

McLean County Community Unit School District No. 5 Uses SIF to Streamline District Information Exchange

Overview

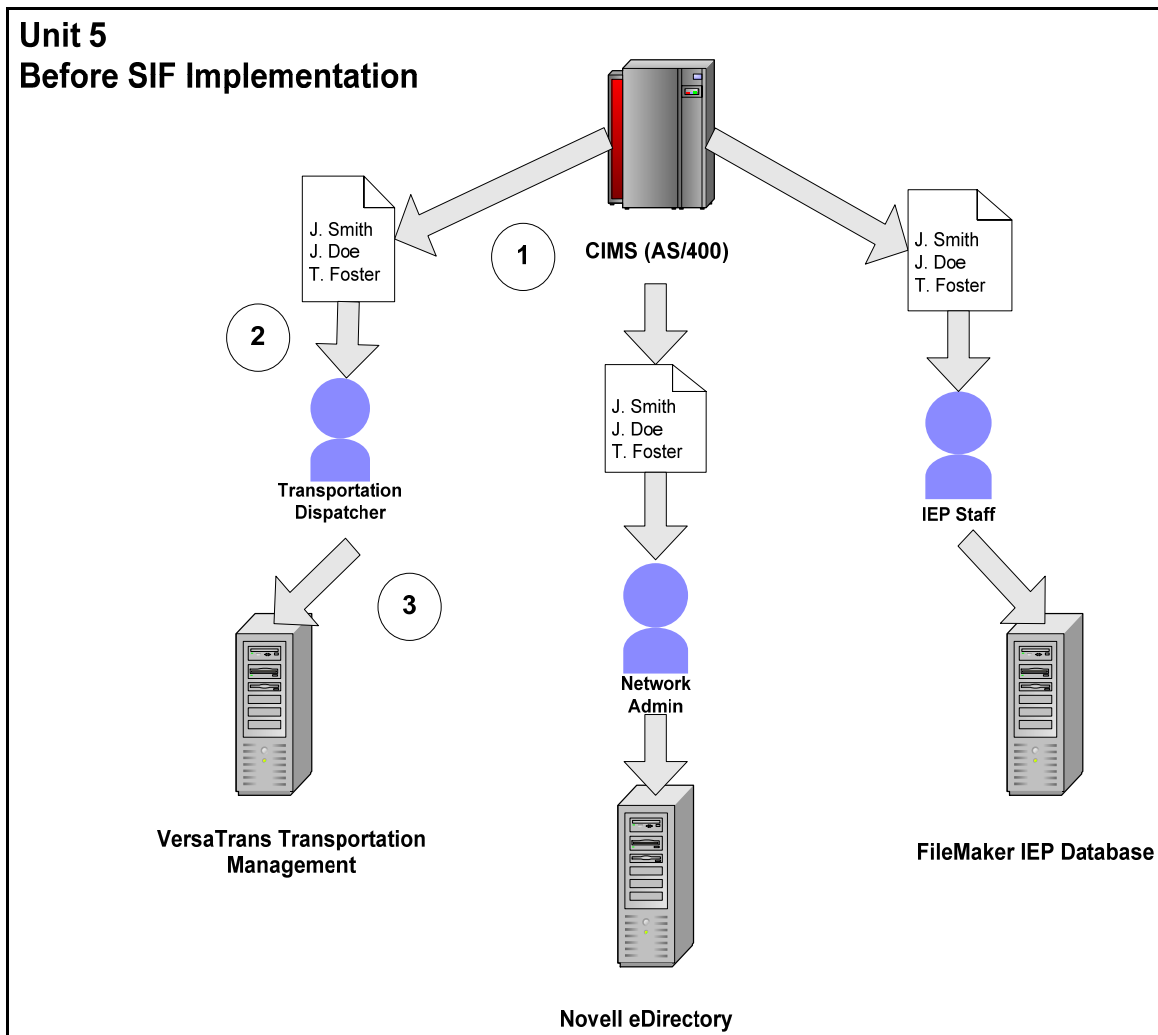
McLean County Unit District 5 is a large unit district in Central Illinois serving the educational needs of over 11,000 students. The district consists of more than 200 square miles, with 15 elementary, 3 junior high and 2 high school buildings. Unit 5 engaged Integrity Technology Solutions to integrate four of their critical district information systems so that common student data could be shared more easily and effectively. Using the Schools Interoperability Framework, or SIF, Integrity implemented a solution that enabled the data to be shared while allowing the district to retain their existing technology investment. As a result, district personnel saved time and money that was formerly spent on manual exports and imports of data. This savings enabled the district to refocus their efforts on more strategic uses of student data.

Situation

Each year, as student information changed in the district, a fair amount of manual effort was required to key these changes into the district's various information systems. For example, if a new student were to matriculate into the district, information about that student must be entered into many separate systems – a student management system (SMS), an individual education plan (IEP) system, a transportation system, and the network operating system, among others. Duplicated effort such as this was not only time-consuming and costly; it was leading to errors and inconsistencies within the information for each student. Furthermore, data was only synchronized a few times per year. Often, student information would be correct at one source, but stale at another.

The following diagram shows the various steps involved in propagating information throughout the district. The steps can be summarized as follows:

1. From the student management system, CIMS, a manual export and transformation of student data was created in a format proprietary to the recipient system.
2. The district personnel in charge of the recipient system would receive the export and would have to correct any errors that were observed.
3. The export file was then manually imported into the recipient system, and further errors would have to be corrected.



The other problem presented by this architecture was that information exchange was only unidirectional. Teachers and administrative assistants wanted to be able to check a student's bus number in CIMS, but because that information was isolated as a silo within VersaTrans, they had to call the transportation department every time that information was needed.

The district was faced with a decision: find a way to better integrate the systems they were currently using or make the costly investment to purchase all new software that would seamlessly interact. The latter option was highly undesirable, both from a cost and user training perspective.

Solution

Prior to meeting with Unit 5, Integrity had been doing extensive research into a technology called the Schools Interoperability Framework, or SIF. SIF was born out of

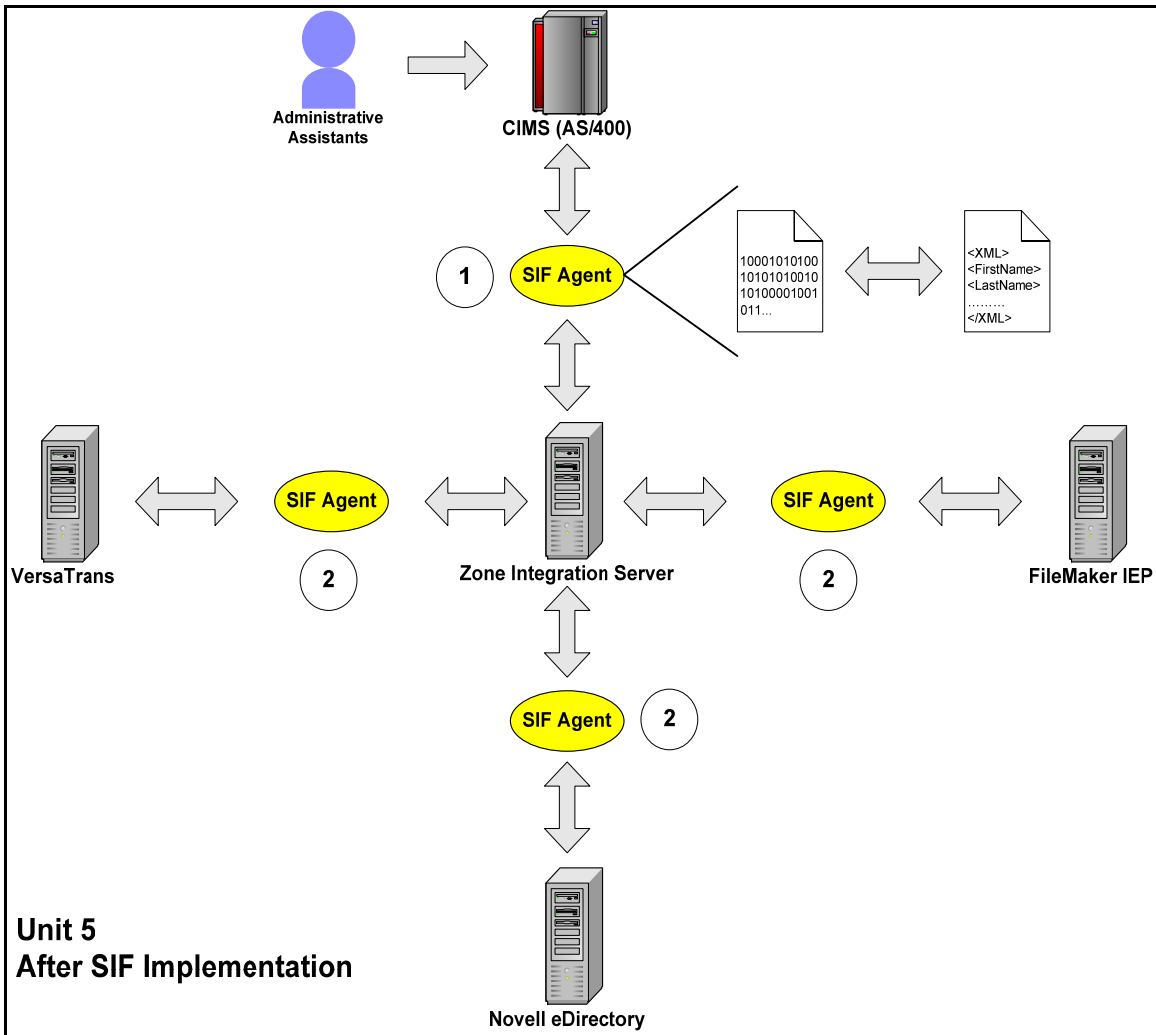
collaboration between K-12 software vendors who mutually realized the need for their separate solutions to integrate. Rather than requiring costly and time-consuming replacement of all district systems, SIF merely centralizes and standardizes the way that district systems communicate. At the heart of any SIF project is a system that knows which district systems need access to the right information. Instead of trying to communicate with each other directly, student information systems merely need to communicate with the central SIF system, known as a Zone Integration Server (ZIS). The ZIS then sends out the right information to the systems that need to know about that information. The net result is that information flow is managed centrally, rather than within each individual information source.

Unit 5 was a good fit for SIF for several reasons. First and foremost, it would enable them to integrate their information exchange while retaining their investment in existing systems. Second, two of the four systems to be integrated were already certified as SIF-compliant. This means that the vendors of those systems were already providing the tools necessary to make them interact with a Zone Integration Server. Third, the technical leadership at Unit 5 had awareness of SIF from seminars and workshops, and they were excited about the technology and its benefits.

Part of the challenge of the implementation at Unit 5 was that two of the four systems were not SIF-compliant. Some custom development work would be required to develop SIF agents, the conduits that facilitate communication with the ZIS. Integrity's Application Development and Integration team, using an agent development kit from CPSI, built agents with Microsoft's .NET Framework, SQL Server, and XML. With these agents in place, systems as diverse as FileMaker and an IBM iSeries AS/400 would be speaking the same language to the ZIS.

The following diagram shows how SIF agents and the ZIS interact to exchange information in the district. The process flows in the following order:

1. When a change is made to a student's information, the SIF agent picks up that change, transforming a proprietary data format into an XML message that is sent to the ZIS for processing.
2. The ZIS acts as a "post office", sending the relevant pieces of information along to the other agents, which then transform that XML message into data proprietary to each system.



With SIF in place, information exchange in the district takes place seamlessly and automatically. Changes to student information are sent to the ZIS and routed to the other systems each day. As students are added and dropped, messages are sent to the ZIS for these events, subsequently notifying each member system in the implementation. No longer are phone calls and paper trails required to distribute this information.

Results

Unit 5 has experienced a tremendous improvement in the synchronization of student data as a result of the SIF implementation. One individual in the district even described the implementation as “a life saver”. Some of the benefits they have realized include:

Automated information flow

Adds, changes, and deletes to student information are now processed automatically, without the need for Unit 5 staff to intervene. Rather than using a periodic, cumbersome import and export process, changes are picked up and distributed daily by the SIF agents.

Accurate synchronization of data

Users of each system no longer need to worry about information in a system becoming stale over time. With changes being picked up on a daily basis, people know that they are always viewing the latest information about each student.

Bus numbers now available in CIMS

The unidirectional nature of data flow was eliminated, and the SIF agent for VersaTrans is able to send transportation-specific information back to the ZIS. Because of this, the agent for CIMS is able to receive this information and place relevant pieces in the database. Teachers and administrative assistants can now check a student’s bus number by using the CIMS interface.

Readiness for other integrated systems

Because of the platform and software-independent nature of SIF, future systems can be integrated with the current implementation with minimal effort. Any future system must only be able to communicate with the ZIS, and the ZIS handles distributing that information to the rest of the district.

New capabilities for using information

Because the district laid a solid information foundation using SIF, they are now able to begin the process of architecting a data warehouse which will consolidate student information for the purpose of building dynamic, meaningful reports.

Through the use of SIF, Integrity Technology Solutions was able to provide Unit 5 with a cost-effective, robust solution to their integration needs. Because of the tremendous success of this implementation, Unit 5 has elected to partner with Integrity for the development and deployment of a data warehousing and reporting solution.