

# Nomination Form

*May 23, 2003. Extension to deadline granted.*

Title of Nomination: **West Virginia Education Information System (WVEIS)**

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Category for judging: **Enterprise Information Architecture**

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## Executive Summary – West Virginia Education Information System (WVEIS)

<p><b>What is WVEIS?</b></p>	<p>WVEIS (West Virginia Education Information System) is a management information system (MIS) for West Virginia schools and county school systems. The project is legislatively mandated (1991) and is used to manage the daily operations of schools and school systems across the state.</p> <p>The system is run over a wide area routed network in which all public school sites are connected for access to WVEIS and to the Internet. Two computers are used to store the programs and databases generated through the every day use of the system. Access to the computers is on-line and interactive.</p> <p>Program applications for student management include enrollment of students, scheduling courses, taking attendance, recording grades, recording discipline incidences, keeping track of immunizations and other health related matters, recording special education services provided to children, plus many more daily activities. Applications for administration include writing purchase orders and making payments for goods and services received, writing payroll checks for about 50,000 full and part time employees twice a month, maintaining records of deduction and leave accrual, keeping track of warehoused products, recording of fixed assets, and tracking work positions (human resources).</p> <p>Standard definitions are used for all data elements that will be collected through the system.</p>
<p><b>Why was WVEIS begun?</b></p>	<p>The WVEIS system was authorized in order to provide a comprehensive, equitable, cost-effective management information system to public education. Data-driven decision-making based on valid and reliable data was a top priority. The system was designed to satisfy that need.</p>
<p><b>Who uses WVEIS?</b></p>	<p>There are approximately 10,000 users of the WVEIS system statewide. These users include principals, vice-principals, secretaries, clerks, counselors, school nurses, county financial staff, payroll office, etc. Many teachers are beginning to use the system for the input of grades and attendance.</p>
<p><b>Does WVEIS share data with other organizations/ government</b></p>	<p>WVDE collects specific data for state and federal reporting. Most of the federal and state reporting requirements can be met using the data that is created in the normal course of daily work in the school systems. Other state agencies that share WVEIS information include the Public Employees Insurance Agency, Department of Health and Human Services, Retirement Board,</p>

<b>agencies?</b>	State Tax, and the IRS.
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## **West Virginia Education Information System**

### **a) Description of the project, including length of time in operation**

The West Virginia Education Information System is a project initiated by the West Virginia Department of Education and the West Virginia Legislature. In 1990, West Virginia had a governor and legislature that were very interested in positive reforms for education and in the use of technology to facilitate those reforms. One of the reform needs was being able to have valid, reliable information on which to base educational decisions. Prior to implementation of this project, every school and county school system had its own management information system, which ranged from paper documents to rather sophisticated “home-grown” electronic systems.

In 1991, the West Virginia Education Information System was born. All schools and county school systems were required by law to participate. The design of the system was a regional approach to MIS. IBM AS/400 computers were placed in each of eight regional service agencies. The software chosen for the project was CIMS (Comprehensive Information Management for Schools), a product from National Computer Systems. The product is comprehensive and contains modules for student personal/family information, enrollment, scheduling, grading, discipline, etc. It also contains modules for the business end of education. It includes general ledger, payroll, personnel, fixed asset management, warehousing, etc.

The software is on-line and interactive. All schools and county school systems are connected to the management information system and to each other through a routed network with over 900 routers in the privately addressed network. All schools and school districts within the state are able to access the WVEIS system.

The computer hardware has been continuously upgraded through the years as more program applications were added and processor speeds and storage needed to be increased. The number of machines was reduced from eight to two. The maintenance of the software package was taken over by the WVDE so that applications could be modified to suit the needs of the West Virginia users. Both these activities reduced the overall cost of operations which allows continued growth of the project with no additional appropriation of funds.

### **b) Significance to the improvement of the operation of government**

The WVEIS project did several things to improve the operations of government.

1. The project provided MIS services to all school and all county school systems regardless of their wealth or location in the state. Most school systems did not have an electronic MIS system for schools; so, most

school data were handled manually or on a PC program that varied from school to school.

2. Using the same pieces of WVEIS software statewide made training to use the programs much more efficient. Training manuals developed for one location could be used in all locations.
3. With WVEIS came the development of a set of standards for data definitions that are used statewide so that data collected from the files are consistent in meaning and timing across the state.
4. WVEIS provides integrated databases so that information can be entered one time only and used many times for different functions. This substantially reduces redundant entry of data.
5. There are many reports programs built into the WVEIS system so that end-users can create their own report on most data elements stored in the system.
6. Programs can be written once and serve all schools and county school systems. Specialized reports are designed for the advantage of all users. This is an efficient way to provide services to the end-users.
7. The stored databases are backed-up regularly by regional staff so that end-users do not have to worry about performing this function or have the fear of losing data.

**c) Benefits realized by service recipients, taxpayers, agency, and state**

1. The overall expenditure for MIS services for schools and county school systems is greatly reduced by using WVEIS. The West Virginia Legislature annually appropriates funds for the operations of the hardware, software, router/network maintenance, and support staff. The schools and school systems must pay for their own communication lines to the network.
2. Information from schools that is required for state and federal reporting is a by-product of the school system doing its every-day work. Programs are written to extract needed information into a file that, once verified for accuracy, is submitted by the school/county to the appropriate receiving entity. This is a time saver for the end-users and a better assurance of accuracy for the information recipients.
3. The system provides for connectivity to agencies outside the West Virginia Department of Education. For example, County School System Personnel can “look-up” information on the employee insurance at Public Employee Insurance Agency. Student transcripts can be evaluated to provide information for the Higher Education Policy Commission Promise Scholarships for students. Payroll deductions can be sent electronically to the Retirement System. A Medicare Billing system was developed to allowing billing of student services directly to the Department of Health and Human Services agent. W-2 information is sent electronically to the IRS and the West

Virginia Tax Department. Student names and parent addresses are sent to the Children's Health Insurance Program (CHIP) so that parents can be contacted with CHIP information.

4. The accuracy and reliability of data collected through WVEIS is an advantage for all recipients of the data, because the data are entered as a matter of doing the everyday work of the school/school-system.
5. The databases are totally integrated so that the student and financial applications have "hooks" to capture information to paint informative pictures. For example, student schedules carry a teacher ID so that the certification of the teacher of the course can be validated. Student assessment results can be mapped back to student basic information records to help plan instructional strategies for each student.

d) **Return on investment, short-term/long-term payback (including calculations). Project must exhibit measurable operational benefits.**

1. The per-pupil cost of running an MIS system for schools in West Virginia, when the WVEIS project started, was about \$18 per student. That cost included hardware, software, and personnel costs and did not include communications costs or training. The current expenditure is about \$13 per pupil and includes hardware, software, personnel, and network management.
2. The savings in personnel time has not been measured; but, savings would be realized in many of the following areas:
  - Decrease in redundancy of data entry
  - Running pre-programmed reports to produce informational reports from data that is already entered into databases
  - Loading software (new and revised)
  - Backing-up computer data
3. There is an annual savings on the management of the communications network. The cost for maintenance and first-line support for the routers and network from an outside vendor was about \$1.2 million dollars. WVDE trained two employees to become network engineers and 8 regional technical staff members to be first line of support. The cost of managing the network internally is approximately \$600,000 per year.
4. Additional short and long-term payback was evidenced this year when the federal government passed the No Child Left Behind legislation that required states to comply with very strict program and data requirements. While many other states are grappling with a method to capture all the information required for new accountability systems, West Virginia already has a method for doing the job and is currently collecting all the required elements.