

## Chapter 2

# The Application Agenda Era

Since the early days of computing, organizations have used technology to help automate many of the tedious tasks and business processes that happen every day. Computer applications have been implemented to automate every business process imaginable, from order entry to the billing and fulfillment of customer purchases. Very frequently, these applications are repeated across different products and lines of business (LOBs). Tasks and business processes that used to take months to finish can now be accomplished in minutes. We are doing business in the *application agenda era*.

This same application agenda technological era has resulted in many application silos. A great many silo order entry, billing, and fulfillment systems have been built across various LOBs. When a customer has a problem, such as not getting a product that was ordered, the organization's staff must sign on to multiple systems to find out what went wrong. Some industries, such as banks for example, have managed to incorporate the business automation of manual processes into a single product system—a core banking system for managing direct deposit accounts such as savings and checking accounts. However, as the banking business grows organically or through acquisition, many companies end up with multiple product systems, handling things like credit cards, loans, treasury investments, brokerage accounts, and more. Therefore, managing a customer problem still requires access to multiple systems at the same time.

To this day, the application agenda era persists because companies continue to seek technological solutions that will allow them to simultaneously access information from their many silo applications. Front-end applications have been built to automate and exchange information to the silo back-office applications; and to further improve their quest for business automation and improve productivity, more silo applications have been built.

## Current IT Infrastructure Situation in Many Organizations

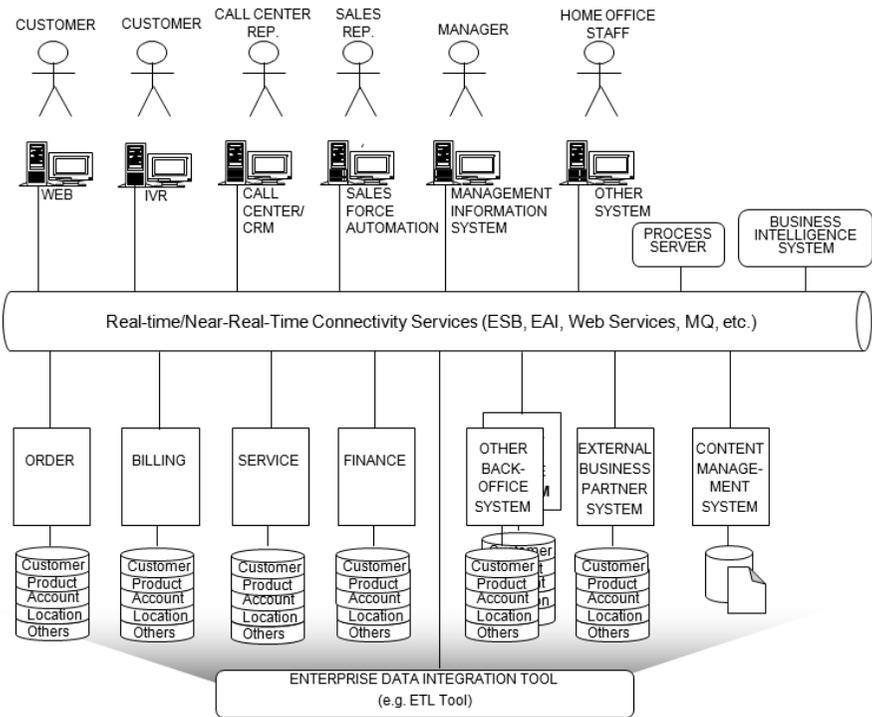


Figure 2.1: Existing IT infrastructure

Figure 2.1 depicts what your existing IT infrastructure might look like. I have segregated the systems into the following categories:

- Back-office systems:
  - These systems help to automate the tasks of managing your products and/or services. These systems capture the description of the products/services, manage supplies, take purchase orders, create accounts, manage deliveries of your products/services, initiate billing cycles, process remittances, and so on. These are your core business processing systems. Some of the more commonly used back-office systems include the Product System, Billing System, Core Business System, Enterprise Resource Planning (ERP) System, Supply Chain Management (SCM) System, Administration System, Accounting System, and Finance System. Traditionally, these are your oldest systems. In some companies, these systems were created back in the 1960s, at the dawn of the computer age, and they have been around since then. ERP and SCM systems are newer. The majority of these were introduced in the late 1980s and 1990s to consolidate the management of resources and supplies. These systems typically run on powerful computers, such as mainframe and mid-range servers. Each of these systems has its own user interfaces for access.
  
- Front-office systems:
  - These systems are newer, and most were created when the personal computer was entering its maturity stage for business use, during the 1980s and 1990s. The majority of these systems are built to solve problems for front-office workers, typically in sales and customer service. These users must go through many user interfaces to access different back-office systems to do their daily jobs. These front-office systems attempt to offer a platform from which to consolidate access to multiple back-office systems in one place. These are the Customer Relationship Management (CRM) systems for call center automation and Sales Force Automation (SFA) systems that help your distribution channel staffs. Additional features include the component that manages customer information, such as the relationships among customers and customer interactions. Some will also include sales campaign management capabilities or will be integrated with sales campaign systems. Sales campaign systems can also be classified as front-office systems. These typically run on personal computers or mid-range server-based technologies. Each of these systems will have its own user interfaces for access.

- Touch-point systems:
  - With the advent of computer networking and Internet technologies, additional front-office applications encompassing technological devices that allow direct customer contact were implemented. These systems include the Interactive Voice Response (IVR) units that handle phone calls, web-based front-ends to facilitate customer self-servicing via the web, and specialized kiosk machines (e.g., Automatic Teller/Banking Machines—ATM/ABM, for banks). Just as CRM and SFA systems are designed to streamline access for your front-office staff to the back-office systems, these touch-point systems are designed to streamline access for your customers to your internal systems for self-service. A lot of these systems originated in the 1980s and 1990s, when organizations were undergoing cost reductions. In an effort to streamline operations, companies began to look at ways to both automate and to push business processes to their points of origin (i.e., to the end customers and suppliers).
  
- Integration middleware:
  - Integration middleware was created to connect and allow for communication among all the systems just mentioned, thus enabling them to connect in real-time or in batch.
  - Typical IT jargon used to describe the technology and techniques used in this area include MQ, JMS, Web Services, http, direct-connect, point-to-point, hub-and-spoke, request-response, and many more. Purists in this area will argue that a near-real-time connectivity paradigm exists as well. For simplicity, we will treat near-real-time and real-time connectivity as being the same.

Figure 2.1 depicts an existing IT infrastructure that has business process–focused back-office systems for ordering, billing, service requests, and the like. In some organizations, such as financial services companies, the back-office systems are typically product-focused—e.g., core banking, credit card, brokerage, investment product, life insurance, home insurance, and more. Figure 2.2 depicts the typical IT infrastructure for a financial services company.

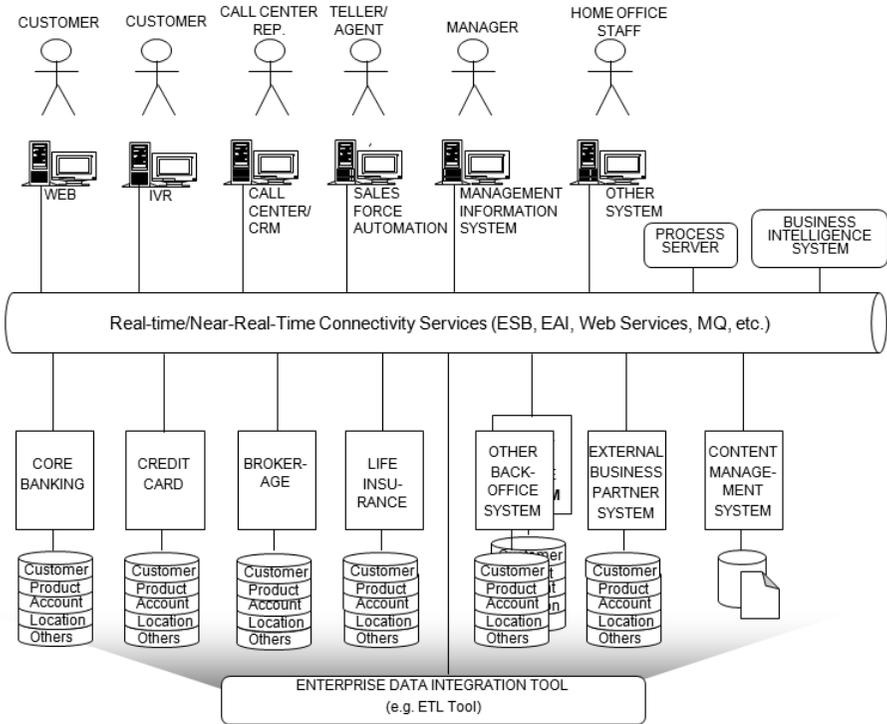


Figure 2.2: Existing IT infrastructure—financial service organization

## The Problem

One of the problems with the current IT infrastructure of many organizations is that customer data is spread all over the silo applications (Fig. 2.3).

Using our banking example again, say we have a customer named Robert A.J. Smith. Robert’s full name is in the Demand Deposit Account (DDA) system (the core banking system that manages your typical savings and checking accounts), but while applying for a credit card with the bank the name Robert Smith (without initials) is used. When opening a brokerage account, the name used could be Robert A. Smith (missing the second initial); in a CRM system, the name could be Rob Smith. So, are they the same person? How can your office staff tell?

This is just one simple example using a customer name. In some countries and cultures, customer names may be more precise, but you may have other data problems. For example, Robert may list 1 Main Street as his mailing address in

the DDA system, but 2 Main Street as the mailing address in the credit card system. Which one is correct? Maybe 2 Main Street is correct, as Robert has moved next door, but has not yet notified the bank of his change in address. Maybe 1 Main Street is correct, as the person entering Robert’s credit card application form made a mistake and typed in 2 instead of 1. Or, maybe both addresses are correct, as Robert lives at both addresses.

When data is held in a silo, data quality problems arise and information cannot be trusted. The same scenario can apply to other information, such as phone numbers, e-mail addresses, and other identifying information associated with Robert Smith. Sometimes, he might use his office phone number. At other times, he might use his home phone number or his mobile phone number.

So, how do we know all these names really belong to the same person? How do we know which address is correct? If we don’t, how can we expect to know Robert’s true household relationships? How can we keep accurate records of his portfolio? If we don’t know his portfolio, how can we expect to sell more products to him? How do we know how valuable a customer he is? How can we provide differentiated services to our customers if we don’t know how valuable they are?

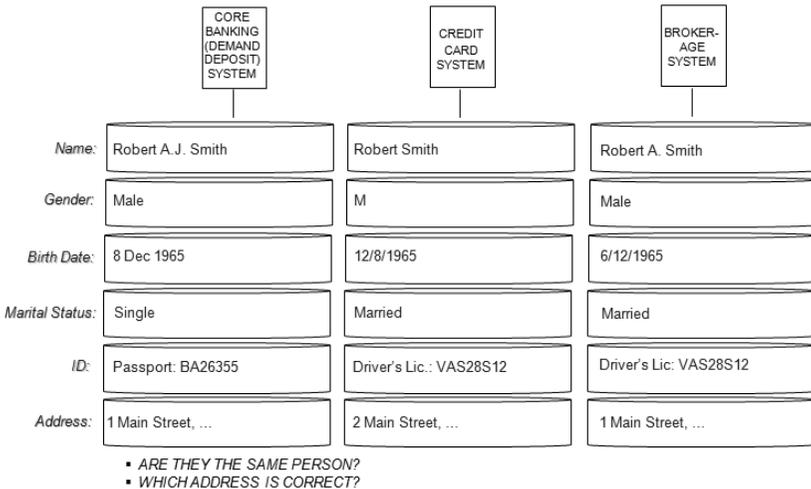


Figure 2.3: Nontrusted customer data across disparate systems

Let's look at a customer service example for the same customer. When Robert A.J. Smith moves and wants to change his mailing address, to how many places must the bank go to change that address? How can it know that it has made all the necessary changes? Typically, the number of products a customer has or uses is one factor reflecting how valuable he is to the business. In this case, the more products this customer has—and the more valuable he is—the more trouble he has to go through just to change his address.

Now, let's look at some up-sell/cross-sell examples using this same banking scenario. When life-changing events, such as moving, marrying, having a baby, or retiring occur, most banks probably already know how to reach you to sell you new products or change existing ones to suit your new circumstances. However, this is not always desirable. Let's assume Robert has just moved. The bank might offer to increase the credit limit of Robert's credit card, thinking that he might need to buy new furniture. Without Robert's data and product portfolio view in one place, the bank may not know that Robert has defaulted on his car loan for many months. In this case, the last thing the bank would want to do is increase his credit limit.