



# Conference Data Exchange Fuels Operational Efficiency

## ABOUT IEEE

IEEE is the world's largest professional association dedicated to advancing technological innovation and excellence for the benefit of humanity. IEEE and its members inspire a global community through IEEE's highly cited publications, conferences, technology standards, and professional and educational activities.

A diverse body of elected and appointed volunteer members leads IEEE. The governance structure includes boards for operational areas as well as bodies representing members in the 45 societies and technical councils. It also covers ten worldwide geographic regions comprised of 3000+ sections, chapters and sub-chapters.

## CASE STUDY BACKGROUND

IEEE holds over a thousand conferences per year, each typically draw attendees from many countries. There has been a dramatic growth of conferences internationally as well. IEEE conducts business in at least 70 countries. As a United States-based entity, IEEE is ultimately accountable for reporting all the activities to the numerous authorities in the U.S. and elsewhere.

The event lifecycle for a conference spans several years from beginning to end. Numerous contracts are negotiated, funds are transacted, and legal, financial and regulatory compliance rules must be followed. Volunteers run IEEE conferences and report back to IEEE staff. These members may not have experience in event planning, reporting financials, etc. All parties find it increasingly difficult to work within the constraints of the available IEEE systems while operational costs rise dramatically. Furthermore, the many financial, legal and regulatory issues that IEEE must address, across the many political jurisdictions in which these conferences are conducted around the world, consume too much of the organization's time and resources.

## THE PROBLEM

As IEEE's global business exceeded 70% of its activities, the systems and data architecture that was designed for U.S. businesses could no longer sustain the growth of the business globally. Some of these requirements consisted of tax liabilities and authorities, multi-currency budgeting, as well as regulations pertaining to protection of personal information, which introduced new challenges to the historically U.S.-centric staff operation. The business had to transform these data activities into flexible business processes to meet the needs of customers in diverse regions. This would enable the conference organizers to focus on the technical programs -- the core concern and value driver of the events -- with IEEE staff assuming accountability for the administrative requirements of doing business worldwide.

*"We didn't want to be constrained by the operational logistics nor open-ended TCO of an ODS; we wanted to be an agile enterprise and we knew what most people are now discovering: that a federated virtual data environment is better than a physical data warehouse."*

Dave Rogers,  
Conferences Business and Technology Solutions Office,  
IEEE

## AT-A-GLANCE

### Industry

Non-Profit – Professional Association

### Business Problem Solved

Outdated data infrastructure could not support a global organization. Old architecture did not have functionality, flexibility, nor scalability required for the growing volume of backend operational processes.

### Data Integration Patterns

- Data Virtualization
- Data Federation

### Composite Software Products

Composite Information Server 5.1

### Data Sources

Financial applications - back office, financial estimates, attendance estimates, budget projections, conference chairs and committee members insurance data, financial sponsors, non-attendee data (Informix); Logistics applications (Informix); Commercial Readiness applications (Informix); Event Planning systems (12 standard packages, with local flavors); Event Registration systems (local flavors)

### Data Consumers

Conference Organizers; Conference Authors; Organizing Units including, but not limited to, Societies, Regions, Sections, Chapters; IEEE Operations Staff, Management and Volunteers

### Platform

Linux

## THE PROBLEM CONT.

The technology world had completely evolved in the 25 years since IEEE installed its Informix database to generate a quarterly listing of several dozen conferences. IEEE needed a new platform to streamline and integrate data and application functionality that directly supported the stakeholders of the conference business.

## ALTERNATIVES CONSIDERED

The first alternative was to do nothing. However, with the inability to make changes, new information would not be recorded because the current system could no longer keep up with the constant changes of the conference business. The second alternative was to replace the existing Informix database with a new database. But porting to a new database would not give IEEE the middleware needed to automate processes, facilitate compliance, or offer new Web-based services to conference organizers.

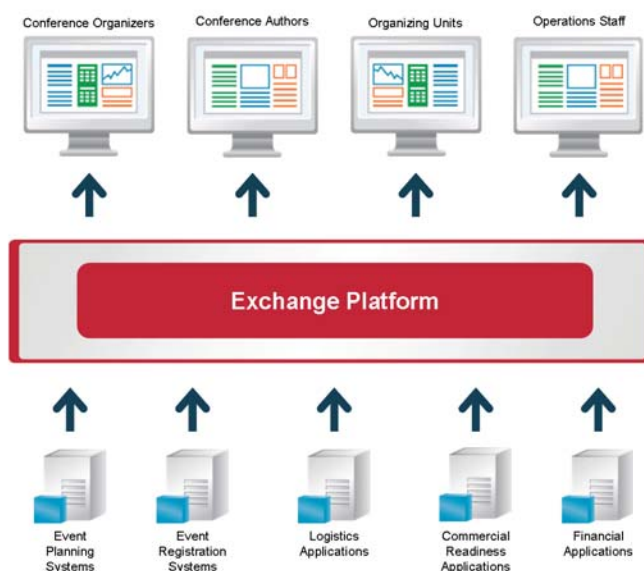
Another alternative was to migrate the existing database and use IT's infrastructure for automation and new services. Unfortunately, this approach provided no direct access to IT's Service-Oriented Architecture (SOA) and required migration of the entire suite of Informix database components. The last alternative was to migrate the existing database and build a solution on free open-source software. However, open source products required more technical expertise and time to customize and integrate. In addition, there was an increased cost of ownership as well as increased risk.

## THE SOLUTION

IEEE established the IEEE Conference Exchange (ICX) through the use of Composite Software's Data Virtualization Platform. With Composite's data virtualization and federation capabilities, IEEE has the ability to design, develop, deploy and operate the system to support conference organizers, planners and functions with streamlined and integrated data and application functionality.

ICX offers a more simplified experience for organizing IEEE conferences through event-based services and portfolio management capabilities. It also augments the ability to provide more timely and higher-quality information. Finally, ICX provides a centralized operational foundation that will enable flexibility and scalability for backend operational processes.

A key aspect of the Composite solution features a "contract first" development approach, a preferred principle of SOA. This capability allows conditions and obligations of business contracts to align with preconditions, post-conditions and invariants. These requirements are extremely crucial to contractual executions allowing all laws, regulations, and certain obligations to be satisfied for every regional organization.



A virtual layer based on the Composite Information Server.

## THE RESULT

- 2x ROI expected after first year
- 2x faster time to solution
- Decreased outsourcing costs
- Increased object reuse by 30%
- Increased IT productivity; now need only one to complete modeling versus several in the past
- Better runtime performance versus "services on the bus"