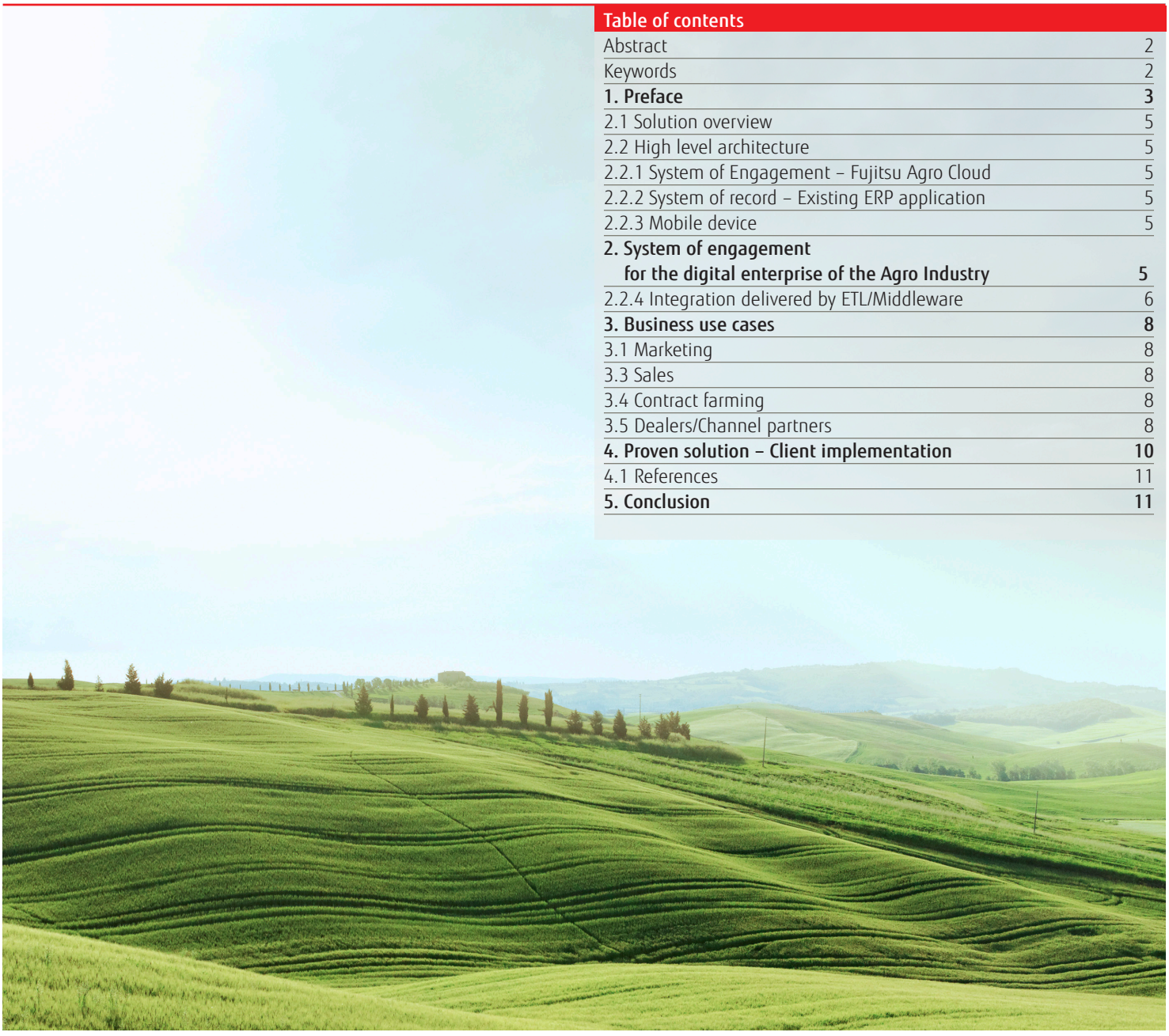
FUJITSU

White Paper
Agro 2.0: Digitalizing the path from seed to cash



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Abstract

With the entire human population as its consumer base, the significance of the world's oldest and widest industry; i.e., Agriculture, is second to none. The Green Revolution of the 1960s remains one of the iconic turning points in the history of this industry. With the world population set to reach 9.6 billion by 2050, the demand from the agriculture industry is going to skyrocket. While science continues to play an important role for this industry, the Digital revolution of the 21st century is going to be an important factor in helping it provide the next big push to grow at an accelerated pace.

The first stage in the agriculture value chain of a product's journey from farm to fork provides agricultural inputs like seeds, crop protection chemicals, crop nutrients, etc. Companies in this segment rely heavily on information technology and involve various actors like sales and service organizations, logistics, dealers, agents, distribution centers, customers, etc. These actors usually interact with the organization using manual processes or applications running in silos. One of the biggest challenges companies in this segment face is the hindrance to collaboration and innovation due to the complex and bulky, yet extremely important back office legacy systems like ERP Software.

The solution to this problem lies in the Fujitsu Agro Cloud. The solution developed by the Fujitsu SaaS Practice in the Business Application Services (BAS) organization combines the synergies of the Fujitsu GLOVIA® OM (cloud based, agile, flexible) ERP offering, industry specific accelerators, and one of the industry's best SaaS CRM platform; i.e., Salesforce®. This paper discusses the details of this solution. It has been implemented at one of the world's largest biotechnology companies here in the U.S.A. The solution exemplifies the disruptive and proven principle of two-tier architecture that turbo charges the System of Record (legacy applications like SAP®, Oracle®, etc.) with the System of Engagement (Fujitsu GLOVIA OM), and pushes the digital enterprise on the path to innovation and hyper growth.

Keywords

Agriculture, System of Engagement, Cloud, Innovation, Collaboration, GLOVIA OM

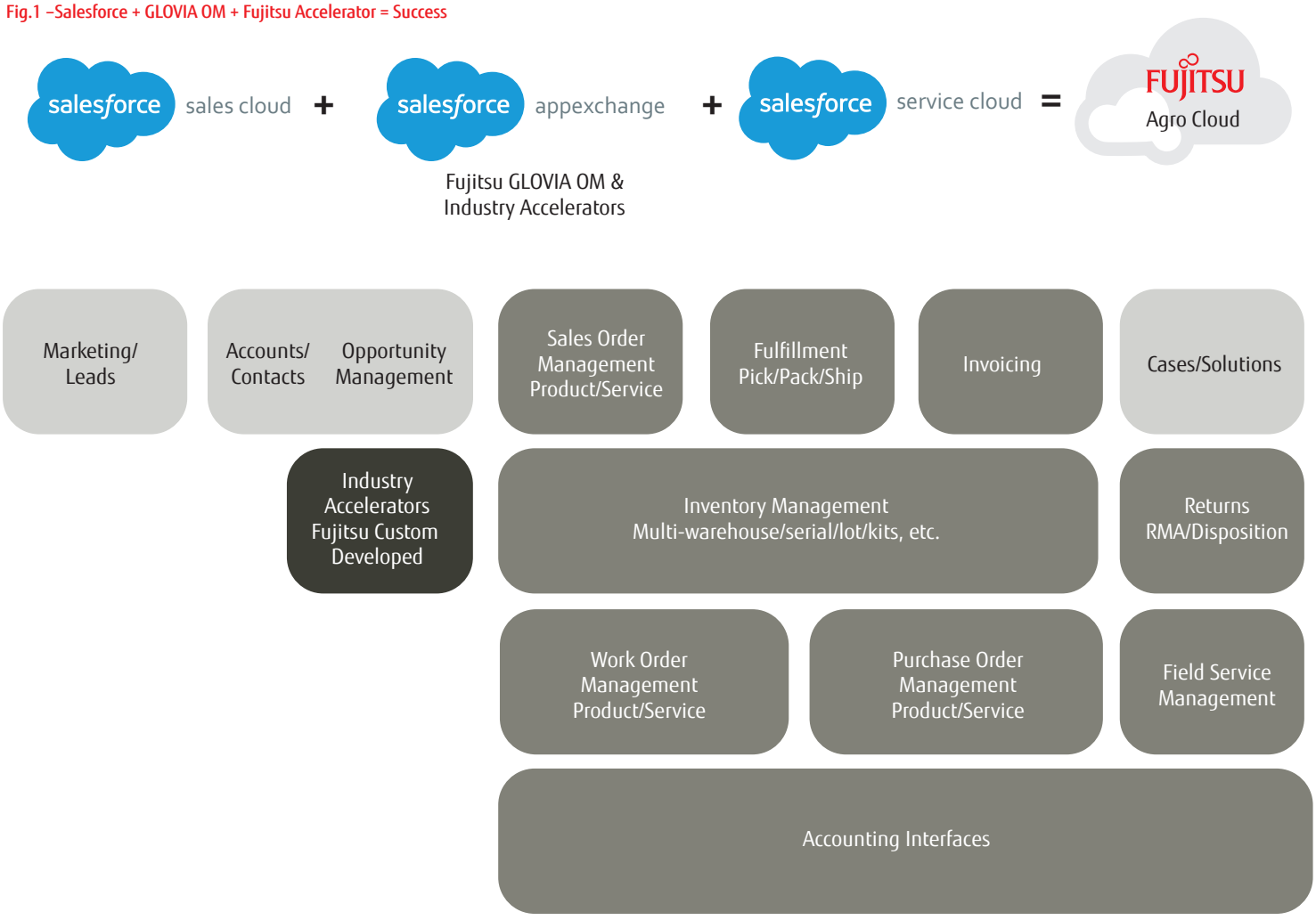
1. Preface

According to the 2013 report by the United Nations, the current world population of 7.2 billion is projected to increase by 1 billion within the next decade, and expected to reach 9.6 billion by 2050. This, combined with other challenges like the diminishing supply of land and other inputs, climate change, scarcity of resources, etc. puts forward a significant challenge for the Agriculture industry to meet rising demand.

The organizations in this industry understand that the keys to overcoming these challenges are innovation, productivity increase and cost management. The agriculture value chain typically consists of eight steps: Agricultural inputs, Production, First level handling, Food processing, Packaging, Distribution, Food services, and finally Consumers. The solution described in this paper focuses on the very first section of the value chain – the Agriculture Suppliers Industry. The organizations from this segment provide several key inputs like farm machinery, seeds, crop nutrients (fertilizers), animal feed, and crop protection chemicals (herbicides, insecticides, pesticides) to name a few. Some of the leading organizations in this segment are DuPont®, Monsanto®, Syngenta®, Limagrain, BASF®, Bayer®, Mosaic®, etc.

These companies face some key and common challenges that inhibit their growth and hence ability to contribute to the industry at large. Although these companies invested heavily in Product R&D and develop cutting edge technologies, the IT landscape of operational systems of such companies typically consists of a robust yet bulky and rigid ERP solution and other legacy e-commerce applications. Almost all the companies have global operations. Yet, most of their operations in different geographies and markets operate in silos. A common

Fig.1 –Salesforce + GLOVIA OM + Fujitsu Accelerator = Success



challenge is that their operations in the growth markets are unable to keep pace with the competition due to complex, and sometimes aging back-office systems. Lack of Collaboration between various actors of the business processes (like customers, sales, service, third party partners and logistics) always remains one of the top challenges. What these companies need is a solid system of engagement that can provide CRM and ERP capabilities, a collaborative platform for different types of stakeholders (both internal and external), and the ability to reliably integrate with the core system of record as its backbone.

The solution offering presented in this paper is an industry accelerator built on top of Fujitsu GLOVIA OM and the Force.com® platform. Force.com is a Salesforce cloud platform and it is one of the best platforms of its kind available in the market. GLOVIA OM is the Fujitsu order and inventory management solution delivered via the Force.com platform.

Why Salesforce? With consistent awards in the most innovative companies segment from Forbes®, Salesforce provides one of the best CRM solutions in the market with its marketing, sales, service and collaboration cloud features. This solution is delivered as Software as a Service (SaaS). It also provides a very powerful Platform as a Service via its Force.com platform. It has also developed an ecosystem called AppExchange®, which enables companies like Fujitsu GLOVIA to deliver their innovative solution through the Salesforce cloud.

Why GLOVIA OM? GLOVIA, a subsidiary of Fujitsu, offers a comprehensive ERP technology via three options – G2, its on premise solution; OD, the on-demand (hosted) version of G2; and GLOVIA OM, the 100% native to Force.com cloud based version, built with IP of the GLOVIA ERP solution. It provides complete quote to cash processes for products and services, comprehensive inventory management, and purchase order management processes. ERP processes in GLOVIA OM complement those of other on-premise applications like SAP, Oracle, etc., which makes integrating it with other back-end systems easy.

Thus, GLOVIA OM offers a very unique benefit to the customers – the ability to integrate with one of the best CRM solutions in the market and a lightweight yet powerful ERP system, as depicted by Figure 1. While Salesforce provides rich CRM capabilities via its Sales Cloud®, Service Cloud® and Salesforce Marketing Cloud™ solutions, GLOVIA OM adds the very significant order management cloud. And the Fujitsu custom accelerators for the industry add icing on the cake. The success of this recipe depends on integrating the system of engagement with the system of record. GLOVIA OM can deliver this by virtue of being driven by the Force.com engine; all built 'API First' that enables easy and quick integration.

2. System of engagement for the digital enterprise of the Agro Industry

2.1 Solution overview

This paper presents a solution for the delivery of a system of engagement and innovation for the Digital Enterprise of the Agro industry. This is done by using an application consisting of Salesforce with the Fujitsu GLOVIA OM deployed inside it and industry specific accelerators developed by the Fujitsu team. Salesforce plays a key role in providing CRM functionality delivered through its Sales Cloud, Service Cloud and Salesforce Marketing Cloud solutions. GLOVIA OM (as a package installed inside this application) provides the critical ability to execute transactions like quotes, orders, returns, inventory transactions, etc. in conjunction with CRM processes. For example,

- an opportunity created via the Salesforce Sales Cloud can be easily converted to a sales quote and/or sales order (GLOVIA)
- A Marketing campaign from the Journey Builder (Salesforce) can drive a promotion and discount to be applied when the campaign member (lead) places an order (GLOVIA)
- A Service Agent can resolve a customer's issue by managing a case (Salesforce), which can result in the creation of a Return Material Authorization and provide an immediate credit to the customer for the return (GLOVIA)
- An Agent selling the products can provide accurate forecasts (Fujitsu custom accelerator), which feeds into the inventory manufacturing planning process of the ERP system.

And while all the transactions are being performed in this system of engagement, a robust integration infrastructure ensures that the system of record is appropriately updated, without compromising the user experience at any time.

Mobility will be an important component of this system of engagement. The ability to access information while on the move will be important for some users (e.g. available inventory) as well as contribute and engage (e.g. collaborate on a customer inquiry about pest control on a farm). This application is capable of providing mobile access via Salesforce1™ mobile app or a native iOS or Android® app for mobile and tablet devices.

2.2 High level architecture

The solution is delivered using a two-tier architecture. The system of engagement will be delivered by Salesforce, GLOVIA OM and accelerators in an Agro cloud, providing a platform for collaboration and innovation. The system of record will be delivered by the existing ERP system like SAP/Oracle/JD Edwards®, etc. This can be augmented by providing mobile access, as shown in Figure 2.

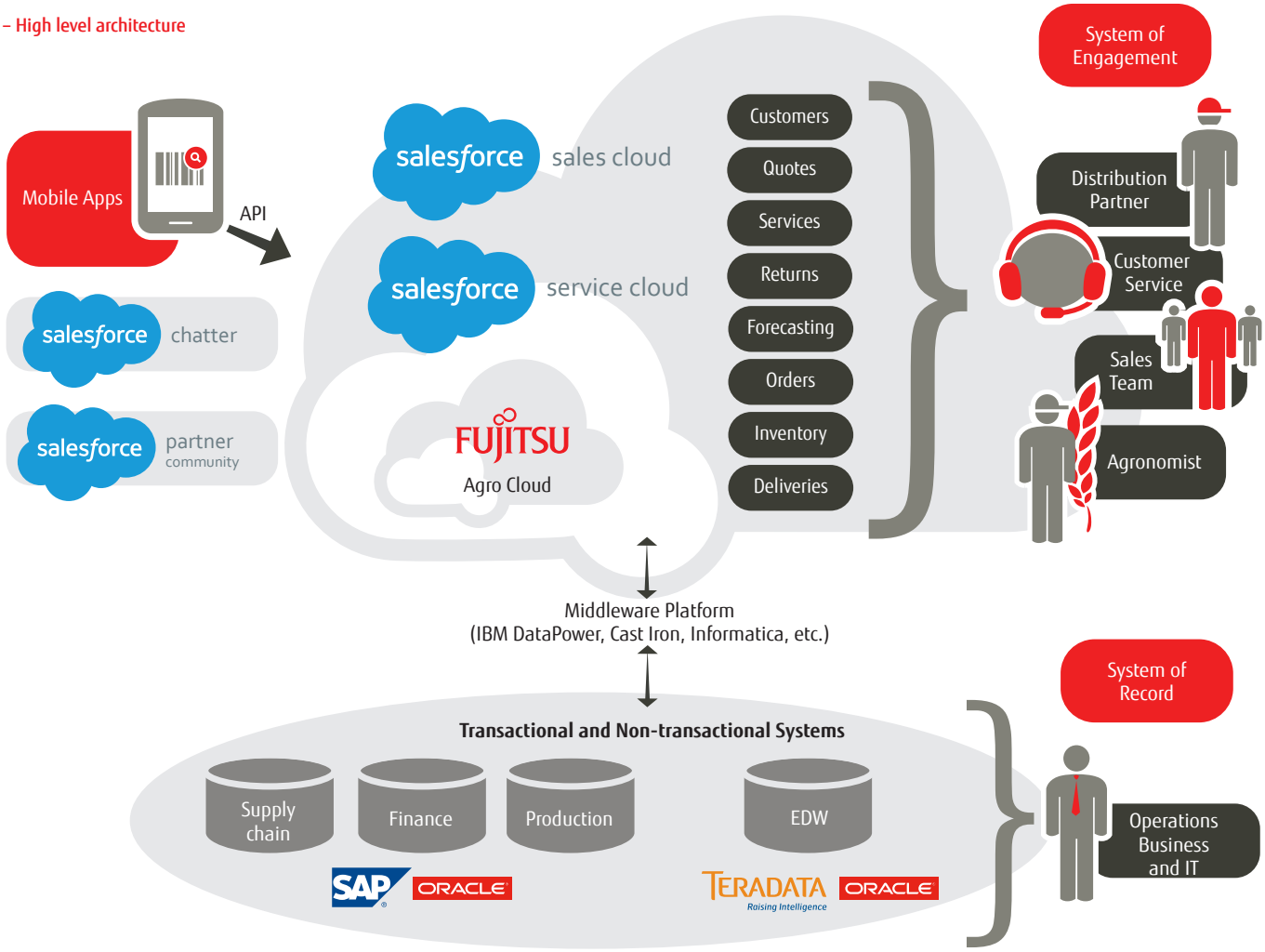
2.2.1 System of Engagement – Fujitsu Agro Cloud

Various users will access the system of engagement for their day-to-day activities. Section 3 provides detailed use cases. The Salesforce platform provides capabilities in the system with rich feature sets consisting of workflows, approval processes, reports, dashboards, state-of-the-art UI, Service Cloud Console for the service agents, Chatter® for collaboration, etc. Since GLOVIA OM is native to the Force.com platform, all these features can be easily applied for its processes as well. The Fujitsu industry specific accelerators have been developed using the Force.com platform as well. Many organizations in the Agriculture industry already use Salesforce as their CRM tool. Therefore, it would be easy for these companies to embrace the Fujitsu Agro Cloud and augment their solution to make it a true system of engagement for end-to-end processes, like marketing, sales, order management, inventory management and services.

2.2.2 System of record – Existing ERP application

Almost every company in this industry would have implemented and made significant investment in an ERP system (like SAP, Oracle, JD Edwards, etc.), which acts as the backbone for operations. Therefore, it would be absolutely necessary to continue using these applications for driving core ERP processes. Such a system would act as the System of Record (and thus audit) for all transactions, while providing control over the system of engagement, allowing it to function with full integrity of the company's processes.

Fig.2 – High level architecture



2.2.3 Mobile device

The Fujitsu Agro Cloud can be delivered on mobile devices via two options. For an employee facing app, Salesforce1 can be used. Salesforce1 is an out-of-the-box mobile application offered by Salesforce, which can be activated by simple point-and-click configuration. Almost all the functionalities available in Salesforce are enabled on the Salesforce1 mobile app. Customer and partner facing apps can be delivered using a custom made app for mobile/tablet devices. This would also be the recommended configuration in case an offline solution is desired for specific use cases. The decision on which platform/mobile device type to use can be driven by the company's Enterprise strategy for mobility. For example, enterprise stakeholders in North America may want to deliver the mobile experience using native iOS (Apple) app for iPad/iPhone, whereas companies in Europe and Asia may decide to use Fujitsu STYLISTIC® tablets with Android™.

In either case, the mobile app will be integrated with the System of Engagement.

2.2.4 Integration delivered by ETL/Middleware

The key to success of this architecture relies on successful integration of the two systems – the Salesforce/Fujitsu GLOVIA Agro Cloud and a back-end ERP system like SAP/Oracle. Two key attributes about this solution makes it perfectly positioned for a successful integration:

- Salesforce and GLOVIA OM provide robust APIs, thus making it easy for any application to integrate with the system reliably and quickly
- Most of the popular Enterprise Middleware technologies offer out-of-the-box connectors for integrating with Salesforce. Examples of these are Cast Iron®, Informatica®, webMethods®, etc.

A robust middleware technology is recommended to be used, especially since most companies already have an enterprise wide ETL solution in use.

There are five important integration patterns to be followed to integrate Salesforce/GLOVIA successfully with back-end systems:

1. Remote Process Invocation (Request and Reply) – e.g., Tax calculation, Customer Credit Check
2. Remote Process Invocation (Fire and Forget and Guaranteed Delivery) – e.g., Order/Delivery Submission into back-end systems from GLOVIA
3. Batch Data Synchronization – e.g., Load Customer Master or Product Master into Salesforce from Data warehouse
4. Remote Call In – e.g., price changes pushed from ERP system into GLOVIA
5. UI Based on Data Changes – e.g., using streaming API to auto-update Salesforce screens

The benefit of the solution can be best gauged when seen in action. Hence, business use cases and scenarios are described below with the use of a fictitious company called "ASC Co.", an abbreviation for "Agro Seed-Chem Co". This company belongs to the Agriculture Supply industry and is in the business of manufacturing seeds for various crops (corn, soybean, oil seeds) and chemicals for crop protection (herbicides, pesticides, insecticides). Several role-based characters are used to describe the use cases and interaction with the system. This company uses SAP as its ERP and hence System of Record. It has already implemented the System of Engagement using Fujitsu Agro Cloud and this application has been named as 'My App' for easy reference to this system. The scenarios are described through the company's business processes.

3. Business use cases

3.1 Marketing

Jane, a marketing specialist, uses Journey Builder to organize campaigns and events and monitors the social media using Radian® (Marketing Cloud). She recently organized a Field Day event to educate farmers about ASC's latest insecticide product, after sensing the social media discussion about a recent outbreak of insect infestation in the area. All the attendees of these events were entered as leads in the system, and offered a discount coupon (GLOVIA Promo code). Sales users worked on these leads, created opportunities and were able to quickly generate orders from 'My App', and even apply discounts on the order. Jane is now able to measure the ROI of her campaign in real time based on the orders created from the leads generated (reports).

Result: More effective and innovative campaigns as well as shorter sales cycle from lead to order.

3.2 Agronomy

John is an agronomist at ASC Co. He uses "My App" to record his visits to Farms and Fields of the Growers (contract Farming) and Farmers (customers). While out in the farm, he uses a specially designed offline capable app (with "My App"as its information source) on his tablet to record the details about his field visit, including soil condition, crop growth progress, and other field condition observations.

While on a visit, he receives a Chatter message with a picture of a bug from one of his Farmers. He quickly uses his tablet app to look at the customer's order history with ASC. With this data, he is able to quickly respond to the customer's inquiry with an informed recommendation to use an ASC Herbicide product that is compatible with the seeds and crops he grows.

Result: There is greater collaboration between Agronomists and customers, driving sales wherever possible. Fast, accurate data entry for field visits is enabled.

3.3 Sales

Robert is a Sales Manager for the East region at ASC. He loves to use "My App"as he can quickly access key information needed for his job. In addition to tracking the performance of his sales team by running Opportunity (Salesforce) reports, he can run reports on quotes that were not converted to sales orders (GLOVIA) to identify sales gaps. He can also manage supply allocations (Accelerator) of the products, which are in short supply, to control the demand, and regularly update product forecasts (Accelerator). This directly impacts the distribution to dealers in his region, which enables him to provide more supply to his best performing dealers. He constantly collaborates with partners to get feedback on products and recommendations, which he then passes on to the Product R&D Team.

Result: An empowered sales team that drives up revenue as well as leverage platforms for innovation and collaboration.

3.4 Contract farming

ASC Co. contracts growers to grow their commercial oil seeds. ASC provides the parent oil seeds to the grower, who then grows and harvests commercial seeds. ASC can then sell these on the market. ASC provided one such grower, Tom, with partner community access on "My App". Tom uses "My App" to digitally sign contracts with ASC each year, receives inventory of Parent Seeds in the system, and manages his work orders (GLOVIA) assigned to him for growing oil seeds. He collaborates with John on a regular basis with this app. When the seeds are ready for harvest, he marks the work order as complete in "My App", which then triggers a workflow in ASC's ERP system to pick up the commercial seeds from his Farm.

Result: Increased collaboration, automated and efficient business process with contract farmers.

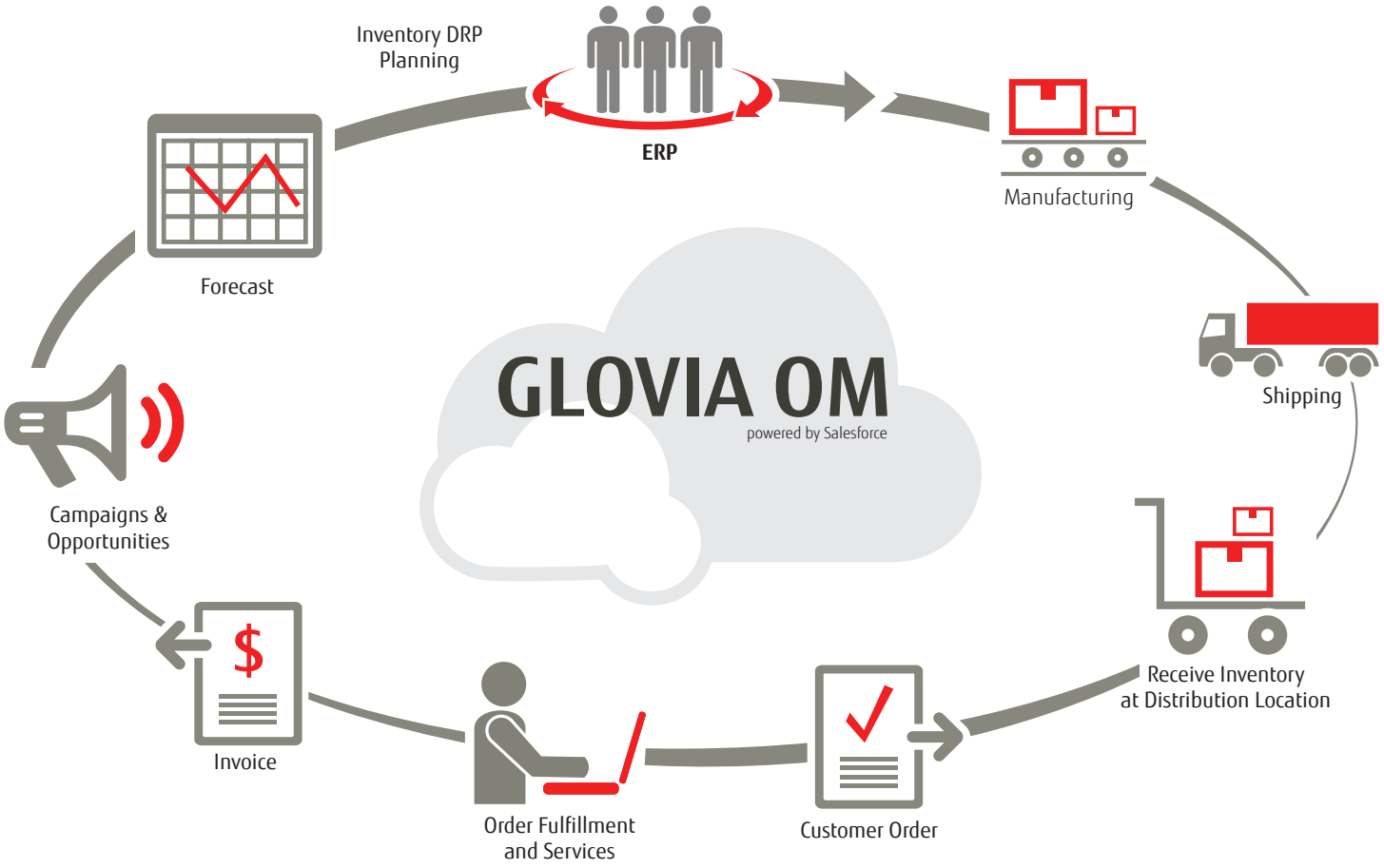
3.5 Dealers/Channel partners

ASC Co. provides all its channel partners and dealers with partner community access on "My App". One such dealer, Chris, has been producing a lot of business recently for ASC. Even though he sells competitors' products, Chris always prefers to sell ASC's products because of the ease of using the application (like sales orders for customer orders, purchase orders for his supply orders from ASC and order fulfillment). Moreover, "My App" allows him to manage his own personal business of Seed Treatment service. This is made possible by the Fujitsu Agro Cloud without interfering with ASC's processes, creating a win-win situation. Chris also loves the tablet mobile app provided by ASC because he can use a bar code scanner to scan and efficiently create transactions like orders/deliveries while in his warehouse.

Result: An increase in revenue from Channel sales and distributors/ partners by streamlining processes. The enhanced user experience results in higher user adoption, and helps in earning users' trust and support.

There are many other user groups using "My App" at ASC Co. For example, the service team that uses it for customer support has the ability to get a 360 degree view of customers and partners.

Fig.3 – Fujitsu GLOVIA Agro Cloud – Digitalizing Seed to Cash



4. Proven solution – Client implementation

In summer of 2013, GLOVIA OM was selected by a $50 Billion seed and biotechnology company to implement a system of engagement for one of its seed brands in the U.S.A. Selection process involved a thorough analysis of many options available in the market by their advisory partner (one of the prestigious 'Big Four' groups of consulting companies). The selection process was extensive, and GLOVIA OM was selected in a competition of more than 10 (both Salesforce and non-Salesforce based) solutions. In late 2013, Fujitsu SaaS practice embarked on a journey in partnership with the customer's advisory partner, to design and implement an application as a system of engagement, comprising of Salesforce.com and GLOVIA OM. Within a short span of nine months, this system of engagement was delivered for 1000+ users, comprising 700+ exclusive seed agents (partners of this customer) and 300+ internal sales and service organization members. In addition to this, key 3PL or distribution partners were also on-boarded on this application. Together, the community used this system to execute end to end quote to cash processes. The agents provide forecasts, create and manage sales quotes and orders for their grower customers, receive and manage inventory from the company into their individual warehouse locations, and deliver products for their customer orders, all using the System of Engagement. The Sales teams manage their relationship and product demand by collaborating with their agents. Service teams provide quick and effective customer service to these agents. A robust interface between Salesforce/GLOVIA and SAP ensures data integrity at all times.

5. Conclusion

With this implementation, the customer reports savings of millions of dollars by increasing the productivity of their Channel Sales teams and partners. The company gets real time, accurate inventory visibility of these 700+ agent warehouse locations, which submitted 20,000+ orders within the first few months of going live.

With this experience and its technology expertise, Fujitsu has developed an Agro Cloud solution using Salesforce.com, GLOVIA OM and Accelerators as a System of Engagement for the Agriculture industry.

The rich feature set provided by combining together Salesforce.com CRM, GLOVIA OM and custom Accelerators enables the Fujitsu Agro cloud to deliver a world class System of Engagement for the Digital Enterprise of the Agro Industry. It offers the following advantages:

- Top class CRM systems to implement customer centric sales and service processes
- Comprehensive ERP applications delivered via the cloud, which makes integrating with the System of Record possible
- Customer Success Platform allows all the stake holders, internal and external, of the digital enterprise to use the system to collaborate and innovate
- Agility and cost benefits of a Cloud solution, resulting in greater ROI with quick go-to-market capability

The organizations embracing this solution will be positioned comfortably to transform into the Digital Enterprise of the Agro Industry.

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Fujitsu's Skill Port Industry Overview Training course: The Agriculture Industry Overview

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