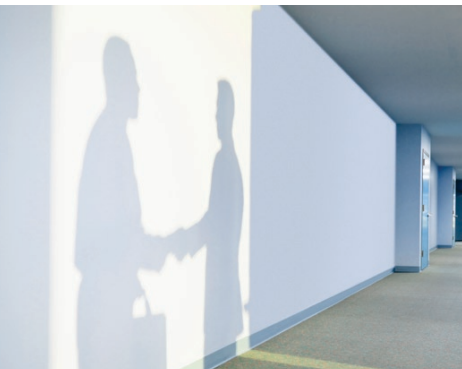


# Informatica Implements a Single View of Customer Program

## CASE STUDY



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## Executive Summary

Many companies today seek competitive advantage through fostering customer loyalty, increasing customer share, and maximizing lifetime value of the customer. This is an excellent strategy for sustained growth—but it requires that the company first see clearly all facets of its relationship with the customer. This is a sticking point for most businesses: They are, to a greater or lesser degree, hampered in their efforts by corporate information systems that store marketing, support, maintenance, professional services, and financial information in separate application “silos.”

Silos fragment an organization’s view of its customers, making it difficult for the company to generate new revenues through up-selling, cross-selling, or otherwise leveraging all its contacts within a customer entity. Even more seriously, it can create situations in which, for example, salespeople try to sell more product, unaware that the customer is frustrated by open support issues. When the corporate right hand seems unaware of the corporate left hand, customers conclude that the company is not paying full attention to their needs, and even that the company is disorganized. This conclusion sours the relationship between company and customer.

This case study describes how Informatica used Informatica technology to overcome these issues and dramatically improve its ability to focus on and delight its customers. The company’s most important initial objective was to mandate a master customer ID across Informatica. This is an essential first step to creating an integrated customer view because it enables an information system to identify all data that relates to a specific customer, regardless of the system in which that data resides. However, mandating a master customer ID is not an easy, nor even a purely technical, challenge: It creates political, process, and systems issues. This case study describes the challenges Informatica faced, and the people, processes, and technologies it used to resolve them successfully.

Now Informatica customers have unique identifiers, leveraged by cross-functional reports that pull together information from multiple systems into a single, 360-degree view of each customer. This new functionality also enables rapid creation of additional reports, including a new, powerful report that shows the lifetime value of each customer, including maintenance, license, and consulting revenues. Previously, Informatica staff had been able to create 360-degree reports, but only as labor-intensive one-off exercises that would be made obsolete with the next customer contact. Informatica’s new automated solution enables sales, support, maintenance, and finance staff to pull complete and up-to-date 360-degree reports effortlessly, whenever they like. Going forward, Informatica can now leverage its new infrastructure to rapidly build other types of cross-application reports as needed to support the company’s commitment to total customer satisfaction.

## Before You Can Focus on the Customer, You Have to See the Customer

Informatica Corporation, a leading provider of data integration software, was facing a problem common to companies of all sizes, in all industries: Sales reps would sometimes call on existing customers, hoping to make a new sale, only to discover that the customer was angry because he/she had been wrangling with the company over another issue—billings, perhaps, or support. The salesperson's lack of awareness of the customer's issue would further convince the customer that the company neither knew nor cared about his/her business.

Informatica is very customer focused, but its IT systems did not provide a way for staff to see all aspects of a customer's interactions with the company. Instead, marketing, sales, professional services, support, and finance information was isolated in separate applications, resulting in duplicate and incomplete data and making it almost impossible for sales reps, support staff, or anyone else to gain a 360-degree view of a customer's relationship with the business.

This situation made it difficult for Informatica to excel at satisfying and anticipating its customers' needs, and that in turn affected its ability to leverage initial sales in its F500 installed base. To grow the lifetime value of its customers, Informatica needed to gain a single view of each customer and leverage it across the enterprise. With a single view of each customer, Informatica could improve account management, identify its best customers, learn about uptake of support services, investigate cross-sell and up-sell opportunities, and leverage parent/subsidiary relationships.

As data integration experts, Informatica's IT team knew that neither CRM applications nor data warehouses by themselves could solve the

problem. What Informatica needed was a single unique customer identifier that it could leverage to pull together all related data. As this case study makes clear, this project was not a minor matter. Speaking from experience, Tim Dilley, senior vice president of services at Informatica, comments, "Any attempt to mandate a master customer ID across an organization is a political, process, and systems challenge."

## Getting Started: The Political Challenge

Informatica's technical staff had come to the realization that the company needed to mandate a master customer ID across the organization, but they needed to rally political support behind a tangible common goal. At the same time, the sales department was requesting the ability to create reports that offered a 360-degree single view of customer (SVOC). The sales staff wasn't interested in a master customer ID per se, but creating a 360-degree customer report happened to require a master customer ID.

## Setting a Common Goal

Delivering 360-degree reports was a goal that demonstrated the value of having a master customer ID. It would help Informatica optimize customer relationships by creating reports and analyzing information about a single customer and its relationship to a larger customer hierarchy, whether it's a single department spanning three offices or hundreds of departments and regions across the globe.

As an alternative goal, the IT team considered implementing synchronization to ensure that changes to a customer's profile—such as name, phone number, web site, and address—would be consistent across transactional systems, including marketing, sales, finance, and support.

This option would not provide the analysis of an SVOC report, but it would allow each group to have consistent information about a customer.

Ultimately, Informatica chose to create an SVOC program, called the 360-degree program because its objective was to provide a complete, 360-degree view of individual customers. The 360-degree program team identified two phases that would be necessary in order to create SVOC reports. The first phase, focusing on the underlying architecture and data quality profiling, would create a unique identifier for each customer/partner account and provide data quality reports and exception reports. Phase two would focus on enterprise reporting.

## Seeking Sponsors

Business units viewed phase one—correctly—as an infrastructure initiative that would end up benefiting all business areas equally. Unfortunately, this view meant that no one business group was willing to sponsor it. In the end, the CIO had to sponsor phase one. Gaining business sponsorship for phase two was easier: The sales group was eager to have SVOC and hierarchical customer reports, and was willing to sponsor phase two if it would deliver those reports.

Despite their reluctance to commit resources to sponsoring phase one, business groups across Informatica supported the goal of creating and then leveraging a unique identifier for each customer and partner. This cross-departmental support was essential to the success of the program: The team needed the expertise of staff across multiple departments, all committed to the project and willing and able to cooperate on business and technology issues. "How we manage customer data and which standards we commit to is a companywide challenge," says Dilley. "We can't have individual groups making their own decisions on these points."

## Deciding What to Build: The Systems Challenge

There's more than one way to create an SVOC. One of the first options the 360-degree program team considered was to create an operational data store (ODS) and put Informatica PowerAnalyzer™ over the ODS. The ODS could consolidate customer data, but with one drawback: Since it is used for reporting, it would require moving data twice, from the source to the ODS and then to the data warehouse. However, it would provide the advantage of offloading processing from the transactional systems because reports and downstream data pulls to the data warehouse could be done from the ODS rather than from the transactional systems.

“The key reason we didn’t opt for this structure is that it’s inherently confusing, especially for a company our size, to have two different databases for reporting,” explains Joel Kornberg, manager of IT architecture and infrastructure at Informatica. “Even if we combined the metadata in a single database, it would be very difficult for users to understand which sources to use for which reports. It’s much simpler to split the functions, so that reporting is separate from the cleansing and matching process.”

Instead of creating an ODS, the 360-degree program team decided to use cross-key indexing to create a single point of access that Kornberg describes as a “tall, skinny DB2 database hub.” With this approach, the universal key uses external data from Dun & Bradstreet and data cleansing software and ties together customer records from disparate systems. This hub serves as an additional data source for the warehouse, and the system moves account elements into the hub only if they do not change frequently and describe the account rather than transactions and activities within the account. To be included in the hub, account elements must also meet one of the following criteria:

- Shared across multiple systems or passed between systems
- Required to recognize duplicate accounts or account sites
- Required to properly cleanse accounts
- Required to reconcile data conflicts that emerge as a result of updates in more than one system

“With this approach, there’s less data to be moved,” comments Kornberg. “Also, because the hub is dedicated to a single purpose, it’s easier to build and maintain, and scales readily.”

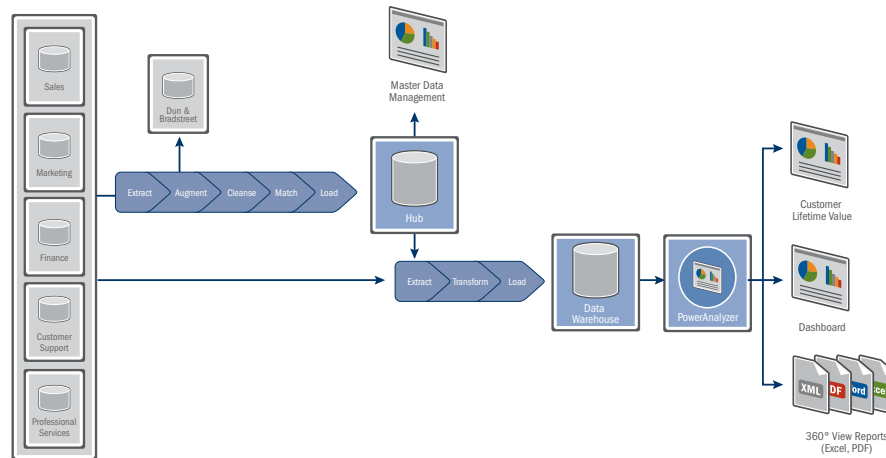
### WHAT IS A “CUSTOMER”?

Different parts of Informatica work with customers in different ways. To ensure the success of this project, however, the entire company needed to agree on a common customer definition. This definition was a separate, unique, and critical piece that challenged the different business groups to cooperate.

After much negotiating, the groups agreed on a way of charting the relationships between parent companies and independent subsidiaries while also focusing on individual customers. The solution the team designed provides both the most granular definition of a customer and a corporate roll-up to the parent customer, so that customer information can be analyzed at different levels. But even once the group agreed on how to match different records, it then needed to agree on how to deal with account records that the system did not match automatically. For these records, the group decided to allow flexibility for sales experts to handle exceptions.

### The Customer Hub...

IS	IS NOT
A global customer master registry, including cross-key indexing and organizational hierarchy.	The single source of data for the data warehouse.
A centralized data quality initiative to profile, cleanse, match, and merge customer data.	A system to store all information about a customer.
The source for performing a customer lookup in Informatica's corporate customer data model.	A system that stores historical snapshots, aggregated, or summary tables with customer data.
A "right-time" data store for customer information.	A system that will allow direct user updates/deletes.
A system that will propagate customer profile changes back to the transactional systems.	An internal analytical reporting solution.
A tall, skinny database that contains only customer information required to cleanse, match, audit, and link customer records between systems.	The source for information on customers who can be referenced.
	A reporting infrastructure to provide a current enterprise-wide customer profile.
	A system to store prospecting information.



## Deciding How to Build and Maintain It: The Challenge of Streamlining Processes

As the 360-degree program progressed, an expanded team formed to take on the challenge of building and maintaining the proposed solution. Informatica's 360-degree program team includes an executive sponsor to articulate the vision of the project, take ultimate responsibility for its success, and provide funds. It also has a business sponsor to make business decisions for the project on behalf of the business users—current and future—of the customer hub, including those in marketing, sales, finance, and customer support. The business sponsor provides high-level direction and resolves conflicts over policies or objectives. Subject matter experts define what the business needs and document the processes required. They define and approve the transaction workflow, data requirements, and reporting requirements. IT manages the project lifecycle, and ensures that data matching and verification procedures are in place to protect the quality of the data.

The 360-degree program team built the hub using Informatica PowerCenter®. The effort to architect, design, and develop the customer hub was substantial. The solution had to pull data from multiple sources, conform inconsistent data between systems, cleanse the data through interfaces with Firstlogic, append D&B information, match the customers based on custom-defined matching rules, and then apply the D&B data across matching customers to develop the corporate hierarchy. The system also had to be able to recover from errors in matches.

### Building the Customer Hub

Working under the guidance of the steering committee, the IT development team developed a proof of concept that increased its familiarity with the source system data models and the data cleansing tool. This process provided initial mappings into source data and helped resolve the technical and security issues of connecting to source systems. The proof of concept also provided initial visibility into similarities and differences in source data—data profiling, without the purchase of a specialized tool. It enabled the team to identify potential problems, such as the need to be more selective in how it used the existing linking of customer records between systems.

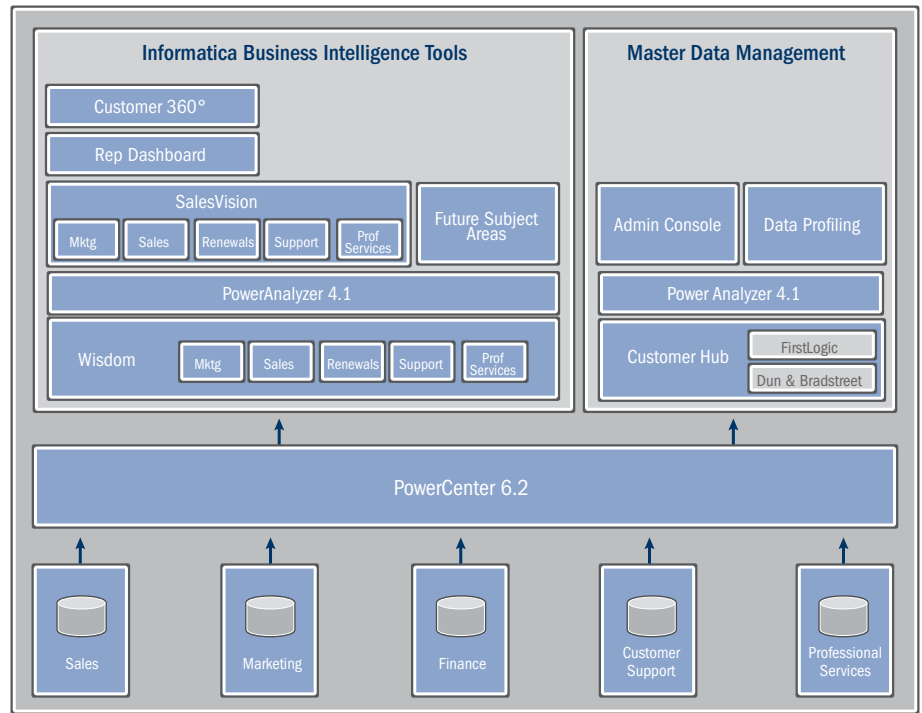
## HOW THE CUSTOMER HUB WORKS TO CREATE 360-DEGREE REPORTS

On its own, the customer hub doesn't create an SVOC, but it enables Informatica to create one using its enterprise data warehouse. The 360-degree program solution has four key components: a customer hub, an enterprise data warehouse, a 360-degree customer view report, and PowerAnalyzer reports (SalesVision).

The customer hub pulls together customer accounts and addresses from a variety of source systems, including:

- Informatica's contact database for demand generation and campaign management programs
- Informatica's sales force automation application
- PeopleSoft Finance system
- Informatica's integrated online support system
- Informatica's consulting services system

The hub cleanses the data with FirstLogic, appends D&B data to the accounts and addresses, then uses FirstLogic to match customer accounts and addresses based on a combination of name, D&B DUNS #s, and existing system reference IDs. The hub uses PowerCenter to group together accounts from different systems to form a logical account. Then it appends and synchronizes additional D&B data to matched accounts so that the D&B corporate hierarchy is available for reporting. All accounts with the same D&B Global Ultimate DUNS# are considered to be part of a single corporate hierarchy. The hub references these identifiers in reporting and transactional systems as needed to provide reporting and query capabilities.



Informatica PowerCenter loads the hub's cross-referencing table into Informatica's Enterprise Data Warehouse as part of its daily data extracts. To the data warehouse, the customer hub is just another source system. The PowerCenter nightly extract also pulls account information from Informatica's sales, finance, support, and professional services systems. The data warehouse leverages the customer hub, which builds a corporate hierarchy so that the 360-degree report can include all associated accounts, such as all of Informatica's interactions with a global 100 company, across regions and departments.

The 360-degree reports pull data from the data warehouse nightly to provide the sales organization with a complete view of the customer's interactions with Informatica. An on-demand report uses the same process and draws from the same data sources to show the lifetime value of each customer, including maintenance, license, and consulting revenues.

A full 360-degree report pulls together:

- Customer profile, opportunity, and order information from Informatica's sales system
- Maintenance quotes and renewals from the finance system
- Support projects and service request details from the global customer support system
- Professional services projects and consultant details from the professional services system

Staff then access these 360-degree reports through hyperlinks available from PowerAnalyzer reports.

## Preparing for Real Time

The team leveraged the batch capabilities of Informatica PowerCenter to process large amounts of data in off-hours and used them for the initial data migration. “PowerCenter was critical to the project’s success, as we were able to use it to manage all aspects of data movement, including the sourcing from the target systems, the integration with our data quality tool, and the targeting of the customer hub, all through a single consolidated ETL environment,” says Kornberg. Noting that Informatica did not need to produce its SVOC reports in real time, Kornberg explains that the company wanted to have the option of using its customer hub to support real-time business processes in the future. “If we need to move to support right-time requirements, we can leverage PowerCenter’s real-time capabilities and be comfortable with the fact that all of our business logic is in one place,” he adds.

## Testing to Ensure Data Quality

As the Informatica team turned its focus to ensuring data quality, it reached the conclusion that the business must own the data and be ultimately responsible for making decisions on corporate hierarchy, as this can affect business operations such as sales territories and ownership. However, because sales may have different objectives than marketing or finance or support, the team needed to enforce a standard set of rules when resolving data quality and corporate reporting structure discrepancies. At Informatica, the team decided to abide by the legal corporate hierarchy.

After completing the proof of concept and gathering feedback from sales, marketing, finance, customer support, and R&D, the team developed a master data management model to identify attributes with standard lists of values such as account type, account status, state, and country. It then checked how each transactional system identified those key values in order to create a common data model.

The next challenge was to test the new hub’s ability to correctly match customer information from different transactional systems. This step was critical, because one incorrect account match could result in many account records being incorrectly linked.

The Informatica 360-degree program team began testing the match rate as early as possible, performing multiple iterations of match verification. It developed a spreadsheet with expected results to verify the match process and the corporate hierarchy structure.

The team began with the cleansing and matching at the customer level, and then moved on to cleansing and matching addresses. “We tested just one object at a time,” explains Kornberg. “We wanted to be sure that the customer cleanse/match was complete before we started on the address level. This made it easier to verify what was working well. We had to build reporting concurrently, so that it could support match verification testing.”

The team then began designing and implementing one-way data feeds from Siebel Marketing, Pivotal Sales, PeopleSoft Financials, and Siebel Service to the hub. The team also changed the data warehouse, which originally pulled data just from the sales system, so that it pulls data from multiple systems, creating a 20GB enterprise data warehouse.

## PRODUCTS USED

- PowerCenter®
- PowerAnalyzer™
- Firstlogic IQ Link for Informatica
- Dun & Bradstreet DUNS #s and DUNS #s corporate hierarchy
- IBM DB2 UDB

## LESSONS LEARNED ABOUT MATCHING

- Manual testing is required to verify match results. Informatica performed three iterative match-rate tests in addition to on-the-fly match verification during development.
- The match rules are highly dependent on the data and its current structure in the source systems. Expect to tweak/change the match rules once data is reviewed.
- Business users must be included in the match verification testing.
- Matching involves both systematic and manual verification. Certain behavior can be accounted for through systematic match rules—such as automatically removing “Co” and “Inc” from all companies to better match on name—but some issues must be addressed on a case-by-case basis.
- Leverage a variety of sources to perform match. Informatica uses D&B, plus Firstlogic, plus existing system attributes.
- Be conservative rather than optimistic with match rates. It’s better to lose a few good matches than incorrectly match unrelated records.
- Cleanse to assist with matching: Concentrate cleansing on standardization and on maximizing consistency of data.
- Automated match does not mean no support/head count, because questions and exceptions occur, even after go-live.

“Managing data quality is one part technology and 99 parts business process,” observes Kornberg. “The use of a data quality tool does not eliminate the need for people to manage the data quality and clean data when necessary. For example, no rule is ever going to tell you that Compaq and HP are a match, unless the system knows this for a fact. Ensuring data quality is the most time-intensive aspect of the project, and it must be done diligently. The success of the project depends on the validity of the data and the users’ confidence in the data quality.” Both during implementation and now, Informatica’s 360-degree team has included people whose ongoing job is to verify the data quality and resolve any issues that arise.

Informatica also uses third-party services to provide corporate information, but Kornberg points out, “These services have the same data quality challenges that we have, so you have to work with the vendor to find a match rate that is acceptable for your implementation.”

## Ongoing Use and Maintenance

Now that the first and second phases of the project are complete, the customer hub serves a range of users in sales, including field sales, sales consulting, product marketing, marketing, and sales operations. Staff access 360-degree reports as PDF files or in Excel using PowerAnalyzer. Each report contains the latest customer information, including revenue summary, affiliated companies, customer profile, key product summary, orders, maintenance renewal contracts, maintenance renewal quotes, opportunities, consulting revenue by project, consulting days by consultant, support summary, open service requests, and project-level support details. Staff can also access online a lifetime revenue report for each customer.

### Staff Members Appreciate Ability to Access 360-Degree Reports

In user surveys, Informatica staff say they appreciate having a complete SVOC readily available. One sales operations staff member at Informatica explains that he leverages the 360-degree reports to gain a clear view of where an account stands, and “to prepare

for month-end on major accounts to see what is out there. I like to be aware of how an account is worked.” Previously, to gather information on an account, the sales rep would have to manually pull together information from different applications—

a complex and time-consuming task that involved compiling multiple spreadsheets and running other systems such as a sales force automation system. The new reports not only save time, they also enable Informatica’s sales operations group to respond more rapidly to customers’ needs.

Online access to maintenance renewals and support information makes it easier for maintenance renewals staff to do their jobs. Previously, they had to go to many separate locations to compile a report. “It took up to half a day just to gather the contracts and maintenance renewals status information found in a 360-degree report,” explains one staff member. “Now it takes us no time to provide a clear and current view of what licenses a customer has and the maintenance on each license. Also, it helps track a customer’s history of orders and renewals.” Maintenance renewals staff use the SVOC to gain a quick overview of all products a customer owns and all the related divisions within a customer company, and they send this information off to sales reps to give them a clearer picture of the customer’s situation.

In addition to providing online access to maintenance renewals information, the customer hub is making possible other reports that will benefit the maintenance renewals team. The team is working on leveraging the hub by building connections to contracts in PeopleSoft Financials and linked project IDs in Informatica’s global customer support system.

## Administration and Maintenance Continue

Administrators continue to work with the 360-degree project solution. They respond to any problems with the system and log business requests for review and possible implementation of new reports based on the 360-degree data.

Operational management of the SVOC requires ongoing customer data management. “Ultimately we realized we couldn’t have a 100 percent automated matching system and have great data quality management,” comments Kornberg. “We allocated one person to be in charge of managing data issues and researching exceptions to the matching process.” Matching exceptions reports show which companies have been matched, and which haven’t. The data quality manager uses a custom-built administrator console to override poor matches.

## LESSONS LEARNED ABOUT ROLLING OUT A MASTER CUSTOMER ID

- Develop a vision and a long-term roadmap for providing value to the business and review.
- Revisit the roadmap after each phase to reevaluate the next steps as the business needs changes over time and as a result of more use of what is provided.
- Work in distinct phases—don’t try for a big-bang approach.
- Invest in underlying infrastructure up front, but also include strong business value in each phase.
- Deploy to a pilot group to get feedback on results (one additional round of verification) before wide deployment.

## High-Level Overview of Planned Phases and Deliverables

PHASE	DESCRIPTION	BENEFITS
1.	Hub architecture and data quality profiling	<ul style="list-style-type: none"> <li>• Unique identifier for each customer/partner account enables consolidated view of customer</li> <li>• Data quality dashboards and exception reports help ensure quality</li> </ul>
2.	Enterprise reporting	<ul style="list-style-type: none"> <li>• "Single view of customer" reports provide comprehensive customer information in one place</li> <li>• Hierarchical customer reporting clarifies relationships among different customer divisions</li> </ul>
3.	Customer profile management	<ul style="list-style-type: none"> <li>• Profiles enable sales staff to better leverage existing customers for future sales</li> <li>• Sales staff gain better visibility into customers' use of Informatica products</li> </ul>
4.	Contact cleansing and matching	<ul style="list-style-type: none"> <li>• Improved contact management enables more efficient use of sales staff time</li> </ul>
5.	Data quality improvements and change management within the source systems	<ul style="list-style-type: none"> <li>• Cleansing data before it enters the source systems prevents data quality issues</li> <li>• Process improvements to enterprise-wide account data management enable greater efficiency</li> </ul>
6.	Two-way synchronization of customer information	<ul style="list-style-type: none"> <li>• Maintenance of customer information across Informatica's internal information systems ensures consistency</li> </ul>

## Measuring Success

The Informatica 360-degree program team successfully completed phases one and two: implementing a unique identifier for each customer or partner account; creating 360-degree SVOC reports; and delivering data quality, exception, and hierarchical customer reports.

The team is now well placed to undertake the next phases on its project roadmap, because it has already achieved credibility within Informatica by delivering value for the organization. Initial estimates of the ROI for the project are looking strong, and the team expects that the completed hub will speed delivery and improve quality of future value-add projects. Already there are plans in place to implement two-way synchronization of customer information in order to maintain consistent customer data across Informatica's internal IT systems. There is also interest in adding more information to each customer profile.

"We've provided Informatica with a straightforward and easily scalable solution for creating and leveraging a master customer identifier, and with the SVOC report, we've demonstrated one way in which that adds value," concludes Tony Young, Informatica's CIO. "Now we're looking forward to leveraging what we've built in many different ways so that Informatica can become even better at satisfying and anticipating our customers' needs. The first step in becoming a truly customer-focused organization is to gain a complete view of each customer—and now, we've taken that step."

### ADVICE FROM THE FRONT LINES: TOP 5 LESSONS LEARNED

- Work toward a single tangible solution and grow from there.
- Use separate systems for 1) cleansing and matching customers, and 2) enabling users to report and view information for SVOC.
- Accept that data profiling is an ongoing task.
- Start analyzing the data as soon as possible.
- Acknowledge that different groups within the company have a legitimate need to view data in different ways, and accommodate those requirements.









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