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## THE ROLE OF GOVERNMENT IN IT STANDARDS

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**Publisher's Note:** This paper is an extract from a larger paper called *An Essential Paradigm for IT Standards Success* that can be found at the Whitemarsh Information Systems web-site under the SQL-Standards section located at [www.wiscorp.com](http://www.wiscorp.com).

### The Role of Government in IT Standards

The role of government in information technology standards is in four parts:

- Laws enacted by Congress
- Executive Branch Department Programs
- Effective Oversight by Independent Technology Groups or Boards
- Conformance Test Development and Product Certification

### Laws Enacted by Congress

Congress, through the "Books Bill" and recently through legislation passed during the 104<sup>th</sup> Congress (104-106 and 104-113) designated NIST as the lead agency within the United States Federal Government for standards and information technology improvements. [OMB119\_95], [Congress\_95]. All in all, Congress designated NIST as the lead agency to:

- Develop and promote interoperability policies and procedures across all government agencies,
- Represent Government (at Federal, State, and local levels) to National and International voluntary standards organizations,
- Support voluntary standards conforming, tested and certified product procurements.

### Executive Branch Department Programs

In response to laws passed by Congress over the years, the United States Department of Commerce has long designated the NIST as the lead agency for information technology standards. Until late 1995, NIST's accomplishments were very significant. Between the mid 1960s through the mid 1990s, the quantity and positive impact of NIST's studies, reports, workshops and direct participation by staff has been great. A U.S. Government study performed by NIST in 1995 showed that due to the NIST created DBMS FIPS (Federal Information Processing Standards) there was an average \$30 Million in annual procurement savings alone to Federal agencies because of increased competitive procurements. [Computer World\_9602], [TASC\_95]. These savings flowed directly to Federal agencies as they are allowed to only purchase standards conforming and conformance tested DBMS products.

If a new and/or small vendor attempts to sell a DBMS to a federal agency, the agency, in its careful exercise of public trust, must determine if it can safely expend the many thousands of times the cost of the DBMS software in database application program and data development. With conformance tests and conformance test certified products, the agency can proceed safely because the DBMS applications, which are the real cost item can be portable. They can be portable when the database applications are defined by and then access through ANSI standard languages. If the database that is built is filled with data stored there through ANSI/SQL standard languages, then its data can both exported and then re-imported into databases supported by a competing vendor's SQL DBMS product.

Conformance tests and conformance test certified products are a significant contributor to fulfilling the requirements of a 1996 public law which requires both real decreasing costs and also increasing cost effectiveness in government information technology programs [Congress\_96].

An Executive Order [President\_96] specifically cited NIST as lead agency for developing standards and guidelines pertaining to Federal Information systems in support of the Government Information Technology Services Board that is to develop innovative technologies, standards, and practices among agencies and State and local governments and the private sector.

### **Effective Oversight by Independent Technology Groups or Boards**

The National Research Council of the National Academy of Sciences was established through public law to provide independent assessment of Executive agency the performance. These boards of assessment create reports and present their findings to Congress. In the case of information technology standards there is a special NIST Technical Panel. This NRC panel, according to interviews with its members regularly receives materials from NIST program managers and then meets with NIST at least twice per year.

Once a year the NRC produces an assessment report that is sent to Congress. The chair of the assessment board then testifies to congress and answers questions congress may have. The independence of the NRC boards is critical. According to the NRC Chairman, who is also the President of the National Academy of Sciences, Mr. Bruce Alberts, these boards must be "able to conduct our work apart from political pressures." Mr. Alberts then states in his letter that "Our independence is precious to us to [be able to] provide the most objective science advise possible for the good of the nation." [Alberts\_97].

The role of the NRC is to conduct the high quality, comprehensive yet detailed and independent programmatic oversight and review necessary to ensure Congress that the pursued information technology standards are those that are the most efficient, effective, and with the greatest payoff.

### **Conformance Test Development and Product Certification**

During the mid 1980s through the mid 1990s, the U.S. Government expended considerable sums of monies (about \$600,000 per year) to ensure that Federal agencies were procuring standards conforming products. The practical effect of that procurement rule was to open the procurement process to all those who could "prove" that they conformed to the standard. Because of the increased competition, quality and features rose, and prices fell.

Benefits to Federal agencies in areas of data standardization, standard data definition, data exchange, common computer program development, common staff training, and the like were incalculable.

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*Michael M. Gorman, President of Whitemarsh Information Systems Corporation, has been involved in database and DBMS for almost **35** years. Mr. Gorman has been the Secretary of the ANSI Database Languages Committee, X3H2 for **25** years. X3H2 standardizes SQL. A full list of Whitemarsh's clients and products can be found on the web site, [www.wiscorp.com](http://www.wiscorp.com). The goal of the web site, WisWeb, is to make data management books, courses, methodologies, software, and metrics available to the database community through electronic publishing and downloading. WisWeb memberships are very reasonable and are designed for the individual, the ISD organization, universities/colleges, and professional training organizations.*

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