

IBM Global Business Services



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## IBM Open Integration and Reporting Framework

### Education Solution Capabilities



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## Table of Contents

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IBM Open Integration and Reporting Framework ..... 1

## List of Figures

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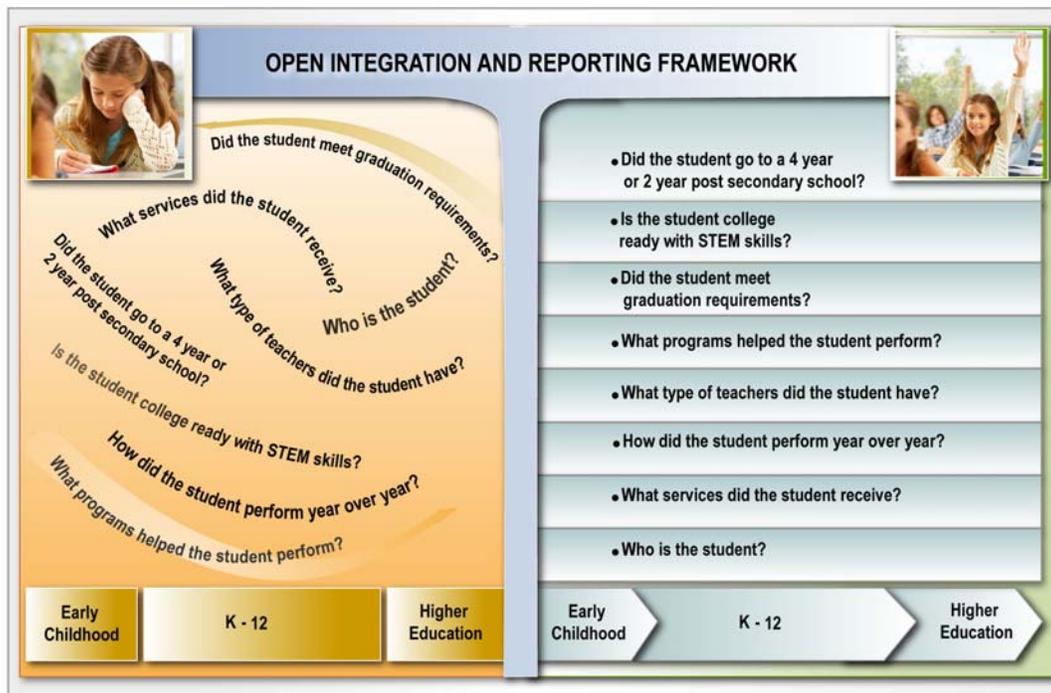
Figure 1: OPEN-ED Framework as shown through our Portal Home Page..... 2  
Figure 2: Enterprise Service Bus ..... 3

## List of Tables

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Table 1: OPEN-ED Solutions and Clients ..... 4

## IBM Open Integration and Reporting Framework



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As states strive to upgrade their systems to support the federal No Child Left Behind (NCLB) and associated state level reporting requirements, they face the challenge of moving from point in time to near real time data collection and reporting about their students. At the same time, governor level task force efforts are being established to address the challenge of college readiness and the supply of skill sets needed to support the workforce. This means that K-12 entities are being asked to become a partner in integrating data from other state agencies and post-secondary institutions to provide a more comprehensive view of their students, services being provided, and realized outcomes.

As a result, the role of the state departments of education to deliver services and information about students is becoming more complex. First, it is the day to day tactical challenge of collecting and managing data to demonstrate compliance with NCLB, while having minimal workload impact on the school districts. Second, it is to position their data for integration with other state and post-secondary institutes to examine education services and college readiness. Due to this complex role, state departments of education are becoming a hub for data collection and reporting. They are quickly finding themselves faced with the challenge of extending their legacy applications which were designed to meet very specific reporting requirements or integrating a group of disparate systems to address analytical reporting needs.

IBM understands this challenge and is providing an open framework for integration and reporting to address it. Our solution, the Open Education Integration and Reporting Framework (OPEN-ED), provides a services oriented architecture (SOA) approach that treats state data management as services to meet specific end user needs. Through our OPEN-ED framework, states can develop an implementation to meet the following goals:

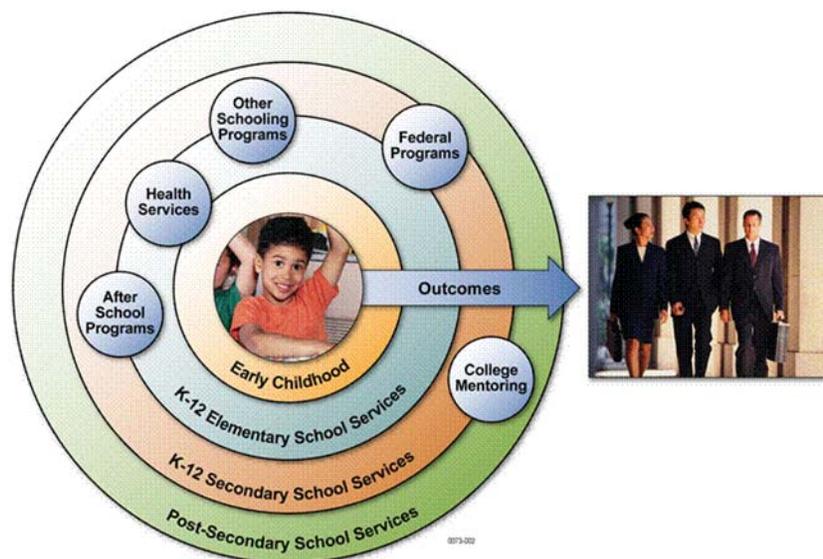
- Offer data services to develop a 360° view of the programs provided to a student by a state or school district
- Innovate using existing state data management systems to provide additional value to the educational community
- Connect K-12, higher education, and workforce community through data driven services

OPEN-ED is an open framework that supports and extends the Schools Interoperability Framework (SIF) by offering web services that enable integration with non-SIF systems. Our framework also leverages robust integration tools, like Websphere and its open source version that is non-proprietary, yet can highly scaleable, unlike many of the niche solutions that exist in the marketplace today.

OPEN-ED integration framework can sit on top of any database platform and work with a variety of applications, including Java and .NET. In addition, we offer in our framework various services to support an educational state reporting system:

- Single, Role Based Sign on
- Unique Student and Teacher ID Assignment Services
- Data Collection Services – Web Service, SIF, and Batch
- Student Transfer Services
- Integration to Transcript Services
- Integration to Legacy, Higher Education, and District Systems
- Full pre-ID Label Generation and Assessment Results Integration Services
- Student Portfolio Services
- Enterprise Data Warehouse and associated load routines from source systems
- Analytics and Performance Benchmarking through Cognos

**Figure 1: OPEN-ED Framework Connects Student Centric Data Across the Educational Continuum**



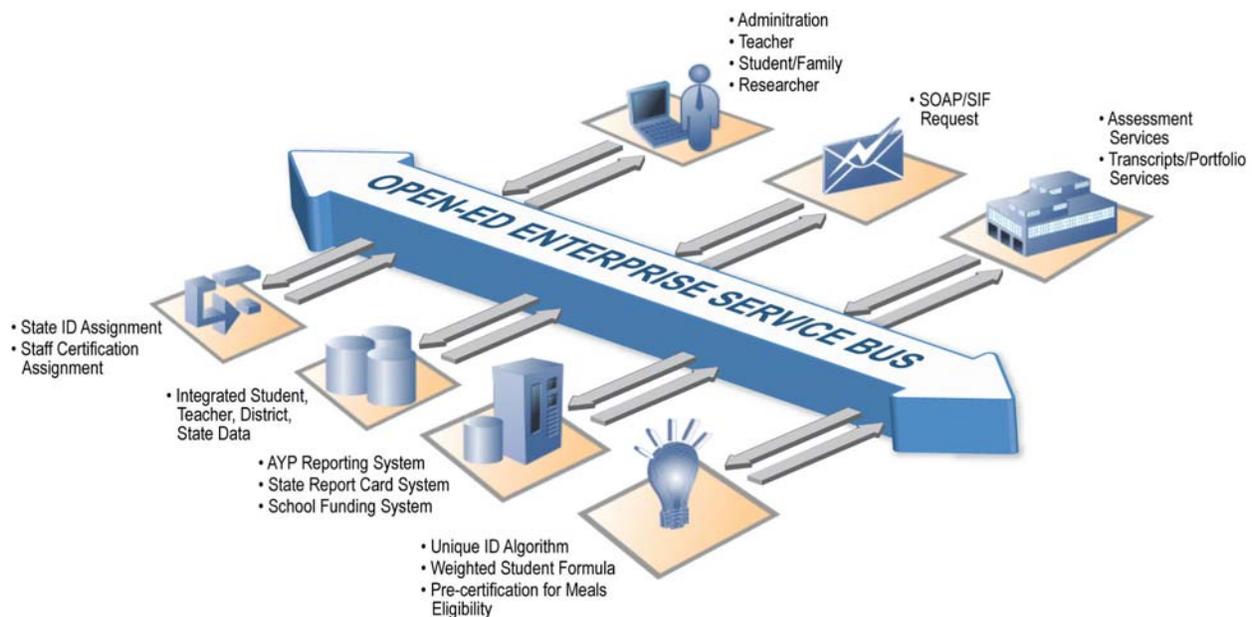
We have delivered one or more of these services for state departments of education, ministries of education, and school districts. Our OPEN-ED framework has enabled our education clients to address the tactical challenges of data integration to meet district and state reporting and analysis requirements which include:

- Assigning a unique state student ID and tracking the movement of a student from early childhood into the K-12 system
- Providing a pre-code ID label process that reduces assessment vendor charges to the district for corrections
- Reducing orphan student records after an assessment to less than .05%
- Providing a full range of reporting and analytics that enable states and districts to view data in easy to read graphs and tables on student performance and student services
- Providing a best of breed data collection options to address a wide variety of school district data collection capabilities
- Enabling the integration of education related data across state systems to evaluate program effectiveness

In addition to addressing the tactical challenges, our OPEN-ED framework enables the state to lay the foundation for transforming their data management systems into true constituent services, whether those constituents are parents, students, or school district leaders.

Read about our clients who use our OPEN-ED framework to meet their education service needs.

**Figure 2: Enterprise Service Bus**



**Table 1: OPEN-ED Solutions and Clients**

State/School District	Unique ID	Data Collection	Student Record Transfer	Data Reporting and Analytics	Integration	Web 2.0/Open Source
Description of Open-Ed Component	<ul style="list-style-type: none"> <li>✓ Assignment of a state-wide unique student and teacher ID.</li> <li>✓ Tracks basic demographics about the individual</li> <li>✓ Tracks placement of student or teacher in school district/school</li> </ul>	<ul style="list-style-type: none"> <li>✓ District to state data collection engine for all education subject areas (XML, Batch, on line; web service or SIF)</li> <li>✓ Source system to target system extract, transform, and load</li> </ul>	<ul style="list-style-type: none"> <li>✓ Transfer of student record from district to district</li> <li>✓ Transfer of student record from district/state to higher education</li> <li>✓ Transfer of student record/student portfolio</li> </ul>	<ul style="list-style-type: none"> <li>✓ Full range of transactional reporting</li> <li>✓ Process metrics management</li> <li>✓ Full data driven decision making support through Cognos and other BI tools</li> <li>✓ Benchmarking</li> <li>✓ 360° View of the Student/School /State</li> </ul>	<ul style="list-style-type: none"> <li>✓ Solution component integration to support education enterprise</li> <li>✓ Integration with other State agency systems using SOA</li> <li>✓ Business to business integration (e.g., State DOE to Assessment vendor, K-12 to higher ed)</li> </ul>	<ul style="list-style-type: none"> <li>✓ Integration with open source web 2.0 content management systems</li> <li>✓ Support of Sakai</li> </ul>
Illinois State Board of Education	●	●		●	●	
Ohio Department of Education	●	●	●	●	●	●
California Department of Education	●	●		●		
Maryland Department of Education		●		●		

State/School District	Unique ID	Data Collection	Student Record Transfer	Data Reporting and Analytics	Integration	Web 2.0/Open Source
eTech Ohio					●	●
School District of Philadelphia		●		●	●	
Gwinnett County Public Schools		●	●	●	●	
Mid-Atlantic Consortium (Prince William County Public Schools, Loudoun County Public Schools, Charles County Public Schools)		●		●	●	
DC Public Schools	●	●	●	●	●	
Qatar Supreme Education Council		●		●	●	