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ABSTRACT

This document highlights the problems with current federal education program data collection activities and lists several factors that make movement toward a possible solution, then discusses the vision for the Integrated Performance and Benchmarking System (IPBS), a vision of an Internet-based system for harvesting information from states about federal program activities. In discussing the IPBS vision, the document addresses two questions: How would students' privacy rights and data confidentiality be ensured? and How could the IPBS benefit the U.S. Department of Education (ED) and its customers? The next section focuses on the ED-sponsored two-state (Nebraska and Oregon) test of concept to explore the feasibility of the vision of the IPBS. Information is provided in terms of: goals; how the test of concept coordinated with the National Center for Education Statistics; program policy questions addressed; types of data collected; the big picture of how data got to the IPBS; how data was actually collected; reports that the test includes; and where to view the results (https://secure.air.org/ipbs). A final section outlines the main objectives in six phases through September 2004. (AEF)

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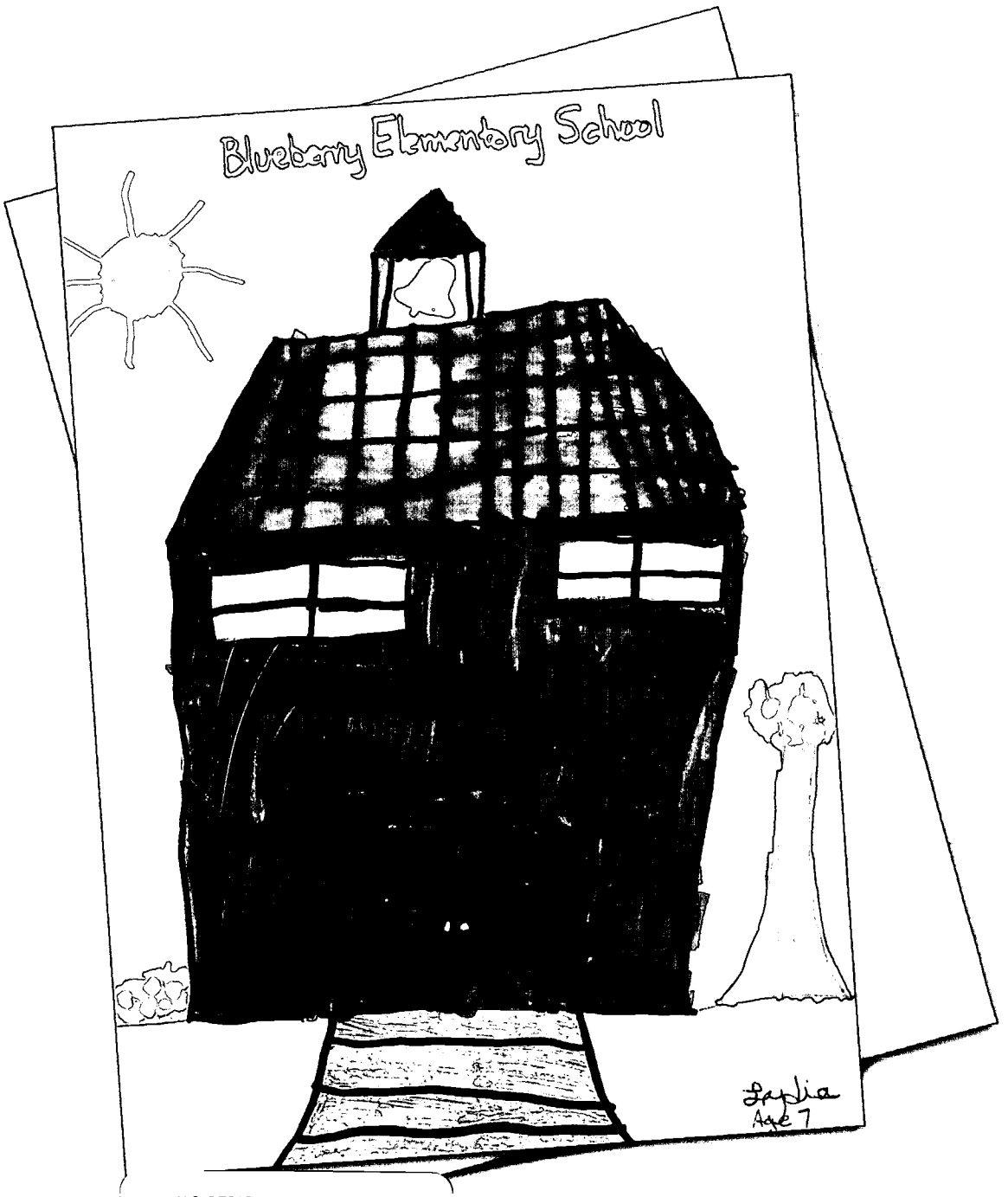
Improving Federal Education Programs Through an Integrated Performance and Benchmarking System



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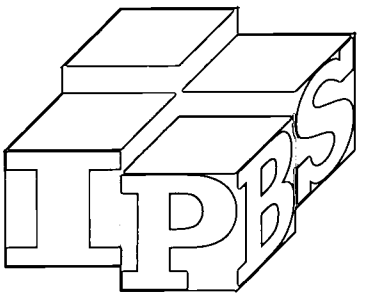

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The Problem and the Opportunity

What Are the Problems with Current Federal Education Program Data Collection Activities?

Current U.S. Department of Education (ED) program data collection activities labor under several problems that affect the quality and usefulness of program data. Most notably, the data obtained through the system often do not provide necessary policy information. In this regard,

EXISTING DATA COLLECTIONS CANNOT ANSWER MANY POLICY QUESTIONS

- **Many policy questions concerning program outcomes cannot be answered by existing program data collections.**
- By the time the data are prepared and disseminated, **they are no longer current and up-to-date.** Consequently they are not useful to policy makers and education officials.
- **A large number of data collections** impose substantial burden on state and local education.
- The disconnection between ED policies and data requests creates **unnecessary duplication of requested data elements.**

Why Is Movement toward a Solution Now Possible?

Several factors now make movement toward a solution possible:

- **Congress expects more timely and higher-quality performance data about programs** for policy decisions and Government and Performance and Results Act (GPRA) reports.
- **Many states are engaged in substantial efforts to shift to electronic data systems.** By revising its data systems, ED can help insure that its systems are compatible with systems the states are developing to provide high-quality, comparable, and timely data.
- **ED needs to move toward implementing the Government Paperwork Elimination Act,** which requires that all record-keeping should, insofar as possible, be in electronic form by 2003.
- **Many elementary and secondary education programs are in the process of reauthorization** and will therefore need to revise their data collection activities.

The Vision

What Is the Vision for the IPBS?

The Integrated Performance and Benchmarking System (IPBS) is a vision of an **Internet-based system for harvesting information from states about federal program activities** at the school and district level. The system would allow users to link federal program participation and outcome information to characteristics of recipient states, districts, and schools. The IPBS could help to meet policymakers' need for timely, outcome-based information while streamlining, modernizing, and reducing the reporting burden on states of federal information requests.

The IPBS relies on a **new approach to federal-state exchange of information about federal program outcomes. States will no longer send data to the federal government. Rather, states will collect and store the data in their own warehouses in such a way that the federal government can harvest them.** States will monitor and ensure the quality of district- and school-collected data.

Specifically, the IPBS is

AN INTERNET-BASED SYSTEM FOR HARVESTING INFORMATION ABOUT FEDERAL PROGRAM ACTIVITIES

- **A shared set of core data and performance indicators.** ED and states will work together to identify key policy questions about program outcomes and characteristics of program recipients.
- **An electronic data harvesting system designed to minimize the burden on states.** The IPBS will harvest data from state administrative records and be designed to be compatible with modern state data systems.
- **A program database resource shared by ED and states.** Reports could include a national education report card displaying progress on key ED Strategic Plan performance objectives, and annual performance reports.

How Would Students' Privacy Rights and Data Confidentiality Be Ensured?

The IPBS would be designed with care to ensure the complete privacy of individuals and confidentiality of sensitive data in the following ways:

- **No information about individual students, teachers, or parents would be collected, maintained or otherwise used in the system.**
- **No data would be included in the IPBS system until they are reviewed and approved for inclusion by the state education agency.**
- **State data warehouses would retain electronic confidentiality and privacy firewalls around data** not designated for inclusion in IPBS.

How Could the IPBS Benefit ED and Its Customers?

BENEFITS FOR CONGRESS

- Timely, high-quality program performance data for policy decisions and GPRA reports.
- Reduction in data collection burden on states.
- Timely, accurate, state, and school district profile reports.
- Information on the relationship between program outcomes and federal spending.

BENEFITS FOR DEPARTMENT OF EDUCATION POLICYMAKERS

- Timely data about federal program results for ED's Strategic Plan and Annual Report.
- School- and district-level data elements allow for flexible analysis.

BENEFITS FOR DEPARTMENT OF EDUCATION PROGRAMS

TIMELY, HIGH-QUALITY PROGRAM PERFORMANCE DATA

- More timely and higher-quality data.
- Up-to-date information about program recipients and their characteristics.
- Ability to run custom program research reports on or find program recipients with particular characteristics.

BENEFITS FOR STATES

- Information on the relationship between program outcomes and federal spending.
- Reduced burden as states will report IPBS data once for use by multiple ED programs.
- Partner with ED on program data collection.

The Two-State Test of Concept

What Were the Goals of the Two-State Test of Concept?

ED sponsored a two-state test of concept to explore the feasibility of the vision of the IPBS. This two-state test of concept was undertaken in partnership with the Council of Chief State School Officers (CCSSO) and the states of Nebraska and Oregon. American Institutes for Research, with KPMG, conducted the two-state test of concept.

The objectives of the two-state test of concept were:

A PARTNERSHIP AMONG ED, CCSSO, AND THE STATES

- To assess the feasibility of the IPBS on a small scale by harvesting current-year program performance data from two state data warehouses via the internet and using it to create a Web site and database.
- To assess the types of technical assistance states may require to modify their data warehouses and data collection methods to be able to participate in data harvesting.
- To use the experiences gained from the two-state trial to better estimate the required costs, time, and challenges involved in developing a full-scale IPBS.

To assess feasibility, we started with two states with substantially different data systems. The test of concept version of the IPBS includes data on all districts and schools in Nebraska, with the exception of achievement data, which are available only for Title I schools. The IPBS test of concept also includes data from the 15 districts and 325 schools that are participating in Oregon's Data Base Initiative.

We focused on a few data elements from several elementary and secondary federal education programs, in particular:

- Title I
- Eisenhower Professional Development Program
- Goals 2000
- Safe and Drug-Free Schools
- Impact Aid
- IDEA Part B
- Technology Literacy Challenge Fund
- McKinney Homeless Assistance
- Title VI

The test of concept version of the IPBS provides useful information on programs that

- Are administered by K–12 education agencies; and
- Serve many districts and/or schools in each state.

The test of concept version of the IPBS can be useful to

- Provide information on school and district background characteristics;
- Track changes in gross quantitative outcomes; and
- Provide program targeting, participation, and expenditure information.

The test of concept version does not work as well for

- Programs with only a few recipients;
- Programs targeted to individual students; or
- Programs that go to non-school entities.

Further development of the IPBS might address these limitations.

MILESTONES

Pre-October 1999	Preliminary meetings
October 18, 1999	Start of two-state test of concept
December 7, 1999	Demonstration of preliminary Web site at meeting of all partners in Nebraska
February 3, 2000	Official completion of two-state test of concept

How Did the Test of Concept Coordinate with the National Center for Education Statistics?

THE IPBS TEST OF CONCEPT BENEFITED FROM NCES' EXPERTISE

The IPBS test of concept has benefited from NCES' experience and coordinated its efforts with NCES by

- **Learning from the National Forum** as a model for how IPBS could work with states about federal program data.
- **Using CCD identifiers and importing some CCD data elements.**

- Using NCES data definitions from the *Student Data Handbook* and *Staff Data Handbook.*
- Adapting NCES' On-Line Data Analysis system for custom report generation.

What Program Policy Questions Does the Two-State Test of Concept Address?

The two-state test of concept version of the IPBS permits examining four main types of questions about federal programs.

STUDENT OUTCOMES

- How do outcome trends in schools participating in various federal programs compare with trends in similar schools not participating in these programs?
- How have student outcomes, as measured by statewide assessments, changed over time in high-poverty schools? In high-minority schools? In schools with high proportions of LEP students? In urban schools?

TARGETING

- How well are federal programs targeted to high-poverty schools? For example, what percent of the highest-poverty schools (schools with more than 75% of students eligible for free or reduced lunch) are receiving Title I funds? What percent are participating in schoolwide programs?

EDUCATIONAL QUALITY

- What is the trend in the ratio of computers to students? How does the trend differ for students in high-poverty and other schools?
- What is the trend in percent of teachers with less than a master's degree? How do these trends differ for big city and other schools?

EDUCATIONAL RESOURCES AND FEDERAL FUNDING

- What percent of district expenditures is federal, state, and local? How do these percents differ by district poverty?

What Types of State Data Did the Test of Concept Collect?

The IPBS test of concept harvested the following types of data FROM states ABOUT districts and schools. This list is NOT exhaustive, but illustrative.

No individual student data were collected, maintained, or otherwise used.

IDENTIFIERS

Name and location (district name, state name, CCD#)

PROGRAM DATA

Federal program participation

Amount of federal funds received, by program

STUDENT CHARACTERISTICS

Enrollment

Enrollment by grade

Number of students, by race/ethnicity by grade

Number of students, by poverty (free, reduced-price lunch)

Number of students with disabilities

Number of LEP students

STUDENT PERFORMANCE

Percent of students at each achievement level on statewide and district assessments

Graduation rates

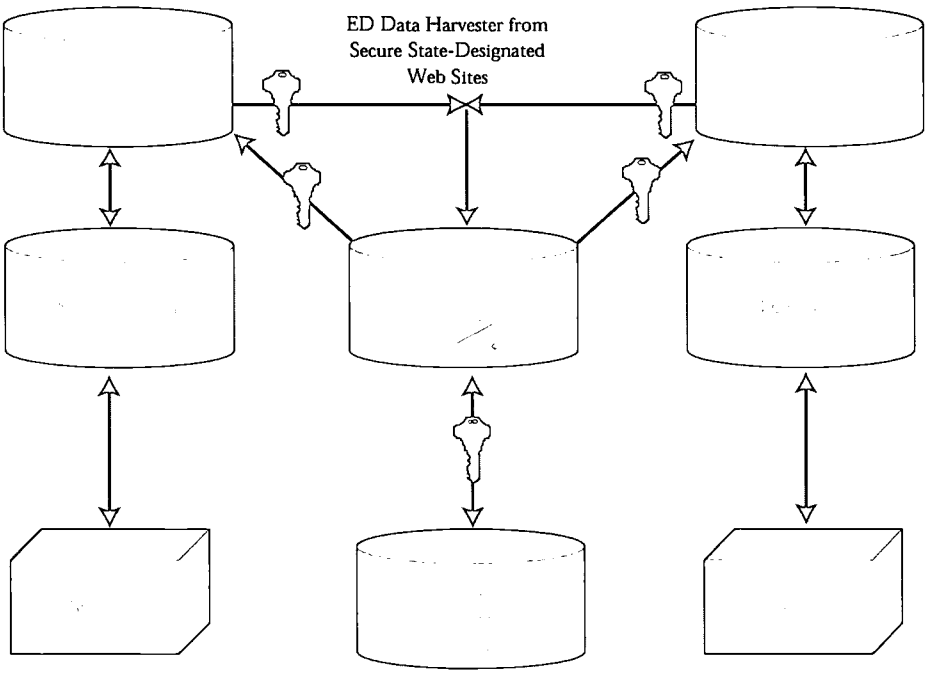
Dropouts

TEACHERS

Number of teachers, by education

What Is the Big Picture of How Data Got to the IPBS?

The intent of the IPBS is not to replace or otherwise directly affect state data warehouses. States, districts, and schools will maintain whatever current data systems they have. Therefore, the two-state test of concept needed to provide a secure way for data from each state to be translated into a common format and transmitted to the IPBS database. The keys in the diagram below represent IPBS security links along the path through which information flowed. Once data were housed in the IPBS database, they became available for use by states as well as by federal program managers.



How Did the IPBS Two-State Test of Concept Actually Collect the Data?

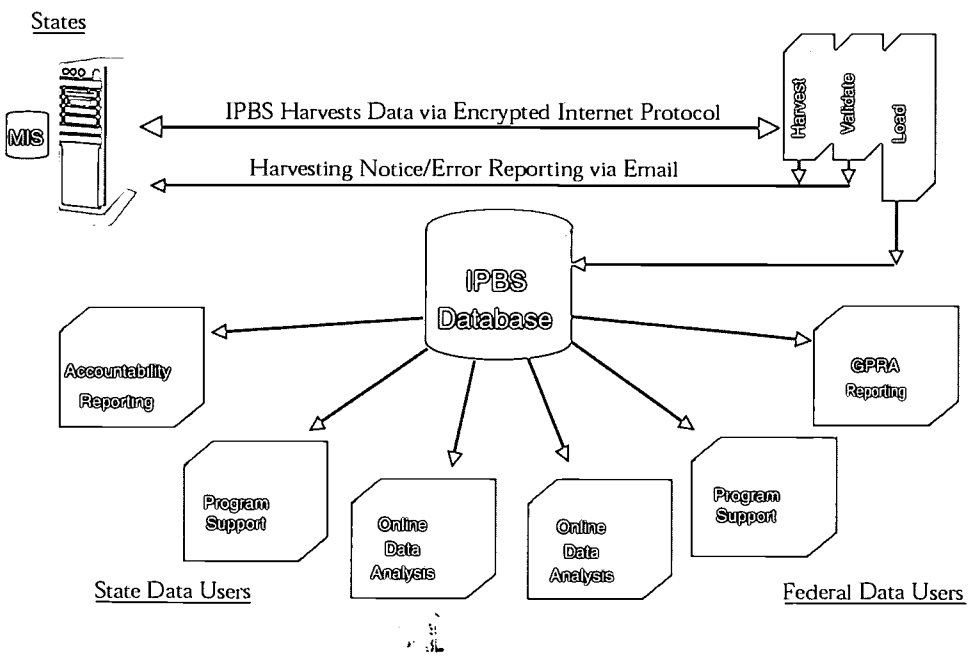
Three steps characterize how data went from state records to a common format usable by state and federal data users:

- Data harvesting;
- Loading into the IPBS; and
- Reporting.

States posted a file containing pointers to data within their data systems or actual data to a location of their choosing on their Web site. The IPBS "data harvester" polled the designated Web sites for this file at predetermined times. When the IPBS found an updated file, it harvested it via an encrypted internet protocol. Once received by the IPBS, automatic data validation procedures checked to ensure that the data were within specified parameters. Any problems were noted and an error message returned to the state via email. States then corrected and reposted for harvesting. This process continued until all data met the IPBS reporting parameters. At this point, states were given a final opportunity to approve the data as harvested. States retained this crucial responsibility of validating the data the IPBS harvested. State validated data were then loaded into the IPBS database.

Once in the IPBS database, the data are available to state and federal data users for a variety of purposes, most notably:

- GPRA reporting;
- Program support and improvement; and
- Online data analysis.



What Reports Does the Test of Concept Include?

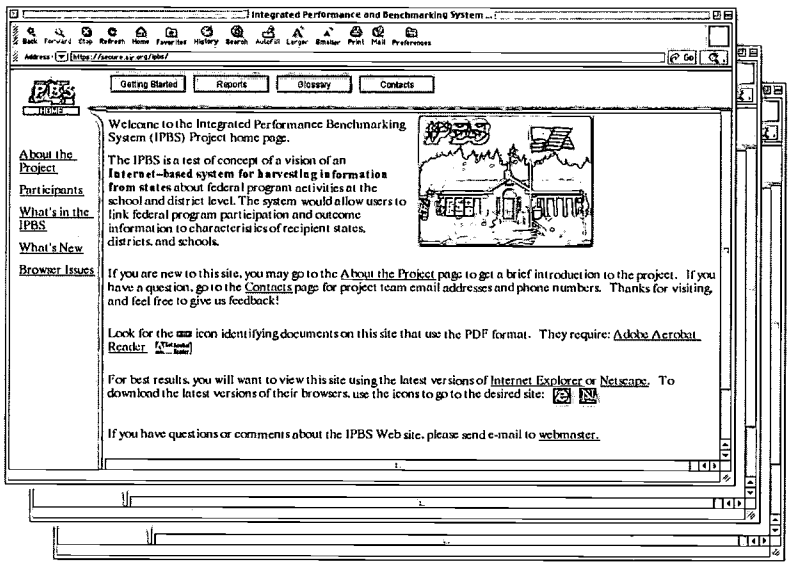
The IPBS two-state test of concept included a number of predefined reports as well as a custom report generator, including:

ABILITY TO RUN CUSTOM REPORTS TO ANSWER HIGHLY SPECIFIC RESEARCH QUESTIONS

- **Annual State by State Performance on ED Strategic Plan Objectives.** This report provides a quick summary of how well schools within each state and across both states are meeting selected Strategic Plan objectives and indicators.
- **Student Achievement on State Assessments, Selected Comparisons and High Poverty Schools.** While no measure of student achievement that is comparable across states has yet been implemented fully, these reports display student achievement on state assessments.
- **Program Participation.** These reports allow for the comparison among recipients of federal education aid. One focuses on the characteristics of districts and the other on the characteristics of schools receiving program funds, including several measures of student outcomes, instructional quality, and educational context.
- **Program Funding.** This report for selected elementary and secondary programs details the amount of federal funding per state.
- **Proportion of Education Revenues Provided by Various Sources.** This report illustrates the relative share of funding sources (federal, state, local) of education across states.
- **Custom Reports Using On-Line Data Analysis.** The IPBS test of concept Web site allows users to query the IPBS database to generate custom reports to answer highly specific research questions. This reporting mechanism is only available in a limited fashion for the IPBS test of concept. Future increments of the IPBS will include increasingly robust custom reporting features.

Where Can I See the Results of the Two-State Test of Concept?

https://secure.air.org/ipbs



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The Future

What's Next?

PHASE I:

Develop IPBS Concept—Explore Feasibility With Two-State Trial, April 1999–February 2000

- Completed.

EXPAND PARTNERSHIP BETWEEN ED AND THE STATES

PHASE II:

Review and Revise Two-State Trial—Possibly Expand to Eight States, March–December 2000

- Convene focus groups to assess feasibility of moving toward a real IPBS.
- If the test of concept is deemed a success and interest continues, convene a Steering Committee of stakeholders.
- Secure funding for future activities.
- Expand partnership to additional interested states.
- Thoroughly review and revise content and procedures used in test of concept and revise as appropriate for wider implementation.
- Plan indicators and data elements to be included in the system.
- Begin work on hard-to-measure variables, including student achievement, technology, and teacher quality.

PHASE III:

Revise and Expand to 25 States, January–December 2001

PHASE IV:

Revise and Expand to All States and Territories, January–December 2002

PHASE V:

Solidify System in All States and Prepare for Transition from Old System to New IPBS, January–December 2003

PHASE VI:

Fully Functioning IPBS, January–September 2004

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