalable .Net services. All service nodes in Engage can be replicated using load balancing techniques. The system is 24x7 operating. Many of our 50 big customer have mission critical systems based on Engage (Call Centers, Customer Service, Sales, Debt collections)</p> <p>The largest deployment supported 4,500 users. There is no user limit.</p>

Source: Vendor RFI

The data model is relational and opened. Could be changed via industry standards (T-SQL / PL-SQL). The data model can be extended by institutions using codeless configuration drag and drop designers. For the financial institutions to make changes to the data model, the vendor has a set of tools that allow technical staff to extend the data model and the SQL database schema. They have provided a number of extension points in the data model where the customer can store data of their choosing (the number of slots is limited, and the underlying schema cannot be changed except by changing code). They use XML directly in their database and allow the customer to store any data in this format. The data model will be released to a bank. It is easily published to the bank manager's data model. It can be mapped to an intermediate format

Institutions generally do not have access to core code. About 1% to 10% of front end customization (Styles, JS functions, etc.) of the CRM is usually required for a client to be up and running.

Bank product configuration, screen configuration, workflow configuration, business rule configuration, interface configuration, data configuration, and role-based security integration are configurable using simple tools targeted for a business user.

Product changes cannot be analyzed but can be tested in a standard way using common tools.

PARTNERSHIPS

The solution is preintegrated with Microstrategy for data warehouse; Equifax and Nosis for third party data services integration; and SAP, Bantotal, Topaz, Censi, Altamira for banking core systems.

IMPLEMENTATION, PRICING, AND SUPPORT

The preferred implementation approach is proprietary. A typical project team of approximately seven people consists of resources from the bank (50%), Soluciones Tecnológicas de la Informacion (50%), and third parties (depends on need of the institution). Soluciones Tecnológicas de la Informacion does not typically work with third party system integrators.

Soluciones Tecnológicas de la Informacion offers term license, usage-based, SaaS, and subscription. The license fees are typically based on number of functional components/modules, number of concurrent users, number of total or named users, and the enterprise license / flat fee. Banks may also need to license the following third party software: Microstrategy OEM (although it may be optional).

The vendor will offer a fixed price implementation when defining a SLA via Contract. Engage Business can be deployed as on premises, hosted on vendor's own data center, hosted on external data center, through the cloud, and as SaaS (if hosted, the solutions are based on a multitenant architecture).

The total cost to implement Engage Business can vary according to the capabilities and available resources of the client, and the overall scope of system use.

For an in-house implementation model, the subscription/license would typically be a term based license. Implementation and customization costs would typically be between US\$200,000 and \$400,000. Annual maintenance fee is 18% of the license.

For an ASP or SaaS implementation model, the subscription/license would typically be US\$50 per user and per month. Implementation and customization costs would typically be between US\$100,000 and \$200,000. Annual maintenance fees are included in license.

LOOKING FORWARD

Key
Research
Question

3

What capabilities will CRMs be portraying in the near future?

We will be seeing CRM solutions more connected to clients through social media and mobile in the next generation of CRMs.

CRM systems will also integrate with wearable devices, and will be focused on account aggregation and analytics.

Celent expects to see the following trends in the CRM market.

Growth of mobile and wearable technologies. As more and more advisors and clients rely on their mobile devices, CRM systems will need to provide sophisticated solutions that work across all mobility technology platforms and support multiple devices. Additionally, CRM systems will integrate with wearable devices, particularly as the technology behind wearable devices deepens.

Heightened regulations and compliance measures. Regulatory and compliance obligations continue to grow in the post-financial crisis world. Data security, reporting, and email tracking and storage features will continue to be a main focus for CRM vendors. The capability for CRM systems to adapt to changing regulatory requirements will be increasingly important.

Focus on account aggregation, analytics, and real time decision-making. Bank clients are increasingly demanding a holistic view of their financial situation from their assets and accounts. CRM systems will continue to build out their analytics and BPM processes in order to automate workflow and generate real-time decisions for call center representatives, advisors, and relationship managers.

Incorporation of more collaborative and social media management tools. Vendors are offering banks the ability to manage and track social media interactions, marketing campaigns, customer query resolution, and prospecting. This also permits personnel to engage clients and prospects via social media channels, CRM systems will need to deepen their support for this channel. Privacy and compliance concerns will increase.

Usability, efficiency, and customization will be differentiators. CRM systems need to meet advisors' demand for enhancing the client experience by providing clean UIs, a clear workflow, and easy navigation. The key is to keep usability simple.

Over the past several years, interest in CRM has grown, and functionality continues to evolve. CRM is instrumental for financial institutions that are looking to provide more targeted offerings and services to clients, boost revenue, and reduce costs.

Was this report useful to you? Please send any comments, questions, or suggestions for upcoming research topics to info@celent.com.

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If you found this report valuable, you might consider engaging with Celent for custom analysis and research. Our collective experience and the knowledge we gained while working on this report can help you streamline the creation, refinement, or execution of your strategies.

SUPPORT FOR FINANCIAL INSTITUTIONS

Typical projects we support related to customer relationship management systems include:

Vendor short listing and selection. We perform discovery specific to you and your business to better understand your unique needs. We then create and administer a custom RFI to selected vendors to assist you in making rapid and accurate vendor choices.

Business practice evaluations. We spend time evaluating your business processes. Based on our knowledge of the market, we identify potential process or technology constraints and provide clear insights that will help you implement industry best practices.

IT and business strategy creation. We collect perspectives from your executive team, your front line business and IT staff, and your customers. We then analyze your current position, institutional capabilities, and technology against your goals. If necessary, we help you reformulate your technology and business plans to address short-term and long-term needs.

SUPPORT FOR VENDORS

We provide services that help you refine your product and service offerings. Examples include:

Product and service strategy evaluation. We help you assess your market position in terms of functionality, technology, and services. Our strategy workshops will help you target the right customers and map your offerings to their needs.

Market messaging and collateral review. Based on our extensive experience with your potential clients, we assess your marketing and sales materials — including your website and any collateral.

RELATED CELENT RESEARCH

Core Banking in North America: New Global Entrants
November 2017

Core Banking in Latin America: Global Vendor Edition, 2017
October 2017

Core Banking in Latin America: Local Vendor Edition, 2017
October 2017

Ranking the CRM Technology Vendors for Wealth Management: An Overview of the
North American Market
August 2015

Ranking the CRM Technology Vendors for Wealth Management: An Overview of the
European Market
July 2015

2015 CRM Solutions: A Vendor Spectrum (Insurance)
April 2015

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